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Automated Report

Technical Report for

Sovereign Consulting

Shepley's Hill (SHL), Devens, MA

AC001.M01.05

SGS Job Number: JC99810

Sampling Date: 12/06/19



Report to:

Sovereign Consulting
9 Payson Road Suite 150
Foxborough, MA 02035
SPassafaro@SovCon.com

ATTN: Steve Passafaro

Total number of pages in report: 573

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Laura Degenhardt
General Manager

Client Service contact: Victoria Pushkova 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

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SGS North America Inc.

Sample Summary

Sovereign Consulting

Job No: JC99810

Shepley's Hill (SHL), Devens, MA
Project No: AC001.M01.05

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC99810-1	12/06/19	14:45	LH	12/06/19	AQ	Effluent	EFFLUENT
JC99810-1A	12/06/19	14:45	LH	12/06/19	AQ	Effluent	EFFLUENT

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Sovereign Consulting	**Job No**	JC99810
Site:	Shepley's Hill (SHL), Devens, MA	**Report Date**	12/20/2019 10:28:31 A

On 12/06/2019, 1 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 2.8 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JC99810 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

Metals Analysis By Method SW846 6010D

Matrix: AQ **Batch ID:** MP18781A

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC99822-1MS, JC99822-1MSD, JC99822-1PS, JC99822-1SDL were used as the QC samples for metals.

Metals Analysis By Method SW846 6020B

Matrix: AQ **Batch ID:** MP18781

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC99822-1MSD, JC99822-1SDL, JC99822-1MS were used as the QC samples for metals.
- Matrix Spike Recovery(s) for Arsenic are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

General Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP25650

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC99565-1DUP, JC99565-1MS were used as the QC samples for Chloride, Sulfate, Chloride.

General Chemistry By Method EPA 353.2/LACHAT

Matrix: AQ **Batch ID:** GP25707

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC99779-1DUP, JC99779-1MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.
- Matrix Spike Recovery(s) for Nitrogen, Nitrate + Nitrite are outside control limits. Spike recovery indicates possible matrix interference.

General Chemistry By Method EPA353.2/SM4500NO2B

Matrix: AQ **Batch ID:** R183275

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC99810-1A for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

General Chemistry By Method SM4500NO2 B-11

Matrix: AQ **Batch ID:** GN3257

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC99810-1ADUP, JC99810-1AMS were used as the QC samples for Nitrogen, Nitrite.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

Summary of Hits

Job Number: JC99810
Account: Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA
Collected: 12/06/19

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
JC99810-1	**EFFLUENT**					
Arsenic		34.6	3.0	2.0	ug/l	SW846 6020B
Barium		14.4 J	200	100	ug/l	SW846 6010D
Iron		999	100	50	ug/l	SW846 6010D
Magnesium		5330	5000	500	ug/l	SW846 6010D
Manganese		37.3	15	5.0	ug/l	SW846 6010D
JC99810-1A	**EFFLUENT**					
Chloride		35.5	2.0	1.0	mg/l	EPA 300/SW846 9056A
Nitrogen, Nitrate [a]		0.28	0.11	0.10	mg/l	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite		0.28	0.10	0.095	mg/l	EPA 353.2/LACHAT
Sulfate		5.7	2.0	1.0	mg/l	EPA 300/SW846 9056A

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: EFFLUENT
Lab Sample ID: JC99810-1
Matrix: AQ - Effluent
Project: Shepley's Hill (SHL), Devens, MA

Date Sampled: 12/06/19
Date Received: 12/06/19
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	34.6	3.0	2.0	0.94	ug/l	2	12/10/19	12/12/19	GT	SW846 6020B [2]	SW846 3010A [3]
Barium	14.4 J	200	100	13	ug/l	1	12/10/19	12/10/19	ND	SW846 6010D [1]	SW846 3010A [4]
Iron	999	100	50	32	ug/l	1	12/10/19	12/10/19	ND	SW846 6010D [1]	SW846 3010A [4]
Magnesium	5330	5000	500	140	ug/l	1	12/10/19	12/10/19	ND	SW846 6010D [1]	SW846 3010A [4]
Manganese	37.3	15	5.0	1.4	ug/l	1	12/10/19	12/10/19	ND	SW846 6010D [1]	SW846 3010A [4]

(1) Instrument QC Batch: MA47940
(2) Instrument QC Batch: MA47956
(3) Prep QC Batch: MP18781
(4) Prep QC Batch: MP18781A

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Report of Analysis

Client Sample ID:	EFFLUENT		
Lab Sample ID:	JC99810-1A	**Date Sampled:**	12/06/19
Matrix:	AQ - Effluent	**Date Received:**	12/06/19
		Percent Solids:	n/a
Project:	Shepley's Hill (SHL), Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	DL	Units	DF	Analyzed	By	Method
Chloride	35.5	2.0	1.0	0.83	mg/l	1	12/17/19 02:53	NV	EPA 300/SW846 9056A
Nitrogen, Nitrate [a]	0.28	0.11	0.10	0.093	mg/l	1	12/19/19 17:10	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	0.28	0.10	0.095	0.090	mg/l	1	12/19/19 17:10	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	0.0050 U	0.010	0.0050	0.0030	mg/l	1	12/07/19 11:09	UP	SM4500NO2 B-11
Sulfate	5.7	2.0	1.0	0.89	mg/l	1	12/17/19 02:53	NV	EPA 300/SW846 9056A

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

Page 1 of 1

SGS-EX Testing #: | Bottle Order Control #: SP-112119-186
SGS Quote #: | SGS Job #: JC99810

Client / Reporting Information

Company Name: Sovereign Consulting
Street Address: 9 Payson Rd Ste 150
City: Foxboro State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail:
Phone #: 508 339 3200
Sampler(s) Name(s): Liam Henry Phone #:

Project Information

Project Name: Snepley's Hill (SHL) Devens MA
Street:
City: Devens State: MA
Project #: ACool.M01
Client Purchase Order #:
Project Manager: SPassafaro@sovcon.com

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled By	Grab (G) / Comp (C)	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Total As 6020A	Total Ba, Mn, Mg 6010A	Chloride 300.0	Nitrate 353.2	Sulfate 300.0	Total Fe + Mn 6010C	LAB USE ONLY
1	Effluent		12-6-19	1445	LH	G	GW	4				X X X					X	X	X	X	X	X	

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB - Field Blank; EB-Equipment Blank; RB - Rinse Blank; TB - Trip Blank

Turn Around Time (Business Days)

Approved By (SGS PM): / Date:

- [x] 10 Business Days
- [x] 5 Business Days Rush
- [ ] 3 Business Days*
- [ ] 2 Business Days*
- [ ] 1 Business Day*
- [ ] Other
- All data available via Labl ink

Approval needed for 1-3 Business Day TAT

Deliverable

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] NJ Reduced (Level 3)
- [ ] Full Tier I (Level 4)
- [ ] Commercial "C"
- [ ] NJ DKQP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] MA MCP Criteria
- [ ] CT RCP Criteria
- [ ] State Forms
- [ ] EDD Format
- [ ] DOD-QSM5

Commercial "A" = Results only; Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC Summary + Partial Raw data

Comments / Special Instructions

As rush only

http://www.sgs.com/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by:	Date / Time:	Received by:
1		12-6-19 1600	
2		12-6-19 1600	
3		12-7-19	
4		12-7-19	
5			

Custody Seal: Intact / Not Intact | Preserved where applicable: Absent / Therm. ID | On Ice | Cooler Temp. °C: 3.0 oc B

Initial Assessment 3Bu
Label Verification

HNO3 pH<2
H2SO4 pH<2

SGS-ACCUTEST MARLBOR 12/6

EHSA-QAC-0023-02-FORM-Dayton - Standard COC.xlsx

SGS Sample Receipt Summary

Job Number: JC99810 **Client:** SOVEREIGN CONSULTING **Project:** SHEPLEY'S HILL (SHL), DEVENS, MA

Date / Time Received: 12/6/2019 4:07:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (3.0);

Cooler Temps (Corrected) °C: Cooler 1: (2.8);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	Bar Therm		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 229517 pH 12+: 208717 Other: (Specify)

Comments

SM089-03
Rev. Date 12/7/17

Internal Sample Tracking Chronicle

Sovereign Consulting

Job No: JC99810

Shepley's Hill (SHL), Devens, MA
Project No: AC001.M01.05

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC99810-1 EFFLUENT	Collected: 06-DEC-19 14:45 By: LH		Received: 06-DEC-19 By: DG			
JC99810-1	SW846 6010D	10-DEC-19 20:58	ND	10-DEC-19	TG	BA,FE,MG,MN
JC99810-1	SW846 6020B	12-DEC-19 20:46	GT	10-DEC-19	CH	ASMS
JC99810-1A EFFLUENT	Collected: 06-DEC-19 14:45 By: LH		Received: 06-DEC-19 By: DG			
JC99810-1A	SM4500NO2 B-11	07-DEC-19 11:09	UP			NO2
JC99810-1A	EPA 300/SW846 9056A	17-DEC-19 02:53	NV	16-DEC-19	NV	CHL,SO4
JC99810-1A	EPA353.2/SM4500NO2B	19-DEC-19 17:10	KI			NO3O
JC99810-1A	EPA 353.2/LACHAT	19-DEC-19 17:10	KI	19-DEC-19	KI	NO32

SGS Internal Chain of Custody

Job Number: JC99810
Account: SCMAW Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA
Received: 12/06/19

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC99810-1.1	Dave Hunkele	Secured Storage	12/07/19 09:32	Return to Storage
JC99810-1.1	Secured Storage	Matthew Robbins	12/09/19 17:50	Retrieve from Storage
JC99810-1.1	Matthew Robbins	Secured Staging Area	12/09/19 17:50	Return to Storage
JC99810-1.1	Secured Staging Area	Taylor Gorman	12/10/19 07:28	Retrieve from Storage
JC99810-1.1	Taylor Gorman	Secured Storage	12/10/19 14:45	Return to Storage
JC99810-1.1.1	Taylor Gorman	Metals Digestion	12/10/19 13:14	Digestate from JC99810-1.1
JC99810-1.1.1	Metals Digestion	Taylor Gorman	12/10/19 13:14	Digestate from JC99810-1.1
JC99810-1.1.1	Taylor Gorman	Metals Digestate Storage	12/10/19 13:14	Return to Storage
JC99810-1.2	Dave Hunkele	Secured Storage	12/07/19 09:27	Return to Storage
JC99810-1.2	Secured Storage	Matthew Robbins	12/18/19 21:08	Retrieve from Storage
JC99810-1.2	Matthew Robbins	Secured Staging Area	12/18/19 21:08	Return to Storage
JC99810-1.2	Secured Staging Area	Kimberly Ignace	12/19/19 17:26	Retrieve from Storage
JC99810-1.2	Kimberly Ignace	Secured Storage	12/19/19 17:27	Return to Storage
JC99810-1.3	Dave Hunkele	Secured Storage	12/07/19 09:27	Return to Storage
JC99810-1.3	Secured Storage	Dwayne Johnson	12/13/19 12:15	Retrieve from Storage
JC99810-1.3	Dwayne Johnson	Secured Staging Area	12/13/19 12:15	Return to Storage
JC99810-1.3	Secured Staging Area	Natasha Verma	12/13/19 15:10	Retrieve from Storage
JC99810-1.3	Natasha Verma	Secured Storage	12/13/19 16:48	Return to Storage
JC99810-1.4	Dave Hunkele	Secured Storage	12/07/19 09:27	Return to Storage

QC Evaluation: DOD QSM5.x Limits

Job Number: JC99810
Account: Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA
Collected: 12/06/19

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP18781	SW846 6020B						
MP18781-B2	7440-38-2	Arsenic	BSP	REC	90.8	%	84-116
MP18781-S3*	7440-38-2	Arsenic	MS	REC	62.5 [a]	%	84-116
MP18781-S4*	7440-38-2	Arsenic	MSD	REC	100	%	84-116
MP18781-S4*	7440-38-2	Arsenic	MSD	RPD	1.8	%	20
MP18781A	SW846 6010D						
MP18781A-B1	7440-39-3	Barium	BSP	REC	96	%	88-113
MP18781A-B1	7439-89-6	Iron	BSP	REC	103.6	%	87-115
MP18781A-B1	7439-95-4	Magnesium	BSP	REC	102	%	85-113
MP18781A-B1	7439-96-5	Manganese	BSP	REC	94.5	%	90-114
MP18781A-S1*	7440-39-3	Barium	MS	REC	94.5	%	88-113
MP18781A-S1*	7439-89-6	Iron	MS	REC	91.2	%	87-115
MP18781A-S1*	7439-95-4	Magnesium	MS	REC	99.3	%	85-113
MP18781A-S1*	7439-96-5	Manganese	MS	REC	90.5	%	90-114
MP18781A-S2*	7440-39-3	Barium	MSD	REC	96	%	88-113
MP18781A-S2*	7440-39-3	Barium	MSD	RPD	1.5	%	20
MP18781A-S2*	7439-89-6	Iron	MSD	REC	102.8	%	87-115
MP18781A-S2*	7439-89-6	Iron	MSD	RPD	3.2	%	20
MP18781A-S2*	7439-95-4	Magnesium	MSD	REC	100.9	%	85-113
MP18781A-S2*	7439-95-4	Magnesium	MSD	RPD	1.3	%	20
MP18781A-S2*	7439-96-5	Manganese	MSD	REC	92	%	90-114
MP18781A-S2*	7439-96-5	Manganese	MSD	RPD	.8	%	20
GP25650	EPA 300/SW846 9056A						
GP25650-B1	16887-00-6	Chloride	BSP	REC	104	%	87-111
GP25650-B1	14808-79-8	Sulfate	BSP	REC	105.1	%	87-112
GP25650-S1*	16887-00-6	Chloride	MS	REC	102.1	%	87-111
GP25650-S1*	14808-79-8	Sulfate	MS	REC	99.1	%	87-112
GP25650-D1*	16887-00-6	Chloride	DUP	RPD	0	%	15
GP25650-D1*	14808-79-8	Sulfate	DUP	RPD	.3	%	15

(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

* Sample used for QC is not from job JC99810

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries
- IDL and Linear Range Summaries

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
Analyst: ND Run ID: MA47940
Parameters: Ba,Fe,Mg,Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:46	MA47940-STD1	1		STDA
10:52	MA47940-STD2	1		STDB
10:57	ZZZZZZ	1		
11:02	ZZZZZZ	1		
11:07	MA47940-ICV1	1		
11:12	MA47940-ICB1	1		
11:17	MA47940-CCV1	1		
11:22	MA47940-CCB1	1		
11:27	MA47940-CRI1	1		
11:32	MA47940-CRID1	1		See rerun
11:37	MA47940-ICSA1	1		
11:43	MA47940-ICSAB1	1		
11:48	MA47940-HSTD1	1		
11:54	MA47940-HSTD2	1		
11:59	ZZZZZZ	1		
12:04	ZZZZZZ	1		
12:10	MA47940-CRID2	1		
12:15	ZZZZZZ	1		
12:20	MA47940-CCV2	1		
12:25	MA47940-CCB2	1		
12:30	ZZZZZZ	1		
12:35	ZZZZZZ	1		
12:40	MP18736-S1	5		
12:45	MP18736-S2	5		
12:50	JC99242-17	5		(sample used for QC only; not part of login JC99810)
12:55	MP18736-SD1	25		
13:00	MP18736-PS1	5		Not needed
13:05	ZZZZZZ	5		
13:10	ZZZZZZ	5		
13:15	MA47940-CCV3	1		
13:20	MA47940-CCB3	1		
13:25	ZZZZZZ	5		
13:30	ZZZZZZ	2		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
Analyst: ND Run ID: MA47940
Parameters: Ba,Fe,Mg,Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
13:35	ZZZZZZ	5		
13:40	ZZZZZZ	5		
13:45	ZZZZZZ	5		
13:50	ZZZZZZ	2		
13:55	ZZZZZZ	5		
14:00	ZZZZZZ	5		
14:05	ZZZZZZ	3		
14:10	MA47940-CCV4	1		
14:15	MA47940-CCB4	1		
14:20	ZZZZZZ	10		
14:25	ZZZZZZ	2		
14:31	ZZZZZZ	5		
14:36	ZZZZZZ	2		
14:41	ZZZZZZ	10		
14:46	ZZZZZZ	3		
14:51	ZZZZZZ	10		
14:56	ZZZZZZ	2		
15:01	ZZZZZZ	10		
15:06	MA47940-CCV5	1		
15:11	MA47940-CCB5	1		
15:16	ZZZZZZ	2		
15:21	ZZZZZZ	10		
15:26	ZZZZZZ	2		
15:31	ZZZZZZ	10		
15:36	ZZZZZZ	2		
15:41	ZZZZZZ	10		
15:46	ZZZZZZ	2		
15:51	ZZZZZZ	10		
15:56	MA47940-CCV6	1		
16:01	MA47940-CCB6	1		
16:07	ZZZZZZ	2		
16:12	ZZZZZZ	10		
16:17	MP18771-B1	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
Analyst: ND Run ID: MA47940
Parameters: Ba,Fe,Mg,Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
16:22	MP18771-MB1	1		
16:27	MP18771-S1	1		
16:32	MP18771-S2	1		
16:37	JC99645-1	1		(sample used for QC only; not part of login JC99810)
16:42	MP18771-SD1	5		
16:47	MA47940-CCV7	1		
16:52	MA47940-CCB7	1		
16:57	MP18771-PS1	1		
17:02	JC99645-1	1		(sample used for QC only; not part of login JC99810)
17:07	MP18771-S2	2		
17:12	ZZZZZZ	1		
17:17	ZZZZZZ	1		
17:22	ZZZZZZ	1		
17:27	ZZZZZZ	1		
17:32	ZZZZZZ	1		
17:37	ZZZZZZ	1		
17:43	MA47940-CCV8	1		
17:48	MA47940-CCB8	1		
17:53	ZZZZZZ	1		
17:58	ZZZZZZ	1		
18:03	ZZZZZZ	1		
18:08	ZZZZZZ	1		
18:14	ZZZZZZ	1		
18:19	ZZZZZZ	1		
18:24	ZZZZZZ	1		
18:29	ZZZZZZ	1		
18:34	MA47940-CCV9	1		
18:39	MA47940-CCB9	1		
18:44	ZZZZZZ	1		
18:50	ZZZZZZ	1		
18:55	ZZZZZZ	1		
19:00	ZZZZZZ	1		
19:05	MA47940-CCV10	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
Analyst: ND Run ID: MA47940
Parameters: Ba,Fe,Mg,Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
19:10	MA47940-CCB10	1		
19:15	ZZZZZZ	1		
19:21	ZZZZZZ	1		
19:26	ZZZZZZ	1		
19:31	ZZZZZZ	1		
19:36	ZZZZZZ	1		
19:41	ZZZZZZ	1		
19:47	ZZZZZZ	1		
19:52	ZZZZZZ	1		
19:57	ZZZZZZ	1		
20:02	ZZZZZZ	1		
20:07	ZZZZZZ	1		
20:13	ZZZZZZ	1		
20:18	MA47940-CCV11	1		
20:23	MA47940-CCB11	1		
20:28	MP18781A-MB1	1		
20:33	MP18781A-B1	1		
20:38	MP18781A-S1	1		
20:43	MP18781A-S2	1		
20:48	JC99822-1	1		(sample used for QC only; not part of login JC99810)
20:53	MP18781A-SD1	5		
20:58	JC99810-1	1		
21:03	ZZZZZZ	1		
21:08	MP18781A-PS1	1		
---------->	Last reportable sample/prep for job JC99810			
21:13	MA47940-CCV12	1		
21:18	MA47940-CCB12	1		
---------->	Last reportable CCB for job JC99810			
	Refer to raw data for calibration curve and standards.			

REPORTED ELEMENTS SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
Analyst: ND Run ID: MA47940
Parameters: Ba,Fe,Mg,Mn

Time	Sample Description	Element: Dilution	B a	F e	M g	M n	
10:57	ZZZZZZ	1					
11:02	ZZZZZZ	1					
11:07	MA47940-ICV1	1	X	X	X	X	
11:12	MA47940-ICB1	1	X	X	X	X	
11:17	MA47940-CCV1	1	X	X	X	X	
11:22	MA47940-CCB1	1	X	X	X	X	
11:27	MA47940-CRI1	1	X	X	X	X	
11:32	MA47940-CRID1	1	See rerun				
11:37	MA47940-ICSA1	1	X	X	X	X	
11:43	MA47940-ICSAB1	1	X	X	X	X	
11:48	MA47940-HSTD1	1	X			X	
11:54	MA47940-HSTD2	1		X	X		
11:59	ZZZZZZ	1					
12:04	ZZZZZZ	1					
12:10	MA47940-CRID2	1	X	X	X	X	
12:15	ZZZZZZ	1					
12:20	MA47940-CCV2	1	X	X	X	X	
12:25	MA47940-CCB2	1	X	X	X	X	
12:30	ZZZZZZ	1					
12:35	ZZZZZZ	1					
12:40	MP18736-S1	5		X			
12:45	MP18736-S2	5		X			
12:50	JC99242-17	5		X			(a)
12:55	MP18736-SD1	25		X			
13:00	MP18736-PS1	5	Not needed				
13:05	ZZZZZZ	5					
13:10	ZZZZZZ	5					
13:15	MA47940-CCV3	1	X	X	X	X	
13:20	MA47940-CCB3	1	X	X	X	X	
13:25	ZZZZZZ	5					
13:30	ZZZZZZ	2					
13:35	ZZZZZZ	5					
13:40	ZZZZZZ	5					
		Element:	B a	F e	M g	M n	

REPORTED ELEMENTS SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
Analyst: ND Run ID: MA47940
Parameters: Ba,Fe,Mg,Mn

Time	Sample Description	Element: Dilution	B a	F e	M g	M n
13:45	ZZZZZZ	5				
13:50	ZZZZZZ	2				
13:55	ZZZZZZ	5				
14:00	ZZZZZZ	5				
14:05	ZZZZZZ	3				
14:10	MA47940-CCV4	1	X	X	X	X
14:15	MA47940-CCB4	1	X	X	X	X
14:20	ZZZZZZ	10				
14:25	ZZZZZZ	2				
14:31	ZZZZZZ	5				
14:36	ZZZZZZ	2				
14:41	ZZZZZZ	10				
14:46	ZZZZZZ	3				
14:51	ZZZZZZ	10				
14:56	ZZZZZZ	2				
15:01	ZZZZZZ	10				
15:06	MA47940-CCV5	1	X	X	X	X
15:11	MA47940-CCB5	1	X	X	X	X
15:16	ZZZZZZ	2				
15:21	ZZZZZZ	10				
15:26	ZZZZZZ	2				
15:31	ZZZZZZ	10				
15:36	ZZZZZZ	2				
15:41	ZZZZZZ	10				
15:46	ZZZZZZ	2				
15:51	ZZZZZZ	10				
15:56	MA47940-CCV6	1	X	X	X	X
16:01	MA47940-CCB6	1	X	X	X	X
16:07	ZZZZZZ	2				
16:12	ZZZZZZ	10				
16:17	MP18771-B1	1	X	X	X	X
16:22	MP18771-MB1	1	X	X	X	X
16:27	MP18771-S1	1	X	X	X	X
		Element:	B a	F e	M g	M n

REPORTED ELEMENTS SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
Analyst: ND Run ID: MA47940
Parameters: Ba,Fe,Mg,Mn

Time	Sample Description	Dilution	Element:	B a	F e	M g	M n	
16:32	MP18771-S2	1		X		X	X	
16:37	JC99645-1	1		High		RSD		
16:42	MP18771-SD1	5		X	X	X	X	
16:47	MA47940-CCV7	1		X	X	X	X	
16:52	MA47940-CCB7	1		X	X	X	X	
16:57	MP18771-PS1	1		X	X	X	X	
17:02	JC99645-1	1		X	X	X	X	(a)
17:07	MP18771-S2	2			X			
17:12	ZZZZZZ	1						
17:17	ZZZZZZ	1						
17:22	ZZZZZZ	1						
17:27	ZZZZZZ	1						
17:32	ZZZZZZ	1						
17:37	ZZZZZZ	1						
17:43	MA47940-CCV8	1		X	X	X	X	
17:48	MA47940-CCB8	1		X	X	X	X	
17:53	ZZZZZZ	1						
17:58	ZZZZZZ	1						
18:03	ZZZZZZ	1						
18:08	ZZZZZZ	1						
18:14	ZZZZZZ	1						
18:19	ZZZZZZ	1						
18:24	ZZZZZZ	1						
18:29	ZZZZZZ	1						
18:34	MA47940-CCV9	1		X	X	X	X	
18:39	MA47940-CCB9	1		X	X	X	X	
18:44	ZZZZZZ	1						
18:50	ZZZZZZ	1						
18:55	ZZZZZZ	1						
19:00	ZZZZZZ	1						
19:05	MA47940-CCV10	1		X	X	X	X	
19:10	MA47940-CCB10	1		X	X	X	X	
19:15	ZZZZZZ	1						
			Element:	B a	F e	M g	M n	

REPORTED ELEMENTS SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
Analyst: ND Run ID: MA47940
Parameters: Ba,Fe,Mg,Mn

Time	Sample Description	Element: Dilution	B a	F e	M g	M n
19:21	ZZZZZZ	1				
19:26	ZZZZZZ	1				
19:31	ZZZZZZ	1				
19:36	ZZZZZZ	1				
19:41	ZZZZZZ	1				
19:47	ZZZZZZ	1				
19:52	ZZZZZZ	1				
19:57	ZZZZZZ	1				
20:02	ZZZZZZ	1				
20:07	ZZZZZZ	1				
20:13	ZZZZZZ	1				
20:18	MA47940-CCV11	1	X	X	X	X
20:23	MA47940-CCB11	1	X	X	X	X
20:28	MP18781A-MB1	1	X	X	X	X
20:33	MP18781A-B1	1	X	X	X	X
20:38	MP18781A-S1	1	X	X	X	X
20:43	MP18781A-S2	1	X	X	X	X
20:48	JC99822-1	1		X		X (a)
20:53	MP18781A-SD1	5	X	X	X	X
20:58	JC99810-1	1	X	X	X	X
21:03	ZZZZZZ	1				
21:08	MP18781A-PS1	1	X	X	X	X
21:13	MA47940-CCV12	1	X	X	X	X
21:18	MA47940-CCB12	1	X	X	X	X

(a) Sample used for QC only; not part of login JC99810.

Element:	B a	F e	M g	M n

INTERNAL STANDARD SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
Analyst: ND Run ID: MA47940
Parameters: Ba,Fe,Mg,Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
10:46	MA47940-STD1	8423 R	279040 R	32697 R	15047 R
10:52	MA47940-STD2	7878	265340	32013	13551
10:57	ZZZZZZ	8066	272840	32217	13947
11:02	ZZZZZZ	8297	280180	32382	14942
11:07	MA47940-ICV1	8041	271370	32150	13963
11:12	MA47940-ICB1	8259	280570	32291	14906
11:17	MA47940-CCV1	7993	273060	31970	13909
11:22	MA47940-CCB1	8336	282120	32421	15035
11:27	MA47940-CRI1	8197	278850	32369	14765
11:32	MA47940-CRID1	No results reported for the elements associated with this internal standard.			
11:37	MA47940-ICSA1	7546	254930	31237	12638
11:43	MA47940-ICSAB1	7592	256640	31247	12740
11:48	MA47940-HSTD1	8264	281860	32400	15005
11:54	MA47940-HSTD2	7654	257430	31137	12792
11:59	ZZZZZZ	8312	282410	32343	15080
12:04	ZZZZZZ	8206	284570	32958	14980
12:10	MA47940-CRID2	8365	285130	32524	15065
12:15	ZZZZZZ	8400	286780	32949	15176
12:20	MA47940-CCV2	8090	276500	32121	14131
12:25	MA47940-CCB2	8409	285140	33107	15177
12:30	ZZZZZZ	8351	285950	33191	15118
12:35	ZZZZZZ	8198	280880	32823	14436
12:40	MP18736-S1	8429	284600	32979	14651
12:45	MP18736-S2	8510	286570	33463	14782
12:50	JC99242-17	8481	285800	33109	14866
12:55	MP18736-SD1	8398	289110	33110	15022
13:00	MP18736-PS1	No results reported for the elements associated with this internal standard.			
13:05	ZZZZZZ	8608	291510	33919	15033
13:10	ZZZZZZ	8568	290550	33480	15000
13:15	MA47940-CCV3	8191	276060	32101	14217
13:20	MA47940-CCB3	8372	284450	32519	15082
13:25	ZZZZZZ	8521	289690	33823	14910
13:30	ZZZZZZ	8576	290910	34492	14637

INTERNAL STANDARD SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
Analyst: ND Run ID: MA47940
Parameters: Ba,Fe,Mg,Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
13:35	ZZZZZZ	8424	286680	33564	14753
13:40	ZZZZZZ	8499	286990	33656	14929
13:45	ZZZZZZ	8466	288390	33844	14895
13:50	ZZZZZZ	8595	290090	34038	14788
13:55	ZZZZZZ	8439	287520	33261	14833
14:00	ZZZZZZ	8537	290080	33614	14931
14:05	ZZZZZZ	8321	280480	32734	14577
14:10	MA47940-CCV4	8166	276200	32230	14188
14:15	MA47940-CCB4	8511	286410	32637	15296
14:20	ZZZZZZ	8388	284020	32798	14772
14:25	ZZZZZZ	8500	287310	33563	14724
14:31	ZZZZZZ	8469	284430	33176	14873
14:36	ZZZZZZ	8398	285140	33350	14505
14:41	ZZZZZZ	8544	290480	33325	15027
14:46	ZZZZZZ	8401	283050	32947	14665
14:51	ZZZZZZ	8482	288390	33120	14921
14:56	ZZZZZZ	8444	284410	34087	14488
15:01	ZZZZZZ	8539	290070	33155	15032
15:06	MA47940-CCV5	8187	275610	32337	14192
15:11	MA47940-CCB5	8409	285260	32623	15127
15:16	ZZZZZZ	8249	281710	33108	14397
15:21	ZZZZZZ	8492	286180	32907	14939
15:26	ZZZZZZ	8439	284940	33691	14748
15:31	ZZZZZZ	8454	287150	33111	14990
15:36	ZZZZZZ	8442	286870	34018	14764
15:41	ZZZZZZ	8462	286030	33396	15003
15:46	ZZZZZZ	8434	282790	33236	14737
15:51	ZZZZZZ	8394	285130	32873	14936
15:56	MA47940-CCV6	8058	275520	31710	14090
16:01	MA47940-CCB6	8373	284600	32071	15145
16:07	ZZZZZZ	8356	283360	33217	14580
16:12	ZZZZZZ	8388	292460	33277	14864
16:17	MP18771-B1	8237	282990	32412	14585

INTERNAL STANDARD SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
Analyst: ND Run ID: MA47940
Parameters: Ba,Fe,Mg,Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
16:22	MP18771-MB1	8362	284360	32612	15172
16:27	MP18771-S1	8262	284110	33081	14542
16:32	MP18771-S2	8277	283840	33007	14574
16:37	JC99645-1	No results reported for the elements associated with this internal standard.			
16:42	MP18771-SD1	8408	291750	31709	15080
16:47	MA47940-CCV7	8351	278470	32291	14502
16:52	MA47940-CCB7	8409	283240	32587	15162
16:57	MP18771-PS1	8137	287870	32213	14335
17:02	JC99645-1	8422	290000	33095	14967
17:07	MP18771-S2	8217	284980	32762	14526
17:12	ZZZZZZ	8400	285260	32796	14799
17:17	ZZZZZZ	8518	286270	33404	15167
17:22	ZZZZZZ	8627	291410	34157	14522
17:27	ZZZZZZ	8522	284150	34721	14364
17:32	ZZZZZZ	8428	288830	34230	14450
17:37	ZZZZZZ	8685	296150	34452	14578
17:43	MA47940-CCV8	8261	281870	32641	14433
17:48	MA47940-CCB8	8516	288080	33027	15442
17:53	ZZZZZZ	8566	283100	34327	14612
17:58	ZZZZZZ	8560	294880	34581	14556
18:03	ZZZZZZ	8722	309980	34420	14775
18:08	ZZZZZZ	8586	298350	34172	14516
18:14	ZZZZZZ	8485	286130	34126	14566
18:19	ZZZZZZ	8509	291990	33880	14444
18:24	ZZZZZZ	8758	295110	34114	14814
18:29	ZZZZZZ	8477	313680	33749	14342
18:34	MA47940-CCV9	8189	280470	32550	14295
18:39	MA47940-CCB9	8550	281910	32379	15428
18:44	ZZZZZZ	8424	287610	33215	14372
18:50	ZZZZZZ	8567	292860	33841	14625
18:55	ZZZZZZ	8601	296010	34485	14569
19:00	ZZZZZZ	8587	295010	34287	14530
19:05	MA47940-CCV10	8262	279490	32375	14432

INTERNAL STANDARD SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
Analyst: ND Run ID: MA47940
Parameters: Ba,Fe,Mg,Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
19:10	MA47940-CCB10	8533	293520	32683	15444
19:15	ZZZZZZ	8696	294150	32400	15703
19:21	ZZZZZZ	8463	282600	32012	15278
19:26	ZZZZZZ	8499	286570	31630	15304
19:31	ZZZZZZ	8566	294390	31979	15485
19:36	ZZZZZZ	8505	294370	31890	15390
19:41	ZZZZZZ	8480	289330	31662	15268
19:47	ZZZZZZ	8392	290850	31354	15219
19:52	ZZZZZZ	8510	292310	32094	15329
19:57	ZZZZZZ	8559	288250	32381	15480
20:02	ZZZZZZ	8451	288430	31999	15354
20:07	ZZZZZZ	8728	283220	33218	14448
20:13	ZZZZZZ	7811	269130	31033	13796
20:18	MA47940-CCV11	8215	281310	31506	14418
20:23	MA47940-CCB11	8444	293000	31896	15364
20:28	MP18781A-MB1	8517	285800	32147	15548
20:33	MP18781A-B1	8373	290300	32318	14867
20:38	MP18781A-S1	8382	286150	32282	14892
20:43	MP18781A-S2	8185	285370	31853	14589
20:48	JC99822-1	8394	293650	31791	15119
20:53	MP18781A-SD1	8416	287680	31708	15209
20:58	JC99810-1	8275	286970	32311	14960
21:03	ZZZZZZ	8379	296980	32217	15171
21:08	MP18781A-PS1	8111	284190	31764	14465
21:13	MA47940-CCV12	8266	283760	31934	14464
21:18	MA47940-CCB12	8462	294170	31878	15326

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	70-130 %
Istd#2	Yttrium (3600)	70-130 %
Istd#3	Yttrium (3710)	70-130 %
Istd#4	Indium	70-130 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: result < 1/2 RL Run ID: MA47940 Units: ug/l

Time:				11:12		11:22		12:25	
Sample ID:				ICB1		CCB1		CCB2	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Aluminum	200	14	100						
Antimony	6.0	1.3	5.0						
Arsenic	5.0	1.5	3.0						
Barium	200	.3	100	0.100	<200	0.00	<200	-0.100	<200
Beryllium	2.0	.1	1.0						
Bismuth	20	3.3	10						
Boron	200	.8	100						
Cadmium	3.0	.1	2.0						
Calcium	5000	2.3	200						
Chromium	10	.5	5.0						
Cobalt	50	.4	10						
Copper	10	.8	8.0						
Iron	100	4.4	50	1.60	<100	2.30	<100	1.90	<100
Lead	5.0	1.1	3.0						
Lithium	50	4.4	20						
Magnesium	5000	14	500	-11.6	<5000	-1.10	<5000	-14.0	<5000
Manganese	15	.1	5.0	0.100	<15	0.100	<15	0.100	<15
Molybdenum	20	.7	8.0						
Nickel	10	.3	8.0						
Phosphorus	50	2.4	25						
Potassium	10000	140	500						
Selenium	10	1.8	8.0						
Silicon	200	2.2	150						
Silver	10	.5	4.0						
Sodium	10000	34	1000						
Strontium	10	.1	2.0						
Sulfur	100	9.8	50						
Thallium	10	1.3	5.0						
Tin	10	.9	8.0						
Titanium	10	.3	4.0						
Tungsten	100	3.9	50						
Vanadium	50	.3	4.0						
Zinc	20	1.3	10						

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: result < 1/2 RL Run ID: MA47940 Units: ug/l

Time:				11:12		11:22		12:25	
Sample ID:				ICB1		CCB1		CCB2	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Zirconium	10	.2	5.0						

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: result < 1/2 RL Run ID: MA47940 Units: ug/l

Time:				13:20		14:15		15:11	
Sample ID:				CCB3		CCB4		CCB5	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Aluminum	200	14	100						
Antimony	6.0	1.3	5.0						
Arsenic	5.0	1.5	3.0						
Barium	200	.3	100	0.00	<200	-0.200	<200	0.00	<200
Beryllium	2.0	.1	1.0						
Bismuth	20	3.3	10						
Boron	200	.8	100						
Cadmium	3.0	.1	2.0						
Calcium	5000	2.3	200						
Chromium	10	.5	5.0						
Cobalt	50	.4	10						
Copper	10	.8	8.0						
Iron	100	4.4	50	3.00	<100	0.800	<100	3.10	<100
Lead	5.0	1.1	3.0						
Lithium	50	4.4	20						
Magnesium	5000	14	500	-14.1	<5000	-14.8	<5000	-9.10	<5000
Manganese	15	.1	5.0	0.100	<15	0.00	<15	0.100	<15
Molybdenum	20	.7	8.0						
Nickel	10	.3	8.0						
Phosphorus	50	2.4	25						
Potassium	10000	140	500						
Selenium	10	1.8	8.0						
Silicon	200	2.2	150						
Silver	10	.5	4.0						
Sodium	10000	34	1000						
Strontium	10	.1	2.0						
Sulfur	100	9.8	50						
Thallium	10	1.3	5.0						
Tin	10	.9	8.0						
Titanium	10	.3	4.0						
Tungsten	100	3.9	50						
Vanadium	50	.3	4.0						
Zinc	20	1.3	10						

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: result < 1/2 RL Run ID: MA47940 Units: ug/l

Time:				13:20		14:15		15:11	
Sample ID:				CCB3		CCB4		CCB5	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Zirconium	10	.2	5.0						

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: result < 1/2 RL Run ID: MA47940 Units: ug/l

Time: / Sample ID:				16:01 CCB6		16:52 CCB7		17:48 CCB8	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Aluminum	200	14	100						
Antimony	6.0	1.3	5.0						
Arsenic	5.0	1.5	3.0						
Barium	200	.3	100	-0.100	<200	-0.100	<200	-0.100	<200
Beryllium	2.0	.1	1.0						
Bismuth	20	3.3	10						
Boron	200	.8	100						
Cadmium	3.0	.1	2.0						
Calcium	5000	2.3	200						
Chromium	10	.5	5.0						
Cobalt	50	.4	10						
Copper	10	.8	8.0						
Iron	100	4.4	50	-0.100	<100	-0.400	<100	0.00	<100
Lead	5.0	1.1	3.0						
Lithium	50	4.4	20						
Magnesium	5000	14	500	-6.50	<5000	-6.70	<5000	-6.50	<5000
Manganese	15	.1	5.0	0.00	<15	0.00	<15	0.200	<15
Molybdenum	20	.7	8.0						
Nickel	10	.3	8.0						
Phosphorus	50	2.4	25						
Potassium	10000	140	500						
Selenium	10	1.8	8.0						
Silicon	200	2.2	150						
Silver	10	.5	4.0						
Sodium	10000	34	1000						
Strontium	10	.1	2.0						
Sulfur	100	9.8	50						
Thallium	10	1.3	5.0						
Tin	10	.9	8.0						
Titanium	10	.3	4.0						
Tungsten	100	3.9	50						
Vanadium	50	.3	4.0						
Zinc	20	1.3	10						

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: result < 1/2 RL Run ID: MA47940 Units: ug/l

Time:				16:01		16:52		17:48	
Sample ID:				CCB6		CCB7		CCB8	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Zirconium	10	.2	5.0						

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: result < 1/2 RL Run ID: MA47940 Units: ug/l

Time:				18:39		19:10		20:23	
Sample ID:				CCB9		CCB10		CCB11	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Aluminum	200	14	100						
Antimony	6.0	1.3	5.0						
Arsenic	5.0	1.5	3.0						
Barium	200	.3	100	-0.100	<200	-0.200	<200	-0.200	<200
Beryllium	2.0	.1	1.0						
Bismuth	20	3.3	10						
Boron	200	.8	100						
Cadmium	3.0	.1	2.0						
Calcium	5000	2.3	200						
Chromium	10	.5	5.0						
Cobalt	50	.4	10						
Copper	10	.8	8.0						
Iron	100	4.4	50	0.100	<100	0.400	<100	0.700	<100
Lead	5.0	1.1	3.0						
Lithium	50	4.4	20						
Magnesium	5000	14	500	-4.70	<5000	-12.9	<5000	-17.8	<5000
Manganese	15	.1	5.0	0.100	<15	0.00	<15	0.00	<15
Molybdenum	20	.7	8.0						
Nickel	10	.3	8.0						
Phosphorus	50	2.4	25						
Potassium	10000	140	500						
Selenium	10	1.8	8.0						
Silicon	200	2.2	150						
Silver	10	.5	4.0						
Sodium	10000	34	1000						
Strontium	10	.1	2.0						
Sulfur	100	9.8	50						
Thallium	10	1.3	5.0						
Tin	10	.9	8.0						
Titanium	10	.3	4.0						
Tungsten	100	3.9	50						
Vanadium	50	.3	4.0						
Zinc	20	1.3	10						

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: result < 1/2 RL Run ID: MA47940 Units: ug/l

Time:				18:39		19:10		20:23	
Sample ID:				CCB9		CCB10		CCB11	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Zirconium	10	.2	5.0						

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: result < 1/2 RL Run ID: MA47940 Units: ug/l

Time:				21:18	
Sample ID:				CCB12	
Metal	RL	IDL	LOD	raw	final
Aluminum	200	14	100		
Antimony	6.0	1.3	5.0		
Arsenic	5.0	1.5	3.0		
Barium	200	.3	100	0.00	<200
Beryllium	2.0	.1	1.0		
Bismuth	20	3.3	10		
Boron	200	.8	100		
Cadmium	3.0	.1	2.0		
Calcium	5000	2.3	200		
Chromium	10	.5	5.0		
Cobalt	50	.4	10		
Copper	10	.8	8.0		
Iron	100	4.4	50	1.40	<100
Lead	5.0	1.1	3.0		
Lithium	50	4.4	20		
Magnesium	5000	14	500	-11.6	<5000
Manganese	15	.1	5.0	0.00	<15
Molybdenum	20	.7	8.0		
Nickel	10	.3	8.0		
Phosphorus	50	2.4	25		
Potassium	10000	140	500		
Selenium	10	1.8	8.0		
Silicon	200	2.2	150		
Silver	10	.5	4.0		
Sodium	10000	34	1000		
Strontium	10	.1	2.0		
Sulfur	100	9.8	50		
Thallium	10	1.3	5.0		
Tin	10	.9	8.0		
Titanium	10	.3	4.0		
Tungsten	100	3.9	50		
Vanadium	50	.3	4.0		
Zinc	20	1.3	10		

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: result < 1/2 RL Run ID: MA47940 Units: ug/l

Time:				21:18	
Sample ID:				CCB12	
Metal	RL	IDL	LOD	raw	final
Zirconium	10	.2	5.0		

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47940 Units: ug/l

Time:		11:07			11:17			12:20	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	2000	1950	97.5	2000	2000	100.0	2000	2010	100.5
Beryllium	anr								
Bismuth									
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	40000	40300	100.8	40000	40300	100.8	40000	40600	101.5
Lead	anr								
Lithium									
Magnesium	40000	39300	98.3	40000	39600	99.0	40000	40000	100.0
Manganese	2000	1970	98.5	2000	2000	100.0	2000	2000	100.0
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47940 Units: ug/l

Time:		11:07			11:17			12:20	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47940 Units: ug/l

Time:		13:15			14:10			15:06	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	2000	2040	102.0	2000	2000	100.0	2000	1990	99.5
Beryllium	anr								
Bismuth									
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	40000	41200	103.0	40000	40400	101.0	40000	40000	100.0
Lead	anr								
Lithium									
Magnesium	40000	40500	101.3	40000	39900	99.8	40000	39700	99.3
Manganese	2000	2020	101.0	2000	2010	100.5	2000	2020	101.0
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47940 Units: ug/l

Time:		13:15			14:10			15:06	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47940 Units: ug/l

Time:		15:56			16:47			17:43	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	2000	2030	101.5	2000	1950	97.5	2000	1930	96.5
Beryllium	anr								
Bismuth									
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	40000	40700	101.8	40000	39800	99.5	40000	39100	97.8
Lead	anr								
Lithium									
Magnesium	40000	40700	101.8	40000	39400	98.5	40000	39700	99.3
Manganese	2000	2030	101.5	2000	1970	98.5	2000	1960	98.0
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47940 Units: ug/l

Time:		15:56			16:47			17:43	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47940 Units: ug/l

Time:		18:34			19:05			20:18	
Sample ID:	CCV	CCV9		CCV	CCV10		CCV	CCV11	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	2000	1920	96.0	2000	1960	98.0	2000	1990	99.5
Beryllium	anr								
Bismuth									
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	40000	39300	98.3	40000	39800	99.5	40000	40800	102.0
Lead	anr								
Lithium									
Magnesium	40000	39200	98.0	40000	39900	99.8	40000	40500	101.3
Manganese	2000	1980	99.0	2000	1990	99.5	2000	1960	98.0
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47940 Units: ug/l

Time:		18:34			19:05			20:18	
Sample ID:	CCV	CCV9		CCV	CCV10		CCV	CCV11	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47940 Units: ug/l

Time:		21:13	
Sample ID:	CCV	CCV12	
Metal	True	Results	% Rec
Aluminum	anr		
Antimony	anr		
Arsenic	anr		
Barium	2000	1960	98.0
Beryllium	anr		
Bismuth			
Boron			
Cadmium	anr		
Calcium	anr		
Chromium	anr		
Cobalt	anr		
Copper	anr		
Iron	40000	40300	100.8
Lead	anr		
Lithium			
Magnesium	40000	40000	100.0
Manganese	2000	1960	98.0
Molybdenum			
Nickel	anr		
Phosphorus			
Potassium	anr		
Selenium	anr		
Silicon			
Silver	anr		
Sodium	anr		
Strontium			
Sulfur			
Thallium	anr		
Tin			
Titanium			
Tungsten			
Vanadium	anr		
Zinc	anr		

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47940 Units: ug/l

Time:		21:13	
Sample ID:	CCV	CCV12	
Metal	True	Results	% Rec
Zirconium			

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 90 to 110 % Recovery Run ID: MA47940 Units: ug/l

Time:		11:48			11:54	
Sample ID:	HSTD	HSTD1		HSTD	HSTD2	
Metal	True	Results	% Rec	True	Results	% Rec
Aluminum						
Antimony	anr					
Arsenic	anr					
Barium	8000	7870	98.4			
Beryllium	anr					
Bismuth						
Boron						
Cadmium	anr					
Calcium						
Chromium	anr					
Cobalt	anr					
Copper	anr					
Iron				200000	199000	99.5
Lead	anr					
Lithium						
Magnesium				300000	321000	107.0
Manganese	8000	7860	98.3			
Molybdenum						
Nickel	anr					
Phosphorus						
Potassium						
Selenium	anr					
Silicon						
Silver	anr					
Sodium						
Strontium						
Sulfur						
Thallium	anr					
Tin						
Titanium						
Tungsten						
Vanadium	anr					
Zinc	anr					

HIGH STANDARD CHECK SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 90 to 110 % Recovery Run ID: MA47940 Units: ug/l

Time:		11:48			11:54	
Sample ID:	HSTD	HSTD1		HSTD	HSTD2	
Metal	True	Results	% Rec	True	Results	% Rec
Zirconium						

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: CRI 80-120% CRIA 80-120% Run ID: MA47940 Units: ug/l

Time:				11:27		12:10	
Sample ID:	CRI	CRIA	CRID	CRI1		CRID2	
Metal	True	True	True	Results	% Rec	Results	% Rec
Aluminum	200	500	100	anr			
Antimony	6.0	20	3.0	anr			
Arsenic	8.0	20	3.0	anr			
Barium	200		4.0	205	102.5	3.70	92.5
Beryllium	2.0		1.0	anr			
Bismuth	20						
Boron	100		10				
Cadmium	3.0		1.0	anr			
Calcium	5000	2000	1000	anr			
Chromium	10		2.0	anr			
Cobalt	50		3.0	anr			
Copper	10		2.0	anr			
Iron	100	500		111	111.0		
Lead	3.0	20	2.5	anr			
Lithium	50						
Magnesium	5000	2000	100	5290	105.8	89.5	89.5
Manganese	15		3.0	15.9	106.0	2.90	96.7
Molybdenum	20						
Nickel	10		4.0	anr			
Phosphorus	50						
Potassium	5000		2000	anr			
Selenium	10	20	5.0	anr			
Silicon	200						
Silver	5.0		2.0	anr			
Sodium	5000		1000	anr			
Strontium	10						
Sulfur	50						
Thallium	10		2.0	anr			
Tin	10						
Titanium	10						
Tungsten	50						
Vanadium	50		2.0	anr			
Zinc	20		10	anr			

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: CRI 80-120% CRIA 80-120% Run ID: MA47940 Units: ug/l

Time:				11:27		12:10	
Sample ID:	CRI	CRIA	CRID	CRI1		CRID2	
Metal	True	True	True	Results	% Rec	Results	% Rec
Zirconium	10						

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 80 to 120 % Recovery Run ID: MA47940 Units: ug/l

Time:			11:37		11:43	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1	
Metal	True	True	Results	% Rec	Results	% Rec
Aluminum	500000	500000	532000	106.4	538000	107.6
Antimony		1000	3.40*(a)		1070	107.0
Arsenic		1000	0.400		1090	109.0
Barium		500	0.300		517	103.4
Beryllium		500	-0.100		500	100.0
Bismuth		500	-11.4*(b		526	105.2
Boron		500	2.50		500	100.0
Cadmium		1000	0.700		1060	106.0
Calcium	400000	400000	399000	99.8	402000	100.5
Chromium		500	0.700		487	97.4
Cobalt		500	-0.200		484	96.8
Copper		500	1.70		520	104.0
Iron	200000	200000	199000	99.5	202000	101.0
Lead		1000	0.300		947	94.7
Lithium		500	-8.90		536	107.2
Magnesium	500000	500000	536000	107.2	534000	106.8
Manganese		500	-0.100		509	101.8
Molybdenum		500	-1.50		498	99.6
Nickel		1000	-0.100		978	97.8
Phosphorus		500	-3.30		480	96.0
Potassium			-51.3		-38.3	
Selenium		1000	-2.70		1030	103.0
Silicon		500	-14.7		513	102.6
Silver		1000	0.200		1140	114.0
Sodium			-5.30		-6.10	
Strontium		500	0.200		519	103.8
Sulfur		500	-11.0		491	98.2
Thallium		1000	-0.500		967	96.7
Tin		500	0.100		487	97.4
Titanium		500	-0.300		508	101.6
Tungsten		500	0.900		495	99.0
Vanadium		500	0.700		492	98.4
Zinc		1000	1.90		965	96.5

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 80 to 120 % Recovery Run ID: MA47940 Units: ug/l

Time:			11:37		11:43	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1	
Metal	True	True	Results	% Rec	Results	% Rec
Zirconium		500	2.10		516	103.2

(*) Outside of QC limits
(anr) Analyte not requested
(a) No AQ samples reported for this element in the area bracketed by this QC.
(b) No samples reported for this element in the area bracketed by this QC.

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Dilution Factor	PS Recov	Comments
09:04	MA47956-STD1	1		See rerun, sample intro not stable.
09:09	MA47956-STD2	1		See rerun, sample intro not stable.
09:14	MA47956-STD3	1		See rerun, sample intro not stable.
09:27	MA47956-STD4	1		STDB
09:32	MA47956-STD5	1		STDC
09:37	MA47956-STD6	1		STDD
09:43	MA47956-STD7	1		STDE
09:48	MA47956-STD8	1		STDF
09:53	MA47956-STD9	1		STDG
09:58	MA47956-STD10	1		STDH
10:03	MA47956-STD11	1		STDI
10:08	MA47956-STD12	1		STDJ
10:15	MA47956-STD13	1		STDA
10:21	MA47956-ICVA1	1		Good results, but use the rerun
10:25	MA47956-ICVA2	1		
10:31	MA47956-ICV1	1		60ppb Al.
10:41	MA47956-ICB1	1		
10:46	MA47956-CCVA1	1		
10:51	MA47956-CCB1	1		
10:56	ZZZZZZ	1		
11:01	MA47956-CRI1	1		
11:08	MA47956-ICSA1	1		
11:13	MA47956-ICSAB1	1		
11:18	ZZZZZZ	1		
11:23	MA47956-CCVA2	1		
11:30	MA47956-CCB2	1		
11:35	ZZZZZZ	2		
11:40	MP18775A-MB1	2		To reanalysis with SUNOCOQC
11:45	MP18775A-B2	2		To reanalysis with SUNOCOQC
11:50	MP18781-MB1	2		
11:55	MP18781-B2	2		
12:00	ZZZZZZ	2		
12:05	ZZZZZZ	2		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Dilution Factor	PS Recov	Comments
12:10	ZZZZZZ	2		
12:15	ZZZZZZ	2		
12:20	MA47956-CCVA3	1		
12:25	MA47956-CCB3	1		
12:30	ZZZZZZ	2		
12:35	ZZZZZZ	2		
12:40	ZZZZZZ	2		
12:46	ZZZZZZ	2		
12:50	ZZZZZZ	2		
12:56	ZZZZZZ	2		
13:02	MA47956-CCVA4	1		
13:07	MA47956-CCB4	1		
13:12	ZZZZZZ	2		
13:18	MP18781-S3	2		
13:23	MP18781-S4	2		
13:28	JC99822-1	2		(sample used for QC only; not part of login JC99810)
13:33	MP18781-SD1	10		
13:38	MP18781-PS1	2		
13:43	ZZZZZZ	2		
13:48	ZZZZZZ	2		
13:53	ZZZZZZ	2		
13:58	MA47956-CCVA5	1		
14:03	MA47956-CCB5	1		
14:08	ZZZZZZ	2		
14:13	ZZZZZZ	2		
14:18	ZZZZZZ	2		
14:23	ZZZZZZ	2		
14:28	ZZZZZZ	2		
14:33	MA47956-CCVA6	1		
14:38	MA47956-CCB6	1		
14:43	ZZZZZZ	2		
14:48	ZZZZZZ	2		
14:53	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Dilution Factor	PS Recov	Comments
15:02	MP18803A-MB1	1		
15:07	MP18803A-MB2	1		
15:12	MP18803A-B2	1		
15:17	MP18803A-B3	25		
15:22	MP18803A-S3	1		
15:27	MP18803A-S4	1		
15:32	MA47956-CCVA7	1		Sb out
15:38	MA47956-CCB7	1		
15:43	JC99883-1	1		(sample used for QC only; not part of login JC99810)
15:53	ZZZZZZ	1		
15:58	ZZZZZZ	1		
16:03	ZZZZZZ	1		
16:13	ZZZZZZ	1		
16:18	ZZZZZZ	1		
16:23	ZZZZZZ	1		
16:30	ZZZZZZ	1		
16:36	ZZZZZZ	1		
16:43	ZZZZZZ	1		
16:48	MA47956-CCVA8	1		
16:53	MA47956-CCB8	1		
16:58	ZZZZZZ	1		
17:03	ZZZZZZ	1		
17:08	MP18786-S1	20		
17:13	MP18786-S2	20		
17:18	ZZZZZZ	20		
17:23	JC99834-1	20		(sample used for QC only; not part of login JC99810)
17:28	ZZZZZZ	2		
17:33	ZZZZZZ	2		
17:38	MA47956-CCVA9	1		
17:43	MA47956-CCB9	1		
17:50	ZZZZZZ	2		
17:55	MP18774-S1	20		
18:01	MP18774-S2	20		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Dilution Factor	PS Recov	Comments
18:06	JC99601-1	20		(sample used for QC only; not part of login JC99810)
18:11	MP18774-SD1	100		
18:16	ZZZZZZ	2		
18:21	ZZZZZZ	2		
18:26	ZZZZZZ	2		
18:31	ZZZZZZ	20		
18:36	MA47956-CCVA10	1		
18:41	MA47956-CCB10	1		
18:46	MP18781-S3	20		As
18:51	MP18781-S4	20		As
18:56	JC99822-1	20		(sample used for QC only; not part of login JC99810)
19:01	MP18781-SD1	100		As
19:06	MP18781-PS1	20		Not needed
19:11	MA47956-CCVA11	1		
19:16	MA47956-CCB11	1		
19:21	ZZZZZZ	2		
19:26	ZZZZZZ	2		
19:31	ZZZZZZ	2		
19:36	ZZZZZZ	2		
19:41	ZZZZZZ	2		
19:46	ZZZZZZ	2		
19:51	ZZZZZZ	2		
19:56	MA47956-CCVA12	1		
20:01	MA47956-CCB12	1		
20:06	ZZZZZZ	2		
20:11	ZZZZZZ	2		
20:16	ZZZZZZ	2		
20:21	ZZZZZZ	2		
20:26	ZZZZZZ	2		
20:31	ZZZZZZ	2		
20:36	ZZZZZZ	2		
20:41	ZZZZZZ	2		
20:46	JC99810-1	2		

----------> Last reportable sample/prep for job JC99810

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

	Time	Sample Description	Dilution Factor	PS Recov	Comments
	20:51	ZZZZZZ	2		
	20:56	MA47956-CCVA13	1		
	21:01	MA47956-CCB13	1		
---------->	Last reportable CCB for job JC99810				
	21:06	MP18803A-S3	5		
	21:11	MP18803A-S4	5		
	21:16	JC99883-1	5		(sample used for QC only; not part of login JC99810)
	21:21	ZZZZZZ	5		
	21:26	ZZZZZZ	5		
	21:31	ZZZZZZ	5		
	21:36	MA47956-CCVA14	1		
	21:41	MA47956-CCB14	1		
	21:46	MP18784A-MB1	5		
	21:51	MP18784A-B2	5		
	21:56	MP18784A-S3	5		Pb=500ppb, Need PS for Sb
	22:01	MP18784A-S4	5		Pb=500ppb, Need PS for Sb
	22:06	JC99677-2Q	5		(sample used for QC only; not part of login JC99810)
	22:11	MP18784A-SD1	25		Pb=500ppb, Need PS for Sb
	22:16	MA47956-CCVA15	1		
	22:21	MA47956-CCB15	1		
	22:26	ZZZZZZ	5		
	22:31	ZZZZZZ	5		
	22:36	ZZZZZZ	5		
	22:41	MA47956-CCVA16	1		
	22:46	MA47956-CCB16	1		

Refer to raw data for calibration curve and standards.

REPORTED ELEMENTS SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Element: Dilution	As
10:21	MA47956-ICVA1	1	Good results, but use the rerun
10:25	MA47956-ICVA2	1	X
10:31	MA47956-ICV1	1	
10:41	MA47956-ICB1	1	X
10:46	MA47956-CCVA1	1	X
10:51	MA47956-CCB1	1	X
10:56	ZZZZZZ	1	
11:01	MA47956-CRI1	1	X
11:08	MA47956-ICSA1	1	X
11:13	MA47956-ICSAB1	1	X
11:18	ZZZZZZ	1	
11:23	MA47956-CCVA2	1	X
11:30	MA47956-CCB2	1	X
11:35	ZZZZZZ	2	
11:40	MP18775A-MB1	2	To reanalysis with SUNOCOQC
11:45	MP18775A-B2	2	To reanalysis with SUNOCOQC
11:50	MP18781-MB1	2	X
11:55	MP18781-B2	2	X
12:00	ZZZZZZ	2	
12:05	ZZZZZZ	2	
12:10	ZZZZZZ	2	
12:15	ZZZZZZ	2	
12:20	MA47956-CCVA3	1	X
12:25	MA47956-CCB3	1	X
12:30	ZZZZZZ	2	
12:35	ZZZZZZ	2	
12:40	ZZZZZZ	2	
12:46	ZZZZZZ	2	
12:50	ZZZZZZ	2	
12:56	ZZZZZZ	2	
13:02	MA47956-CCVA4	1	X
13:07	MA47956-CCB4	1	X
13:12	ZZZZZZ	2	
		Element:	As

REPORTED ELEMENTS SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Element: Dilution	As	
13:18	MP18781-S3	2		
13:23	MP18781-S4	2		
13:28	JC99822-1	2		(a)
13:33	MP18781-SD1	10		
13:38	MP18781-PS1	2		
13:43	ZZZZZZ	2		
13:48	ZZZZZZ	2		
13:53	ZZZZZZ	2		
13:58	MA47956-CCVA5	1	X	
14:03	MA47956-CCB5	1	X	
14:08	ZZZZZZ	2		
14:13	ZZZZZZ	2		
14:18	ZZZZZZ	2		
14:23	ZZZZZZ	2		
14:28	ZZZZZZ	2		
14:33	MA47956-CCVA6	1	X	
14:38	MA47956-CCB6	1	X	
14:43	ZZZZZZ	2		
14:48	ZZZZZZ	2		
14:53	ZZZZZZ	1		
15:02	MP18803A-MB1	1	X	
15:07	MP18803A-MB2	1	X	
15:12	MP18803A-B2	1	X	
15:17	MP18803A-B3	25	X	
15:22	MP18803A-S3	1		
15:27	MP18803A-S4	1		
15:32	MA47956-CCVA7	1	X	
15:38	MA47956-CCB7	1	X	
15:43	JC99883-1	1		(a)
15:53	ZZZZZZ	1		
15:58	ZZZZZZ	1		
16:03	ZZZZZZ	1		
16:13	ZZZZZZ	1		
		Element:	As	

REPORTED ELEMENTS SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Element: Dilution	As	
16:18	ZZZZZZ	1		
16:23	ZZZZZZ	1		
16:30	ZZZZZZ	1		
16:36	ZZZZZZ	1		
16:43	ZZZZZZ	1		
16:48	MA47956-CCVA8	1	X	
16:53	MA47956-CCB8	1	X	
16:58	ZZZZZZ	1		
17:03	ZZZZZZ	1		
17:08	MP18786-S1	20		
17:13	MP18786-S2	20		
17:18	ZZZZZZ	20		
17:23	JC99834-1	20		(a)
17:28	ZZZZZZ	2		
17:33	ZZZZZZ	2		
17:38	MA47956-CCVA9	1	X	
17:43	MA47956-CCB9	1	X	
17:50	ZZZZZZ	2		
17:55	MP18774-S1	20		
18:01	MP18774-S2	20		
18:06	JC99601-1	20		(a)
18:11	MP18774-SD1	100		
18:16	ZZZZZZ	2		
18:21	ZZZZZZ	2		
18:26	ZZZZZZ	2		
18:31	ZZZZZZ	20		
18:36	MA47956-CCVA10	1	X	
18:41	MA47956-CCB10	1	X	
18:46	MP18781-S3	20	X	
18:51	MP18781-S4	20	X	
18:56	JC99822-1	20	X	(a)
19:01	MP18781-SD1	100	X	
19:06	MP18781-PS1	20		
		Element:	As	

REPORTED ELEMENTS SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Element: Dilution	As	
19:11	MA47956-CCVA11	1	X	
19:16	MA47956-CCB11	1	X	
19:21	ZZZZZZ	2		
19:26	ZZZZZZ	2		
19:31	ZZZZZZ	2		
19:36	ZZZZZZ	2		
19:41	ZZZZZZ	2		
19:46	ZZZZZZ	2		
19:51	ZZZZZZ	2		
19:56	MA47956-CCVA12	1	X	
20:01	MA47956-CCB12	1	X	
20:06	ZZZZZZ	2		
20:11	ZZZZZZ	2		
20:16	ZZZZZZ	2		
20:21	ZZZZZZ	2		
20:26	ZZZZZZ	2		
20:31	ZZZZZZ	2		
20:36	ZZZZZZ	2		
20:41	ZZZZZZ	2		
20:46	JC99810-1	2	X	
20:51	ZZZZZZ	2		
20:56	MA47956-CCVA13	1	X	
21:01	MA47956-CCB13	1	X	
21:06	MP18803A-S3	5	X	
21:11	MP18803A-S4	5	X	
21:16	JC99883-1	5	X	(a)
21:21	ZZZZZZ	5		
21:26	ZZZZZZ	5		
21:31	ZZZZZZ	5		
21:36	MA47956-CCVA14	1	X	
21:41	MA47956-CCB14	1	X	
21:46	MP18784A-MB1	5	X	
21:51	MP18784A-B2	5	X	
		Element:	As	

REPORTED ELEMENTS SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Element: Dilution	As	
21:56	MP18784A-S3	5	X	
22:01	MP18784A-S4	5	X	
22:06	JC99677-2Q	5		(a)
22:11	MP18784A-SD1	25	X	
22:16	MA47956-CCVA15	1	X	
22:21	MA47956-CCB15	1	X	
22:26	ZZZZZZ	5		
22:31	ZZZZZZ	5		
22:36	ZZZZZZ	5		
22:41	MA47956-CCVA16	1	X	
22:46	MA47956-CCB16	1	X	

(a) Sample used for QC only; not part of login JC99810.

Element: As

INTERNAL STANDARD SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4	Istd#5	Istd#6	Istd#7	Istd#8
09:04	MA47956-STD1	No results reported for the elements associated with this internal standard.							
09:09	MA47956-STD2	No results reported for the elements associated with this internal standard.							
09:14	MA47956-STD3	No results reported for the elements associated with this internal standard.							
09:27	MA47956-STD4	98.236	98.07	103.268	102.896	97.544	102.148	101.3	97.293
09:32	MA47956-STD5	99.805	98.398	100.239	99.407	98.679	100.443	99.789	98.783
09:37	MA47956-STD6	98.911	98.603	98.01	98.529	98.565	99.351	98.749	98.504
09:43	MA47956-STD7	98.499	98.12	98.787	98.438	99.019	99.293	97.694	98.363
09:48	MA47956-STD8	95.644	97.477	99.29	99.314	98.481	99.014	97.387	98.246
09:53	MA47956-STD9	96.88	97.691	99.809	100.648	98.384	100.161	97.943	98.044
09:58	MA47956-STD10	97.317	96.995	98.107	99.052	97.571	99.142	97.92	98.299
10:03	MA47956-STD11	97.868	97.091	96.529	95.648	96.567	97.772	95.11	95.857
10:08	MA47956-STD12	97.126	96.304	97.812	96.2	95.915	97.752	93.078	94.773
10:15	MA47956-STD13	100	100	100	100	100	100	100	100
10:21	MA47956-ICVA1	No results reported for the elements associated with this internal standard.							
10:25	MA47956-ICVA2	101.7	101.736	100.919	99.694	102.568	101.881	97.862	102.936
10:31	MA47956-ICV1	94.124	94.25	97.253	91.947	95.879	98.403	91.201	95.987
10:41	MA47956-ICB1	103.79	101.92	102.685	102.105	100.913	103.617	100.612	101.714
10:46	MA47956-CCVA1	104.803	104.397	103.807	102.133	104.058	104.28	100.733	104.477
10:51	MA47956-CCB1	104.949	102.276	101.314	101.442	102.731	101.86	99.568	102.444
10:56	ZZZZZZ	94.995	95.469	97.545	91.175	96.483	98.402	89.337	96.198
11:01	MA47956-CRI1	106.258	103.268	101.866	101.052	103.553	102.214	100.062	103.048
11:08	MA47956-ICSA1	87.057	88.21	90.883	89.606	95.494	93.859	88.312	86.115
11:13	MA47956-ICSAB1	88.261	91.487	91.97	93.102	98.426	97.346	92.456	90.011
11:18	ZZZZZZ	84.982	86.291	84.345	88.994	89.714	89.595	89.718	89.347
11:23	MA47956-CCVA2	88.622	90.772	89.778	92.306	94.022	95.153	92.313	94.161
11:30	MA47956-CCB2	90.7	91.093	91.535	93.239	94.179	93.79	93.853	93.562
11:35	ZZZZZZ	91.625	90.435	88.241	94.314	96.105	97.968	105.144	96.919
11:40	MP18775A-MB1	No results reported for the elements associated with this internal standard.							
11:45	MP18775A-B2	No results reported for the elements associated with this internal standard.							
11:50	MP18781-MB1	101.231	98.898	93.208	103.338	106.514	104.176	110.271	107.269
11:55	MP18781-B2	104.786	103.619	96.673	108.209	109.656	108.277	114.743	110.274
12:00	ZZZZZZ	99.952	102.527	94.816	104.763	108.953	105.148	109.21	107.943
12:05	ZZZZZZ	103.274	105.018	96.314	105.232	108.572	106.095	108.283	108.155

INTERNAL STANDARD SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4	Istd#5	Istd#6	Istd#7	Istd#8
12:10	ZZZZZZ	101.832	103.944	95.518	106.47	109.607	107.195	111.258	109.295
12:15	ZZZZZZ	107.945	108.737	98.187	109.508	116.702	109.571	115.532	116.085
12:20	MA47956-CCVA3	112.48	116.62	105.123	109.296	116.609	109.085	106.631	116.648
12:25	MA47956-CCB3	110.985	113.47	105.152	110.34	113.805	109.192	108.87	114.044
12:30	ZZZZZZ	103.687	104.047	94.438	104.289	111.236	106.254	109.737	109.05
12:35	ZZZZZZ	103.305	105.922	96.651	106.993	112.187	107.488	110.295	111.692
12:40	ZZZZZZ	102.926	105.281	96.215	108.007	110.699	107.011	109.625	111.307
12:46	ZZZZZZ	105.765	107.167	98.139	109.652	112.473	109.537	113.989	112.724
12:50	ZZZZZZ	95.173	99.485	90.342	95.23	102.495	98.748	94.292	103.602
12:56	ZZZZZZ	89.94	94.145	86.844	89.949	97.957	93.012	90.402	97.895
13:02	MA47956-CCVA4	96.936	98.646	92.077	96.569	100.182	96.887	96.099	100.97
13:07	MA47956-CCB4	98.426	98.808	92.263	97.902	99.649	98.063	96.513	99.592
13:12	ZZZZZZ	84.524	89.254	82.051	86.374	93.666	89.114	84.069	92.709
13:18	MP18781-S3	86.288	86.962	82.015	95.628	98.201	96.026	98.186	96.081
13:23	MP18781-S4	92.263	93.097	85.169	98.879	103.013	98.733	101.081	101.347
13:28	JC99822-1	95.568	95.276	85.8	98.483	105.282	100.186	100.349	102.745
13:33	MP18781-SD1	101.241	102.931	93.888	100.98	105.483	100.571	100.429	105.144
13:38	MP18781-PS1	99.237	98.914	90.911	102.803	107.049	102.219	103.293	105.767
13:43	ZZZZZZ	84.324	92.077	86.649	87.741	93.249	92.406	82.627	93.085
13:48	ZZZZZZ	80.065	85.615	81.743	91.528	90.235	89.906	89.505	90.116
13:53	ZZZZZZ	84.576	87.121	80.811	95.278	93.108	90.934	94.432	93.596
13:58	MA47956-CCVA5	91.136	93.723	89.267	97.139	97.219	95.309	96.277	97.902
14:03	MA47956-CCB5	91.977	94.385	89.581	97.543	97.528	94.301	97.131	97.222
14:08	ZZZZZZ	84.38	90.544	83.499	89.523	93.14	90.65	85.308	93.182
14:13	ZZZZZZ	81.39	88.146	81.613	92.875	92.56	90.705	90.825	92.778
14:18	ZZZZZZ	88.998	90.612	83.939	97.173	100.779	96.849	98.505	100.936
14:23	ZZZZZZ	90.064	91.746	85.276	99.753	100.414	98.151	100.246	100.679
14:28	ZZZZZZ	89.917	92.755	85.571	92.843	101.43	99.248	94.448	101.907
14:33	MA47956-CCVA6	90.362	92.923	87.881	92.47	95.772	93.471	91.452	97.669
14:38	MA47956-CCB6	90.284	91.65	86.277	92.163	94.214	94.235	92.177	94.961
14:43	ZZZZZZ	91.898	91.218	84.915	95.53	101.543	96.977	97.788	101.623
14:48	ZZZZZZ	88.774	90.573	82.648	93.014	98.07	93.766	93.473	98.269
14:53	ZZZZZZ	91.596	93.768	88.168	92.906	96.703	93.635	92.049	97.364

INTERNAL STANDARD SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4	Istd#5	Istd#6	Istd#7	Istd#8
15:02	MP18803A-MB1	89.941	90.203	87.776	92.517	93.059	93.866	90.776	93.857
15:07	MP18803A-MB2	90.573	91.563	88.444	92.324	93.518	92.017	91.83	93.759
15:12	MP18803A-B2	89.621	91.887	88.841	91.761	94.689	93.574	90.852	95.487
15:17	MP18803A-B3	90	91.355	89.776	89.326	94.558	95.122	88.413	95.404
15:22	MP18803A-S3	106.689	127.537	!a131.186	!a106.997	113.078	117.406	92.459	112.628
15:27	MP18803A-S4	102.368	124.007	127.931	!a108.138	109	113.691	92.062	109.856
15:32	MA47956-CCVA7	108.419	115.966	111.016	101.225	113.327	112.66	97.54	114.134
15:38	MA47956-CCB7	81.803	84.636	85.597	86.314	87.079	89.391	84.507	87.497
15:43	JC99883-1	94.018	112.833	125.399	!a93.461	100.99	110.939	81.748	100.997
15:53	ZZZZZZ	77.507	84.533	86.244	86.021	83.897	89.886	82.686	84.172
15:58	ZZZZZZ	92.341	112.353	118.804	103.843	101.411	109.868	91.511	100.668
16:03	ZZZZZZ	98.732	121.759	121.708	105.214	107.268	112.586	93.406	106.022
16:13	ZZZZZZ	85.326	103.093	107.907	99.936	97.132	105.329	92.442	93.363
16:18	ZZZZZZ	96.33	116.501	126.459	!a108.947	104.445	114.385	93.993	104.764
16:23	ZZZZZZ	100.045	125.152	!a129.592	!a115.782	109.857	119.245	99.468	110.279
16:30	ZZZZZZ	102.141	123.294	124.041	113.958	108.991	114.712	97.578	107.921
16:36	ZZZZZZ	97.857	111.565	115.431	106.397	104.019	111.601	97.551	103.817
16:43	ZZZZZZ	91.208	95.839	94.237	93.762	97.992	99.295	91.282	98.529
16:48	MA47956-CCVA8	83.415	89.07	88.962	90.514	91.932	94.064	87.719	92.034
16:53	MA47956-CCB8	84.381	89.188	88.645	91.219	91.905	94.01	89.982	92.063
16:58	ZZZZZZ	88.11	92.955	92.27	93.814	96.361	97.575	90.621	95.907
17:03	ZZZZZZ	87.591	93.324	92.726	92.063	96.349	97.167	90.255	97.816
17:08	MP18786-S1	87.579	94.364	94.298	90.631	97.13	101.877	89.869	97.485
17:13	MP18786-S2	87.556	94.081	94.732	89.542	97.447	100.369	88.983	96.68
17:18	ZZZZZZ	87.256	94.116	95.486	89.022	97.415	101.041	88.302	97.966
17:23	JC99834-1	87	94.246	95.521	89.012	97.414	101.114	88.277	97.093
17:28	ZZZZZZ	No results reported for the elements associated with this internal standard.							
17:33	ZZZZZZ	86.711	89.823	86.116	92.83	100.564	101.231	97.108	101.038
17:38	MA47956-CCVA9	88.723	95.635	94.861	92.438	98.419	99.51	90.181	98.318
17:43	MA47956-CCB9	89.148	94.171	93.454	93.784	95.864	98.327	92.114	97.418
17:50	ZZZZZZ	89.883	92.193	88.194	95.513	107.691	106.736	98.956	107.962
17:55	MP18774-S1	92.518	99.087	97.177	93.632	101.36	102.039	92.442	101.519
18:01	MP18774-S2	91.035	96.832	95.382	92.297	100.004	101.54	90.23	99.755

INTERNAL STANDARD SUMMARY

Login Number: JC99810
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Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4	Istd#5	Istd#6	Istd#7	Istd#8
18:06	JC99601-1	90.91	96.198	95.142	91.322	97.861	99.334	91.411	98.584
18:11	MP18774-SD1	90.536	95.241	96.746	90.804	97.672	100.666	89.776	98.532
18:16	ZZZZZZ	86.625	87.093	85.918	93.628	101.639	102.134	98.239	101.327
18:21	ZZZZZZ	89.758	91.914	86.199	94.706	102.503	100.298	98.033	102.185
18:26	ZZZZZZ	90.809	91.68	84.812	95.213	100.632	97.775	97.982	100.451
18:31	ZZZZZZ	93.402	97.764	95.812	93.723	99.926	100.979	92.29	100.238
18:36	MA47956-CCVA10	89.422	94.035	91.667	91.905	95.421	94.907	89.01	96.841
18:41	MA47956-CCB10	87.898	89.175	90.75	91.372	92.302	93.906	90.045	92.84
18:46	MP18781-S3	90.485	94.717	93.058	94.872	96.775	98.588	92.834	97.457
18:51	MP18781-S4	89.835	93.475	93.021	92.117	96.638	99.108	90.907	96.204
18:56	JC99822-1	89.77	94.894	93.176	92.611	97.24	97.81	90.521	96.861
19:01	MP18781-SD1	89.355	93.838	94.852	89.658	95.686	100.515	88.939	96.467
19:06	MP18781-PS1	89.691	94.777	93.761	90.918	97.569	98.482	89.759	97.225
19:11	MA47956-CCVA11	90.448	94.778	91.749	93.026	97.684	97.364	90.346	97.682
19:16	MA47956-CCB11	90.458	94.79	90.22	92.451	96.246	95.875	90.161	96.327
19:21	ZZZZZZ	85.217	89.738	84.623	92.401	102.226	100.258	96.76	102.008
19:26	ZZZZZZ	83.428	92.463	86.023	92.637	100.325	97.45	94.752	99.476
19:31	ZZZZZZ	82.612	89.201	84.216	91.413	95.415	96.718	91.616	96.19
19:36	ZZZZZZ	83.662	88.907	84.701	86.826	95.888	95.61	88.451	95.342
19:41	ZZZZZZ	83.301	87.89	78.138	90.818	93.349	89.453	91.752	94.19
19:46	ZZZZZZ	83.747	88.832	81.226	91.382	96.395	93.236	93.785	95.135
19:51	ZZZZZZ	83.285	88.076	82.402	90.997	96.483	92.996	92.984	96.826
19:56	MA47956-CCVA12	86.522	90.578	87.368	89.775	93.791	93.021	87.17	93.788
20:01	MA47956-CCB12	85.512	87.466	86.032	87.216	90.799	91.236	85.678	91.078
20:06	ZZZZZZ	84.359	86.34	80.805	89.481	95.116	92.772	91.407	95.873
20:11	ZZZZZZ	83.956	86.424	81.348	90.272	96.053	93.554	92.307	96.059
20:16	ZZZZZZ	83.199	87.967	82.262	90.268	96.763	94.173	92.172	94.704
20:21	ZZZZZZ	84.961	89.108	81.081	89.658	96.323	94.026	92.362	95.864
20:26	ZZZZZZ	85.033	88.801	81.234	90.402	96.082	93.571	91.603	95.89
20:31	ZZZZZZ	83.324	87.356	80.052	89.241	94.709	91.968	90.386	95.34
20:36	ZZZZZZ	85.562	86.26	80.407	90.083	94.173	92.321	93.173	94.821
20:41	ZZZZZZ	84.891	87.335	80.109	90.57	96.545	93.485	92.646	96.478
20:46	JC99810-1	85.82	87.589	80.573	89.988	94.764	92.123	90.799	95.478

INTERNAL STANDARD SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
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Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4	Istd#5	Istd#6	Istd#7	Istd#8
20:51	ZZZZZZ	No results reported for the elements associated with this internal standard.							
20:56	MA47956-CCVA13	86.544	90.068	88.851	89.387	93.203	93.258	87.038	93.014
21:01	MA47956-CCB13	85.111	88.002	85.519	86.346	90.353	90.719	84.922	90.465
21:06	MP18803A-S3	87.017	96.891	103.21	107.603	94.791	104.433	97.517	95.413
21:11	MP18803A-S4	91.583	102.938	105.684	99.546	100.657	105.702	91.774	100.434
21:16	JC99883-1	88.213	98.868	102.892	95.131	95.911	102.434	88.736	95.69
21:21	ZZZZZZ	83.721	91.204	88.302	89.26	89.998	88.986	83.74	89.791
21:26	ZZZZZZ	86.45	94.11	92.712	90.527	91.538	94.048	85.052	91.842
21:31	ZZZZZZ	82.96	90.454	88.986	88.65	89.421	91.522	84.365	89.057
21:36	MA47956-CCVA14	82.257	85.787	85.229	86.489	87.721	87.944	83.994	88.169
21:41	MA47956-CCB14	83.231	85.296	84.362	87.801	86.6	88.073	85.043	87.06
21:46	MP18784A-MB1	84.176	86.274	84.128	87.284	89.09	88.672	86.017	88.235
21:51	MP18784A-B2	83.932	86.321	83.886	87.959	88.537	88.243	86.071	88.956
21:56	MP18784A-S3	82.725	89.213	87.104	87.951	89.855	89.418	84.335	87.741
22:01	MP18784A-S4	84.171	90.434	87.373	90.871	91.646	90.621	86.617	88.649
22:06	JC99677-2Q	84.29	89.764	87.04	91.51	90.01	90.126	86.779	88.599
22:11	MP18784A-SD1	83.119	85.887	82.853	86.827	87.52	86.787	84.084	86.766
22:16	MA47956-CCVA15	82.589	86.701	84.872	87.252	87.921	88.861	84.221	88.647
22:21	MA47956-CCB15	81.928	84.245	81.04	84.888	85.225	85.875	82.702	85.84
22:26	ZZZZZZ	85.447	90.399	87.589	90.214	91.357	89.406	87.015	89.409
22:31	ZZZZZZ	84.541	95.58	93.98	97.646	93.121	94.745	90.646	89.35
22:36	ZZZZZZ	84.138	86.783	81.703	84.005	96.852	92.173	88.035	87.298
22:41	MA47956-CCVA16	75.243	77.84	76.72	81.971	79.646	80.663	80.335	79.718
22:46	MA47956-CCB16	75.383	76.913	74.974	81.311	78.912	79.268	78.653	78.668

! = Outside limits.

Istd#	Parameter	Limits	CCV/CCB Limits
Istd#1	Lithium	60-125 %	60-125 %
Istd#2	Scandium (45-1)	60-125 %	60-125 %
Istd#3	Scandium (45-2)	60-125 %	60-125 %
Istd#4	Scandium (45-3)	60-125 %	60-125 %
Istd#5	Germanium (72-1)	60-125 %	60-125 %
Istd#6	Germanium (72-2)	60-125 %	60-125 %
Istd#7	Germanium (72-3)	60-125 %	60-125 %
Istd#8	Germanium (74-1)	60-125 %	60-125 %

(a) No samples reported for the elements associated with this internal standard.

INTERNAL STANDARD SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#9	Istd#10	Istd#11	Istd#12	Istd#13	Istd#14	Istd#15	Istd#16
09:04	MA47956-STD1	No results reported for the elements associated with this internal standard.							
09:09	MA47956-STD2	No results reported for the elements associated with this internal standard.							
09:14	MA47956-STD3	No results reported for the elements associated with this internal standard.							
09:27	MA47956-STD4	102.931	101.165	96.671	99.916	99.179	97.717	102.914	97.209
09:32	MA47956-STD5	100.189	100.011	98.359	99.318	99.418	98.387	100.247	98.883
09:37	MA47956-STD6	99.005	99.006	99.802	98.516	99.762	98.994	99.042	99.132
09:43	MA47956-STD7	99.157	98.17	98.246	98.967	99.184	98.446	99.118	99.618
09:48	MA47956-STD8	99.917	97.668	98.186	98.232	98.777	98.116	98.75	99.98
09:53	MA47956-STD9	99.891	98.597	97.414	98.583	99.139	98.176	100.035	98.784
09:58	MA47956-STD10	99.182	98.757	97.327	97.566	99.046	97.266	99.165	97.454
10:03	MA47956-STD11	97.29	94.21	94.439	95.373	95.349	95.713	97.031	96.88
10:08	MA47956-STD12	96.646	93.282	93.52	94.079	94.007	94.309	96.288	96.009
10:15	MA47956-STD13	100	100	100	100	100	100	100	100
10:21	MA47956-ICVA1	No results reported for the elements associated with this internal standard.							
10:25	MA47956-ICVA2	101.158	98.194	99.732	99.01	97.066	101.462	99.749	103.437
10:31	MA47956-ICV1	96.944	91.251	95.63	95.356	93.073	96.734	98.368	96.641
10:41	MA47956-ICB1	102.163	100.047	101.016	101.966	100.616	101.169	102.498	101.11
10:46	MA47956-CCVA1	104.468	99.249	102.188	101.132	98.291	103.244	102.622	105.03
10:51	MA47956-CCB1	102.062	99.124	102.441	101.222	100.228	103.226	101.298	102.321
10:56	ZZZZZZ	97.287	89.346	96.597	95.211	91.789	97.205	98.907	95.481
11:01	MA47956-CRI1	101.995	99.65	102.838	101.234	101.05	103.381	101.17	102.812
11:08	MA47956-ICSA1	87.291	83.383	82.004	82.922	81.074	79.784	80.818	90.252
11:13	MA47956-ICSAB1	90.885	86.241	84.809	85.507	83.712	83.024	82.211	94.04
11:18	ZZZZZZ	89.721	89.56	91.635	90.924	93.581	93.701	91.771	96.012
11:23	MA47956-CCVA2	93.434	91.116	93.095	93.374	93.027	95.904	95.071	98.552
11:30	MA47956-CCB2	94.1	93.279	94.72	95.221	96.828	95.938	96.081	97.151
11:35	ZZZZZZ	95.567	104.517	94.46	93.497	97.371	95.434	93.006	97.987
11:40	MP18775A-MB1	No results reported for the elements associated with this internal standard.							
11:45	MP18775A-B2	No results reported for the elements associated with this internal standard.							
11:50	MP18781-MB1	102.758	109.052	99.411	98.104	103.59	102.632	95.389	104.016
11:55	MP18781-B2	106.507	114.509	102.198	100.031	104.521	104.094	97.486	106.823
12:00	ZZZZZZ	102.472	108.346	95.886	94.54	98.88	101.122	94.517	105.227
12:05	ZZZZZZ	105.678	106.242	98.896	96.893	98.804	103.057	96.164	107.092

INTERNAL STANDARD SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#9	Istd#10	Istd#11	Istd#12	Istd#13	Istd#14	Istd#15	Istd#16
12:10	ZZZZZZ	105.244	110.172	98.408	98.295	102.121	102.954	95.846	106.831
12:15	ZZZZZZ	109.169	114.975	106.366	103.766	109.421	108.936	98.499	109.883
12:20	MA47956-CCVA3	107.175	106.713	109.906	106.128	106.049	112.899	102.659	113.253
12:25	MA47956-CCB3	108.725	108.208	110.683	107.979	109.556	112.917	103.825	115.422
12:30	ZZZZZZ	104.124	107.257	97.759	96.082	98.995	101.713	93.603	105.875
12:35	ZZZZZZ	107.627	108.626	100.311	99.214	102.462	104.571	96.208	108.282
12:40	ZZZZZZ	106.28	108.948	98.619	97.017	101.489	103.536	94.9	108.189
12:46	ZZZZZZ	108.504	112.732	103.794	101.976	108.507	106.559	97.382	107.989
12:50	ZZZZZZ	97.612	93.03	90.39	87.119	86.784	96.779	88.187	100.945
12:56	ZZZZZZ	93.4	89.181	86.18	82.946	83.534	91.901	84.939	96.582
13:02	MA47956-CCVA4	96.17	95.638	98.107	94.824	96.31	100.69	94.203	102.767
13:07	MA47956-CCB4	95.555	96.265	99.75	96.57	100.31	101.812	95.44	101.786
13:12	ZZZZZZ	88.263	83.539	80.717	78.057	78.988	87.334	81.605	93.739
13:18	MP18781-S3	93.878	95.823	87.315	87.633	93.948	91.772	86.144	97.965
13:23	MP18781-S4	96.898	99.393	90.821	90.272	97.011	95.97	88.061	101.644
13:28	JC99822-1	96.89	98.569	93.712	91.4	97.697	98.019	88.947	102.51
13:33	MP18781-SD1	99.534	100.002	102.195	98.915	100.665	105.641	97.031	106.602
13:38	MP18781-PS1	100.169	101.048	95.622	94.391	98.581	101.458	91.548	104.358
13:43	ZZZZZZ	90.415	82.297	80.752	78.003	75.306	87.692	83.603	93.862
13:48	ZZZZZZ	88.76	88.795	80.838	80.322	84.092	87.432	83.715	94.449
13:53	ZZZZZZ	90.474	93.796	87.257	85.773	92.802	92.122	85.511	98.191
13:58	MA47956-CCVA5	94.225	95.271	96.187	93.029	97.423	99.094	93.418	102.049
14:03	MA47956-CCB5	95.081	96.706	97.779	95.474	99.498	100.494	94.715	101.287
14:08	ZZZZZZ	88.527	84.104	80.985	78.458	79.325	88.434	82.077	94.325
14:13	ZZZZZZ	89.473	90.814	84.52	82.454	86.619	90.36	84.601	96.756
14:18	ZZZZZZ	96.409	98.226	93.96	91.68	98.824	97.94	89.543	101.008
14:23	ZZZZZZ	96.651	99.731	92.165	90.23	97.947	97.082	89.59	101.376
14:28	ZZZZZZ	98.175	93.648	93.614	92.001	93.632	98.266	91.39	102.464
14:33	MA47956-CCVA6	92.797	91.819	94.668	91.502	93.338	98.798	91.983	101.055
14:38	MA47956-CCB6	91.525	91.309	94.914	92.742	95.555	98.116	91.849	99.162
14:43	ZZZZZZ	95.808	96.486	93.023	90.552	96.644	97.159	88.864	100.273
14:48	ZZZZZZ	92.268	92.776	86.922	86.044	90.58	91.99	85.543	97.566
14:53	ZZZZZZ	93.447	91.547	97.04	93.521	94.866	99.466	93.142	101.116

INTERNAL STANDARD SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#9	Istd#10	Istd#11	Istd#12	Istd#13	Istd#14	Istd#15	Istd#16
15:02	MP18803A-MB1	92.361	90.123	93.204	92.241	93.438	95.118	92.644	95.476
15:07	MP18803A-MB2	91.414	90.683	94.885	92.101	94.125	97.248	92.575	97.431
15:12	MP18803A-B2	91.98	90.201	93.979	91.486	92.131	97.294	92.434	99.852
15:17	MP18803A-B3	94.23	87.134	93.359	91.874	89.662	97.086	94.229	97.711
15:22	MP18803A-S3	115.417	92.193	96.323	93.428	80.253	101.097	102.979	99.156
15:27	MP18803A-S4	112.231	91.726	94.488	91.645	79.487	98.85	101.291	97.146
15:32	MA47956-CCVA7	111.005	97.734	108.234	102.891	95.369	109.472	106.297	105.209
15:38	MA47956-CCB7	89.067	84.05	88.185	88.028	86.973	89.485	90.642	90.42
15:43	JC99883-1	108.526	81.076	87.948	90.344	69.661	93.19	101.898	92.259
15:53	ZZZZZZ	87.976	82.455	81.304	82.61	80.044	85.638	89.856	88.072
15:58	ZZZZZZ	107.177	90.33	88.234	88.688	78.725	92.298	98.622	92.604
16:03	ZZZZZZ	110.391	91.672	93.935	91.544	80.631	98.836	102.355	96.81
16:13	ZZZZZZ	100.125	88.203	85.238	87.399	80.447	90.751	96.829	92.622
16:18	ZZZZZZ	112.118	92.682	91.84	91.887	79.499	95.525	103.804	93.702
16:23	ZZZZZZ	115.852	99.157	94.259	93.622	86.043	98.687	105.005	96.197
16:30	ZZZZZZ	112.011	96.63	95.084	93.104	85.487	99.813	103.929	97.59
16:36	ZZZZZZ	109.849	96.521	93.807	94.968	87.051	99.207	105.007	98.541
16:43	ZZZZZZ	97.954	90.569	98.114	95.147	92.435	99.796	98.776	97.309
16:48	MA47956-CCVA8	92.078	87.341	90.872	89.983	87.191	93.533	93.491	95.6
16:53	MA47956-CCB8	93.165	88.525	91.938	91.387	91.126	94.267	94.15	93.414
16:58	ZZZZZZ	95.896	90.267	95.594	94.427	92.461	97.99	97.228	96.658
17:03	ZZZZZZ	96.798	90.61	95.754	93.31	90.482	97.719	96.316	98.644
17:08	MP18786-S1	100.02	88.854	95.067	93.394	88.215	98.663	99.694	96.336
17:13	MP18786-S2	99.765	88.105	94.185	93.769	87.379	97.471	99.776	95.058
17:18	ZZZZZZ	99.182	88.097	94.637	93.727	87.218	98.414	99.526	96.217
17:23	JC99834-1	99.898	87.483	94.536	93.77	87.657	98.466	100.165	96.494
17:28	ZZZZZZ	No results reported for the elements associated with this internal standard.							
17:33	ZZZZZZ	100.905	96.397	91.77	90.265	90.814	94.251	90.815	97.115
17:38	MA47956-CCVA9	97.962	89.972	95.679	93.538	88.95	98.964	97.46	98.641
17:43	MA47956-CCB9	96.127	91.096	96.406	94.272	92.076	98.801	97.435	97.267
17:50	ZZZZZZ	105.805	97.678	94.527	92.389	94.574	96.647	92.485	96.936
17:55	MP18774-S1	100.839	91.381	98.861	96.035	91.418	101.315	100.344	99.51
18:01	MP18774-S2	99.878	89.757	97.055	94.943	89.651	99.97	99.216	97.942

INTERNAL STANDARD SUMMARY

Login Number: JC99810
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File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#9	Istd#10	Istd#11	Istd#12	Istd#13	Istd#14	Istd#15	Istd#16
18:06	JC99601-1	98.315	89.355	95.955	93.604	89.976	98.994	97.796	96.683
18:11	MP18774-SD1	99.065	88.566	95.588	94.418	88.506	98.531	99.564	94.67
18:16	ZZZZZZ	101.519	97.08	88.521	89.665	92.709	91.403	90.289	98.299
18:21	ZZZZZZ	99.502	97.231	92.66	89.869	93.248	96.325	90.286	98.408
18:26	ZZZZZZ	96.898	96.797	92.52	89.949	93.71	96.317	89.163	98.203
18:31	ZZZZZZ	100.555	91.979	98.308	95.344	92.461	101.851	99.391	99.782
18:36	MA47956-CCVA10	94.801	89.469	93.843	91.381	89.46	97.265	94.299	98.063
18:41	MA47956-CCB10	93.297	88.855	91.527	92.454	90.731	93.697	94.855	92.642
18:46	MP18781-S3	96.629	92.224	93.986	92.078	92.874	97.571	96.453	96.404
18:51	MP18781-S4	97.376	90.027	94.38	92.656	89.518	97.298	96.702	96.803
18:56	JC99822-1	97.408	90.012	95.198	92.871	89.429	97.969	96.57	95.996
19:01	MP18781-SD1	97.7	87.41	93.874	93.069	87.754	97.01	97.443	94.379
19:06	MP18781-PS1	96.959	89.472	94.652	92.4	88.832	97.523	96.796	95.237
19:11	MA47956-CCVA11	95.155	89.056	94.038	91.77	89.072	96.605	94.182	97.357
19:16	MA47956-CCB11	94.473	89.263	95.096	91.871	91.22	97.535	94.015	102.701
19:21	ZZZZZZ	98.731	94.195	85.739	83.984	85.557	90.749	86.063	93.678
19:26	ZZZZZZ	96.585	93.111	86.58	83.978	85.002	92.758	86.873	95.303
19:31	ZZZZZZ	93.81	91.652	83.291	82.299	83.609	89.513	85.441	93.519
19:36	ZZZZZZ	93.015	86.289	83.366	79.491	77.834	88.534	82.578	92.816
19:41	ZZZZZZ	88.397	90.587	84.874	78.533	84.806	89.203	79.312	93.002
19:46	ZZZZZZ	93.006	91.658	84.926	82.835	84.701	89.319	83.297	93.878
19:51	ZZZZZZ	92.766	91.591	85.001	82.638	84.19	90.003	84.016	94.027
19:56	MA47956-CCVA12	91.922	87.225	90.93	87.864	85.941	94.591	90.91	95.504
20:01	MA47956-CCB12	90.539	85.439	90.929	87.731	87.024	92.917	90.105	92.476
20:06	ZZZZZZ	92.233	90.159	85.248	82.07	84.351	89.038	83.316	92.952
20:11	ZZZZZZ	92.253	90.832	85.638	82.575	85.593	89.904	83.581	93.505
20:16	ZZZZZZ	93.072	91.413	83.928	81.559	84.184	88.249	82.715	92.031
20:21	ZZZZZZ	91.22	90.784	84.832	82.255	85.085	89.315	82.42	92.453
20:26	ZZZZZZ	92.454	90.513	84.81	82.355	84.53	89.679	82.807	92.989
20:31	ZZZZZZ	91.622	90.458	84.584	81.624	83.926	88.754	81.861	92.765
20:36	ZZZZZZ	91.109	92.261	87.899	85.259	90.177	91.904	84.908	92.874
20:41	ZZZZZZ	93.025	93.182	88.995	85.625	89.212	93.448	85.98	93.481
20:46	JC99810-1	91.577	90.315	86.375	83.548	87	91.706	84.581	93.342

INTERNAL STANDARD SUMMARY

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Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#9	Istd#10	Istd#11	Istd#12	Istd#13	Istd#14	Istd#15	Istd#16
20:51	ZZZZZZ	No results reported for the elements associated with this internal standard.							
20:56	MA47956-CCVA13	91.681	86.241	89.149	87.572	84.825	93.108	90.899	93.581
21:01	MA47956-CCB13	89.211	84.481	89.071	87.021	86.081	92.381	88.452	90.894
21:06	MP18803A-S3	102.949	96.115	85.845	89.496	91.465	91.441	97.212	91.228
21:11	MP18803A-S4	103.765	91.104	90.292	89.625	83.461	96.178	97.717	94.671
21:16	JC99883-1	99.413	87.883	86.782	87.061	80.593	91.913	95.681	90.51
21:21	ZZZZZZ	87.347	82.924	82.907	79.972	78.835	88.215	85.401	88.577
21:26	ZZZZZZ	92.907	84.286	85.098	83.531	79.903	89.016	88.908	88.598
21:31	ZZZZZZ	89.446	82.885	82.179	80.953	79.38	87.347	86.596	88.423
21:36	MA47956-CCVA14	87.383	82.957	85.107	83.541	82.385	88.519	86.457	89.042
21:41	MA47956-CCB14	87.035	84.076	86.701	85.235	84.576	88.866	87.333	88.024
21:46	MP18784A-MB1	87.83	85.144	87.118	84.699	85.144	89.606	86.72	88.49
21:51	MP18784A-B2	87.554	85.029	85.862	84.852	85.105	89.266	87.36	89.824
21:56	MP18784A-S3	87.06	82.368	85.644	83.838	81.919	89.078	86.522	90.388
22:01	MP18784A-S4	87.266	84.941	87.45	85.315	84.358	90.206	87.494	91.625
22:06	JC99677-2Q	87.731	84.243	87.042	84.964	84.555	90.318	87.81	91.403
22:11	MP18784A-SD1	85.442	83.107	86.026	81.501	82.778	89.269	85.415	88.166
22:16	MA47956-CCVA15	87.448	83.927	86.101	84.189	83.733	89.282	87.058	89.688
22:21	MA47956-CCB15	84.541	82.812	86.081	83.088	83.937	88.566	84.636	87.024
22:26	ZZZZZZ	87.551	84.37	87.54	84.345	84.599	90.629	86.931	90.498
22:31	ZZZZZZ	89.354	85.531	86.614	85.147	83.926	89.245	88.071	90.847
22:36	ZZZZZZ	84.686	81.018	84.533	80.943	79.659	87.821	83.523	90.993
22:41	MA47956-CCVA16	80.453	79.981	78.514	78.373	80.026	82.01	80.427	84.835
22:46	MA47956-CCB16	78.871	78.487	79.284	78.012	80.364	82.493	79.567	83.232

! = Outside limits.

LEGEND:			CCV/CCB
Istd#	Parameter	Limits	Limits
Istd#9	Germanium (74-2)	60-125 %	60-125 %
Istd#10	Germanium (74-3)	60-125 %	60-125 %
Istd#11	Rhodium (103-1)	60-125 %	60-125 %
Istd#12	Rhodium (103-2)	60-125 %	60-125 %
Istd#13	Rhodium (103-3)	60-125 %	60-125 %
Istd#14	Indium (115-1)	60-125 %	60-125 %
Istd#15	Indium (115-2)	60-125 %	60-125 %
Istd#16	Terbium (159-1)	60-125 %	60-125 %

INTERNAL STANDARD SUMMARY

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File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#17	Istd#18	Istd#19	Istd#20	Istd#21	Istd#22
09:04	MA47956-STD1	No results reported for the elements associated with this internal standard.					
09:09	MA47956-STD2	No results reported for the elements associated with this internal standard.					
09:14	MA47956-STD3	No results reported for the elements associated with this internal standard.					
09:27	MA47956-STD4	101.004	98.865	96.665	100.568	96.917	100.335
09:32	MA47956-STD5	99.457	99.298	98.021	99.595	99.484	100.056
09:37	MA47956-STD6	99.17	99.697	98.044	98.965	99.092	99.961
09:43	MA47956-STD7	99.488	100.059	99.197	99.374	100.297	100.085
09:48	MA47956-STD8	99.675	100.214	100.019	99.151	100.343	100.215
09:53	MA47956-STD9	99.596	100.296	98.587	99.825	98.119	100.17
09:58	MA47956-STD10	99.132	101.102	97.69	98.896	97.259	99.226
10:03	MA47956-STD11	98.471	98.65	96.643	97.789	94.87	95.637
10:08	MA47956-STD12	98.279	98.259	95.204	97.983	92.84	94.544
10:15	MA47956-STD13	100	100	100	100	100	100
10:21	MA47956-ICVA1	No results reported for the elements associated with this internal standard.					
10:25	MA47956-ICVA2	101.462	100.144	103.533	102.008	100.309	99.724
10:31	MA47956-ICV1	96.548	93.61	96.231	96.943	96.752	97.17
10:41	MA47956-ICB1	100.488	99.192	100.117	101.303	99.619	101.214
10:46	MA47956-CCVA1	102.816	100.346	104.173	102.954	102.091	100.188
10:51	MA47956-CCB1	100.343	99.777	102.128	100.953	101.285	100.614
10:56	ZZZZZZ	95.871	92.561	95.051	96.308	96.438	96.309
11:01	MA47956-CRI1	100.502	100.298	102.139	100.797	101.759	100.579
11:08	MA47956-ICSA1	90.804	89.677	89.712	91.344	83.589	84.181
11:13	MA47956-ICSAB1	92.521	92.399	93.253	93.53	86.353	86.394
11:18	ZZZZZZ	93.568	95.513	95.905	93.957	96.148	95.32
11:23	MA47956-CCVA2	97.14	96.975	97.866	98.099	98.044	96.108
11:30	MA47956-CCB2	96.278	97.34	96.945	97.515	97.521	97.785
11:35	ZZZZZZ	95.708	98.808	97.808	96.032	97.995	97.211
11:40	MP18775A-MB1	No results reported for the elements associated with this internal standard.					
11:45	MP18775A-B2	No results reported for the elements associated with this internal standard.					
11:50	MP18781-MB1	98.229	104.295	104.123	99.114	102.029	97.81
11:55	MP18781-B2	100.743	105.945	106.732	101.634	102.391	99.202
12:00	ZZZZZZ	98.626	103.302	103.715	100.412	97.504	93.314
12:05	ZZZZZZ	101.018	103.816	107.771	102.935	99.172	96.555

INTERNAL STANDARD SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#17	Istd#18	Istd#19	Istd#20	Istd#21	Istd#22
12:10	ZZZZZZ	100.333	105.249	106.079	101.889	100.659	97.595
12:15	ZZZZZZ	101.054	107.889	109.055	101.678	105.512	100.284
12:20	MA47956-CCVA3	104.606	105.958	112.951	105.744	108.343	102.657
12:25	MA47956-CCB3	102.611	106.142	110.109	104.348	107.92	103.156
12:30	ZZZZZZ	98.584	103.067	106.512	99.264	99.095	94.576
12:35	ZZZZZZ	100.79	106.068	107.753	102.695	100.429	96.842
12:40	ZZZZZZ	99.055	105.044	107.412	101.047	99.263	94.403
12:46	ZZZZZZ	100.543	107.422	107.948	101.72	104.509	99.624
12:50	ZZZZZZ	92.993	93.959	100.371	94.174	88.646	84.605
12:56	ZZZZZZ	90.041	91.616	97.036	91.929	85.463	81.614
13:02	MA47956-CCVA4	97.18	99.616	102.518	98.661	99.918	95.689
13:07	MA47956-CCB4	96.479	99.873	101.108	97.509	101.012	97.336
13:12	ZZZZZZ	87.697	88.74	94.377	89.175	81.524	78.155
13:18	MP18781-S3	92.846	100.322	98.496	94.689	93.441	90.993
13:23	MP18781-S4	94.312	101.791	101.889	95.926	96.659	92.258
13:28	JC99822-1	94.687	102.643	103.029	97.027	97.375	92.543
13:33	MP18781-SD1	98.819	101.984	107.151	100.141	104.586	99.432
13:38	MP18781-PS1	96.91	102.601	105.413	99.016	98.394	94.418
13:43	ZZZZZZ	87.582	85.038	93.186	89.567	78.196	75.536
13:48	ZZZZZZ	89.629	93.608	93.973	91.644	84.909	83.024
13:53	ZZZZZZ	92.337	99.786	99.828	95.635	93.686	90.882
13:58	MA47956-CCVA5	97.484	100.472	102.565	99.213	99.776	96.753
14:03	MA47956-CCB5	95.404	99.901	100.516	96.971	100.16	97.061
14:08	ZZZZZZ	87.715	89.833	94.306	89.162	81.071	77.213
14:13	ZZZZZZ	90.842	95.37	99.352	93.538	89.435	85.999
14:18	ZZZZZZ	93.965	101.794	101.256	95.179	98.875	93.97
14:23	ZZZZZZ	95.282	102.881	102.272	97.76	97.486	94.088
14:28	ZZZZZZ	95.801	97.654	103.87	98.549	98.745	95.651
14:33	MA47956-CCVA6	95.712	97.388	101.827	96.969	97.891	94.728
14:38	MA47956-CCB6	93.199	95.95	99.028	93.867	98.503	94.242
14:43	ZZZZZZ	92.93	99.92	100.609	95.112	96.949	92.964
14:48	ZZZZZZ	91.602	97.667	97.833	93.204	91.53	87.531
14:53	ZZZZZZ	94.135	96.531	100.527	95.514	100.056	96.125

INTERNAL STANDARD SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#17	Istd#18	Istd#19	Istd#20	Istd#21	Istd#22
15:02	MP18803A-MB1	92.728	94.055	95.248	93.467	96.099	94.543
15:07	MP18803A-MB2	93.276	95.674	97.872	94.517	97.16	94.669
15:12	MP18803A-B2	94.704	95.309	99.189	95.701	97.446	94.796
15:17	MP18803A-B3	94.416	92.541	97.926	95.528	97.297	96.277
15:22	MP18803A-S3	97.013	84.502	98.726	97.77	79.379	79.116
15:27	MP18803A-S4	95.766	83.776	96.082	96.759	77.657	78.037
15:32	MA47956-CCVA7	102.884	97.028	103.932	103.838	97.88	98.841
15:38	MA47956-CCB7	89.586	88.954	89.727	90.181	89.662	90.447
15:43	JC99883-1	95.257	73.192	90.99	96.133	74.23	77.419
15:53	ZZZZZZ	90.872	87.182	87.141	91.73	81.773	85.955
15:58	ZZZZZZ	93.853	82.99	91.98	95.332	75.574	77.883
16:03	ZZZZZZ	97.202	85.938	96.066	98.89	79.345	80.894
16:13	ZZZZZZ	95.478	87.344	97.589	102.416	79.053	82.852
16:18	ZZZZZZ	95.116	83.258	92.879	96.112	76.226	78.018
16:23	ZZZZZZ	97.727	89.35	95.191	98.519	77.627	79.766
16:30	ZZZZZZ	98.124	89.584	96.974	98.703	79.925	82.051
16:36	ZZZZZZ	100.296	91.866	97.408	100.901	84.817	87.89
16:43	ZZZZZZ	96.041	93.027	96.87	97.142	96.343	96.085
16:48	MA47956-CCVA8	94.236	91.286	94.531	96.059	92.506	92.676
16:53	MA47956-CCB8	92.451	91.887	93.784	94.117	93.329	93.321
16:58	ZZZZZZ	94.906	92.129	96.565	96.122	95.543	95.825
17:03	ZZZZZZ	96.084	93.754	98.009	97.435	95.894	95.303
17:08	MP18786-S1	95.052	90.162	95.595	96.649	94.157	94.958
17:13	MP18786-S2	95.781	89.237	94.006	96.511	93.563	94.594
17:18	ZZZZZZ	94.992	89.227	95.587	96.003	93.765	94.774
17:23	JC99834-1	95.375	88.882	95.742	96.747	93.527	95.074
17:28	ZZZZZZ	No results reported for the elements associated with this internal standard.					
17:33	ZZZZZZ	93.358	94.151	97.221	94.212	93.72	92.347
17:38	MA47956-CCVA9	96.661	91.318	98.176	98.038	94.334	94.912
17:43	MA47956-CCB9	94.602	91.802	95.623	96.06	94.711	95.368
17:50	ZZZZZZ	93.66	95.26	96.875	95.051	93.936	93.379
17:55	MP18774-S1	96.863	91.991	98.317	97.864	96.755	96.985
18:01	MP18774-S2	95.818	91.416	96.212	97.069	95.22	96.125

INTERNAL STANDARD SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#17	Istd#18	Istd#19	Istd#20	Istd#21	Istd#22
18:06	JC99601-1	94.76	90.241	94.95	95.366	95.034	94.959
18:11	MP18774-SD1	94.548	88.455	94.378	94.948	94.058	95.139
18:16	ZZZZZZ	92.127	94.822	92.116	92.756	90.211	91.335
18:21	ZZZZZZ	93.502	96.081	97.862	94.686	95.623	92.916
18:26	ZZZZZZ	92.254	96.477	97.772	93.9	95.833	92.47
18:31	ZZZZZZ	95.833	93.192	98.636	96.961	96.58	96.793
18:36	MA47956-CCVA10	94.184	92.19	97.497	95.327	93.701	92.378
18:41	MA47956-CCB10	92.991	90.356	91.906	93.605	91.291	93.394
18:46	MP18781-S3	93.94	98.386	95.438	94.882	94.81	94.275
18:51	MP18781-S4	93.772	90.459	95.677	94.913	94.23	94.443
18:56	JC99822-1	93.966	90.026	95.192	94.569	94.515	94.444
19:01	MP18781-SD1	93.239	87.703	92.29	94.563	93.152	93.96
19:06	MP18781-PS1	93.756	89.687	94.265	94.853	93.61	94.499
19:11	MA47956-CCVA11	94.306	90.601	96.385	95.027	92.9	92.221
19:16	MA47956-CCB11	91.863	90.114	94.468	92.329	93.349	91.593
19:21	ZZZZZZ	89.29	91.117	93.15	90.802	85.256	83.032
19:26	ZZZZZZ	90.238	91.25	94.606	92.348	86.096	83.628
19:31	ZZZZZZ	89.788	90.721	94.761	92.181	82.661	82.312
19:36	ZZZZZZ	87.299	84.408	91.912	89.014	80.751	78.753
19:41	ZZZZZZ	83.615	90.127	92.393	84.193	84.777	79.453
19:46	ZZZZZZ	87.84	90.188	94.048	89.089	85.325	82.498
19:51	ZZZZZZ	88.338	89.507	93.943	89.699	85.375	83.141
19:56	MA47956-CCVA12	90.819	88.674	94.731	92.048	90.74	89.329
20:01	MA47956-CCB12	88.405	87.186	91.19	88.942	89.762	88.428
20:06	ZZZZZZ	86.945	88.577	92.705	88.313	86.86	83.433
20:11	ZZZZZZ	86.964	89.783	93.805	88.848	86.61	83.518
20:16	ZZZZZZ	87.067	88.721	91.788	88.165	82.754	80.765
20:21	ZZZZZZ	87.056	88.542	92.118	88.506	84.062	81.95
20:26	ZZZZZZ	86.907	88.842	92.812	88.68	84.562	81.6
20:31	ZZZZZZ	87.333	90.23	91.677	88.377	84.484	82.267
20:36	ZZZZZZ	87.038	91.619	92.768	88.224	90.037	86.633
20:41	ZZZZZZ	88.024	91.165	93.137	89.116	89.756	87.095
20:46	JC99810-1	87.483	90.947	92.416	89.366	87.994	85.246

INTERNAL STANDARD SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#17	Istd#18	Istd#19	Istd#20	Istd#21	Istd#22
20:51	ZZZZZZ	No results reported for the elements associated with this internal standard.					
20:56	MA47956-CCVA13	90.453	86.778	93.385	91.291	89.134	88.743
21:01	MA47956-CCB13	87.199	86.265	89.999	87.932	88.309	87.253
21:06	MP18803A-S3	93.887	95.845	89.814	94.941	80.6	85.182
21:11	MP18803A-S4	94.274	87.142	93.399	95.85	82.934	85.057
21:16	JC99883-1	91.299	83.545	88.291	92.081	79.158	82.179
21:21	ZZZZZZ	84.834	83.609	87.316	86.154	77.855	77.552
21:26	ZZZZZZ	88.157	83.671	87.541	88.64	78.914	79.947
21:31	ZZZZZZ	86.646	83.966	87.775	87.94	78.623	79.302
21:36	MA47956-CCVA14	86.596	84.761	88.023	87.281	84.433	84.976
21:41	MA47956-CCB14	85.872	84.526	86.97	87.099	86.295	86.202
21:46	MP18784A-MB1	85.439	85.317	87.504	86.324	87.852	86.513
21:51	MP18784A-B2	86.817	86.49	89.14	88.245	86.415	85.908
21:56	MP18784A-S3	87.962	84.693	94.293	93.097	87.179	86.692
22:01	MP18784A-S4	88.637	86.939	94.539	94.328	87.563	87.252
22:06	JC99677-2Q	88.19	86.53	94.914	93.353	87.688	87.331
22:11	MP18784A-SD1	83.207	83.484	88.262	84.397	86.515	83.706
22:16	MA47956-CCVA15	87.206	85.694	89.019	88.458	85.355	85.305
22:21	MA47956-CCB15	84.007	84.102	86.145	84.966	84.99	84.242
22:26	ZZZZZZ	86.881	86.566	93.576	91.997	88.327	86.439
22:31	ZZZZZZ	89.397	86.968	98.909	100.307	84.622	86.149
22:36	ZZZZZZ	87	85.593	112.4	109.644	82.872	82.013
22:41	MA47956-CCVA16	82.528	83.564	84.617	83.829	81.363	81.812
22:46	MA47956-CCB16	79.69	81.93	82.629	80.885	81.704	80.83

! = Outside limits.

LEGEND:			CCV/CCB
Istd#	Parameter	Limits	Limits
Istd#17	Terbium (159-2)	60-125 %	60-125 %
Istd#18	Terbium (159-3)	60-125 %	60-125 %
Istd#19	Holmium (165-1)	60-125 %	60-125 %
Istd#20	Holmium (165-2)	60-125 %	60-125 %
Istd#21	Bismuth (209-1)	60-125 %	60-125 %
Istd#22	Bismuth (209-2)	60-125 %	60-125 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
QC Limits: result < 1/2 RL Run ID: MA47956 Units: ug/l

Time:				10:41		10:51		11:30	
Sample ID:				ICB1		CCB1		CCB2	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Aluminum	25	.28	20						
Antimony	2.0	.094	1.5						
Arsenic	0.50	.013	1.0	-0.00389	<1.5	0.0151	<1.5	0.000207	<1.5
Barium	1.0	.008	0.50						
Beryllium	0.50	.004	0.25						
Boron	25	.65	20						
Cadmium	0.50	.004	2.0						
Calcium	250	6.1	50						
Chromium	1.0	.014	3.0						
Cobalt	0.50	.002	0.25						
Copper	2.0	.021	4.0						
Iron	25	.43	13						
Lead	0.50	.009	1.0						
Magnesium	250	.15	130						
Manganese	1.0	.007	1.0						
Molybdenum	1.0	.015	0.50						
Nickel	1.0	.017	3.0						
Potassium	250	.71	50						
Selenium	0.50	.072	0.50						
Silver	0.50	.004	0.50						
Sodium	250	1	100						
Strontium	5.0	.003	5.0						
Thallium	0.50	.004	0.50						
Tin	5.0	.071	2.5						
Titanium	1.0	.035	1.0						
Vanadium	1.0	.009	1.0						
Zinc	5.0	.029	7.5						

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
QC Limits: result < 1/2 RL Run ID: MA47956 Units: ug/l

Time: / Sample ID:				12:25 CCB3		13:07 CCB4		14:03 CCB5	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Aluminum	25	.28	20						
Antimony	2.0	.094	1.5						
Arsenic	0.50	.013	1.0	0.00318	<1.5	0.00538	<1.5	0.0148	<1.5
Barium	1.0	.008	0.50						
Beryllium	0.50	.004	0.25						
Boron	25	.65	20						
Cadmium	0.50	.004	2.0						
Calcium	250	6.1	50						
Chromium	1.0	.014	3.0						
Cobalt	0.50	.002	0.25						
Copper	2.0	.021	4.0						
Iron	25	.43	13						
Lead	0.50	.009	1.0						
Magnesium	250	.15	130						
Manganese	1.0	.007	1.0						
Molybdenum	1.0	.015	0.50						
Nickel	1.0	.017	3.0						
Potassium	250	.71	50						
Selenium	0.50	.072	0.50						
Silver	0.50	.004	0.50						
Sodium	250	1	100						
Strontium	5.0	.003	5.0						
Thallium	0.50	.004	0.50						
Tin	5.0	.071	2.5						
Titanium	1.0	.035	1.0						
Vanadium	1.0	.009	1.0						
Zinc	5.0	.029	7.5						

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Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
QC Limits: result < 1/2 RL Run ID: MA47956 Units: ug/l

Time: / Sample ID:				14:38 CCB6		15:38 CCB7		16:53 CCB8	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Aluminum	25	.28	20						
Antimony	2.0	.094	1.5						
Arsenic	0.50	.013	1.0	0.0111	<1.5	0.00475	<1.5	0.00476	<1.0
Barium	1.0	.008	0.50						
Beryllium	0.50	.004	0.25						
Boron	25	.65	20						
Cadmium	0.50	.004	2.0						
Calcium	250	6.1	50						
Chromium	1.0	.014	3.0						
Cobalt	0.50	.002	0.25						
Copper	2.0	.021	4.0						
Iron	25	.43	13						
Lead	0.50	.009	1.0						
Magnesium	250	.15	130						
Manganese	1.0	.007	1.0						
Molybdenum	1.0	.015	0.50						
Nickel	1.0	.017	3.0						
Potassium	250	.71	50						
Selenium	0.50	.072	0.50						
Silver	0.50	.004	0.50						
Sodium	250	1	100						
Strontium	5.0	.003	5.0						
Thallium	0.50	.004	0.50						
Tin	5.0	.071	2.5						
Titanium	1.0	.035	1.0						
Vanadium	1.0	.009	1.0						
Zinc	5.0	.029	7.5						

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BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
QC Limits: result < 1/2 RL Run ID: MA47956 Units: ug/l

Time: / Sample ID:				17:43 CCB9		18:41 CCB10		19:16 CCB11	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Aluminum	25	.28	20						
Antimony	2.0	.094	1.5						
Arsenic	0.50	.013	1.0	0.0180	<1.0	-0.00362	<1.5	0.0216	<1.5
Barium	1.0	.008	0.50						
Beryllium	0.50	.004	0.25						
Boron	25	.65	20						
Cadmium	0.50	.004	2.0						
Calcium	250	6.1	50						
Chromium	1.0	.014	3.0						
Cobalt	0.50	.002	0.25						
Copper	2.0	.021	4.0						
Iron	25	.43	13						
Lead	0.50	.009	1.0						
Magnesium	250	.15	130						
Manganese	1.0	.007	1.0						
Molybdenum	1.0	.015	0.50						
Nickel	1.0	.017	3.0						
Potassium	250	.71	50						
Selenium	0.50	.072	0.50						
Silver	0.50	.004	0.50						
Sodium	250	1	100						
Strontium	5.0	.003	5.0						
Thallium	0.50	.004	0.50						
Tin	5.0	.071	2.5						
Titanium	1.0	.035	1.0						
Vanadium	1.0	.009	1.0						
Zinc	5.0	.029	7.5						

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BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99810
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File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
QC Limits: result < 1/2 RL Run ID: MA47956 Units: ug/l

Time: / Sample ID: / Metal	RL	IDL	LOD	20:01 CCB12 raw	20:01 CCB12 final	21:01 CCB13 raw	21:01 CCB13 final
Aluminum	25	.28	20				
Antimony	2.0	.094	1.5				
Arsenic	0.50	.013	1.0	0.0121	<1.5	0.0478	<1.5
Barium	1.0	.008	0.50				
Beryllium	0.50	.004	0.25				
Boron	25	.65	20				
Cadmium	0.50	.004	2.0				
Calcium	250	6.1	50				
Chromium	1.0	.014	3.0				
Cobalt	0.50	.002	0.25				
Copper	2.0	.021	4.0				
Iron	25	.43	13				
Lead	0.50	.009	1.0				
Magnesium	250	.15	130				
Manganese	1.0	.007	1.0				
Molybdenum	1.0	.015	0.50				
Nickel	1.0	.017	3.0				
Potassium	250	.71	50				
Selenium	0.50	.072	0.50				
Silver	0.50	.004	0.50				
Sodium	250	1	100				
Strontium	5.0	.003	5.0				
Thallium	0.50	.004	0.50				
Tin	5.0	.071	2.5				
Titanium	1.0	.035	1.0				
Vanadium	1.0	.009	1.0				
Zinc	5.0	.029	7.5				

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
QC Limits: 90 to 110 % Recovery Run ID: MA47956 Units: ug/l

Time:		10:25			10:31			10:46	
Sample ID:	ICVA	ICVA2		ICV	ICV1		CCVA	CCVA1	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum									
Antimony	anr								
Arsenic	60	59.9	99.8				50	50.9	101.8
Barium									
Beryllium	anr								
Boron									
Cadmium	anr								
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	anr								
Magnesium									
Manganese	anr								
Molybdenum									
Nickel									
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium									
Zinc									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
QC Limits: 90 to 110 % Recovery Run ID: MA47956 Units: ug/l

Time:		11:23			12:20			13:02	
Sample ID:	CCVA	CCVA2		CCVA	CCVA3		CCVA	CCVA4	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum									
Antimony	anr								
Arsenic	50	53.0	106.0	50	52.1	104.2	50	52.5	105.0
Barium									
Beryllium	anr								
Boron									
Cadmium	anr								
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	anr								
Magnesium									
Manganese	anr								
Molybdenum									
Nickel									
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium									
Zinc									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
QC Limits: 90 to 110 % Recovery Run ID: MA47956 Units: ug/l

Time:		13:58			14:33			15:32	
Sample ID:	CCVA	CCVA5		CCVA	CCVA6		CCVA	CCVA7	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum									
Antimony	anr								
Arsenic	50	52.3	104.6	50	51.8	103.6	50	49.8	99.6
Barium									
Beryllium	anr								
Boron									
Cadmium	anr								
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	anr								
Magnesium									
Manganese	anr								
Molybdenum									
Nickel									
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium									
Zinc									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
QC Limits: 90 to 110 % Recovery Run ID: MA47956 Units: ug/l

Time:		16:48			17:38			18:36	
Sample ID:	CCVA	CCVA8		CCVA	CCVA9		CCVA	CCVA10	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum									
Antimony	anr								
Arsenic	50	51.9	103.8	50	51.0	102.0	50	51.0	102.0
Barium									
Beryllium	anr								
Boron									
Cadmium	anr								
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	anr								
Magnesium									
Manganese	anr								
Molybdenum									
Nickel									
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium									
Zinc									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
QC Limits: 90 to 110 % Recovery Run ID: MA47956 Units: ug/l

Time:		19:11			19:56			20:56	
Sample ID:	CCVA	CCVA11		CCVA	CCVA12		CCVA	CCVA13	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum									
Antimony	anr								
Arsenic	50	51.5	103.0	50	51.4	102.8	50	50.7	101.4
Barium									
Beryllium	anr								
Boron									
Cadmium	anr								
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	anr								
Magnesium									
Manganese	anr								
Molybdenum									
Nickel									
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium									
Zinc									

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
QC Limits: 80 to 120 % Recovery Run ID: MA47956 Units: ug/l

Time:			11:01	
Sample ID:	CRI	CRIA	CRI1	
Metal	True	True	Results	% Rec
Aluminum	25	25		
Antimony	2.0	0.25	anr	
Arsenic	0.50	0.50	0.497	99.4
Barium	1.0	0.50		
Beryllium	0.50	0.25	anr	
Boron	25	2.5		
Cadmium	0.50	0.25	anr	
Calcium	250	125		
Chromium	1.0	2.0		
Cobalt	0.50	0.25		
Copper	2.0	2.0		
Iron	25	25		
Lead	0.50	0.25	anr	
Magnesium	250	125		
Manganese	1.0	0.25	anr	
Molybdenum	1.0	0.50		
Nickel	1.0	2.0		
Potassium	250	125	anr	
Selenium	0.50	0.50	anr	
Silver	0.50	1.0	anr	
Sodium	250	125	anr	
Strontium	5.0	0.50		
Thallium	0.50	0.25	anr	
Tin	5.0	0.50		
Titanium	1.0	0.50		
Vanadium	1.0	2.0		
Zinc	5.0	2.0		

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
QC Limits: 80 to 120 % Recovery Run ID: MA47956 Units: ug/l

Time:			11:08		11:13	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1	
Metal	True	True	Results	% Rec	Results	% Rec
Aluminum	100000	100000	91200	91.2	90200	90.2
Antimony			0.129		0.144	
Arsenic		20	0.0484		20.1	100.5
Barium			0.174		0.191	
Beryllium			-0.0000885		0.000658	
Boron		50	1.13		49.4	98.8
Cadmium		20	-0.181		20.1	100.5
Calcium	100000	100000	89800	89.8	89500	89.5
Chromium		20	0.232		19.8	99.0
Cobalt		20	0.167		19.1	95.5
Copper		20	-0.250		17.7	88.5
Iron	100000	100000	85800	85.8	86400	86.4
Lead			0.0988		0.0905	
Magnesium	100000	100000	85200	85.2	85600	85.6
Manganese		20	0.373		20.0	100.0
Molybdenum	2000	2000	2000	100.0	2000	100.0
Nickel		20	0.483		18.5	92.5
Potassium	100000	100000	91700	91.7	93200	93.2
Selenium		20	0.0879		21.0	105.0
Silver		20	0.0299		20.9	104.5
Sodium	100000	100000	83600	83.6	84600	84.6
Strontium	2000	2000	1970	98.5	2020	101.0
Thallium			0.00412		0.00334	
Tin	2000	2000	1840	92.0	1910	95.5
Titanium	2000	2000	1710	85.5	1720	86.0
Vanadium		20	-0.0904		20.3	101.5
Zinc		20	-0.169		17.1	85.5

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781
Matrix Type: AQUEOUS

Methods: SW846 6020B
Units: ug/l

Prep Date: 12/10/19

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	.55	32		
Antimony	4.0	.19	1.7		
Arsenic	3.0	.026	.94	0.37	<3.0
Barium	2.0	.016	.73		
Beryllium	1.0	.008	.15		
Boron	50	1.3	14		
Cadmium	6.0	.008	.17		
Calcium	500	12	64		
Chromium	8.0	.028	.62		
Cobalt	1.0	.004	.17		
Copper	10	.042	1.9		
Iron	50	.86	19		
Lead	3.0	.018	.52		
Magnesium	500	.3	46		
Manganese	4.0	.014	.63		
Molybdenum	2.0	.03	.45		
Nickel	8.0	.034	.95		
Potassium	500	1.4	68		
Selenium	2.0	.14	.55		
Silver	2.0	.008	.16		
Sodium	500	2.1	140		
Strontium	20	.006	2.4		
Thallium	2.0	.008	.17		
Tin	10	.14	2.6		
Titanium	4.0	.07	1.6		
Vanadium	3.0	.018	1.8		
Zinc	20	.058	5.4		

Associated samples MP18781: JC99810-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781 Methods: SW846 6020B
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 12/10/19

Metal	JC99822-1 Original	MS	Spikelot MP6020AQ3%	Rec	QC Limits
Aluminum					
Antimony					
Arsenic	1640	1690	80	62.5 (a)	75-125
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead	anr				
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP18781: JC99810-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781 Methods: SW846 6020B
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 12/10/19

Metal	JC99822-1 Original	MSD	Spikelot MP6020AQ3%	Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	1640	1720	80	100.0	1.8	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead	anr					
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP18781: JC99810-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781
Matrix Type: AQUEOUS

Methods: SW846 6020B
Units: ug/l

Prep Date: 12/10/19

Metal	BSP Result	Spikelot MP6020AQ3%	Rec	QC Limits
Aluminum				
Antimony				
Arsenic	72.6	80	90.8	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	anr			
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP18781: JC99810-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781
Matrix Type: AQUEOUS

Methods: SW846 6020B
Units: ug/l

Prep Date: 12/10/19

Metal	JC99822-1 Original	SDL 2:10	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	1640	1600	2.5	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	anr			
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP18781: JC99810-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

POST DIGESTATE SPIKE SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781
Matrix Type: AQUEOUS

Methods: SW846 6020B
Units: ug/l

Prep Date: 12/10/19

Metal	Sample ml	Final ml	JC99822-1 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony										
Barium										
Beryllium										
Boron										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Magnesium										
Manganese										
Molybdenum										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Vanadium										
Zinc										

Associated samples MP18781: JC99810-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781A
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 12/10/19

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	14	46		
Antimony	6.0	1.3	4.7		
Arsenic	5.0	1.5	2.8		
Barium	200	.3	13	-0.10	<200
Beryllium	2.0	.1	.5		
Bismuth	20	3.3	4		
Boron	200	.8	63		
Cadmium	3.0	.1	1		
Calcium	5000	2.3	99		
Chromium	10	.5	2		
Cobalt	50	.4	2.6		
Copper	10	.8	5.9		
Iron	100	4.4	32	2.8	<100
Lead	5.0	1.1	1.8		
Lithium	50	4.4	7.3		
Magnesium	5000	14	140	-6.0	<5000
Manganese	15	.1	1.4	0.0	<15
Molybdenum	20	.7	3.6		
Nickel	10	.3	1.7		
Phosphorus	50	2.4	18		
Potassium	10000	140	200		
Selenium	10	1.8	4.9		
Silicon	200	2.2	100		
Silver	10	.5	1.9		
Sodium	10000	34	570		
Strontium	10	.1	1		
Sulfur	100	9.8	45		
Thallium	10	1.3	1.8		
Tin	10	.9	3.7		
Titanium	10	.3	2.5		
Tungsten	100	3.9	40		
Vanadium	50	.3	1.8		
Zinc	20	1.3	6.9		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781A
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 12/10/19

Metal	RL	IDL	MDL	MB raw	final
Zirconium	10	.2	4.1		

Associated samples MP18781A: JC99810-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781A
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 12/10/19

Metal	JC99822-1 Original	MS	Spikelot MPSPK2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium	50.3	1940	2000	94.5	75-125
Beryllium					
Bismuth					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron	65900	88700	25000	91.2	75-125
Lead					
Lithium					
Magnesium	6770	31600	25000	99.3	75-125
Manganese	1920	3730	2000	90.5	75-125
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium					
Strontium					
Sulfur					
Thallium					
Tin					
Titanium					
Tungsten					
Vanadium					
Zinc					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781A
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 12/10/19

Metal	JC99822-1 Original MS	Spikelot MPSPK2	% Rec	QC Limits
Zirconium				

Associated samples MP18781A: JC99810-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781A
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 12/10/19

Metal	JC99822-1 Original	MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium	50.3	1970	2000	96.0	1.5	20
Beryllium						
Bismuth						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron	65900	91600	25000	102.8	3.2	20
Lead						
Lithium						
Magnesium	6770	32000	25000	100.9	1.3	20
Manganese	1920	3760	2000	92.0	0.8	20
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium						
Strontium						
Sulfur						
Thallium						
Tin						
Titanium						
Tungsten						
Vanadium						
Zinc						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781A
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 12/10/19

Metal	JC99822-1 Original MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Zirconium					

Associated samples MP18781A: JC99810-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781A
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 12/10/19

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium	1920	2000	96.0	80-120
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron	25900	25000	103.6	80-120
Lead				
Lithium				
Magnesium	25500	25000	102.0	80-120
Manganese	1890	2000	94.5	80-120
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781A
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 12/10/19

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Zirconium				

Associated samples MP18781A: JC99810-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781A
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 12/10/19

Metal	JC99822-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium	50.3	49.3	2.0	0-10
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron	65900	66200	0.5	0-10
Lead				
Lithium				
Magnesium	6770	6740	0.5	0-10
Manganese	1920	2030	5.9	0-10
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781A
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 12/10/19

Metal	JC99822-1 Original SDL 1:5	%DIF	QC Limits
Zirconium			

Associated samples MP18781A: JC99810-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

POST DIGESTATE SPIKE SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781A
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 12/10/19

Metal	Sample ml	Final ml	JC99822-1 Raw	JC99822-1 Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony										
Arsenic										
Barium	19.25	20	50.3	48.41375	1698	0.2	200	2000	82.5	80-120
Beryllium										
Bismuth										
Boron										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron	19.25	20	65900	63428.75	84160	0.1	5000	25000	82.9	80-120
Lead										
Lithium										
Magnesium	19.25	20	6772	6518.05	26850	0.1	5000	25000	81.3	80-120
Manganese	19.25	20	1920	1848	3487	0.2	200	2000	82.0	80-120
Molybdenum										
Nickel										
Phosphorus										
Potassium										
Selenium										
Silicon										
Silver										
Sodium										
Strontium										
Sulfur										
Thallium										
Tin										
Titanium										
Tungsten										
Vanadium										
Zinc										

POST DIGESTATE SPIKE SUMMARY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781A
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 12/10/19

Metal	Sample ml	Final ml	JC99822-1 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Zirconium										

Associated samples MP18781A: JC99810-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

Instrument Detection Limits

Job Number: JC99810
Account: SCMAW Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

Instrument ID: AGICPMS1 **Effective Date:** 01/31/19

Analyte	IDL ug/l
Aluminum	.045
Aluminum	.276
Antimony	.094
Arsenic	.12
Arsenic	.013
Barium	.008
Beryllium	.004
Boron	.648
Cadmium	.007
Cadmium	.004
Calcium	6.11
Chromium	.036
Chromium	.014
Cobalt	.0041
Cobalt	.002
Copper	.1044
Copper	.021
Iron	1.21
Iron	.432
Lead	.009
Magnesium	.033
Magnesium	.152
Manganese	.006
Manganese	.007
Molybdenum	.015
Nickel	.046
Nickel	.017
Potassium	.506
Potassium	.707
Selenium	.503
Selenium	.072
Silver	.004
Sodium	.357
Sodium	1.037
Strontium	.003
Thallium	.004
Tin	.025
Tin	.071
Titanium	.035
Titanium	.035
Vanadium	.112
Vanadium	.009
Zinc	.041
Zinc	.029

Instrument Detection Limits

Job Number: JC99810
Account: SCMAW Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

Instrument ID: AGICPMS1 **Effective Date:** 01/31/19

Analyte	IDL ug/l

The above applies to the following instrument runs:
MA47956

Instrument Detection Limits

Job Number: JC99810
Account: SCMAW Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

Instrument ID: SSTRACE4 **Effective Date:** 01/16/19

Analyte	IDL ug/l
Aluminum	13.7
Antimony	1.3
Arsenic	1.5
Barium	.3
Beryllium	.1
Bismuth	3.3
Boron	.8
Cadmium	.1
Calcium	2.3
Chromium	.5
Cobalt	.4
Copper	.8
Iron	4.4
Lead	1.1
Lithium	4.4
Magnesium	13.6
Manganese	.1
Molybdenum	.7
Nickel	.3
Phosphorus	2.4
Potassium	135.6
Selenium	1.8
Silicon	2.2
Silver	.5
Sodium	33.9
Sulfur	9.8
Strontium	.1
Thallium	1.3
Tin	.9
Titanium	.3
Tungsten	3.9
Vanadium	.3
Zinc	1.3
Zirconium	.2

The above applies to the following instrument runs:
MA47940

Instrument Linear Ranges

Job Number: JC99810
Account: SCMAW Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

Instrument ID: AGICPMS1 **Effective Date:** 09/10/18

Analyte	Linear Range ug/l
Aluminum	10000
Aluminum	10000
Antimony	100
Arsenic	100
Arsenic	100
Barium	100
Beryllium	100
Boron	200
Cadmium	100
Cadmium	100
Calcium	10000
Chromium	100
Chromium	100
Cobalt	100
Cobalt	100
Copper	100
Copper	100
Iron	10000
Iron	10000
Lithium	100
Lead	100
Magnesium	10000
Magnesium	10000
Manganese	100
Manganese	100
Molybdenum	100
Nickel	100
Nickel	100
Potassium	10000
Potassium	10000
Selenium	400
Selenium	400
Silver	100
Sodium	10000
Sodium	10000
Strontium	100
Thallium	100
Tin	100
Tin	100
Titanium	100
Titanium	100
Tungsten	100
Uranium	100
Vanadium	100
Vanadium	100
Zinc	100

Instrument Linear Ranges

Job Number: JC99810
Account: SCMAW Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

Instrument ID: AGICPMS1 **Effective Date:** 09/10/18

Analyte	Linear Range ug/l
Zinc	100

The above applies to the following instrument runs:
MA47956

Instrument Linear Ranges

Job Number: JC99810
Account: SCMAW Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

Instrument ID: SSTRACE4 **Effective Date:** 08/22/19

Analyte	Linear Range ug/l
Aluminum	300000
Antimony	8000
Arsenic	8000
Barium	8000
Beryllium	8000
Bismuth	8000
Boron	8000
Cadmium	8000
Calcium	200000
Cerium	8000
Chromium	8000
Cobalt	8000
Copper	8000
Iron	200000
Lead	8000
Lithium	8000
Magnesium	300000
Manganese	8000
Molybdenum	8000
Nickel	8000
Palladium	8000
Phosphorus	8000
Potassium	200000
Selenium	8000
Silicon	25000
Silver	625
Sodium	200000
Sulfur	100000
Strontium	8000
Thallium	8000
Tin	8000
Titanium	8000
Tungsten	8000
Vanadium	8000
Zinc	8000
Zirconium	8000

The above applies to the following instrument runs:
MA47940

Metals Analysis

Raw Data

Zoom In ▶ Zoom Out

Sample Name: STDA Acquired: 12/10/2019 10:46:53 Type: Cal
Method: SGS No Vlave3(v335) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0023**	**-.0001**	**.0004**	**-.0001**	**-.0000**	**.0023**	**.0001**	**.0003**	**-.0002**
Stddev	.0003	.0000	.0001	.0001	.0000	.0000	.0000	.0001	.0000
%RSD	11.26	8.020	35.85	60.28	45.33	1.878	18.41	14.69	.7145
#1	.0021	-.0001	.0003	-.0001	-.0000	.0022	.0001	.0004	-.0002
#2	.0026	-.0001	.0003	-.0001	-.0000	.0023	.0001	.0004	-.0002
#3	.0021	-.0002	.0006	-.0002	-.0001	.0023	.0001	.0003	-.0002

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0000**	**.0001**	**-.0003**	**-.0000**	**.0001**	**.0003**	**-.0000**	**.0002**	**.0047**
Stddev	.0000	.0001	.0001	.0000	.0001	.0000	.0001	.0001	.0000
%RSD	67.32	49.47	16.03	55.73	66.93	8.288	971.1	63.44	.9741
#1	.0000	.0001	-.0003	-.0000	.0002	.0003	.0001	.0001	.0048
#2	.0000	.0001	-.0003	-.0000	.0002	.0003	-.0001	.0001	.0047
#3	.0001	.0002	-.0003	-.0001	.0000	.0002	-.0001	.0004	.0047

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0001**	**-.0000**	**.0004**	**-.0025**	**.0004**	**-.0003**	**.0018**	**.0001**	**-.0014**
Stddev	.0000	.0000	.0003	.0002	.0000	.0000	.0002	.0001	.0001
%RSD	72.95	63.45	60.45	8.054	9.894	11.81	10.27	43.06	8.345
#1	.0001	-.0000	.0003	-.0025	.0005	-.0003	.0020	.0001	-.0013
#2	.0001	-.0000	.0003	-.0027	.0004	-.0002	.0017	.0002	-.0015
#3	.0000	-.0000	.0008	-.0023	.0004	-.0003	.0017	.0001	-.0015

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0001**	**.0001**	**-.0002**	**-.0012**	**-.0000**	**-.0001**	**-.0058**	**.0000**
Stddev	.0000	.0001	.0000	.0001	.0001	.0003	.0000	.0000
%RSD	33.95	180.5	12.12	5.821	226.6	219.4	.6490	1010.
#1	.0001	-.0000	-.0002	-.0013	-.0001	-.0001	-.0058	.0000
#2	.0001	.0001	-.0002	-.0013	.0000	-.0005	-.0059	.0000
#3	.0001	.0000	-.0003	-.0012	-.0000	.0001	-.0058	-.0000

◀ Zoom In ▶ Zoom Out

Sample Name: STDA Acquired: 12/10/2019 10:46:53 Type: Cal
Method: SGS No Vlave3(v335) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**279040.**	**32697.**	**8423.1**	**15047.**
Stddev	1780.	194.	86.7	150.
%RSD	.63804	.59257	1.0296	.99541
#1	277710.	32503.	8336.0	14904.
#2	281060.	32698.	8424.0	15035.
#3	278340.	32891.	8509.4	15203.

◀ Zoom In ▶ Zoom Out

Sample Name: STDB Acquired: 12/10/2019 10:52:01 Type: Cal
Method: SGS No Vlave3(v335) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4.916**	**7.469**	**3.265**	**2.097**	**.3160**	**.7307**	**1.851**	**1.527**	**.0473**
Stddev	.012	.021	.010	.006	.0027	.0063	.015	.004	.0005
%RSD	.2489	.2812	.3142	.2846	.8508	.8582	.7911	.2658	1.040
#1	4.911	7.454	3.274	2.099	.3131	.7234	1.835	1.530	.0467
#2	4.907	7.460	3.267	2.102	.3164	.7343	1.858	1.530	.0476
#3	4.930	7.493	3.254	2.090	.3184	.7343	1.861	1.523	.0476

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.4279**	**3.316**	**.2848**	**.1774**	**.5682**	**.2363**	**.4365**	**1.892**	**3.765**
Stddev	.0034	.013	.0004	.0005	.0017	.0009	.0013	.008	.018
%RSD	.7909	.3810	.1485	.2924	.3021	.3652	.3073	.4087	.4878
#1	.4243	3.316	.2849	.1771	.5687	.2357	.4379	1.889	3.760
#2	.4284	3.329	.2851	.1780	.5695	.2373	.4364	1.886	3.750
#3	.4310	3.304	.2843	.1771	.5662	.2359	.4352	1.901	3.785

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2.690**	**.3324**	**1.243**	**4.121**	**.6669**	**2.209**	**1.645**	**.5063**	**10.82**
Stddev	.009	.0005	.003	.012	.0020	.006	.005	.0017	.08
%RSD	.3363	.1519	.2666	.2843	.3031	.2806	.2820	.3343	.7547
#1	2.686	.3318	1.243	4.120	.6690	2.210	1.649	.5063	10.84
#2	2.683	.3326	1.240	4.110	.6669	2.214	1.644	.5079	10.73
#3	2.700	.3328	1.246	4.133	.6650	2.202	1.640	.5045	10.89

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.4204**	**1.047**	**.9317**	**.1230**	**.6054**	**1.259**	**.1905**	**.0820**
Stddev	.0029	.003	.0073	.0006	.0012	.002	.0007	.0006
%RSD	.6990	.3258	.7783	.4732	.2040	.1649	.3469	.7765
#1	.4172	1.047	.9237	.1234	.6065	1.257	.1911	.0813
#2	.4210	1.051	.9337	.1232	.6057	1.260	.1907	.0823
#3	.4230	1.044	.9378	.1223	.6041	1.262	.1898	.0825

◀ Zoom In ▶ Zoom Out

Sample Name: STDB Acquired: 12/10/2019 10:52:01 Type: Cal
Method: SGS No Vlave3(v335) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**265340.**	**32013.**	**7878.4**	**13551.**
Stddev	1730.	83.	19.9	34.
%RSD	.65187	.25774	.25314	.24873
#1	267170.	31949.	7864.4	13533.
#2	265120.	32106.	7869.5	13531.
#3	263730.	31985.	7901.2	13590.

Zoom In Zoom Out

Sample Name: CCVCONF Acquired: 12/10/2019 10:57:06 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.005**	**2.018**	**2.022**	**1.992**	**1.996**	**1.942**	**2.021**	**2.016**	**.2435**
Stddev	.004	.004	.001	.002	.014	.013	.015	.003	.0012
%RSD	.1757	.1818	.0424	.0781	.6761	.6727	.7237	.1413	.4884
#1	2.008	2.022	2.023	1.993	2.010	1.957	2.033	2.017	.2449
#2	2.007	2.019	2.022	1.992	1.995	1.936	2.025	2.018	.2430
#3	2.001	2.015	2.021	1.990	1.983	1.933	2.005	2.013	.2426
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.976**	**2.029**	**1.982**	**2.025**	**2.005**	**1.976**	**1.990**	**39.59**	**40.28**
Stddev	.012	.004	.004	.007	.004	.008	.003	.03	.05
%RSD	.6076	.1934	.1880	.3480	.2034	.3995	.1294	.0651	.1134
#1	1.988	2.034	1.985	2.030	2.010	1.985	1.988	39.56	40.33
#2	1.976	2.028	1.978	2.028	2.003	1.969	1.993	39.61	40.26
#3	1.964	2.026	1.982	2.017	2.003	1.976	1.989	39.59	40.26
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.33**	**39.71**	**39.67**	**39.84**	**1.993**	**2.016**	**4.877**	**2.031**	**2.034**
Stddev	.05	.10	.06	.01	.002	.004	.003	.002	.002
%RSD	.1355	.2566	.1531	.0371	.1198	.1737	.0600	.0833	.1066
#1	40.39	39.83	39.74	39.85	1.994	2.020	4.879	2.032	2.035
#2	40.30	39.69	39.66	39.85	1.990	2.014	4.878	2.029	2.035
#3	40.29	39.63	39.62	39.82	1.994	2.013	4.874	2.030	2.032
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CCVCONF Acquired: 12/10/2019 10:57:06 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.982**	**1.980**	**1.980**	**1.941**	**1.982**	**1.994**	**1.979**	**1.969**
Stddev	.011	.003	.012	.004	.001	.004	.006	.008
%RSD	.5493	.1626	.6038	.2102	.0421	.2132	.3097	.3905
#1	1.992	1.983	1.993	1.943	1.982	1.998	1.984	1.977
#2	1.982	1.978	1.978	1.936	1.981	1.994	1.981	1.968
#3	1.971	1.977	1.969	1.943	1.981	1.989	1.972	1.962
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**272840.**	**32217.**	**8065.5**	**13947.**
Stddev	1567.	102.	9.4	13.
%RSD	.57422	.31556	.11693	.09612
#1	271420.	32188.	8058.8	13932.
#2	272580.	32330.	8076.3	13958.
#3	274520.	32133.	8061.5	13951.

Zoom In Zoom Out

Sample Name: CCBCONF Acquired: 12/10/2019 11:02:05 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**.0001**	**.0003**	**.0002**	**.0004**	**.0003**	**.0000**	**.0000**	**-.0001**
Stddev	.0002	.0000	.0002	.0000	.0002	.0002	.0000	.0002	.0001
%RSD	1094.	22.24	59.84	22.22	42.21	75.04	92.58	1028.	65.80
#1	-.0003	.0001	.0005	.0002	.0003	.0004	-.0000	-.0002	-.0000
#2	.0001	.0001	.0002	.0002	.0003	.0005	.0001	.0002	-.0002
#3	.0001	.0001	.0002	.0003	.0006	.0000	.0001	.0000	-.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0001**	**-.0000**	**-.0007**	**.0006**	**-.0000**	**.0006**	**-.0036**	**.0030**
Stddev	.0001	.0001	.0013	.0008	.0002	.0011	.0004	.0108	.0010
%RSD	75.30	106.5	4266.	108.4	34.64	23610.	72.42	297.4	34.31
#1	-.0000	-.0000	-.0002	-.0007	.0004	-.0004	.0011	-.0113	.0040
#2	-.0003	-.0000	-.0012	.0000	.0006	-.0008	.0002	-.0084	.0019
#3	-.0002	-.0001	.0014	-.0016	.0009	.0012	.0006	.0087	.0030
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0081**	**.0452**	**.0187**	**.0040**	**.0000**	**.0009**	**.0006**	**-.0000**
Stddev	.0019	.0183	.0097	.0044	.0006	.0001	.0003	.0003	.0001
%RSD	1088.	227.8	21.36	23.54	15.82	284.1	32.75	45.27	150.8
#1	.0017	-.0261	.0550	.0229	.0047	.0001	.0010	.0007	.0000
#2	.0007	-.0086	.0449	.0192	.0037	.0000	.0011	.0007	-.0001
#3	-.0019	.0106	.0357	.0141	.0036	-.0000	.0006	.0003	-.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: CCBCONF Acquired: 12/10/2019 11:02:05 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0003**	**.0001**	**-.0017**	**-.0002**	F **.0023**	**.0008**	**-.0036**
Stddev	.0001	.0004	.0001	.0013	.0014	.0007	.0011	.0031
%RSD	95.40	124.4	229.1	75.47	902.1	28.21	138.2	85.65
#1	-.0000	.0007	.0000	-.0007	.0014	.0026	-.0005	-.0024
#2	-.0001	-.0001	-.0001	-.0013	-.0006	.0016	.0014	-.0072
#3	-.0002	.0005	.0002	-.0032	-.0012	.0028	.0016	-.0014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
High Limit						.0023		
Low Limit						-.0023		

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**280180.**	**32382.**	**8297.2**	**14942.**
Stddev	3403.	135.	69.2	112.
%RSD	1.2147	.41805	.83447	.75147
#1	277580.	32233.	8261.4	14884.
#2	278930.	32418.	8253.2	14872.
#3	284030.	32497.	8377.0	15072.

Zoom In Zoom Out

Sample Name: ICV 5 Acquired: 12/10/2019 11:07:16 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.950**	**1.966**	**1.968**	**1.938**	**1.971**	**1.971**	**1.968**	**1.935**	**.2570**
Stddev	.001	.002	.003	.003	.009	.010	.017	.002	.0027
%RSD	.0508	.1075	.1647	.1301	.4528	.5161	.8660	.1028	1.060
#1	1.951	1.966	1.972	1.940	1.981	1.979	1.987	1.936	.2596
#2	1.949	1.964	1.965	1.939	1.970	1.975	1.954	1.935	.2573
#3	1.950	1.968	1.968	1.935	1.963	1.960	1.964	1.932	.2542
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.944**	**1.974**	**1.969**	**1.937**	**1.950**	**1.991**	**1.966**	**39.28**	**40.35**
Stddev	.005	.002	.006	.004	.002	.003	.004	.06	.12
%RSD	.2348	.1213	.3107	.2032	.0766	.1243	.1841	.1642	.2877
#1	1.949	1.976	1.975	1.939	1.950	1.994	1.970	39.30	40.42
#2	1.943	1.975	1.969	1.933	1.951	1.990	1.964	39.32	40.40
#3	1.941	1.972	1.963	1.940	1.948	1.989	1.964	39.20	40.21
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.25**	**39.30**	**40.03**	**39.90**	**1.983**	**1.960**	**5.009**	**1.967**	**1.983**
Stddev	.09	.02	.16	.14	.004	.001	.011	.003	.002
%RSD	.2161	.0437	.3954	.3485	.2064	.0685	.2239	.1499	.0815
#1	40.30	39.31	40.14	39.99	1.987	1.961	5.022	1.971	1.985
#2	40.30	39.30	40.11	39.97	1.982	1.959	5.004	1.965	1.984
#3	40.15	39.28	39.85	39.74	1.979	1.959	5.001	1.966	1.982
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ICV 5 Acquired: 12/10/2019 11:07:16 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.949**	**1.903**	**1.936**	**1.936**	**1.967**	**2.001**	**1.924**	F **.6691**
Stddev	.005	.003	.007	.006	.004	.002	.004	.0654
%RSD	.2833	.1475	.3641	.3215	.2260	.0878	.1807	9.772
#1	1.955	1.906	1.943	1.942	1.972	2.002	1.928	.6006
#2	1.947	1.900	1.937	1.930	1.964	2.000	1.921	.6757
#3	1.945	1.902	1.929	1.937	1.966	1.999	1.923	.7309
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
Value								2.000
Range								-5.000%

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**271370.**	**32150.**	**8040.7**	**13963.**
Stddev	1484.	182.	20.5	33.
%RSD	.54689	.56734	.25535	.23397
#1	269670.	32148.	8017.9	13933.
#2	272000.	31969.	8046.6	13959.
#3	272430.	32334.	8057.7	13998.

Zoom In Zoom Out

Sample Name: ICB Acquired: 12/10/2019 11:12:14 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	F **.0002**	**.0001**	**.0001**	**.0003**	**.0005**	**.0001**	**.0001**	**.0001**
Stddev	.0001	.0000	.0000	.0002	.0001	.0001	.0000	.0001	.0002
%RSD	188.9	13.08	24.18	310.9	46.13	19.03	7.250	192.3	215.6
#1	-.0000	.0002	.0001	.0001	.0002	.0004	.0001	-.0001	.0001
#2	-.0000	.0001	.0001	.0003	.0005	.0006	.0001	.0000	-.0001
#3	.0002	.0002	.0001	-.0002	.0003	.0006	.0001	.0002	.0002
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		.0001							
Low Limit		-.0001							

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**-.0001**	**.0002**	**-.0004**	**.0004**	**.0004**	**.0007**	**-.0063**	**.0058**
Stddev	.0003	.0001	.0009	.0008	.0003	.0019	.0013	.0068	.0017
%RSD	145.4	122.3	369.0	221.2	79.75	500.7	176.6	109.0	29.11
#1	-.0006	-.0001	.0012	.0001	.0000	-.0004	-.0004	-.0074	.0056
#2	-.0002	-.0001	-.0005	-.0013	.0007	.0026	.0021	-.0125	.0076
#3	.0001	.0000	.0001	.0001	.0006	-.0010	.0004	.0011	.0042
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0016**	**-.0116**	**.0484**	**.0194**	**.0036**	**.0001**	**.0003**	**.0001**	**.0000**
Stddev	.0031	.0085	.0120	.0006	.0007	.0001	.0004	.0002	.0000
%RSD	197.4	73.85	24.73	3.123	20.21	264.1	127.7	176.8	111.7
#1	.0022	-.0052	.0617	.0187	.0038	.0002	-.0001	-.0001	.0001
#2	.0043	-.0082	.0449	.0199	.0042	-.0001	.0006	.0004	.0000
#3	-.0018	-.0213	.0386	.0194	.0028	.0001	.0004	.0002	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ICB Acquired: 12/10/2019 11:12:14 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0021**	**.0002**	**-.0001**	**-.0000**	**.0023**	**-.0004**	**.0005**
Stddev	.0001	.0007	.0001	.0016	.0010	.0004	.0011	.0017
%RSD	87.07	33.87	36.25	1460.	3326.	16.99	291.6	339.5
#1	.0002	.0018	.0003	-.0016	-.0012	.0024	.0007	.0009
#2	-.0000	.0028	.0002	.0017	.0004	.0018	-.0004	.0020
#3	.0003	.0015	.0002	-.0004	.0007	.0026	-.0015	-.0013
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**280570.**	**32291.**	**8258.5**	**14906.**
Stddev	426.	46.	52.3	81.
%RSD	.15185	.14274	.63300	.54192
#1	280630.	32339.	8317.0	14994.
#2	280970.	32286.	8242.0	14888.
#3	280120.	32248.	8216.4	14835.

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 11:17:26 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.002**	**2.020**	**2.029**	**1.985**	**1.994**	**1.944**	**1.999**	**2.002**	**.2424**
Stddev	.003	.002	.001	.004	.025	.025	.025	.004	.0029
%RSD	.1456	.0723	.0489	.1959	1.281	1.305	1.245	.1740	1.177
#1	2.003	2.019	2.028	1.986	1.978	1.929	1.993	2.004	.2409
#2	2.005	2.019	2.028	1.988	1.980	1.929	1.978	2.004	.2406
#3	1.999	2.022	2.030	1.981	2.023	1.973	2.027	1.998	.2457
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.965**	**2.027**	**1.976**	**1.997**	**1.987**	**1.967**	**1.986**	**39.79**	**40.36**
Stddev	.024	.003	.002	.015	.005	.008	.004	.02	.11
%RSD	1.223	.1683	.1125	.7344	.2662	.4016	.2012	.0527	.2752
#1	1.953	2.023	1.975	1.980	1.987	1.959	1.986	39.78	40.33
#2	1.950	2.030	1.979	2.002	1.992	1.965	1.982	39.78	40.26
#3	1.993	2.027	1.975	2.009	1.982	1.975	1.990	39.81	40.48
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.26**	**39.63**	**39.67**	**39.84**	**1.991**	**2.016**	**4.867**	**2.038**	**2.038**
Stddev	.07	.13	.04	.04	.004	.002	.006	.001	.001
%RSD	.1767	.3163	.1053	.1096	.1789	.1061	.1234	.0623	.0501
#1	40.23	39.55	39.66	39.82	1.989	2.014	4.861	2.038	2.037
#2	40.21	39.56	39.71	39.89	1.988	2.017	4.868	2.036	2.039
#3	40.34	39.77	39.63	39.81	1.995	2.018	4.872	2.039	2.038
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 11:17:26 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.960**	**1.977**	**1.969**	**1.943**	**1.993**	**1.992**	**1.985**	**1.953**
Stddev	.021	.003	.023	.006	.004	.006	.003	.024
%RSD	1.088	.1532	1.170	.3146	.2085	.2965	.1479	1.210
#1	1.948	1.973	1.956	1.942	1.988	1.995	1.982	1.938
#2	1.947	1.978	1.955	1.937	1.994	1.995	1.988	1.941
#3	1.985	1.979	1.996	1.949	1.996	1.985	1.985	1.980
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**273060.**	**31970.**	**7992.9**	**13909.**
Stddev	3441.	59.	12.0	27.
%RSD	1.2603	.18409	.15044	.19363
#1	275100.	32031.	7979.1	13883.
#2	274990.	31965.	8001.4	13909.
#3	269080.	31914.	7998.1	13937.

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 11:22:26 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	F **.0002**	**.0002**	**.0003**	**.0004**	**.0003**	**.0001**	**.0001**	**-.0002**
Stddev	.0001	.0000	.0001	.0001	.0004	.0001	.0000	.0001	.0001
%RSD	315.4	18.09	34.15	21.08	104.5	47.74	17.36	95.75	27.42
#1	.0002	.0002	.0001	.0004	.0005	.0004	.0001	.0001	-.0003
#2	-.0000	.0002	.0003	.0003	-.0001	.0002	.0001	.0002	-.0002
#3	-.0000	.0001	.0002	.0002	.0007	.0002	.0001	-.0000	-.0002
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		.0001							
Low Limit		-.0001							

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0001**	**.0004**	**-.0005**	**.0001**	**-.0008**	**-.0003**	**-.0110**	**.0057**
Stddev	.0001	.0001	.0003	.0008	.0006	.0014	.0006	.0030	.0014
%RSD	46.94	148.7	67.33	169.4	705.0	173.2	184.8	27.59	23.86
#1	-.0001	.0002	.0006	.0003	.0008	-.0004	-.0010	-.0145	.0061
#2	-.0002	.0000	.0004	-.0004	-.0005	-.0024	.0003	-.0092	.0068
#3	-.0003	.0000	.0001	-.0014	-.0000	.0004	-.0003	-.0094	.0042
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0023**	**-.0011**	**.0381**	**.0198**	**.0042**	**.0002**	**.0006**	**.0004**	**.0000**
Stddev	.0005	.0074	.0139	.0017	.0010	.0001	.0013	.0003	.0001
%RSD	20.36	671.5	36.48	8.680	22.61	52.61	230.5	76.88	202.8
#1	.0029	.0019	.0328	.0217	.0053	.0003	-.0008	.0004	-.0000
#2	.0021	.0043	.0539	.0195	.0034	.0002	.0018	.0006	.0002
#3	.0020	-.0095	.0277	.0183	.0041	.0001	.0007	.0001	-.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 11:22:26 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0005**	**.0002**	**.0029**	**.0008**	F **.0027**	**.0012**	**-.0009**
Stddev	.0002	.0009	.0000	.0018	.0011	.0002	.0009	.0024
%RSD	92.55	167.5	23.90	63.31	137.5	6.633	75.37	257.2
#1	-.0000	.0012	.0002	.0014	.0012	.0029	.0002	-.0032
#2	.0003	.0008	.0002	.0049	.0016	.0026	.0016	.0016
#3	.0003	-.0005	.0001	.0023	-.0004	.0025	.0019	-.0012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
High Limit						.0023		
Low Limit						-.0023		

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**282120.**	**32421.**	**8336.1**	**15035.**
Stddev	1347.	69.	128.3	215.
%RSD	.47736	.21261	1.5390	1.4300
#1	282740.	32369.	8455.5	15243.
#2	280570.	32499.	8200.4	14813.
#3	283040.	32395.	8352.2	15050.

Zoom In Zoom Out

Sample Name: CRI Acquired: 12/10/2019 11:27:37 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2045**	**.0021**	**.0032**	**.0487**	**.0107**	**.0107**	**.0159**	**.0100**
Stddev	.0003	.0000	.0001	.0002	.0001	.0003	.0000	.0001
%RSD	.1488	1.039	2.512	.5047	.6794	2.692	.0796	.7490
#1	.2042	.0021	.0031	.0490	.0106	.0105	.0159	.0100
#2	.2048	.0021	.0033	.0485	.0108	.0110	.0159	.0100
#3	.2046	.0021	.0031	.0486	.0107	.0106	.0158	.0101
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0050**	**.0505**	**.0210**	**.0074**	**.0089**	**.0027**	**.0098**	**.0067**
Stddev	.0003	.0002	.0001	.0009	.0009	.0005	.0014	.0008
%RSD	6.460	.4211	.3024	12.50	9.954	17.08	14.27	11.45
#1	.0052	.0504	.0209	.0064	.0094	.0031	.0082	.0073
#2	.0046	.0507	.0210	.0077	.0079	.0022	.0106	.0071
#3	.0051	.0503	.0211	.0082	.0094	.0028	.0106	.0059
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2057**	**5.431**	**.1114**	**5.290**	**5.324**	**5.331**	**.1011**	**.0213**
Stddev	.0061	.003	.0016	.025	.022	.017	.0002	.0001
%RSD	2.982	.0519	1.471	.4708	.4130	.3144	.2184	.5727
#1	.2076	5.429	.1103	5.310	5.323	5.319	.1014	.0213
#2	.2107	5.431	.1106	5.299	5.303	5.324	.1011	.0211
#3	.1988	5.435	.1132	5.262	5.347	5.350	.1009	.0213
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Zoom In Zoom Out

Sample Name: CRI Acquired: 12/10/2019 11:27:37 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1825**	**.0116**	**.0103**	**.0103**	**.0526**	**.0104**	**.0525**	F **.0240**
Stddev	.0006	.0003	.0001	.0000	.0010	.0001	.0016	.0006
%RSD	.3217	2.733	.6797	.3470	1.925	.8318	2.983	2.379
#1	.1828	.0113	.0102	.0103	.0537	.0103	.0524	.0236
#2	.1818	.0115	.0104	.0103	.0525	.0105	.0542	.0238
#3	.1828	.0119	.0103	.0104	.0517	.0104	.0511	.0247
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
Value								.0200
Range								20.00%

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.0571**	**.0485**	F **-.0003**
Stddev	.0005	.0014	.0017
%RSD	.8255	2.924	621.8
#1	.0574	.0501	-.0019
#2	.0565	.0481	-.0005
#3	.0573	.0473	.0016
Check ?	Chk Pass	Chk Pass	Chk Fail
Value			.2000
Range			-20.00%

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**278850.**	**32369.**	**8197.2**	**14765.**
Stddev	1263.	71.	7.5	26.
%RSD	.45279	.22086	.09097	.17275
#1	278650.	32290.	8195.4	14765.
#2	277700.	32388.	8190.7	14740.
#3	280200.	32429.	8205.3	14791.

Zoom In Zoom Out

Sample Name: CRID Acquired: 12/10/2019 11:32:42 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **.0050**	F **.0020**	F **.0023**	F **.0037**	F **.0033**	**.0009**	F **.0040**	F **.0050**	**.0000**
Stddev	.0001	.0000	.0001	.0001	.0002	.0001	.0000	.0001	.0002
%RSD	2.613	.7447	5.931	3.932	5.247	13.82	.5643	1.254	397.3
#1	.0050	.0020	.0022	.0038	.0034	.0008	.0041	.0049	.0003
#2	.0048	.0020	.0022	.0036	.0031	.0009	.0040	.0051	-.0001
#3	.0050	.0020	.0024	.0039	.0032	.0010	.0040	.0050	.0000
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	None	Chk Fail	Chk Fail	None
Value	.0040	.0010	.0010	.0030	.0020		.0030	.0040	
Range	20.00%	20.00%	20.00%	20.00%	20.00%		20.00%	20.00%	

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **.0025**	**.0113**	**.0033**	**.0023**	**.0016**	**.0056**	**.0013**	**.1151**	**1.091**
Stddev	.0001	.0001	.0004	.0007	.0007	.0007	.0005	.0046	.005
%RSD	5.802	.9813	11.02	28.37	44.76	12.68	35.71	4.035	.4284
#1	.0024	.0112	.0037	.0020	.0016	.0064	.0013	.1204	1.095
#2	.0027	.0112	.0029	.0019	.0024	.0054	.0009	.1131	1.086
#3	.0025	.0114	.0033	.0030	.0009	.0050	.0019	.1118	1.093
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
Value	.0020								
Range	20.00%								

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0210**	**.1186**	**2.092**	**1.076**	**.0026**	**.0010**	**.0029**	**.0017**	**.0009**
Stddev	.0016	.0082	.005	.002	.0007	.0002	.0012	.0005	.0000
%RSD	7.530	6.946	.2194	.2135	27.68	18.76	41.69	27.14	4.345
#1	.0220	.1258	2.091	1.074	.0020	.0012	.0023	.0012	.0009
#2	.0192	.1203	2.096	1.078	.0025	.0010	.0043	.0018	.0010
#3	.0219	.1096	2.087	1.076	.0034	.0008	.0021	.0021	.0009
Check ?	None	Chk Pass	Chk Pass	Chk Pass	None	None	None	None	None
Value									
Range									

Zoom In Zoom Out

Sample Name: CRID Acquired: 12/10/2019 11:32:42 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0008**	**.0010**	**.0011**	**-.0021**	**.0005**	**.0011**	**.0003**	F **.0012**
Stddev	.0002	.0001	.0001	.0021	.0004	.0004	.0005	.0006
%RSD	21.34	9.184	13.10	97.28	82.82	40.86	140.7	48.58
#1	.0006	.0011	.0010	-.0035	.0006	.0009	.0004	.0006
#2	.0009	.0011	.0013	.0003	.0000	.0016	-.0002	.0011
#3	.0009	.0009	.0011	-.0031	.0007	.0007	.0008	.0017
Check ?	None	None	None	None	None	None	None	Chk Fail
Value								.0040
Range								-20.00%

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**281140.**	**32236.**	**8195.1**	**14815.**
Stddev	535.	253.	2.1	6.
%RSD	.19021	.78523	.02611	.03815
#1	280860.	31950.	8192.7	14814.
#2	281750.	32432.	8195.6	14809.
#3	280790.	32324.	8196.9	14821.

Zoom In Zoom Out

Sample Name: ICSA Acquired: 12/10/2019 11:37:50 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**-.0001**	**.0007**	**-.0002**	**.0007**	**.0017**	**-.0001**	**-.0001**	**.0002**
Stddev	.0002	.0000	.0001	.0000	.0003	.0001	.0002	.0004	.0002
%RSD	51.67	36.39	17.55	16.86	40.10	6.798	375.9	696.3	86.05
#1	.0003	-.0001	.0006	-.0002	.0007	.0016	.0002	.0004	.0001
#2	.0005	-.0001	.0008	-.0002	.0009	.0018	-.0002	-.0003	.0001
#3	.0002	-.0002	.0008	-.0002	.0004	.0018	-.0001	-.0003	.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0007**	**.0019**	**.0004**	**-.0005**	**.0003**	**-.0027**	**.0034**	**531.8**	**399.4**
Stddev	.0001	.0003	.0005	.0009	.0008	.0024	.0035	2.4	2.9
%RSD	17.29	14.38	126.6	183.4	235.0	90.29	104.3	.4482	.7217
#1	.0007	.0023	-.0000	-.0014	-.0006	-.0015	.0070	529.1	398.1
#2	.0008	.0018	.0003	-.0006	.0008	-.0011	.0031	533.5	402.7
#3	.0005	.0017	.0010	.0004	.0009	-.0054	-.0000	532.9	397.4
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**198.9**	**536.1**	**-.0513**	**-.0053**	**.0025**	**-.0015**	**-.0147**	**.0001**	**.0002**
Stddev	.6	.2	.0069	.0089	.0014	.0002	.0009	.0004	.0001
%RSD	.3209	.0353	13.52	168.3	57.00	16.20	5.850	353.5	28.43
#1	199.1	536.2	-.0592	.0048	.0009	-.0012	-.0146	.0004	.0002
#2	199.4	536.2	-.0481	-.0118	.0034	-.0016	-.0139	.0003	.0001
#3	198.1	535.9	-.0465	-.0089	.0033	-.0017	-.0156	-.0003	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ICSA Acquired: 12/10/2019 11:37:50 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0009**	**.0021**	**-.0110**	**-.0114**	**-.0089**	**-.0033**	**.0701**
Stddev	.0002	.0009	.0001	.0016	.0021	.0006	.0022	.0022
%RSD	70.35	100.7	2.770	14.78	18.07	6.723	67.56	3.196
#1	-.0003	.0004	.0021	-.0120	-.0102	-.0090	-.0033	.0726
#2	-.0000	.0004	.0020	-.0119	-.0101	-.0083	-.0010	.0681
#3	-.0004	.0020	.0021	-.0091	-.0137	-.0095	-.0055	.0696
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**254930.**	**31237.**	**7546.4**	**12638.**
Stddev	1714.	114.	9.2	8.
%RSD	.67229	.36601	.12147	.06159
#1	256000.	31140.	7541.3	12638.
#2	252950.	31207.	7540.9	12630.
#3	255830.	31363.	7557.0	12646.

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 12/10/2019 11:43:05 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5167**	**.5003**	**1.063**	**.4837**	**.4872**	**.5200**	**.5088**	**.9781**	**1.143**
Stddev	.0004	.0013	.001	.0006	.0044	.0035	.0032	.0018	.008
%RSD	.0801	.2570	.1069	.1322	.9125	.6707	.6376	.1849	.7242
#1	.5172	.5018	1.064	.4843	.4911	.5234	.5120	.9793	1.151
#2	.5166	.4996	1.064	.4837	.4883	.5202	.5089	.9789	1.144
#3	.5164	.4995	1.062	.4830	.4823	.5164	.5055	.9760	1.134
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4918**	**.9653**	**1.091**	**.9667**	**.9471**	**1.027**	**1.072**	**537.6**	**402.1**
Stddev	.0032	.0007	.003	.0027	.0018	.003	.002	4.4	1.6
%RSD	.6501	.0775	.3042	.2748	.1925	.2603	.1973	.8242	.4041
#1	.4947	.9649	1.088	.9636	.9490	1.028	1.072	538.3	403.0
#2	.4923	.9661	1.092	.9680	.9468	1.024	1.074	532.8	403.0
#3	.4883	.9647	1.094	.9685	.9454	1.028	1.070	541.6	400.2
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**202.1**	**533.9**	**-.0383**	**-.0061**	**.5003**	**.4982**	**.5127**	**.4874**	**.5191**
Stddev	.5	.4	.0097	.0048	.0003	.0005	.0022	.0009	.0005
%RSD	.2234	.0779	25.42	78.63	.0558	.1045	.4261	.1937	.0935
#1	202.5	534.3	-.0485	-.0051	.5002	.4985	.5126	.4881	.5196
#2	201.6	533.5	-.0291	-.0113	.5000	.4985	.5106	.4863	.5187
#3	202.1	533.8	-.0372	-.0018	.5006	.4976	.5150	.4877	.5188
Check ?	Chk Pass	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 12/10/2019 11:43:05 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5078**	**.4946**	**.5162**	**.4910**	**.5261**	**.5362**	**.4795**	F **.0689**
Stddev	.0034	.0018	.0037	.0020	.0006	.0005	.0007	.0025
%RSD	.6752	.3734	.7240	.4084	.1189	.0846	.1490	3.642
#1	.5109	.4965	.5193	.4927	.5258	.5360	.4788	.0711
#2	.5084	.4945	.5173	.4914	.5268	.5367	.4802	.0695
#3	.5041	.4928	.5121	.4888	.5256	.5359	.4795	.0662
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
Value								.5000
Range								-20.00%

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**256640.**	**31247.**	**7591.9**	**12740.**
Stddev	1852.	94.	3.5	12.
%RSD	.72143	.30156	.04642	.09788
#1	254760.	31173.	7591.8	12736.
#2	256700.	31353.	7588.5	12730.
#3	258460.	31215.	7595.5	12754.

Zoom In Zoom Out

Sample Name: HSTD Acquired: 12/10/2019 11:48:13 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.870**	**7.878**	**7.464**	**7.867**	**8.076**	**7.664**	**7.855**	**7.855**	**.5749**
Stddev	.082	.039	.012	.020	.023	.051	.034	.023	.0011
%RSD	1.042	.4907	.1653	.2577	.2830	.6726	.4382	.2963	.1942
#1	7.775	7.922	7.468	7.887	8.099	7.667	7.885	7.877	.5762
#2	7.920	7.863	7.474	7.869	8.077	7.611	7.863	7.856	.5744
#3	7.914	7.849	7.450	7.846	8.053	7.714	7.817	7.831	.5741
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.911**	**8.226**	**7.943**	**7.985**	**7.976**	**7.816**	**7.983**	**-.1214**	**-.1460**
Stddev	.025	.034	.015	.029	.025	.019	.016	.0053	.0047
%RSD	.3191	.4159	.1847	.3648	.3148	.2429	.1974	4.385	3.203
#1	7.935	8.259	7.953	8.015	8.002	7.822	7.983	-.1219	-.1481
#2	7.914	8.229	7.950	7.984	7.975	7.831	7.999	-.1265	-.1493
#3	7.884	8.191	7.926	7.957	7.952	7.795	7.967	-.1159	-.1407
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0762**	**-.0392**	**.2585**	**.0935**	**7.812**	**8.092**	**24.33**	**8.375**	**7.981**
Stddev	.0028	.0090	.0229	.0037	.015	.026	.06	.026	.093
%RSD	3.632	23.08	8.865	3.958	.1884	.3268	.2267	.3075	1.161
#1	.0733	-.0321	.2837	.0951	7.813	8.104	24.34	8.397	7.916
#2	.0764	-.0494	.2390	.0962	7.827	8.110	24.39	8.381	7.940
#3	.0788	-.0360	.2528	.0893	7.797	8.061	24.28	8.347	8.087
Check ?	None	None	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: HSTD Acquired: 12/10/2019 11:48:13 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.892**	**8.339**	**7.803**	**95.19**	**8.001**	**8.114**	**7.701**	**7.987**
Stddev	.043	.018	.022	.21	.014	.011	.029	.028
%RSD	.5414	.2138	.2767	.2233	.1797	.1367	.3791	.3521
#1	7.934	8.348	7.820	95.35	7.999	8.110	7.710	8.015
#2	7.894	8.351	7.811	95.27	8.016	8.126	7.725	7.986
#3	7.849	8.319	7.779	94.95	7.988	8.105	7.668	7.959
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**281860.**	**32400.**	**8263.7**	**15005.**
Stddev	1052.	147.	13.8	33.
%RSD	.37316	.45397	.16738	.21690
#1	280700.	32504.	8252.7	14968.
#2	282140.	32463.	8259.1	15015.
#3	282750.	32231.	8279.2	15031.

Zoom In Zoom Out

Sample Name: HSTD Acquired: 12/10/2019 11:54:04 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0005**	**.0007**	**-.0000**	**.0006**	**.0038**	**.0004**	**.0002**	**.0002**
Stddev	.0001	.0000	.0001	.0001	.0001	.0003	.0001	.0004	.0007
%RSD	28.00	9.875	8.755	1206.	13.70	7.296	33.13	262.2	436.1
#1	.0005	.0005	.0008	.0001	.0007	.0038	.0003	.0000	-.0006
#2	.0003	.0004	.0007	-.0002	.0005	.0041	.0003	-.0002	.0005
#3	.0003	.0005	.0006	-.0000	.0007	.0035	.0005	.0007	.0005
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**.0014**	**-.0003**	**-.0024**	**-.0018**	**.0012**	**-.0001**	**314.2**	**203.3**
Stddev	.0001	.0002	.0007	.0008	.0015	.0019	.0008	1.0	1.2
%RSD	16.48	11.28	197.3	32.81	82.86	165.7	1332.	.3077	.5988
#1	.0006	.0013	-.0001	-.0024	-.0001	-.0009	.0009	313.6	203.0
#2	.0006	.0014	-.0011	-.0016	-.0024	.0029	-.0004	315.3	204.6
#3	.0004	.0016	.0002	-.0031	-.0030	.0015	-.0007	313.6	202.2
Check ?	None	None	None	None	None	None	None	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**199.4**	**320.7**	**212.7**	**206.5**	**.0079**	**-.0006**	**-.0054**	**-.0002**	**.0002**
Stddev	.2	.4	.1	.5	.0007	.0003	.0004	.0016	.0000
%RSD	.0819	.1119	.0696	.2567	9.065	43.30	7.098	730.5	30.88
#1	199.3	320.3	212.6	206.8	.0086	-.0003	-.0056	.0007	.0002
#2	199.6	321.0	212.9	206.9	.0072	-.0006	-.0049	-.0021	.0001
#3	199.5	320.7	212.6	205.9	.0080	-.0009	-.0056	.0007	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None	None	None	None
Value									
Range									

Zoom In Zoom Out

Sample Name: HSTD Acquired: 12/10/2019 11:54:04 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0028**	**.0029**	**.0000**	**-.0107**	**.0118**	**-.0018**	**.0673**
Stddev	.0002	.0023	.0001	.0053	.0010	.0020	.0023	.0033
%RSD	160.8	82.17	1.755	590300.	8.950	16.59	127.8	4.957
#1	-.0001	.0031	.0028	-.0043	-.0118	.0140	.0002	.0711
#2	.0001	.0049	.0029	.0059	-.0102	.0104	-.0014	.0648
#3	-.0003	.0004	.0029	-.0016	-.0102	.0109	-.0044	.0661
Check ?	None	None	None	None	None	None	None	None
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**257430.**	**31137.**	**7653.7**	**12792.**
Stddev	1152.	96.	12.6	11.
%RSD	.44745	.30926	.16472	.08590
#1	257220.	31056.	7639.5	12780.
#2	256390.	31244.	7658.2	12795.
#3	258670.	31113.	7663.4	12802.

Zoom In Zoom Out

Sample Name: FECONF Acquired: 12/10/2019 11:59:33 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**-.0001**	**.0003**	**-.0001**	**.0002**	**.0013**	**.0009**	**-.0000**
Stddev	.0001	.0000	.0000	.0003	.0000	.0003	.0003	.0003
%RSD	85.39	44.30	8.369	322.9	13.92	20.98	26.75	563.0
#1	-.0001	-.0001	.0003	-.0003	.0002	.0014	.0007	-.0002
#2	-.0003	-.0001	.0003	.0003	.0002	.0010	.0012	.0003
#3	-.0000	-.0001	.0002	-.0002	.0002	.0016	.0010	-.0002

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0002**	**-.0006**	**-.0017**	F **-.0031**	**-.0017**	**.0013**	**-.0006**
Stddev	.0009	.0004	.0001	.0004	.0001	.0008	.0022	.0009
%RSD	521.1	181.7	10.27	25.91	2.800	45.40	163.1	148.9
#1	-.0004	.0002	-.0006	-.0012	-.0032	-.0013	-.0008	-.0017
#2	.0012	-.0002	-.0005	-.0021	-.0031	-.0013	.0013	-.0002
#3	-.0003	.0005	-.0007	-.0018	-.0031	-.0027	.0036	.0001

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0066**	**-.0195**	F **202.4**	**-.0525**	**.0751**	**.0605**	**.0037**	**.0007**
Stddev	.0040	.0015	2.0	.0131	.0170	.0007	.0003	.0001
%RSD	61.37	7.572	.9780	25.04	22.60	1.094	7.740	20.06
#1	-.0019	-.0207	200.2	-.0638	.0556	.0611	.0040	.0009
#2	-.0092	-.0200	203.9	-.0555	.0830	.0598	.0036	.0007
#3	-.0086	-.0178	203.2	-.0381	.0868	.0605	.0035	.0006

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**.0021**	**-.0001**	**-.0002**	**.0021**	**.0016**	**-.0016**	**-.0075**
Stddev	.0004	.0003	.0000	.0001	.0009	.0002	.0012	.0002
%RSD	68.74	13.12	51.25	33.48	40.53	14.50	74.31	2.467
#1	.0005	.0018	-.0001	-.0002	.0030	.0014	-.0021	-.0074
#2	.0011	.0024	-.0000	-.0001	.0013	.0019	-.0026	-.0073
#3	.0003	.0020	-.0001	-.0002	.0021	.0015	-.0003	-.0077

Zoom In Zoom Out

Sample Name: FECONF Acquired: 12/10/2019 11:59:33 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.0034**	**-.0073**	**.0681**
Stddev	.0011	.0003	.0023
%RSD	32.12	3.966	3.435
#1	.0026	-.0076	.0706
#2	.0029	-.0074	.0677
#3	.0046	-.0070	.0659

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**282410.**	**32343.**	**8312.1**	**15080.**
Stddev	802.	79.	12.5	12.
%RSD	.28401	.24352	.15035	.08285
#1	281490.	32432.	8318.4	15085.
#2	282950.	32313.	8320.3	15089.
#3	282790.	32284.	8297.8	15066.

Zoom In Zoom Out

Sample Name: CRCONF Acquired: 12/10/2019 12:04:48 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0000**	**.0007**	**-.0007**	F **10.59**	**.0002**	**-.0000**	**.0002**	**.0001**
Stddev	.0001	.0000	.0002	.0001	.08	.0001	.0000	.0001	.0001
%RSD	508.4	32.20	26.97	16.15	.7771	52.90	145.9	65.57	52.21
#1	.0000	.0001	.0008	-.0007	10.69	.0004	-.0001	.0003	.0002
#2	-.0001	.0000	.0005	-.0006	10.54	.0001	.0000	.0000	.0002
#3	.0002	.0000	.0008	-.0008	10.55	.0003	-.0000	.0002	.0001

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0132**	**.0053**	**-.0005**	**-.0002**	**-.0011**	**.0005**	**-.0044**	**-.0039**	**.0049**
Stddev	.0003	.0000	.0011	.0003	.0006	.0008	.0017	.0038	.0022
%RSD	2.264	.7704	197.3	158.7	49.95	163.3	39.60	98.47	45.66
#1	.0135	.0052	-.0007	.0001	-.0010	.0009	-.0063	-.0083	.0030
#2	.0131	.0053	.0006	-.0001	-.0007	-.0005	-.0040	-.0016	.0044
#3	.0129	.0053	-.0016	-.0005	-.0018	.0011	-.0029	-.0017	.0073

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0264**	**-.0178**	**.0385**	**.0363**	**.0044**	**.0007**	**.0033**	**.0009**	**.0001**
Stddev	.0007	.0131	.0068	.0012	.0003	.0000	.0004	.0002	.0001
%RSD	2.676	73.81	17.77	3.273	6.885	6.124	13.20	25.05	56.88
#1	.0272	-.0026	.0460	.0351	.0047	.0006	.0030	.0007	.0002
#2	.0261	-.0255	.0371	.0375	.0043	.0007	.0031	.0009	.0001
#3	.0258	-.0252	.0325	.0364	.0042	.0007	.0037	.0012	.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0007**	**.0046**	**-.0012**	**-.0028**	**.0006**	**.0029**	**-.0026**	**-.0001**
Stddev	.0004	.0000	.0001	.0017	.0005	.0009	.0005	.0012
%RSD	50.84	1.041	8.593	60.11	87.85	31.00	20.15	821.1
#1	-.0011	.0045	-.0011	-.0041	.0012	.0040	-.0020	.0008
#2	-.0006	.0046	-.0013	-.0009	.0002	.0025	-.0029	-.0015
#3	-.0004	.0045	-.0012	-.0033	.0003	.0023	-.0029	.0002

Zoom In Zoom Out

Sample Name: CRCONF Acquired: 12/10/2019 12:04:48 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**284570.**	**32958.**	**8205.8**	**14980.**
Stddev	1215.	168.	7.6	23.
%RSD	.42708	.51042	.09284	.15105
#1	283400.	33030.	8200.1	14964.
#2	285820.	33077.	8214.5	15006.
#3	284480.	32765.	8202.9	14969.

Zoom In Zoom Out

Sample Name: crid Acquired: 12/10/2019 12:10:07 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0037**	**.0010**	**.0009**	**.0027**	**.0023**	**.0004**	**.0029**	**.0035**	**.0000**
Stddev	.0002	.0001	.0001	.0001	.0002	.0001	.0000	.0000	.0003
%RSD	5.732	5.443	8.927	2.623	9.590	30.73	1.691	1.108	1274.
#1	.0039	.0009	.0010	.0026	.0021	.0003	.0028	.0035	.0001
#2	.0035	.0009	.0010	.0028	.0022	.0004	.0029	.0035	.0003
#3	.0036	.0010	.0008	.0027	.0026	.0006	.0029	.0035	-.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0019**	**.0098**	**.0027**	F **.0005**	**-.0003**	F **.0038**	**.0000**	**.0845**	**1.009**
Stddev	.0003	.0001	.0005	.0005	.0009	.0007	.0010	.0037	.003
%RSD	16.23	.8321	17.09	85.82	330.6	17.56	39950.	4.410	.2751
#1	.0016	.0098	.0022	.0010	-.0012	.0045	.0004	.0885	1.012
#2	.0022	.0099	.0027	.0001	.0004	.0038	.0008	.0812	1.010
#3	.0018	.0097	.0031	.0006	.0001	.0032	-.0012	.0837	1.006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	None	Chk Fail	None	Chk Pass	Chk Pass
Value				.0020		.0050			
Range				-20.00%		-20.00%			

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0029**	**.0895**	**1.979**	**1.013**	**.0036**	**-.0000**	**-.0002**	**.0005**	**-.0001**
Stddev	.0011	.0063	.013	.003	.0005	.0001	.0002	.0008	.0001
%RSD	37.01	7.019	.6672	.3025	14.26	344.4	103.1	139.1	70.62
#1	.0018	.0950	1.995	1.009	.0030	-.0001	-.0000	.0012	-.0001
#2	.0029	.0826	1.973	1.013	.0040	-.0000	-.0004	-.0003	-.0001
#3	.0039	.0908	1.971	1.015	.0038	.0001	-.0001	.0006	-.0000
Check ?	None	Chk Pass	Chk Pass	Chk Pass	None	None	None	None	None
Value									
Range									

Zoom In Zoom Out

Sample Name: crid Acquired: 12/10/2019 12:10:07 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0004**	**.0001**	**-.0037**	**-.0003**	**.0013**	**-.0010**	F **.0017**
Stddev	.0001	.0006	.0001	.0007	.0016	.0009	.0003	.0008
%RSD	45.82	160.6	176.9	18.96	579.1	68.80	29.95	49.84
#1	-.0002	-.0003	.0002	-.0038	-.0018	.0004	-.0013	.0017
#2	-.0001	.0006	-.0000	-.0043	.0014	.0021	-.0008	.0025
#3	-.0002	.0008	.0000	-.0029	-.0004	.0013	-.0009	.0008
Check ?	None	None	None	None	None	None	None	Chk Fail
Value								.0040
Range								-20.00%

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**285130.**	**32524.**	**8364.8**	**15065.**
Stddev	1904.	56.	12.5	13.
%RSD	.66787	.17311	.14908	.08809
#1	286940.	32470.	8378.4	15076.
#2	285320.	32583.	8361.9	15069.
#3	283150.	32519.	8354.0	15050.

Zoom In Zoom Out

Sample Name: ASCONF Acquired: 12/10/2019 12:15:16 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0001**	**.0002**	**.0001**	**.0006**	**.0006**	**.0000**	**-.0000**
Stddev	.0002	.0000	.0003	.0000	.0003	.0001	.0000	.0002
%RSD	184.6	14.51	186.5	16.95	51.85	13.12	130.0	543.4
#1	-.0003	.0001	.0003	.0001	.0010	.0006	-.0000	.0002
#2	.0001	.0001	.0003	.0001	.0003	.0005	.0000	-.0002
#3	-.0001	.0001	-.0002	.0001	.0005	.0007	.0000	-.0001

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**-.0002**	**-.0021**	**5.187**	F **-.0023**	**-.0007**	**-.0014**	**.0004**
Stddev	.0002	.0001	.0000	.015	.0003	.0007	.0008	.0004
%RSD	73.15	25.90	1.274	.2819	14.69	95.00	55.15	83.09
#1	.0003	-.0002	-.0020	5.171	-.0019	.0001	-.0016	.0008
#2	.0005	-.0002	-.0021	5.200	-.0024	-.0009	-.0005	.0001
#3	.0001	-.0003	-.0021	5.190	-.0026	-.0012	-.0020	.0003

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0114**	**.0651**	**.0022**	**.0017**	**.0191**	**.0381**	**.0033**	**-.0001**
Stddev	.0108	.0018	.0006	.0078	.0102	.0035	.0003	.0002
%RSD	95.05	2.748	25.78	470.5	53.39	9.228	10.24	260.8
#1	-.0043	.0639	.0026	.0028	.0186	.0342	.0033	.0001
#2	-.0060	.0642	.0015	-.0066	.0092	.0410	.0030	-.0002
#3	-.0239	.0671	.0023	.0088	.0296	.0391	.0036	-.0001

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0014**	**.0007**	**.0001**	**-.0002**	**.0027**	**.0003**	**.0067**	**-.0011**
Stddev	.0005	.0002	.0000	.0002	.0003	.0001	.0009	.0010
%RSD	36.04	20.81	13.14	130.0	10.06	36.61	13.88	92.48
#1	.0017	.0008	.0001	.0001	.0030	.0004	.0058	-.0002
#2	.0018	.0008	.0001	-.0003	.0025	.0002	.0077	-.0009
#3	.0008	.0006	.0001	-.0002	.0026	.0002	.0065	-.0022

Zoom In Zoom Out

Sample Name: ASCONF Acquired: 12/10/2019 12:15:16 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.0007**	**-.0013**	**.0010**
Stddev	.0005	.0016	.0003
%RSD	76.53	126.6	30.00
#1	.0002	-.0024	.0012
#2	.0007	.0006	.0006
#3	.0012	-.0020	.0010

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**286780.**	**32949.**	**8400.4**	**15176.**
Stddev	597.	153.	15.8	22.
%RSD	.20803	.46405	.18853	.14581
#1	286100.	32926.	8417.5	15201.
#2	287210.	32809.	8386.3	15161.
#3	287030.	33112.	8397.2	15165.

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 12:20:23 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.009**	**2.014**	**2.029**	**1.978**	**1.989**	**1.955**	**2.001**	**1.984**	**.2424**
Stddev	.001	.003	.006	.007	.018	.018	.012	.008	.0023
%RSD	.0591	.1678	.3039	.3636	.9064	.9331	.5887	.3925	.9288
#1	2.010	2.017	2.035	1.985	1.980	1.951	1.992	1.992	.2421
#2	2.008	2.011	2.023	1.971	2.009	1.976	2.015	1.976	.2448
#3	2.008	2.015	2.031	1.979	1.977	1.940	1.997	1.985	.2403
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.960**	**2.015**	**1.977**	**1.872**	**1.975**	**1.946**	**1.960**	**40.29**	**40.85**
Stddev	.015	.007	.006	.013	.007	.008	.007	.07	.11
%RSD	.7795	.3743	.3180	.6753	.3570	.4314	.3737	.1676	.2624
#1	1.954	2.022	1.980	1.871	1.980	1.956	1.966	40.33	40.94
#2	1.977	2.007	1.970	1.885	1.967	1.943	1.952	40.22	40.73
#3	1.948	2.017	1.981	1.860	1.978	1.940	1.963	40.33	40.87
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.59**	**40.00**	**40.20**	**40.21**	**1.967**	**1.999**	**4.835**	**2.035**	**2.050**
Stddev	.07	.08	.06	.05	.007	.007	.018	.007	.002
%RSD	.1838	.2057	.1512	.1260	.3749	.3471	.3721	.3381	.1191
#1	40.67	40.06	40.18	40.25	1.973	2.006	4.850	2.042	2.052
#2	40.52	39.90	40.16	40.16	1.958	1.992	4.815	2.028	2.047
#3	40.60	40.03	40.27	40.24	1.969	2.000	4.839	2.035	2.050
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 12:20:23 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.947**	**1.961**	**1.955**	**1.924**	**1.990**	**1.995**	**1.964**	**1.949**
Stddev	.010	.007	.016	.002	.008	.000	.002	.011
%RSD	.5051	.3579	.8202	.1164	.4060	.0183	.1220	.5469
#1	1.945	1.968	1.951	1.923	1.995	1.995	1.962	1.944
#2	1.958	1.954	1.972	1.927	1.981	1.994	1.962	1.961
#3	1.938	1.961	1.941	1.922	1.995	1.994	1.966	1.941
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**276500.**	**32121.**	**8090.4**	**14131.**
Stddev	2382.	52.	30.4	54.
%RSD	.86145	.16325	.37572	.38141
#1	278180.	32103.	8066.8	14082.
#2	273780.	32180.	8124.7	14189.
#3	277560.	32080.	8079.7	14122.

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 12:25:22 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	F **.0002**	**.0003**	**-.0001**	**.0006**	**.0005**	**.0001**	**.0000**	**-.0000**
Stddev	.0002	.0000	.0001	.0002	.0002	.0003	.0000	.0001	.0000
%RSD	247.3	25.97	35.88	389.8	29.88	54.55	35.65	869.0	470.5
#1	-.0003	.0001	.0002	-.0003	.0004	.0009	.0002	-.0002	.0000
#2	.0000	.0002	.0002	.0001	.0008	.0003	.0001	.0001	-.0000
#3	.0000	.0001	.0004	.0000	.0006	.0005	.0001	.0001	-.0000
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		.0001							
Low Limit		-.0001							

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0000**	**-.0005**	**-.0003**	**.0002**	**-.0013**	**.0008**	**-.0059**	**.0088**
Stddev	.0002	.0001	.0004	.0007	.0006	.0009	.0008	.0040	.0018
%RSD	2578.	288.4	82.44	196.1	354.8	67.93	91.24	67.90	19.92
#1	-.0003	.0001	-.0008	.0003	.0006	-.0023	.0015	-.0096	.0072
#2	.0001	.0001	-.0000	-.0003	-.0006	-.0008	.0010	-.0017	.0107
#3	.0002	-.0001	-.0007	-.0010	.0005	-.0008	.0000	-.0062	.0085
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0019**	**-.0140**	**.0175**	**.0278**	**.0035**	**.0002**	**.0004**	**.0002**	**.0001**
Stddev	.0007	.0082	.0132	.0072	.0005	.0002	.0006	.0002	.0000
%RSD	34.36	58.62	75.32	26.04	14.01	82.45	159.2	93.89	38.55
#1	.0017	-.0117	.0206	.0288	.0035	.0000	-.0001	.0002	.0001
#2	.0013	-.0231	.0289	.0344	.0040	.0003	.0002	.0000	.0001
#3	.0026	-.0072	.0031	.0201	.0030	.0002	.0010	.0004	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 12:25:22 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0006**	**.0002**	**-.0006**	**-.0003**	F **.0025**	**.0002**	**.0013**
Stddev	.0002	.0003	.0001	.0016	.0003	.0007	.0016	.0028
%RSD	77.24	44.29	38.35	252.1	99.26	26.13	642.3	226.7
#1	.0004	.0004	.0002	.0004	-.0007	.0022	.0002	-.0020
#2	.0003	.0005	.0002	-.0025	-.0002	.0021	-.0013	.0034
#3	.0000	.0009	.0001	.0002	-.0001	.0033	.0019	.0023
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
High Limit						.0023		
Low Limit						-.0023		

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**285140.**	**33107.**	**8409.4**	**15177.**
Stddev	2193.	157.	48.8	81.
%RSD	.76896	.47306	.57993	.53364
#1	283740.	33288.	8394.8	15152.
#2	287670.	33018.	8463.8	15268.
#3	284020.	33015.	8369.6	15112.

Zoom In Zoom Out

Sample Name: mp18736-mb1conf Acquired: 12/10/2019 12:30:32 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0001**	**.0002**	**.0001**	**.0015**	**.0013**	**.0002**	**.0004**	**.0001**
Stddev	.0002	.0000	.0001	.0001	.0001	.0003	.0000	.0003	.0001
%RSD	187.5	30.29	34.08	46.19	10.09	19.25	13.89	87.84	100.4
#1	.0000	.0002	.0002	.0001	.0014	.0015	.0002	.0001	.0002
#2	.0003	.0001	.0001	.0002	.0014	.0010	.0002	.0003	.0002
#3	-.0001	.0001	.0002	.0001	.0016	.0014	.0002	.0007	-.0000

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0023**	**.0009**	**-.0006**	**.0002**	**.0005**	**.0002**	**.0015**	**.0662**
Stddev	.0001	.0001	.0004	.0007	.0005	.0006	.0010	.0018	.0015
%RSD	58.08	5.928	49.43	108.1	257.5	120.8	611.0	117.5	2.223
#1	-.0004	.0022	.0006	-.0002	-.0003	.0011	-.0000	.0012	.0672
#2	-.0001	.0025	.0007	-.0003	.0004	-.0001	-.0007	-.0001	.0645
#3	-.0002	.0022	.0014	-.0014	.0005	.0006	.0012	.0034	.0668

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0173**	**-.0079**	**.0319**	**.0953**	**.0032**	**.0003**	**.0069**	**.0183**	**.0003**
Stddev	.0001	.0063	.0058	.0009	.0005	.0000	.0005	.0007	.0001
%RSD	.8243	79.90	18.26	.9890	15.24	14.67	7.889	3.790	16.22
#1	.0174	-.0121	.0350	.0964	.0033	.0003	.0072	.0182	.0004
#2	.0172	-.0006	.0252	.0946	.0036	.0003	.0063	.0177	.0003
#3	.0172	-.0110	.0355	.0949	.0026	.0003	.0073	.0190	.0003

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**.0009**	**.0002**	**.0147**	**-.0001**	**.0009**	**.0182**	**-.0002**
Stddev	.0001	.0004	.0001	.0010	.0011	.0009	.0005	.0015
%RSD	16.74	39.78	30.58	6.657	1203.	107.0	2.705	899.5
#1	.0008	.0010	.0003	.0147	-.0008	.0005	.0177	.0003
#2	.0006	.0005	.0002	.0156	-.0007	.0019	.0187	-.0019
#3	.0006	.0012	.0003	.0137	.0012	.0001	.0181	.0011

Zoom In Zoom Out

Sample Name: mp18736-mb1conf Acquired: 12/10/2019 12:30:32 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**285950.**	**33191.**	**8351.2**	**15118.**
Stddev	820.	75.	15.7	45.
%RSD	.28666	.22552	.18821	.30057
#1	285240.	33241.	8336.8	15075.
#2	286840.	33105.	8348.9	15114.
#3	285760.	33228.	8368.0	15166.

Zoom In Zoom Out

Sample Name: mp18736-b1conf Acquired: 12/10/2019 12:35:39 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.919**	**1.923**	**1.929**	**1.889**	**1.895**	**1.869**	**1.924**	**1.898**
Stddev	.001	.001	.002	.004	.011	.011	.014	.002
%RSD	.0360	.0735	.1105	.2022	.6013	.5799	.7148	.1011
#1	1.919	1.922	1.928	1.887	1.907	1.878	1.936	1.900
#2	1.918	1.925	1.932	1.893	1.884	1.857	1.909	1.898
#3	1.920	1.924	1.928	1.887	1.895	1.872	1.928	1.896

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2397**	**1.870**	**1.937**	**1.929**	**1.934**	**1.911**	**1.885**	**1.939**
Stddev	.0013	.010	.002	.005	.008	.003	.007	.002
%RSD	.5607	.5436	.1031	.2742	.4233	.1449	.3637	.1179
#1	.2412	1.880	1.937	1.923	1.931	1.913	1.883	1.939
#2	.2386	1.860	1.940	1.933	1.943	1.913	1.893	1.942
#3	.2392	1.870	1.936	1.932	1.927	1.908	1.880	1.937

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.40**	**25.85**	**25.78**	**25.38**	**25.49**	**25.64**	**1.847**	**1.988**
Stddev	.06	.07	.06	.02	.05	.05	.004	.004
%RSD	.2171	.2562	.2494	.0644	.2073	.1812	.2312	.2071
#1	25.36	25.80	25.74	25.39	25.49	25.67	1.844	1.985
#2	25.38	25.83	25.75	25.38	25.44	25.59	1.852	1.992
#3	25.46	25.93	25.85	25.36	25.55	25.67	1.845	1.986

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0249**	**2.028**	**1.952**	**1.907**	**1.528**	**1.908**	F **-.0571**	**.0139**
Stddev	.0008	.003	.002	.011	.004	.012	.0006	.0006
%RSD	3.397	.1682	.1001	.5826	.2449	.6190	1.101	4.636
#1	.0247	2.027	1.951	1.919	1.528	1.919	-.0578	.0143
#2	.0242	2.031	1.952	1.897	1.532	1.895	-.0568	.0142
#3	.0258	2.024	1.955	1.907	1.525	1.910	-.0567	.0132

Zoom In Zoom Out

Sample Name: mp18736-b1conf Acquired: 12/10/2019 12:35:39 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.0009**	**1.844**	**-.0019**
Stddev	.0007	.004	.0005
%RSD	74.36	.2031	27.40
#1	.0011	1.841	-.0024
#2	.0015	1.848	-.0019
#3	.0002	1.842	-.0013

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**280880.**	**32823.**	**8197.7**	**14436.**
Stddev	1444.	90.	10.4	7.
%RSD	.51392	.27565	.12654	.04939
#1	279480.	32895.	8208.7	14441.
#2	282370.	32853.	8196.2	14440.
#3	280790.	32722.	8188.2	14428.

Zoom In Zoom Out

Sample Name: mp18736-s1 Acquired: 12/10/2019 12:40:35 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.746**	**1.973**	**2.018**	**2.012**	**2.206**	**1.986**	**4.409**	**2.153**	**.2532**
Stddev	.003	.003	.001	.002	.002	.005	.009	.004	.0008
%RSD	.1204	.1245	.0575	.1119	.0858	.2409	.2109	.1849	.3048
#1	2.742	1.973	2.017	2.012	2.206	1.987	4.419	2.148	.2525
#2	2.747	1.970	2.019	2.015	2.207	1.989	4.401	2.154	.2531
#3	2.748	1.975	2.019	2.011	2.204	1.980	4.407	2.156	.2540

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.276**	**2.528**	**1.992**	**2.015**	**2.384**	**1.902**	**1.067**	**245.9**	**38.55**
Stddev	.005	.006	.008	.014	.005	.013	.008	.5	.06
%RSD	.2045	.2443	.3851	.7062	.1952	.6937	.7681	.2097	.1542
#1	2.278	2.521	1.984	2.002	2.379	1.888	1.058	245.3	38.48
#2	2.279	2.534	1.999	2.030	2.388	1.903	1.072	246.2	38.57
#3	2.271	2.528	1.995	2.013	2.385	1.914	1.071	246.2	38.59

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**230.0**	**51.77**	**44.76**	**27.07**	**1.905**	**2.016**	**4.796**	**2.004**	**2.108**
Stddev	.3	.09	.17	.12	.002	.009	.010	.011	.004
%RSD	.1413	.1780	.3724	.4294	.1094	.4398	.2014	.5560	.1738
#1	229.7	51.78	44.64	26.93	1.903	2.006	4.789	2.000	2.103
#2	229.9	51.67	44.68	27.12	1.907	2.018	4.792	1.996	2.110
#3	230.3	51.85	44.95	27.14	1.906	2.023	4.807	2.017	2.110

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.872**	**1.298**	**1.678**	**1.030**	**.0046**	**.1803**	**4.693**	**.7625**
Stddev	.015	.005	.004	.008	.0039	.0045	.014	.0108
%RSD	.3006	.4173	.2229	.7928	83.70	2.518	.2894	1.422
#1	4.889	1.301	1.681	1.029	.0090	.1753	4.689	.7636
#2	4.862	1.291	1.680	1.039	.0030	.1812	4.681	.7727
#3	4.865	1.301	1.674	1.023	.0018	.1842	4.708	.7511

Zoom In Zoom Out

Sample Name: mp18736-s1 Acquired: 12/10/2019 12:40:35 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**284600.**	**32979.**	**8429.3**	**14651.**
Stddev	348.	78.	8.0	6.
%RSD	.12234	.23555	.09521	.03980
#1	284200.	33010.	8437.3	14658.
#2	284740.	33037.	8429.5	14647.
#3	284850.	32891.	8421.2	14649.

Zoom In Zoom Out

Sample Name: mp18736-s2 Acquired: 12/10/2019 12:45:27 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.586**	**1.865**	**1.905**	**1.898**	**2.088**	**1.866**	**4.023**	**2.018**	**.2385**
Stddev	.006	.005	.011	.010	.010	.007	.016	.006	.0014
%RSD	.2398	.2652	.5539	.5252	.4666	.3913	.3910	.3080	.5990
#1	2.584	1.865	1.902	1.897	2.091	1.861	4.018	2.018	.2400
#2	2.593	1.870	1.895	1.888	2.078	1.862	4.010	2.011	.2372
#3	2.582	1.860	1.916	1.908	2.097	1.874	4.040	2.024	.2384

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.156**	**2.371**	**1.885**	**1.905**	**2.170**	**1.812**	**.9967**	**234.6**	**35.77**
Stddev	.006	.010	.010	.014	.015	.012	.0135	.5	.09
%RSD	.2822	.4165	.5391	.7474	.6756	.6366	1.350	.2093	.2388
#1	2.154	2.372	1.885	1.903	2.176	1.820	1.001	234.5	35.76
#2	2.152	2.360	1.875	1.892	2.153	1.799	.9817	235.2	35.87
#3	2.163	2.380	1.895	1.921	2.181	1.818	1.008	234.2	35.70

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**205.2**	**44.59**	**39.17**	**25.49**	**1.799**	**1.903**	**4.924**	**1.882**	**1.990**
Stddev	.4	.29	.21	.05	.007	.007	.021	.007	.003
%RSD	.1855	.6508	.5352	.1912	.3826	.3506	.4298	.3593	.1584
#1	205.2	44.81	39.12	25.44	1.801	1.906	4.926	1.886	1.988
#2	205.6	44.71	39.40	25.53	1.791	1.895	4.903	1.874	1.994
#3	204.8	44.26	38.99	25.51	1.805	1.907	4.945	1.885	1.989

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.473**	**1.239**	**1.564**	**1.033**	**-.0002**	**.1466**	**4.429**	**.7534**
Stddev	.013	.003	.005	.009	.0031	.0012	.025	.0110
%RSD	.2795	.2512	.3353	.8999	1921.	.8232	.5571	1.455
#1	4.478	1.242	1.565	1.030	-.0009	.1463	4.431	.7589
#2	4.459	1.236	1.558	1.025	-.0028	.1456	4.403	.7407
#3	4.482	1.240	1.568	1.043	.0032	.1480	4.453	.7604

Zoom In Zoom Out

Sample Name: mp18736-s2 Acquired: 12/10/2019 12:45:27 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**286570.**	**33463.**	**8509.7**	**14782.**
Stddev	1109.	154.	37.1	60.
%RSD	.38688	.45916	.43621	.40829
#1	286580.	33380.	8491.4	14752.
#2	287680.	33369.	8552.4	14852.
#3	285460.	33640.	8485.2	14743.

Zoom In Zoom Out

Sample Name: jc99242-17 Acquired: 12/10/2019 12:50:19 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6184**	**.0059**	**.0012**	**.0534**	**.1907**	**.1055**	**2.017**	**.1050**	**.0023**
Stddev	.0005	.0001	.0002	.0004	.0028	.0046	.029	.0010	.0011
%RSD	.0844	2.238	14.54	.7906	1.476	4.378	1.432	.9838	49.87
#1	.6178	.0057	.0010	.0538	.1919	.1041	2.006	.1061	.0010
#2	.6185	.0059	.0014	.0530	.1875	.1017	1.995	.1047	.0028
#3	.6188	.0059	.0013	.0532	.1927	.1106	2.050	.1041	.0031

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2996**	**.4321**	**.0606**	**-.0068**	**.2560**	**.0046**	**-.0007**	**159.5**	**11.01**
Stddev	.0042	.0013	.0022	.0044	.0015	.0078	.0032	.4	.02
%RSD	1.410	.3092	3.621	63.78	.5942	169.9	476.1	.2431	.1692
#1	.2993	.4326	.0597	-.0117	.2569	.0107	.0027	159.9	11.03
#2	.2956	.4331	.0631	-.0055	.2542	-.0041	-.0009	159.2	11.01
#3	.3040	.4306	.0591	-.0033	.2568	.0071	-.0037	159.5	10.99

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**186.4**	**17.72**	**9.671**	**.5809**	**.0464**	**.0047**	**3.482**	**.0234**	**.0840**
Stddev	.5	.04	.031	.0009	.0039	.0004	.010	.0022	.0002
%RSD	.2656	.2392	.3239	.1476	8.390	8.514	.2870	9.460	.2640
#1	187.0	17.72	9.665	.5812	.0449	.0043	3.472	.0222	.0840
#2	186.0	17.68	9.705	.5815	.0508	.0048	3.492	.0259	.0837
#3	186.2	17.76	9.643	.5799	.0435	.0051	3.482	.0220	.0842

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.414**	**.0125**	**.0232**	**1.088**	**-.0103**	**.1370**	**2.548**	**.7462**
Stddev	.037	.0010	.0005	.017	.0058	.0038	.015	.0180
%RSD	1.534	8.207	2.003	1.601	56.06	2.776	.5753	2.416
#1	2.403	.0134	.0227	1.104	-.0037	.1392	2.556	.7510
#2	2.383	.0127	.0235	1.070	-.0128	.1326	2.557	.7263
#3	2.455	.0114	.0234	1.091	-.0143	.1393	2.531	.7615

Zoom In Zoom Out

Sample Name: jc99242-17 Acquired: 12/10/2019 12:50:19 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**285800.**	**33109.**	**8480.7**	**14866.**
Stddev	5587.	4.	5.4	11.
%RSD	1.9548	.01181	.06335	.07363
#1	285670.	33108.	8481.4	14854.
#2	291450.	33105.	8475.1	14867.
#3	280280.	33113.	8485.7	14876.

Zoom In Zoom Out

Sample Name: mp18736-sd1 Acquired: 12/10/2019 12:55:21 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6026**	**.0068**	**.0056**	**.0539**	**.1870**	**.1123**	**1.936**	**.0971**	**.0061**
Stddev	.0038	.0009	.0003	.0027	.0103	.0151	.041	.0042	.0091
%RSD	.6364	12.98	4.699	5.080	5.516	13.44	2.140	4.326	149.9
#1	.5996	.0064	.0053	.0544	.1927	.1169	1.957	.0940	-.0015
#2	.6069	.0061	.0056	.0563	.1933	.1246	1.962	.0955	.0036
#3	.6014	.0078	.0058	.0509	.1751	.0954	1.888	.1019	.0162

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2842**	**.4581**	**.0529**	**-.0240**	**.2316**	**-.0231**	**-.0050**	**154.6**	**11.36**
Stddev	.0036	.0007	.0395	.0145	.0152	.0238	.0393	.4	.06
%RSD	1.268	.1527	74.66	60.13	6.566	103.0	792.3	.2715	.5280
#1	.2815	.4589	.0897	-.0099	.2466	-.0502	.0109	154.9	11.29
#2	.2883	.4577	.0112	-.0234	.2162	-.0132	-.0498	154.1	11.38
#3	.2828	.4576	.0579	-.0388	.2321	-.0058	.0240	154.8	11.40

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**181.9**	**16.92**	**9.299**	**1.131**	**.0811**	**.0172**	**4.163**	**.0378**	**.0828**
Stddev	.3	.05	.333	.018	.0060	.0028	.003	.0027	.0011
%RSD	.1637	.3063	3.582	1.604	7.403	16.40	.0620	7.051	1.310
#1	182.1	16.91	9.683	1.152	.0789	.0152	4.160	.0395	.0816
#2	181.6	16.87	9.094	1.117	.0765	.0204	4.165	.0391	.0837
#3	182.0	16.98	9.119	1.126	.0879	.0159	4.163	.0347	.0831

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.321**	**.0686**	**.0316**	**1.222**	**-.0023**	**.1278**	**2.511**	**.6769**
Stddev	.049	.0094	.0004	.020	.0119	.0242	.033	.0717
%RSD	2.113	13.76	1.335	1.655	509.4	18.93	1.313	10.59
#1	2.346	.0601	.0321	1.233	-.0037	.1263	2.476	.7304
#2	2.352	.0788	.0314	1.235	-.0134	.1527	2.516	.7047
#3	2.264	.0668	.0313	1.199	.0102	.1044	2.541	.5954

Zoom In Zoom Out

Sample Name: mp18736-sd1 Acquired: 12/10/2019 12:55:21 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**289110.**	**33110.**	**8398.0**	**15022.**
Stddev	5843.	54.	11.1	17.
%RSD	2.0211	.16306	.13263	.11624
#1	285060.	33063.	8410.2	15041.
#2	286460.	33099.	8388.2	15007.
#3	295810.	33169.	8395.7	15018.

Zoom In Zoom Out

Sample Name: mp18736-ps1 Acquired: 12/10/2019 13:00:26 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.548**	**1.986**	**2.063**	**2.025**	**2.154**	**1.958**	**3.843**	**2.123**	**.2493**
Stddev	.006	.005	.018	.014	.025	.021	.042	.016	.0030
%RSD	.2258	.2307	.8504	.6687	1.161	1.078	1.089	.7698	1.204
#1	2.542	1.981	2.044	2.011	2.179	1.979	3.884	2.108	.2520
#2	2.549	1.987	2.080	2.037	2.129	1.937	3.800	2.140	.2460
#3	2.553	1.990	2.064	2.029	2.153	1.959	3.846	2.120	.2498

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.200**	**2.443**	**2.000**	**2.050**	**2.388**	**1.987**	**1.955**	**168.5**	**35.25**
Stddev	.025	.020	.010	.025	.023	.026	.011	.6	.12
%RSD	1.151	.8219	.5129	1.229	.9741	1.326	.5512	.3343	.3299
#1	2.225	2.422	1.990	2.031	2.365	1.962	1.950	167.9	35.12
#2	2.174	2.463	2.010	2.079	2.412	2.014	1.968	168.6	35.32
#3	2.199	2.444	2.000	2.040	2.386	1.985	1.948	169.1	35.33

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**192.3**	**40.71**	**33.67**	**25.45**	**2.010**	**2.025**	**3.424**	**2.083**	**2.096**
Stddev	.5	.16	.23	.12	.016	.019	.041	.016	.005
%RSD	.2540	.3874	.6957	.4640	.7878	.9497	1.207	.7686	.2205
#1	191.7	40.67	33.40	25.33	1.997	2.006	3.389	2.067	2.092
#2	192.5	40.88	33.78	25.45	2.028	2.045	3.469	2.099	2.096
#3	192.6	40.58	33.82	25.56	2.006	2.023	3.412	2.082	2.101

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.057**	**1.824**	**1.909**	**.9604**	**.0048**	**.1193**	**4.218**	**.6531**
Stddev	.046	.018	.021	.0109	.0049	.0035	.040	.0077
%RSD	1.125	1.002	1.122	1.137	102.5	2.926	.9558	1.186
#1	4.102	1.806	1.929	.9564	.0082	.1161	4.183	.6451
#2	4.011	1.842	1.887	.9520	-.0008	.1230	4.262	.6606
#3	4.057	1.825	1.911	.9727	.0070	.1187	4.209	.6538

Zoom In Zoom Out

Sample Name: mp18736-ps1 Acquired: 12/10/2019 13:00:26 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**289010.**	**33266.**	**8439.2**	**14791.**
Stddev	3057.	88.	57.8	90.
%RSD	1.0579	.26550	.68472	.60924
#1	286180.	33304.	8500.8	14883.
#2	292250.	33165.	8386.2	14702.
#3	288590.	33329.	8430.5	14788.

Zoom In Zoom Out

Sample Name: jc99242-5 Acquired: 12/10/2019 13:05:17 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6036**	**.0068**	**.0014**	**.0579**	**.1695**	**.1239**	**2.596**	**.1111**	**.0014**
Stddev	.0149	.0002	.0008	.0012	.0019	.0024	.019	.0010	.0008
%RSD	2.473	3.643	54.54	1.993	1.133	1.957	.7161	.9008	59.19
#1	.5890	.0066	.0006	.0591	.1693	.1244	2.600	.1101	.0017
#2	.6029	.0070	.0021	.0578	.1677	.1213	2.576	.1121	.0005
#3	.6188	.0068	.0014	.0568	.1715	.1261	2.612	.1111	.0021

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2609**	**.4693**	**.0670**	**-.0044**	**.3732**	**.0032**	**.0019**	**142.6**	**8.283**
Stddev	.0027	.0005	.0042	.0040	.0023	.0027	.0045	3.5	.219
%RSD	1.041	.1164	6.246	90.17	.6044	85.77	229.6	2.433	2.640
#1	.2620	.4697	.0630	-.0003	.3744	.0057	-.0021	139.5	8.081
#2	.2578	.4696	.0666	-.0083	.3746	.0003	.0068	141.9	8.253
#3	.2628	.4687	.0713	-.0047	.3706	.0035	.0011	146.3	8.515

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**156.3**	**15.71**	**8.359**	**.5671**	**.0485**	**.0067**	**3.393**	**.0256**	**.0707**
Stddev	3.8	.42	.244	.0249	.0013	.0009	.013	.0037	.0016
%RSD	2.435	2.658	2.924	4.391	2.645	13.33	.3953	14.57	2.318
#1	152.9	15.26	8.112	.5412	.0498	.0063	3.391	.0222	.0692
#2	155.7	15.78	8.363	.5908	.0483	.0077	3.408	.0250	.0705
#3	160.4	16.09	8.601	.5693	.0473	.0061	3.381	.0296	.0725

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.367**	**.0187**	**.0155**	**1.303**	**-.0088**	**.1127**	**3.191**	**.8717**
Stddev	.016	.0014	.0006	.003	.0033	.0017	.010	.0134
%RSD	.6738	7.524	3.771	.2375	37.07	1.532	.3181	1.539
#1	2.369	.0189	.0148	1.300	-.0050	.1147	3.182	.8824
#2	2.350	.0201	.0157	1.306	-.0109	.1119	3.202	.8567
#3	2.382	.0173	.0159	1.303	-.0104	.1115	3.191	.8760

Zoom In Zoom Out

Sample Name: jc99242-5 Acquired: 12/10/2019 13:05:17 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**291510.**	**33919.**	**8608.0**	**15033.**
Stddev	2610.	253.	10.3	14.
%RSD	.89518	.74445	.11977	.09152
#1	289240.	33948.	8615.5	15048.
#2	294360.	34156.	8596.2	15020.
#3	290940.	33653.	8612.1	15032.

Zoom In Zoom Out

Sample Name: jc99242-6 Acquired: 12/10/2019 13:10:21 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5964**	**.0063**	**.0016**	**.0547**	**.1690**	**.1209**	**2.658**	**.1059**
Stddev	.0005	.0001	.0007	.0010	.0004	.0020	.030	.0012
%RSD	.0886	1.741	46.80	1.758	.2190	1.687	1.148	1.093
#1	.5969	.0063	.0023	.0548	.1693	.1219	2.684	.1060
#2	.5966	.0064	.0008	.0557	.1691	.1223	2.666	.1071
#3	.5959	.0062	.0016	.0538	.1686	.1186	2.624	.1047

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0026**	**.2694**	**.4435**	**.0587**	F **-.0110**	**.2989**	**.0065**	**.0035**
Stddev	.0014	.0033	.0004	.0022	.0054	.0044	.0054	.0046
%RSD	52.76	1.216	.0812	3.779	48.50	1.484	82.31	132.7
#1	.0042	.2715	.4438	.0597	-.0064	.2991	.0034	.0079
#2	.0019	.2710	.4431	.0603	-.0099	.3033	.0034	.0039
#3	.0017	.2656	.4435	.0562	-.0169	.2944	.0127	-.0013

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**141.4**	**10.11**	**160.1**	**16.80**	**8.831**	**.6029**	**.0424**	**.0063**
Stddev	.6	.04	.5	.02	.008	.0081	.0017	.0001
%RSD	.4042	.4129	.3170	.1200	.0894	1.345	3.994	1.612
#1	142.0	10.15	160.6	16.82	8.839	.6026	.0406	.0062
#2	141.3	10.11	160.1	16.81	8.830	.5949	.0440	.0064
#3	140.8	10.06	159.6	16.78	8.824	.6111	.0425	.0062

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.383**	**.0242**	**.0775**	**2.408**	**.0213**	**.0173**	**1.160**	**-.0116**
Stddev	.011	.0019	.0001	.025	.0023	.0005	.010	.0024
%RSD	.3099	8.011	.1802	1.039	10.81	3.064	.8732	20.50
#1	3.375	.0242	.0775	2.429	.0187	.0167	1.156	-.0095
#2	3.395	.0261	.0776	2.414	.0222	.0174	1.172	-.0142
#3	3.381	.0222	.0774	2.380	.0230	.0177	1.153	-.0110

Zoom In Zoom Out

Sample Name: jc99242-6 Acquired: 12/10/2019 13:10:21 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.1073**	**3.024**	**.7674**
Stddev	.0032	.009	.0091
%RSD	2.948	.2871	1.188
#1	.1041	3.020	.7759
#2	.1104	3.034	.7685
#3	.1074	3.018	.7578

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**290550.**	**33480.**	**8567.7**	**15000.**
Stddev	3675.	91.	10.4	4.
%RSD	1.2648	.27266	.12171	.02988
#1	287300.	33454.	8562.2	14995.
#2	289800.	33405.	8561.3	15001.
#3	294540.	33582.	8579.8	15003.

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 13:15:26 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.044**	**2.043**	**2.010**	**1.976**	**1.989**	**1.961**	**2.015**	**1.985**	**.2438**
Stddev	.053	.057	.002	.006	.007	.010	.008	.003	.0007
%RSD	2.587	2.765	.0976	.3263	.3665	.5017	.3926	.1554	.3076
#1	2.001	1.997	2.012	1.977	1.982	1.956	2.006	1.987	.2431
#2	2.104	2.106	2.009	1.981	1.996	1.972	2.016	1.987	.2446
#3	2.028	2.026	2.009	1.968	1.989	1.955	2.022	1.981	.2436
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.965**	**2.005**	**1.978**	**2.024**	**1.977**	**1.976**	**1.971**	**40.77**	**41.34**
Stddev	.006	.007	.004	.007	.003	.006	.003	1.09	1.08
%RSD	.3266	.3471	.1960	.3461	.1492	.3166	.1734	2.667	2.616
#1	1.961	2.010	1.976	2.026	1.980	1.975	1.975	39.84	40.47
#2	1.973	2.008	1.982	2.030	1.977	1.983	1.969	41.96	42.55
#3	1.962	1.997	1.975	2.017	1.974	1.971	1.970	40.49	41.00
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**41.17**	**40.52**	**40.72**	**40.79**	**1.970**	**2.011**	**4.845**	**2.027**	**2.082**
Stddev	1.13	1.09	.96	1.01	.001	.005	.007	.005	.054
%RSD	2.740	2.693	2.361	2.467	.0736	.2386	.1387	.2529	2.573
#1	40.25	39.61	39.99	40.02	1.972	2.015	4.853	2.030	2.038
#2	42.43	41.73	41.81	41.93	1.969	2.012	4.843	2.030	2.142
#3	40.83	40.22	40.36	40.42	1.970	2.006	4.840	2.021	2.066
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 13:15:26 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.951**	**1.972**	**1.963**	**1.930**	**1.973**	**2.020**	**1.930**	**1.952**
Stddev	.005	.003	.007	.007	.004	.052	.005	.011
%RSD	.2503	.1264	.3655	.3449	.2171	2.599	.2795	.5714
#1	1.946	1.974	1.959	1.938	1.975	1.977	1.935	1.944
#2	1.956	1.972	1.971	1.926	1.968	2.078	1.925	1.965
#3	1.951	1.969	1.959	1.927	1.976	2.005	1.928	1.947
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**276060.**	**32101.**	**8191.2**	**14217.**
Stddev	1305.	656.	16.0	27.
%RSD	.47264	2.0431	.19551	.19215
#1	277460.	32624.	8174.6	14191.
#2	274880.	31365.	8192.5	14215.
#3	275840.	32315.	8206.6	14246.

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 13:20:25 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	F **.0002**	**.0002**	**.0001**	**.0003**	**.0006**	**.0001**	**-.0000**	**.0001**
Stddev	.0001	.0000	.0002	.0001	.0001	.0003	.0000	.0001	.0003
%RSD	765.0	13.06	89.42	204.7	45.69	56.22	48.62	308.7	347.1
#1	-.0001	.0002	.0003	-.0000	.0004	.0006	.0000	-.0001	-.0001
#2	-.0000	.0002	.0004	.0002	.0001	.0009	.0001	.0001	.0000
#3	.0002	.0002	-.0000	.0000	.0004	.0003	.0001	-.0002	.0003
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		.0001							
Low Limit		-.0001							

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0001**	**.0003**	**-.0006**	**.0008**	**-.0010**	**.0003**	**-.0081**	**.0106**
Stddev	.0003	.0001	.0008	.0003	.0008	.0009	.0008	.0057	.0009
%RSD	190.0	74.48	232.2	43.10	97.26	92.26	270.6	70.74	8.664
#1	-.0000	.0002	-.0005	-.0008	.0011	-.0007	.0003	-.0059	.0099
#2	.0000	.0001	.0010	-.0003	.0015	-.0002	.0011	-.0038	.0102
#3	-.0004	.0001	.0006	-.0008	-.0001	-.0020	-.0005	-.0146	.0116
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0030**	**-.0141**	**.0383**	**.0195**	**.0026**	**.0000**	**.0003**	**.0003**	**.0002**
Stddev	.0016	.0066	.0316	.0003	.0008	.0003	.0010	.0003	.0000
%RSD	53.97	47.28	82.41	1.541	31.57	5839.	341.0	74.28	14.90
#1	.0038	-.0109	.0153	.0192	.0036	-.0001	.0009	.0002	.0002
#2	.0011	-.0095	.0743	.0198	.0022	-.0002	.0008	.0002	.0001
#3	.0041	-.0217	.0254	.0194	.0022	.0003	-.0009	.0006	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 13:20:25 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**-.0003**	**.0002**	**-.0009**	**-.0006**	**.0014**	**.0013**	**.0013**
Stddev	.0001	.0005	.0001	.0020	.0016	.0011	.0014	.0012
%RSD	10170.	207.9	31.94	222.3	272.5	82.19	108.1	88.36
#1	.0001	.0003	.0001	.0006	.0004	.0027	.0007	.0004
#2	-.0000	-.0007	.0002	-.0031	.0003	.0010	.0003	.0009
#3	-.0001	-.0005	.0003	-.0001	-.0025	.0005	.0029	.0026
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**284450.**	**32519.**	**8371.6**	**15082.**
Stddev	11119.	60.	29.4	45.
%RSD	3.9088	.18439	.35114	.29792
#1	279560.	32582.	8340.4	15031.
#2	276610.	32513.	8398.9	15098.
#3	297170.	32463.	8375.4	15116.

Zoom In Zoom Out

Sample Name: jc99242-7 Acquired: 12/10/2019 13:25:36 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6559**	**.0068**	**.0014**	**.0609**	**.1825**	**.1369**	**2.857**	**.1179**	**.0046**
Stddev	.0004	.0003	.0002	.0005	.0020	.0011	.018	.0012	.0018
%RSD	.0600	4.777	16.06	.8773	1.074	.7913	.6298	1.023	38.36
#1	.6563	.0065	.0011	.0615	.1818	.1362	2.851	.1193	.0038
#2	.6555	.0071	.0015	.0607	.1810	.1362	2.842	.1173	.0066
#3	.6558	.0067	.0015	.0604	.1847	.1381	2.877	.1171	.0034

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2871**	**.5048**	**.0652**	**-.0002**	**.3802**	**.0064**	**-.0059**	**153.4**	**9.751**
Stddev	.0019	.0013	.0049	.0021	.0078	.0085	.0079	.3	.012
%RSD	.6628	.2493	7.558	1139.	2.044	132.7	134.5	.2240	.1274
#1	.2859	.5061	.0709	-.0026	.3723	.0001	-.0006	153.0	9.739
#2	.2860	.5047	.0618	.0004	.3878	.0030	-.0020	153.7	9.764
#3	.2893	.5036	.0631	.0016	.3806	.0161	-.0149	153.5	9.750

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**173.1**	**17.71**	**9.545**	**.6519**	**.0454**	**.0053**	**3.194**	**.0286**	**.0807**
Stddev	.4	.05	.064	.0119	.0029	.0006	.008	.0009	.0002
%RSD	.2195	.2911	.6710	1.819	6.478	10.85	.2375	3.236	.2817
#1	172.7	17.77	9.566	.6491	.0483	.0054	3.200	.0276	.0804
#2	173.5	17.68	9.473	.6418	.0424	.0046	3.197	.0288	.0809
#3	173.1	17.68	9.596	.6650	.0455	.0057	3.185	.0294	.0807

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.626**	**.0063**	**.0162**	**1.301**	**-.0089**	**.1214**	**3.241**	**.8969**
Stddev	.018	.0011	.0002	.004	.0019	.0057	.001	.0052
%RSD	.6653	17.97	1.445	.3043	21.77	4.659	.0274	.5794
#1	2.624	.0050	.0165	1.304	-.0067	.1203	3.240	.8929
#2	2.610	.0072	.0162	1.301	-.0097	.1276	3.240	.8951
#3	2.645	.0067	.0160	1.297	-.0103	.1164	3.242	.9028

Zoom In Zoom Out

Sample Name: jc99242-7 Acquired: 12/10/2019 13:25:36 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**289690.**	**33823.**	**8520.5**	**14910.**
Stddev	1608.	93.	9.8	26.
%RSD	.55519	.27423	.11453	.17238
#1	289420.	33904.	8510.1	14888.
#2	291410.	33722.	8521.9	14903.
#3	288230.	33842.	8529.5	14938.

Zoom In Zoom Out

Sample Name: jc99242-8 Acquired: 12/10/2019 13:30:37 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6599**	**.0080**	**.0013**	**.0766**	**.2334**	**.1412**	**3.232**	**.1412**	**.0035**
Stddev	.0036	.0001	.0003	.0003	.0067	.0044	.092	.0006	.0018
%RSD	.5450	1.385	25.28	.4125	2.876	3.090	2.861	.4047	50.85
#1	.6575	.0079	.0017	.0762	.2269	.1370	3.171	.1412	.0048
#2	.6583	.0081	.0010	.0767	.2403	.1457	3.338	.1406	.0015
#3	.6641	.0079	.0013	.0768	.2330	.1409	3.186	.1418	.0041

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3421**	**.5512**	**.0601**	**-.0000**	**.3486**	**.0068**	**.0019**	**174.8**	**10.95**
Stddev	.0103	.0013	.0009	.0010	.0017	.0064	.0027	.6	.07
%RSD	3.018	.2337	1.467	2033.	.4850	94.25	143.4	.3348	.6244
#1	.3321	.5509	.0609	-.0005	.3505	.0073	-.0006	174.5	10.89
#2	.3527	.5527	.0602	-.0007	.3474	.0002	.0048	174.5	10.92
#3	.3414	.5501	.0591	.0011	.3478	.0129	.0015	175.5	11.02

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**229.1**	**25.59**	**13.71**	**.6257**	**.0420**	**.0053**	**3.160**	**.0230**	**.0887**
Stddev	.9	.11	.09	.0120	.0010	.0004	.010	.0005	.0003
%RSD	.3800	.4452	.6397	1.923	2.430	7.631	.3172	2.140	.3596
#1	228.7	25.46	13.66	.6243	.0411	.0050	3.171	.0226	.0884
#2	228.5	25.67	13.66	.6144	.0431	.0051	3.157	.0236	.0887
#3	230.1	25.65	13.81	.6383	.0417	.0058	3.152	.0229	.0890

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.965**	**.0041**	**.0218**	**1.177**	**-.0108**	**.1560**	**3.488**	**.8802**
Stddev	.092	.0021	.0004	.003	.0010	.0014	.006	.0293
%RSD	3.117	50.48	1.964	.2814	8.888	.8862	.1597	3.327
#1	2.877	.0051	.0213	1.174	-.0119	.1553	3.483	.8507
#2	3.062	.0056	.0222	1.176	-.0101	.1576	3.494	.9093
#3	2.957	.0017	.0218	1.181	-.0105	.1552	3.487	.8806

Zoom In Zoom Out

Sample Name: jc99242-8 Acquired: 12/10/2019 13:30:37 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**290910.**	**34492.**	**8575.6**	**14637.**
Stddev	7664.	58.	3.2	4.
%RSD	2.6344	.16801	.03760	.02817
#1	297640.	34443.	8578.6	14632.
#2	282570.	34556.	8576.1	14640.
#3	292510.	34478.	8572.2	14638.

Zoom In Zoom Out

Sample Name: jc99242-8 Acquired: 12/10/2019 13:35:43 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6754**	**.0080**	**.0021**	**.0762**	**.2410**	**.1452**	**3.365**	**.1417**	**.0049**
Stddev	.0016	.0002	.0003	.0009	.0020	.0006	.008	.0031	.0013
%RSD	.2331	2.049	12.69	1.166	.8150	.3951	.2451	2.162	26.50
#1	.6737	.0080	.0021	.0753	.2389	.1446	3.368	.1395	.0063
#2	.6758	.0082	.0018	.0762	.2429	.1454	3.356	.1405	.0037
#3	.6768	.0078	.0023	.0771	.2411	.1458	3.371	.1452	.0047

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3518**	**.5770**	**.0606**	**-.0014**	**.3512**	**-.0056**	**.0092**	**177.2**	**11.32**
Stddev	.0011	.0076	.0059	.0010	.0046	.0052	.0051	.5	.05
%RSD	.3194	1.321	9.707	75.14	1.319	92.57	55.51	.2680	.3983
#1	.3528	.5717	.0628	-.0003	.3523	-.0025	.0146	176.6	11.28
#2	.3520	.5734	.0540	-.0016	.3461	-.0027	.0046	177.4	11.30
#3	.3506	.5857	.0651	-.0023	.3551	-.0116	.0082	177.5	11.36

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**236.8**	**26.32**	**13.97**	**.6298**	**.0471**	**.0061**	**3.338**	**.0259**	**.0907**
Stddev	.7	.11	.14	.0094	.0025	.0009	.049	.0012	.0002
%RSD	.3037	.4103	.9794	1.500	5.214	14.21	1.456	4.761	.1863
#1	236.1	26.28	13.82	.6255	.0483	.0059	3.309	.0251	.0907
#2	236.9	26.25	14.08	.6407	.0443	.0071	3.310	.0273	.0906
#3	237.5	26.45	14.02	.6233	.0488	.0054	3.394	.0253	.0909

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.008**	**.0059**	**.0233**	**1.189**	**-.0158**	**.1605**	**3.568**	**.8914**
Stddev	.003	.0045	.0006	.015	.0050	.0014	.059	.0077
%RSD	.0911	77.19	2.531	1.242	31.74	.8920	1.641	.8654
#1	3.008	.0054	.0238	1.174	-.0108	.1620	3.531	.8834
#2	3.005	.0016	.0227	1.203	-.0156	.1603	3.538	.8920
#3	3.010	.0107	.0235	1.192	-.0208	.1591	3.636	.8988

Zoom In Zoom Out

Sample Name: jc99242-8 Acquired: 12/10/2019 13:35:43 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**286680.**	**33564.**	**8423.7**	**14753.**
Stddev	566.	100.	97.9	148.
%RSD	.19732	.29891	1.1620	1.0058
#1	286360.	33654.	8476.0	14835.
#2	287330.	33582.	8484.4	14842.
#3	286340.	33456.	8310.8	14582.

Zoom In Zoom Out

Sample Name: jc99242-9 Acquired: 12/10/2019 13:40:43 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5820**	**.0070**	**.0012**	**.0662**	**.2552**	**.1382**	**3.043**	**.1209**	**.0048**
Stddev	.0007	.0002	.0005	.0005	.0022	.0011	.013	.0001	.0006
%RSD	.1207	2.563	39.18	.7433	.8600	.8043	.4255	.0821	11.66
#1	.5823	.0071	.0010	.0665	.2576	.1392	3.058	.1209	.0055
#2	.5812	.0068	.0009	.0665	.2533	.1370	3.040	.1210	.0046
#3	.5825	.0072	.0018	.0656	.2547	.1384	3.032	.1208	.0044

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3147**	**.4384**	**.0513**	**-.0044**	**.2944**	**.0009**	**.0026**	**157.5**	**8.895**
Stddev	.0011	.0003	.0051	.0019	.0005	.0031	.0072	.6	.036
%RSD	.3610	.0601	9.893	43.91	.1743	329.6	279.9	.3549	.4089
#1	.3158	.4383	.0533	-.0058	.2938	.0020	-.0051	157.0	8.868
#2	.3135	.4387	.0551	-.0022	.2946	.0034	.0036	157.3	8.880
#3	.3148	.4382	.0455	-.0053	.2948	-.0026	.0092	158.1	8.936

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**204.5**	**16.34**	**8.669**	**.6383**	**.0432**	**.0056**	**3.262**	**.0236**	**.0768**
Stddev	.5	.10	.081	.0200	.0017	.0007	.011	.0038	.0006
%RSD	.2525	.6246	.9343	3.129	3.914	13.20	.3455	15.89	.8132
#1	204.0	16.26	8.735	.6330	.0442	.0057	3.253	.0193	.0763
#2	204.4	16.45	8.692	.6604	.0413	.0048	3.258	.0257	.0765
#3	205.0	16.30	8.578	.6216	.0442	.0062	3.275	.0259	.0775

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.767**	**.0085**	**.0233**	**1.082**	**-.0171**	**.1053**	**3.078**	**.7566**
Stddev	.007	.0039	.0004	.021	.0064	.0028	.013	.0048
%RSD	.2695	46.63	1.907	1.950	37.39	2.669	.4335	.6368
#1	2.775	.0046	.0238	1.106	-.0244	.1055	3.080	.7619
#2	2.766	.0083	.0229	1.068	-.0133	.1025	3.064	.7557
#3	2.760	.0125	.0232	1.071	-.0135	.1081	3.090	.7524

Zoom In Zoom Out

Sample Name: jc99242-9 Acquired: 12/10/2019 13:40:43 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**286990.**	**33656.**	**8499.2**	**14929.**
Stddev	1598.	162.	6.4	4.
%RSD	.55689	.48145	.07522	.02732
#1	285250.	33795.	8504.7	14925.
#2	287330.	33478.	8492.2	14928.
#3	288400.	33694.	8500.7	14933.

Zoom In Zoom Out

Sample Name: jc99242-10 Acquired: 12/10/2019 13:45:43 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5317**	**.0058**	**.0009**	**.0569**	**.1578**	**.1187**	**2.365**	**.1036**	**.0031**
Stddev	.0148	.0004	.0007	.0005	.0004	.0023	.021	.0004	.0003
%RSD	2.786	7.066	75.62	.8097	.2400	1.976	.8804	.3525	10.34
#1	.5328	.0059	.0001	.0564	.1575	.1172	2.347	.1033	.0032
#2	.5459	.0062	.0014	.0571	.1575	.1175	2.360	.1035	.0028
#3	.5163	.0054	.0013	.0572	.1582	.1214	2.388	.1040	.0034

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2499**	**.4582**	**.0463**	**-.0041**	**.2695**	**.0086**	**.0022**	**132.5**	**8.183**
Stddev	.0026	.0004	.0032	.0048	.0050	.0038	.0054	3.9	.258
%RSD	1.057	.0810	6.824	115.8	1.859	44.19	251.7	2.916	3.154
#1	.2480	.4583	.0494	.0006	.2709	.0043	-.0009	133.3	8.248
#2	.2487	.4578	.0464	-.0089	.2737	.0113	.0084	136.0	8.402
#3	.2529	.4585	.0431	-.0041	.2640	.0103	-.0011	128.4	7.899

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**149.8**	**14.52**	**7.227**	**.5714**	**.0338**	**.0032**	**3.103**	**.0230**	**.0660**
Stddev	4.3	.43	.223	.0463	.0011	.0004	.008	.0028	.0012
%RSD	2.888	2.933	3.082	8.098	3.253	12.08	.2572	12.10	1.886
#1	150.6	14.55	7.340	.5938	.0342	.0035	3.108	.0227	.0665
#2	153.7	14.93	7.370	.6023	.0346	.0028	3.107	.0258	.0669
#3	145.1	14.08	6.970	.5182	.0325	.0033	3.094	.0203	.0646

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.200**	**.0046**	**.0133**	**1.076**	**-.0120**	**.0923**	**2.746**	**.6909**
Stddev	.019	.0021	.0002	.016	.0040	.0089	.004	.0160
%RSD	.8656	45.80	1.837	1.468	33.53	9.634	.1603	2.319
#1	2.181	.0026	.0131	1.077	-.0160	.0944	2.741	.6728
#2	2.200	.0067	.0133	1.092	-.0122	.0999	2.750	.7030
#3	2.219	.0044	.0136	1.060	-.0079	.0825	2.746	.6971

Zoom In Zoom Out

Sample Name: jc99242-10 Acquired: 12/10/2019 13:45:43 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**288390.**	**33844.**	**8465.6**	**14895.**
Stddev	2839.	956.	9.8	20.
%RSD	.98443	2.8257	.11607	.13695
#1	291020.	33683.	8474.6	14910.
#2	288770.	32979.	8455.1	14872.
#3	285380.	34871.	8467.2	14903.

Zoom In Zoom Out

Sample Name: jc99242-11 Acquired: 12/10/2019 13:50:44 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5742**	**.0069**	**.0012**	**.0801**	**.1974**	**.1321**	**3.065**	**.1184**	**.0034**
Stddev	.0017	.0000	.0005	.0001	.0006	.0009	.012	.0004	.0005
%RSD	.2918	.5757	41.04	.1349	.2972	.6447	.3883	.3736	13.70
#1	.5731	.0069	.0006	.0802	.1969	.1327	3.079	.1188	.0031
#2	.5761	.0069	.0015	.0800	.1980	.1325	3.059	.1186	.0031
#3	.5733	.0069	.0014	.0801	.1974	.1311	3.057	.1179	.0039

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3072**	**.5085**	**.0546**	**-.0035**	**.2778**	**.0067**	**.0031**	**160.9**	**7.646**
Stddev	.0010	.0008	.0012	.0044	.0016	.0012	.0024	.4	.013
%RSD	.3416	.1513	2.180	126.8	.5634	18.70	77.59	.2509	.1690
#1	.3084	.5089	.0532	-.0084	.2773	.0054	.0023	160.5	7.637
#2	.3065	.5076	.0553	-.0023	.2796	.0079	.0059	161.3	7.661
#3	.3067	.5090	.0553	.0002	.2766	.0067	.0012	160.9	7.640

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**224.6**	**18.11**	**7.497**	**.4169**	**.0293**	**.0046**	**3.079**	**.0212**	**.0671**
Stddev	.5	.10	.053	.0051	.0005	.0002	.004	.0006	.0003
%RSD	.2099	.5625	.7116	1.215	1.788	4.793	.1332	2.670	.4379
#1	224.1	18.13	7.437	.4187	.0298	.0049	3.075	.0216	.0668
#2	225.1	18.00	7.539	.4112	.0294	.0045	3.080	.0214	.0672
#3	224.6	18.20	7.515	.4209	.0288	.0046	3.082	.0205	.0673

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.349**	**.0026**	**.0196**	**1.077**	**-.0106**	**.1040**	**2.884**	**.7509**
Stddev	.005	.0013	.0002	.001	.0017	.0034	.011	.0028
%RSD	.2308	49.92	1.230	.1279	15.67	3.286	.3896	.3792
#1	2.355	.0018	.0195	1.078	-.0111	.1010	2.872	.7541
#2	2.344	.0040	.0198	1.076	-.0088	.1077	2.885	.7499
#3	2.347	.0019	.0193	1.076	-.0120	.1034	2.894	.7487

Zoom In Zoom Out

Sample Name: jc99242-11 Acquired: 12/10/2019 13:50:44 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**290090.**	**34038.**	**8594.7**	**14788.**
Stddev	1794.	70.	23.4	39.
%RSD	.61827	.20484	.27220	.26183
#1	288030.	34118.	8598.3	14806.
#2	290930.	34008.	8616.1	14815.
#3	291310.	33989.	8569.7	14744.

Zoom In Zoom Out

Sample Name: jc99242-11 Acquired: 12/10/2019 13:55:42 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5857**	**.0071**	**.0011**	**.0808**	**.2031**	**.1351**	**3.120**	**.1193**	**.0054**
Stddev	.0004	.0001	.0008	.0002	.0028	.0007	.026	.0022	.0008
%RSD	.0740	1.247	72.48	.2775	1.362	.5106	.8365	1.827	15.11
#1	.5858	.0072	.0014	.0808	.2062	.1356	3.148	.1184	.0045
#2	.5852	.0071	.0016	.0811	.2010	.1353	3.097	.1178	.0055
#3	.5860	.0070	.0002	.0806	.2021	.1343	3.115	.1218	.0061

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3123**	**.5284**	**.0498**	**-.0044**	**.2738**	**.0043**	**.0039**	**162.9**	**7.984**
Stddev	.0021	.0050	.0097	.0021	.0043	.0030	.0048	.4	.026
%RSD	.6868	.9490	19.56	49.20	1.559	68.34	123.5	.2248	.3244
#1	.3145	.5255	.0390	-.0019	.2757	.0065	-.0009	162.9	8.012
#2	.3102	.5254	.0580	-.0060	.2689	.0010	.0039	162.5	7.962
#3	.3123	.5341	.0525	-.0052	.2768	.0055	.0087	163.2	7.977

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**231.7**	**18.39**	**7.608**	**.4764**	**.0315**	**.0048**	**3.233**	**.0236**	**.0683**
Stddev	.3	.07	.020	.0115	.0024	.0005	.036	.0032	.0003
%RSD	.1349	.3626	.2676	2.422	7.707	10.70	1.130	13.77	.3685
#1	232.0	18.46	7.619	.4641	.0311	.0053	3.210	.0266	.0681
#2	231.4	18.39	7.584	.4870	.0341	.0044	3.214	.0202	.0683
#3	231.9	18.33	7.620	.4782	.0293	.0046	3.275	.0239	.0686

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.362**	**.0092**	**.0210**	**1.090**	**-.0140**	**.1021**	**2.939**	**.7652**
Stddev	.019	.0031	.0002	.009	.0024	.0021	.029	.0036
%RSD	.8233	33.33	1.031	.8042	17.43	2.014	.9839	.4651
#1	2.382	.0119	.0208	1.080	-.0112	.1032	2.925	.7685
#2	2.343	.0059	.0211	1.092	-.0154	.0997	2.920	.7615
#3	2.360	.0099	.0212	1.097	-.0155	.1033	2.972	.7657

Zoom In Zoom Out

Sample Name: jc99242-11 Acquired: 12/10/2019 13:55:42 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**287520.**	**33261.**	**8439.0**	**14833.**
Stddev	2254.	113.	45.5	89.
%RSD	.78405	.34106	.53954	.59820
#1	285340.	33327.	8459.7	14856.
#2	289840.	33327.	8470.6	14908.
#3	287390.	33130.	8386.8	14735.

Zoom In Zoom Out

Sample Name: jc99261-1 Acquired: 12/10/2019 14:00:43 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3910**	**.0021**	**.0000**	**.0401**	**.0253**	**.0829**	**2.085**	**.0232**	**.0029**
Stddev	.0004	.0001	.0005	.0004	.0002	.0008	.008	.0006	.0014
%RSD	.1057	5.296	2191.	1.000	.8472	.9220	.3646	2.467	48.92
#1	.3906	.0020	-.0002	.0399	.0251	.0836	2.091	.0237	.0014
#2	.3912	.0022	.0006	.0399	.0255	.0821	2.077	.0234	.0032
#3	.3913	.0022	-.0004	.0406	.0253	.0831	2.088	.0226	.0042

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0596**	**.2304**	**.0147**	**-.0072**	**.0114**	**.0064**	**.0021**	**25.30**	**58.62**
Stddev	.0012	.0008	.0041	.0026	.0030	.0113	.0016	.06	.11
%RSD	1.969	.3598	27.54	36.17	26.70	175.1	75.83	.2213	.1899
#1	.0602	.2299	.0102	-.0081	.0104	.0031	.0031	25.35	58.74
#2	.0604	.2300	.0180	-.0043	.0148	.0190	.0003	25.24	58.51
#3	.0583	.2314	.0160	-.0092	.0089	-.0028	.0030	25.32	58.60

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**204.0**	**18.08**	**13.68**	**3.234**	**-.0008**	**.0058**	**1.481**	**.0114**	**.1064**
Stddev	.3	.07	.06	.021	.0017	.0006	.005	.0029	.0003
%RSD	.1578	.4125	.4610	.6610	209.6	10.69	.3429	25.65	.2609
#1	204.3	18.13	13.62	3.243	.0003	.0056	1.486	.0137	.1066
#2	203.6	18.13	13.70	3.248	.0001	.0053	1.476	.0081	.1061
#3	204.0	18.00	13.74	3.209	-.0028	.0065	1.481	.0123	.1065

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.307**	**.0044**	**.0272**	**8.668**	**-.0051**	**.0237**	**10.96**	**.9622**
Stddev	.023	.0018	.0001	.007	.0028	.0060	.02	.0111
%RSD	.5242	41.72	.3700	.0845	54.53	25.45	.2175	1.157
#1	4.317	.0030	.0271	8.660	-.0082	.0189	10.93	.9536
#2	4.281	.0065	.0273	8.673	-.0028	.0304	10.98	.9748
#3	4.323	.0037	.0272	8.672	-.0042	.0216	10.97	.9583

Zoom In Zoom Out

Sample Name: jc99261-1 Acquired: 12/10/2019 14:00:43 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**290080.**	**33614.**	**8537.2**	**14931.**
Stddev	1325.	123.	9.3	25.
%RSD	.45681	.36691	.10889	.17042
#1	289530.	33479.	8530.2	14910.
#2	291590.	33720.	8547.8	14959.
#3	289120.	33644.	8533.7	14925.

Zoom In Zoom Out

Sample Name: jc99337-1 Acquired: 12/10/2019 14:05:43 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5710**	**.0085**	**.0006**	**.1395**	**.3392**	**.0562**	**3.493**	**.3452**	**.0026**
Stddev	.0015	.0002	.0004	.0009	.0032	.0014	.033	.0011	.0006
%RSD	.2606	2.194	66.67	.6746	.9408	2.565	.9422	.3143	22.30
#1	.5693	.0087	.0007	.1406	.3383	.0559	3.503	.3453	.0020
#2	.5713	.0085	.0009	.1390	.3427	.0577	3.520	.3461	.0027
#3	.5723	.0083	.0001	.1389	.3365	.0548	3.456	.3440	.0031

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3290**	**.7589**	**.1184**	**-.0037**	**.1644**	**.0096**	**.0032**	**195.8**	**9.364**
Stddev	.0028	.0025	.0023	.0026	.0033	.0046	.0044	1.1	.072
%RSD	.8625	.3358	1.923	70.02	2.010	48.41	139.9	.5381	.7707
#1	.3298	.7603	.1162	-.0066	.1681	.0043	.0007	194.8	9.286
#2	.3314	.7605	.1181	-.0016	.1618	.0114	.0005	196.9	9.429
#3	.3259	.7559	.1207	-.0028	.1633	.0130	.0083	195.6	9.376

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**372.6**	**88.19**	**38.95**	**1.792**	**.2332**	**.0080**	**2.636**	**.0133**	**.0858**
Stddev	2.1	.21	.23	.030	.0016	.0004	.005	.0029	.0006
%RSD	.5682	.2355	.5859	1.697	.6905	4.789	.1940	21.72	.7498
#1	370.7	87.98	38.81	1.757	.2350	.0082	2.632	.0131	.0853
#2	374.9	88.19	39.22	1.813	.2319	.0083	2.642	.0163	.0865
#3	372.3	88.39	38.83	1.806	.2327	.0076	2.634	.0105	.0855

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.180**	**.0043**	**.1022**	**.1309**	**-.0038**	**.5584**	**2.017**	**.3062**
Stddev	.043	.0030	.0007	.0114	.0015	.0014	.005	.0026
%RSD	.8301	70.54	.7028	8.678	37.97	.2577	.2615	.8554
#1	5.183	.0030	.1022	.1266	-.0027	.5568	2.020	.3052
#2	5.221	.0021	.1029	.1224	-.0034	.5593	2.021	.3092
#3	5.135	.0078	.1014	.1438	-.0055	.5592	2.011	.3042

Zoom In Zoom Out

Sample Name: jc99337-1 Acquired: 12/10/2019 14:05:43 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**280480.**	**32734.**	**8321.4**	**14577.**
Stddev	2897.	229.	1.7	2.
%RSD	1.0329	.69857	.02019	.01370
#1	278680.	32955.	8319.5	14577.
#2	278940.	32498.	8322.6	14574.
#3	283820.	32748.	8322.2	14578.

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 14:10:44 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.001**	**2.008**	**2.014**	**1.977**	**1.988**	**1.947**	**2.011**	**1.988**	**.2417**
Stddev	.002	.003	.020	.018	.010	.011	.013	.016	.0008
%RSD	.1047	.1399	.9850	.9057	.5186	.5665	.6215	.7801	.3247
#1	2.000	2.007	2.007	1.974	1.980	1.935	2.005	1.985	.2409
#2	2.000	2.006	1.998	1.961	1.986	1.953	2.004	1.975	.2419
#3	2.003	2.011	2.036	1.996	2.000	1.955	2.026	2.005	.2424
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.958**	**2.013**	**1.978**	**2.012**	**1.976**	**1.974**	**1.971**	**40.19**	**40.79**
Stddev	.012	.020	.023	.019	.017	.019	.023	.09	.09
%RSD	.5901	1.009	1.144	.9259	.8751	.9733	1.170	.2145	.2295
#1	1.948	2.011	1.972	2.009	1.974	1.969	1.964	40.13	40.75
#2	1.957	1.994	1.959	1.995	1.960	1.958	1.952	40.16	40.72
#3	1.971	2.035	2.003	2.032	1.994	1.995	1.996	40.29	40.90
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.43**	**39.87**	**40.00**	**40.09**	**1.968**	**2.010**	**4.843**	**2.039**	**2.042**
Stddev	.07	.01	.07	.14	.019	.023	.051	.028	.005
%RSD	.1795	.0351	.1862	.3369	.9520	1.166	1.063	1.392	.2237
#1	40.39	39.85	39.98	40.05	1.964	2.002	4.830	2.031	2.039
#2	40.39	39.88	39.94	39.99	1.951	1.991	4.799	2.015	2.040
#3	40.51	39.87	40.08	40.25	1.988	2.036	4.900	2.070	2.047
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 14:10:44 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.943**	**1.970**	**1.954**	**1.936**	**1.972**	**1.980**	**1.956**	**1.941**
Stddev	.009	.022	.009	.022	.024	.004	.017	.010
%RSD	.4613	1.144	.4394	1.120	1.215	.2096	.8560	.4958
#1	1.936	1.963	1.946	1.931	1.968	1.976	1.950	1.931
#2	1.940	1.952	1.953	1.918	1.951	1.979	1.943	1.942
#3	1.953	1.995	1.963	1.960	1.999	1.984	1.975	1.951
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**276200.**	**32230.**	**8166.2**	**14188.**
Stddev	1388.	64.	70.6	98.
%RSD	.50256	.19861	.86425	.69421
#1	277230.	32287.	8186.2	14205.
#2	276760.	32161.	8224.6	14278.
#3	274620.	32242.	8087.7	14083.

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 14:15:43 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0001**	**.0002**	**.0001**	**.0003**	**.0006**	**.0000**	**-.0001**	**.0002**
Stddev	.0001	.0000	.0001	.0001	.0003	.0002	.0000	.0003	.0001
%RSD	52.61	36.36	82.61	41.19	103.4	24.85	115.7	260.7	54.63
#1	-.0001	.0001	.0001	.0001	.0002	.0005	-.0000	-.0000	.0002
#2	-.0001	.0001	.0001	.0002	.0000	.0008	.0000	-.0004	.0003
#3	-.0003	.0001	.0003	.0001	.0005	.0005	.0000	.0001	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0001**	**-.0001**	**-.0006**	**.0007**	**-.0008**	**.0002**	**-.0176**	**.0081**
Stddev	.0001	.0000	.0006	.0004	.0010	.0011	.0008	.0026	.0016
%RSD	49.07	47.68	1017.	64.37	131.6	132.3	415.0	14.53	19.46
#1	-.0003	.0001	.0003	-.0010	.0018	-.0010	.0011	-.0177	.0099
#2	-.0004	.0000	-.0007	-.0004	-.0000	.0003	-.0000	-.0150	.0070
#3	-.0001	.0001	.0003	-.0003	.0004	-.0018	-.0005	-.0201	.0073
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0008**	**-.0148**	**.0045**	**.0067**	**.0014**	**.0001**	**.0008**	**.0004**	**-.0000**
Stddev	.0012	.0119	.0316	.0040	.0003	.0001	.0009	.0002	.0000
%RSD	155.1	80.35	702.6	60.20	22.92	81.20	108.7	57.46	241.6
#1	-.0000	-.0022	.0276	.0052	.0015	.0000	.0008	.0006	-.0000
#2	.0022	-.0257	-.0315	.0112	.0017	.0001	-.0001	.0001	-.0000
#3	.0002	-.0164	.0174	.0036	.0011	.0002	.0016	.0005	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 14:15:43 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**.0004**	**.0002**	**.0017**	**-.0003**	**.0001**	**-.0017**	**-.0034**
Stddev	.0001	.0009	.0001	.0027	.0009	.0009	.0018	.0010
%RSD	12590.	255.6	68.46	155.0	268.4	1303.	108.4	29.29
#1	.0001	.0011	.0002	.0021	-.0014	-.0007	-.0034	-.0045
#2	-.0001	-.0006	.0001	.0042	.0001	-.0001	.0003	-.0026
#3	.0000	.0006	.0003	-.0011	.0003	.0010	-.0020	-.0031
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**286410.**	**32637.**	**8511.2**	**15296.**
Stddev	2724.	64.	256.7	416.
%RSD	.95092	.19517	3.0161	2.7215
#1	286800.	32648.	8806.6	15776.
#2	283510.	32568.	8385.3	15077.
#3	288920.	32694.	8341.8	15034.

Zoom In Zoom Out

Sample Name: jc99337-1conf Acquired: 12/10/2019 14:20:54 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6005**	**.0094**	**.0020**	**.1483**	**.3604**	**.0666**	**3.663**	**.3640**	**.0043**
Stddev	.0017	.0002	.0013	.0008	.0021	.0038	.021	.0036	.0021
%RSD	.2811	2.236	63.96	.5147	.5948	5.754	.5868	.9885	48.47
#1	.6024	.0095	.0034	.1475	.3621	.0688	3.674	.3640	.0022
#2	.5991	.0096	.0011	.1487	.3580	.0622	3.639	.3675	.0063
#3	.6001	.0092	.0015	.1488	.3610	.0688	3.678	.3603	.0045

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3443**	**.8082**	**.1169**	**-.0073**	**.1678**	**-.0069**	**-.0017**	**202.8**	**10.39**
Stddev	.0034	.0034	.0085	.0055	.0063	.0304	.0059	.2	.00
%RSD	.9924	.4210	7.228	75.89	3.767	440.4	338.0	.1058	.0431
#1	.3478	.8049	.1267	-.0015	.1747	-.0410	.0006	202.6	10.39
#2	.3410	.8117	.1120	-.0126	.1665	.0029	-.0085	203.0	10.40
#3	.3442	.8082	.1121	-.0078	.1622	.0174	.0026	202.8	10.39

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**396.4**	**92.24**	**40.70**	**2.185**	**.2549**	**.0113**	**3.061**	**.0173**	**.0917**
Stddev	.8	.49	.06	.049	.0040	.0017	.013	.0045	.0005
%RSD	.2141	.5299	.1399	2.220	1.564	14.95	.4147	25.98	.5382
#1	395.5	91.69	40.74	2.192	.2553	.0112	3.073	.0200	.0911
#2	397.1	92.38	40.73	2.133	.2507	.0096	3.063	.0196	.0920
#3	396.8	92.64	40.64	2.229	.2586	.0130	3.048	.0121	.0920

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.380**	**.0196**	**.1113**	**.3187**	**-.0071**	**.5931**	**2.087**	**.3007**
Stddev	.033	.0121	.0017	.0015	.0122	.0093	.020	.0141
%RSD	.6064	61.65	1.560	.4597	173.2	1.571	.9380	4.703
#1	5.382	.0158	.1123	.3181	-.0209	.5828	2.086	.3170
#2	5.346	.0099	.1093	.3176	.0025	.5956	2.068	.2910
#3	5.411	.0331	.1122	.3203	-.0028	.6009	2.107	.2942

Zoom In Zoom Out

Sample Name: jc99337-1conf Acquired: 12/10/2019 14:20:54 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**284020.**	**32798.**	**8387.8**	**14772.**
Stddev	1539.	93.	5.4	24.
%RSD	.54180	.28402	.06497	.16503
#1	283510.	32905.	8392.3	14785.
#2	285750.	32737.	8381.8	14744.
#3	282790.	32752.	8389.4	14787.

Zoom In Zoom Out

Sample Name: jc99337-2 Acquired: 12/10/2019 14:25:56 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9359**	**.0100**	**.0007**	**.0982**	**.2098**	**.0734**	**13.84**	**.2104**	**.0027**
Stddev	.0003	.0001	.0001	.0001	.0011	.0002	.06	.0003	.0003
%RSD	.0335	.6750	20.34	.0897	.5059	.2656	.4585	.1470	9.317
#1	.9356	.0100	.0009	.0983	.2103	.0733	13.77	.2100	.0030
#2	.9362	.0100	.0006	.0982	.2085	.0733	13.89	.2105	.0025
#3	.9361	.0101	.0007	.0982	.2104	.0737	13.88	.2106	.0028

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2992**	**.6336**	**.1279**	**-.0015**	**.3956**	**.0041**	**.0008**	**192.3**	**16.24**
Stddev	.0016	.0020	.0018	.0018	.0023	.0012	.0043	.2	.02
%RSD	.5295	.3099	1.386	119.8	.5753	29.07	526.9	.1275	.1507
#1	.2982	.6352	.1281	-.0005	.3978	.0049	-.0020	192.5	16.27
#2	.2985	.6343	.1260	-.0035	.3933	.0027	-.0014	192.1	16.23
#3	.3010	.6314	.1295	-.0004	.3956	.0047	.0058	192.4	16.23

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**234.0**	**43.94**	**15.46**	**.8642**	**.1113**	**.0055**	**3.384**	**.0202**	**.1194**
Stddev	.2	.14	.05	.0099	.0014	.0004	.007	.0010	.0000
%RSD	.1065	.3123	.3249	1.141	1.299	8.084	.2054	5.153	.0258
#1	234.3	44.09	15.48	.8542	.1116	.0059	3.391	.0196	.1194
#2	233.8	43.84	15.49	.8647	.1097	.0057	3.383	.0195	.1195
#3	233.9	43.88	15.40	.8739	.1125	.0050	3.377	.0214	.1194

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.551**	**.0083**	**.0172**	**1.086**	**-.0051**	**.3326**	**3.833**	**.4685**
Stddev	.016	.0011	.0002	.003	.0015	.0017	.003	.0033
%RSD	.6397	13.05	.9003	.3145	30.48	.5183	.0791	.7140
#1	2.535	.0090	.0170	1.084	-.0034	.3344	3.830	.4687
#2	2.551	.0070	.0173	1.090	-.0054	.3324	3.833	.4650
#3	2.568	.0088	.0172	1.084	-.0064	.3309	3.837	.4717

Zoom In Zoom Out

Sample Name: jc99337-2 Acquired: 12/10/2019 14:25:56 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**287310.**	**33563.**	**8499.7**	**14724.**
Stddev	1231.	123.	10.0	12.
%RSD	.42855	.36710	.11811	.08051
#1	288690.	33424.	8488.7	14711.
#2	286910.	33658.	8501.8	14729.
#3	286320.	33608.	8508.5	14733.

Zoom In Zoom Out

Sample Name: jc99337-2 Acquired: 12/10/2019 14:31:05 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9609**	**.0103**	**.0016**	**.1003**	**.2179**	**.0778**	**14.94**	**.2143**	**.0027**
Stddev	.0014	.0003	.0009	.0021	.0004	.0014	.02	.0005	.0011
%RSD	.1416	2.875	57.32	2.095	.1672	1.738	.1617	.2189	41.20
#1	.9599	.0104	.0025	.1007	.2182	.0787	14.96	.2148	.0040
#2	.9604	.0105	.0007	.1021	.2175	.0763	14.96	.2140	.0022
#3	.9625	.0100	.0016	.0980	.2180	.0785	14.92	.2140	.0019

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3118**	**.6557**	**.1310**	**-.0081**	**.4035**	**-.0069**	**.0010**	**195.8**	**16.91**
Stddev	.0028	.0017	.0081	.0021	.0045	.0027	.0017	.4	.07
%RSD	.9040	.2612	6.197	26.31	1.113	39.44	170.4	.2285	.4290
#1	.3137	.6561	.1231	-.0105	.4067	-.0100	.0005	195.4	16.83
#2	.3086	.6572	.1393	-.0070	.4053	-.0059	.0029	196.3	16.97
#3	.3131	.6538	.1304	-.0067	.3983	-.0048	-.0004	195.8	16.91

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**243.0**	**45.10**	**15.74**	**.9760**	**.1128**	**.0054**	**3.578**	**.0247**	**.1235**
Stddev	.8	.12	.04	.0075	.0013	.0008	.021	.0012	.0004
%RSD	.3444	.2738	.2453	.7687	1.113	14.88	.6001	4.783	.3513
#1	242.1	44.97	15.73	.9813	.1142	.0045	3.591	.0237	.1230
#2	243.8	45.22	15.78	.9675	.1117	.0060	3.589	.0243	.1239
#3	243.0	45.11	15.70	.9794	.1125	.0058	3.553	.0260	.1235

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.617**	**.0122**	**.0192**	**1.149**	**-.0033**	**.3343**	**3.885**	**.4636**
Stddev	.015	.0059	.0003	.015	.0088	.0024	.025	.0070
%RSD	.5708	48.21	1.648	1.266	269.4	.7094	.6560	1.502
#1	2.628	.0075	.0195	1.165	-.0064	.3341	3.899	.4573
#2	2.600	.0102	.0193	1.143	-.0101	.3321	3.899	.4625
#3	2.624	.0188	.0188	1.138	.0067	.3368	3.855	.4711

Zoom In Zoom Out

Sample Name: jc99337-2 Acquired: 12/10/2019 14:31:05 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**284430.**	**33176.**	**8468.6**	**14873.**
Stddev	1301.	97.	42.3	58.
%RSD	.45730	.29115	.49938	.38686
#1	283190.	33267.	8457.9	14869.
#2	285790.	33074.	8432.7	14818.
#3	284320.	33187.	8515.2	14933.

Zoom In Zoom Out

Sample Name: jc99337-3 Acquired: 12/10/2019 14:36:15 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9405**	**.0118**	**.0010**	**.1386**	**.3046**	**.1449**	**4.619**	**.3391**
Stddev	.0017	.0001	.0002	.0005	.0025	.0009	.049	.0010
%RSD	.1859	.5104	19.82	.3953	.8293	.6211	1.062	.3000
#1	.9406	.0118	.0008	.1380	.3018	.1438	4.564	.3385
#2	.9387	.0118	.0011	.1389	.3067	.1455	4.658	.3385
#3	.9422	.0119	.0011	.1389	.3052	.1452	4.635	.3402

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0013**	**.3610**	**.7433**	**.0396**	F **-.0052**	**.1749**	**.0074**	**.0019**
Stddev	.0011	.0013	.0018	.0019	.0018	.0014	.0020	.0033
%RSD	81.14	.3616	.2420	4.755	34.76	.7967	27.21	173.0
#1	.0023	.3599	.7413	.0397	-.0039	.1764	.0051	.0040
#2	.0002	.3625	.7448	.0376	-.0043	.1736	.0086	-.0019
#3	.0015	.3607	.7437	.0414	-.0072	.1747	.0086	.0035

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**180.8**	**40.75**	**342.3**	**72.65**	**30.81**	**1.554**	**.2061**	**.0098**
Stddev	.7	.16	1.2	.07	.09	.007	.0014	.0006
%RSD	.4031	.3958	.3551	.0997	.2923	.4516	.6690	5.681
#1	181.0	40.82	342.9	72.58	30.84	1.557	.2063	.0095
#2	179.9	40.57	340.9	72.67	30.71	1.546	.2047	.0104
#3	181.3	40.87	343.0	72.72	30.89	1.559	.2074	.0095

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.485**	**.0179**	**.2360**	**4.010**	**.0094**	**.0952**	**.5752**	**-.0097**
Stddev	.003	.0014	.0009	.016	.0002	.0003	.0038	.0031
%RSD	.0889	7.769	.3698	.4024	2.045	.2780	.6585	31.77
#1	3.485	.0166	.2362	3.992	.0096	.0952	.5777	-.0095
#2	3.489	.0194	.2351	4.024	.0093	.0950	.5709	-.0067
#3	3.483	.0176	.2368	4.013	.0094	.0955	.5771	-.0128

Zoom In Zoom Out

Sample Name: jc99337-3 Acquired: 12/10/2019 14:36:15 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.4777**	**3.411**	**.4483**
Stddev	.0006	.004	.0019
%RSD	.1220	.1303	.4172
#1	.4783	3.407	.4502
#2	.4778	3.416	.4465
#3	.4772	3.411	.4484

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**285140.**	**33350.**	**8398.2**	**14505.**
Stddev	1801.	35.	5.2	15.
%RSD	.63159	.10587	.06155	.10093
#1	287160.	33312.	8392.7	14515.
#2	283710.	33382.	8398.9	14488.
#3	284550.	33356.	8403.0	14511.

Zoom In Zoom Out

Sample Name: jc99337-3conf Acquired: 12/10/2019 14:41:22 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9740**	**.0123**	**.0009**	**.1434**	**.3179**	**.1492**	**4.872**	**.3475**	**.0033**
Stddev	.0026	.0003	.0013	.0004	.0050	.0026	.039	.0024	.0023
%RSD	.2710	2.642	140.2	.3024	1.569	1.740	.7990	.6978	69.17
#1	.9734	.0120	.0014	.1432	.3234	.1521	4.916	.3468	.0008
#2	.9769	.0126	.0020	.1432	.3166	.1471	4.854	.3502	.0052
#3	.9718	.0123	-.0006	.1439	.3137	.1485	4.845	.3456	.0039

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3695**	**.7812**	**.0487**	**-.0062**	**.1805**	**.0064**	**-.0032**	**183.9**	**42.63**
Stddev	.0042	.0018	.0068	.0154	.0065	.0113	.0066	.2	.07
%RSD	1.150	.2331	13.95	248.2	3.622	175.3	207.9	.0875	.1651
#1	.3744	.7832	.0409	-.0066	.1769	.0194	.0041	183.8	42.65
#2	.3670	.7808	.0523	-.0215	.1880	.0004	-.0050	184.1	42.69
#3	.3671	.7796	.0530	.0094	.1765	-.0006	-.0087	183.9	42.55

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**361.7**	**75.30**	**31.64**	**1.764**	**.2101**	**.0092**	**3.913**	**.0199**	**.2452**
Stddev	.8	.17	.10	.074	.0054	.0003	.022	.0017	.0005
%RSD	.2287	.2278	.3259	4.187	2.574	2.739	.5541	8.662	.1932
#1	361.7	75.50	31.70	1.703	.2126	.0089	3.926	.0185	.2449
#2	362.6	75.21	31.52	1.743	.2139	.0094	3.926	.0193	.2458
#3	360.9	75.19	31.70	1.846	.2039	.0094	3.888	.0218	.2449

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.054**	**.0172**	**.1024**	**.6210**	**-.0230**	**.4842**	**3.440**	**.4522**
Stddev	.030	.0078	.0010	.0085	.0054	.0030	.008	.0191
%RSD	.7380	45.59	.9628	1.370	23.34	.6153	.2450	4.214
#1	4.085	.0126	.1035	.6192	-.0248	.4836	3.448	.4491
#2	4.051	.0127	.1015	.6303	-.0273	.4875	3.439	.4349
#3	4.025	.0262	.1023	.6136	-.0170	.4816	3.432	.4726

Zoom In Zoom Out

Sample Name: jc99337-3conf Acquired: 12/10/2019 14:41:22 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**290480.**	**33325.**	**8543.6**	**15027.**
Stddev	2338.	127.	16.9	31.
%RSD	.80481	.38161	.19727	.20610
#1	287840.	33314.	8529.5	14998.
#2	291270.	33205.	8539.0	15024.
#3	292310.	33458.	8562.3	15060.

Zoom In Zoom Out

Sample Name: jc99337-4 Acquired: 12/10/2019 14:46:23 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8012**	**.0134**	**.0003**	**.1571**	**.3629**	**.1036**	**3.350**	**.3975**	**.0032**
Stddev	.0032	.0000	.0005	.0007	.0052	.0018	.032	.0014	.0011
%RSD	.4021	.2793	152.8	.4678	1.442	1.761	.9680	.3592	34.41
#1	.7976	.0134	.0006	.1564	.3673	.1044	3.372	.3960	.0020
#2	.8025	.0134	.0005	.1578	.3571	.1015	3.313	.3988	.0035
#3	.8037	.0134	-.0002	.1572	.3644	.1049	3.365	.3978	.0042

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4218**	**.8821**	**.1370**	**-.0035**	**.1914**	**.0129**	**.0018**	**209.9**	**16.14**
Stddev	.0048	.0012	.0025	.0008	.0016	.0023	.0053	.5	.03
%RSD	1.149	.1357	1.836	22.23	.8256	17.61	296.7	.2475	.1566
#1	.4254	.8835	.1389	-.0027	.1926	.0127	.0018	209.3	16.11
#2	.4163	.8814	.1380	-.0038	.1896	.0108	-.0035	210.2	16.15
#3	.4237	.8815	.1341	-.0041	.1920	.0153	.0071	210.3	16.16

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**430.3**	**101.7**	**41.68**	**1.897**	**.2350**	**.0086**	**2.634**	**.0172**	**.1007**
Stddev	.9	.1	.08	.016	.0001	.0008	.001	.0008	.0004
%RSD	.2065	.1471	.2027	.8265	.0487	9.191	.0448	4.575	.4240
#1	429.3	101.6	41.58	1.900	.2351	.0085	2.634	.0163	.1002
#2	431.0	101.9	41.70	1.911	.2350	.0079	2.636	.0174	.1011
#3	430.7	101.7	41.74	1.880	.2349	.0095	2.634	.0179	.1008

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.167**	**.0150**	**.0821**	**.2454**	**-.0108**	**.6581**	**5.299**	**.3468**
Stddev	.032	.0016	.0002	.0061	.0001	.0067	.017	.0034
%RSD	.7570	10.56	.2179	2.500	.9270	1.023	.3286	.9680
#1	4.194	.0148	.0822	.2399	-.0106	.6512	5.317	.3445
#2	4.132	.0136	.0819	.2520	-.0108	.6647	5.296	.3451
#3	4.173	.0167	.0822	.2443	-.0108	.6584	5.283	.3506

Zoom In Zoom Out

Sample Name: jc99337-4 Acquired: 12/10/2019 14:46:23 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**283050.**	**32947.**	**8401.4**	**14665.**
Stddev	2968.	35.	8.7	6.
%RSD	1.0484	.10601	.10363	.04182
#1	281010.	32914.	8394.7	14659.
#2	286450.	32943.	8411.3	14663.
#3	281680.	32984.	8398.4	14671.

Zoom In Zoom Out

Sample Name: jc99337-4conf Acquired: 12/10/2019 14:51:20 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7496**	**.0127**	**.0016**	**.1480**	**.3426**	**.0976**	**3.133**	**.3731**	**.0056**
Stddev	.0026	.0008	.0007	.0030	.0053	.0039	.025	.0013	.0032
%RSD	.3494	6.112	45.66	2.017	1.560	3.990	.7807	.3387	57.63
#1	.7467	.0122	.0016	.1457	.3447	.1011	3.160	.3729	.0042
#2	.7501	.0124	.0023	.1513	.3465	.0934	3.112	.3720	.0093
#3	.7519	.0136	.0008	.1469	.3365	.0983	3.127	.3745	.0033

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3933**	**.8431**	**.1309**	**-.0088**	**.1717**	**.0066**	**-.0052**	**193.6**	**15.47**
Stddev	.0038	.0020	.0197	.0113	.0039	.0075	.0084	.9	.06
%RSD	.9543	.2412	15.08	127.8	2.270	113.5	162.6	.4801	.4180
#1	.3976	.8433	.1242	.0032	.1743	.0139	-.0127	192.5	15.40
#2	.3910	.8451	.1154	-.0193	.1672	.0069	-.0067	194.4	15.51
#3	.3913	.8410	.1531	-.0105	.1735	-.0010	.0039	193.8	15.51

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**408.0**	**95.22**	**38.76**	**1.917**	**.2250**	**.0080**	**2.921**	**.0170**	**.0940**
Stddev	1.4	.25	.25	.074	.0092	.0007	.010	.0031	.0010
%RSD	.3455	.2647	.6321	3.849	4.076	9.261	.3309	18.40	1.022
#1	406.4	95.51	38.55	1.832	.2255	.0071	2.932	.0196	.0942
#2	409.1	95.07	38.71	1.962	.2338	.0083	2.915	.0180	.0930
#3	408.3	95.09	39.03	1.957	.2155	.0085	2.917	.0135	.0949

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.854**	**.0212**	**.0783**	**.2834**	**-.0146**	**.6144**	**4.913**	**.3052**
Stddev	.025	.0058	.0016	.0248	.0144	.0094	.026	.0048
%RSD	.6379	27.14	2.025	8.734	98.42	1.531	.5228	1.588
#1	3.879	.0251	.0778	.3103	-.0050	.6041	4.917	.3061
#2	3.830	.0239	.0771	.2615	-.0076	.6166	4.937	.2999
#3	3.853	.0146	.0801	.2784	-.0312	.6225	4.886	.3095

Zoom In Zoom Out

Sample Name: jc99337-4conf Acquired: 12/10/2019 14:51:20 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**288390.**	**33120.**	**8481.9**	**14921.**
Stddev	2482.	78.	8.9	11.
%RSD	.86063	.23507	.10532	.07108
#1	285560.	33043.	8483.8	14917.
#2	290200.	33118.	8472.1	14913.
#3	289420.	33199.	8489.7	14933.

Zoom In Zoom Out

Sample Name: jc99337-5 Acquired: 12/10/2019 14:56:23 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.436**	**.0122**	**.0010**	**.0990**	**.2924**	**.1155**	**2.992**	**.2613**	**.0001**
Stddev	.022	.0001	.0002	.0013	.0027	.0011	.014	.0028	.0018
%RSD	1.526	1.078	18.44	1.274	.9064	.9571	.4735	1.072	1459.
#1	1.460	.0123	.0009	.0976	.2953	.1167	3.003	.2586	.0009
#2	1.417	.0121	.0012	.0991	.2917	.1152	2.997	.2612	-.0019
#3	1.431	.0122	.0009	.1002	.2901	.1145	2.976	.2642	.0014

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3830**	**.6138**	**.0521**	**-.0001**	**.2032**	**.0013**	**.0018**	**231.6**	**26.05**
Stddev	.0017	.0048	.0011	.0018	.0040	.0032	.0034	3.9	.41
%RSD	.4562	.7756	2.066	1361.	1.951	248.5	188.5	1.700	1.566
#1	.3846	.6099	.0529	-.0021	.2039	.0007	.0028	235.9	26.49
#2	.3833	.6123	.0509	.0003	.1989	-.0016	-.0020	228.1	25.69
#3	.3812	.6191	.0527	.0015	.2067	.0048	.0047	230.8	25.95

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**266.5**	**61.11**	**25.46**	**1.402**	**.1377**	**.0046**	**4.104**	**.0205**	**.1230**
Stddev	4.3	.88	.33	.040	.0016	.0005	.034	.0017	.0019
%RSD	1.613	1.435	1.288	2.858	1.126	10.28	.8315	8.099	1.574
#1	271.2	61.99	25.81	1.445	.1385	.0051	4.085	.0186	.1251
#2	262.7	60.24	25.16	1.395	.1359	.0043	4.083	.0218	.1214
#3	265.6	61.09	25.40	1.366	.1387	.0044	4.143	.0210	.1224

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.446**	**.0062**	**.0804**	**1.081**	**-.0107**	**.5373**	**3.981**	**.4215**
Stddev	.011	.0017	.0009	.006	.0023	.0067	.023	.0091
%RSD	.4513	27.34	1.066	.5369	21.46	1.241	.5738	2.166
#1	2.452	.0053	.0811	1.081	-.0096	.5447	3.968	.4269
#2	2.452	.0082	.0806	1.075	-.0091	.5317	3.967	.4266
#3	2.433	.0052	.0794	1.086	-.0133	.5355	4.007	.4110

Zoom In Zoom Out

Sample Name: jc99337-5 Acquired: 12/10/2019 14:56:23 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**284410.**	**34087.**	**8443.6**	**14488.**
Stddev	1839.	501.	52.2	101.
%RSD	.64651	1.4690	.61865	.69473
#1	282480.	33576.	8480.7	14559.
#2	284630.	34577.	8466.2	14532.
#3	286140.	34106.	8383.9	14373.

Zoom In Zoom Out

Sample Name: jc99337-5conf Acquired: 12/10/2019 15:01:21 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.331**	**.0113**	**.0008**	**.0873**	**.2678**	**.1058**	**2.706**	**.2324**	**.0033**
Stddev	.003	.0003	.0013	.0014	.0001	.0033	.019	.0022	.0038
%RSD	.2493	2.280	159.7	1.660	.0440	3.087	.6949	.9673	114.1
#1	1.333	.0114	.0019	.0878	.2679	.1022	2.684	.2304	.0075
#2	1.334	.0110	.0010	.0857	.2678	.1084	2.715	.2319	.0001
#3	1.328	.0114	-.0006	.0885	.2677	.1070	2.718	.2349	.0024

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3427**	**.5710**	**.0396**	**-.0018**	**.1847**	**.0048**	**.0034**	**210.7**	**24.47**
Stddev	.0008	.0003	.0062	.0119	.0023	.0093	.0059	.5	.09
%RSD	.2464	.0494	15.57	647.0	1.247	194.5	171.1	.2500	.3576
#1	.3426	.5707	.0376	-.0132	.1831	.0151	.0007	210.7	24.55
#2	.3420	.5711	.0465	-.0028	.1836	.0021	.0101	211.2	24.49
#3	.3436	.5712	.0346	.0105	.1873	-.0029	-.0006	210.2	24.38

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**251.2**	**56.45**	**23.38**	**1.388**	**.1226**	**.0046**	**3.945**	**.0168**	**.1137**
Stddev	.4	.12	.18	.038	.0019	.0002	.004	.0063	.0005
%RSD	.1630	.2143	.7716	2.713	1.518	4.433	.1002	37.35	.4145
#1	251.2	56.31	23.54	1.353	.1228	.0046	3.944	.0104	.1135
#2	251.5	56.52	23.43	1.383	.1206	.0044	3.942	.0229	.1143
#3	250.7	56.53	23.19	1.428	.1243	.0048	3.949	.0172	.1134

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.179**	**.0076**	**.0736**	**1.005**	**-.0062**	**.4827**	**3.562**	**.3680**
Stddev	.023	.0068	.0019	.030	.0108	.0050	.023	.0141
%RSD	1.039	90.34	2.570	3.006	176.3	1.043	.6581	3.819
#1	2.153	.0084	.0715	1.036	-.0171	.4848	3.556	.3662
#2	2.189	.0004	.0743	.9756	.0046	.4864	3.542	.3549
#3	2.195	.0140	.0750	1.004	-.0060	.4770	3.588	.3828

Zoom In Zoom Out

Sample Name: jc99337-5conf Acquired: 12/10/2019 15:01:21 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**290070.**	**33155.**	**8538.5**	**15032.**
Stddev	1430.	75.	28.0	23.
%RSD	.49283	.22729	.32832	.15603
#1	291700.	33069.	8542.9	15045.
#2	289010.	33211.	8564.1	15046.
#3	289510.	33184.	8508.6	15005.

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 15:06:24 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.987**	**1.990**	**2.018**	**1.986**	**1.994**	**1.961**	**2.021**	**1.996**	**.2437**
Stddev	.003	.001	.004	.003	.005	.010	.009	.004	.0008
%RSD	.1407	.0372	.1999	.1269	.2715	.5250	.4311	.1928	.3288
#1	1.986	1.991	2.014	1.984	1.988	1.952	2.015	1.992	.2428
#2	1.984	1.990	2.022	1.989	1.993	1.959	2.018	2.000	.2444
#3	1.990	1.990	2.017	1.987	1.999	1.972	2.031	1.997	.2440
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.970**	**2.019**	**1.989**	**2.038**	**1.988**	**1.988**	**1.977**	**39.67**	**40.31**
Stddev	.006	.002	.002	.001	.006	.002	.005	.05	.10
%RSD	.3106	.0826	.0780	.0629	.2836	.0938	.2727	.1290	.2530
#1	1.965	2.020	1.988	2.037	1.982	1.986	1.970	39.72	40.41
#2	1.969	2.021	1.991	2.039	1.993	1.987	1.980	39.62	40.21
#3	1.977	2.018	1.988	2.037	1.988	1.990	1.979	39.66	40.32
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.02**	**39.68**	**39.71**	**39.74**	**1.972**	**2.019**	**4.857**	**2.041**	**2.020**
Stddev	.07	.04	.02	.06	.005	.001	.010	.000	.001
%RSD	.1851	.0958	.0574	.1472	.2719	.0685	.1980	.0050	.0715
#1	40.07	39.64	39.68	39.78	1.966	2.018	4.846	2.041	2.020
#2	39.93	39.68	39.72	39.68	1.974	2.020	4.865	2.041	2.019
#3	40.04	39.71	39.72	39.77	1.976	2.020	4.860	2.041	2.022
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 15:06:24 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.959**	**1.979**	**1.962**	**1.939**	**1.977**	**1.966**	**1.972**	**1.956**
Stddev	.006	.003	.006	.005	.005	.004	.006	.008
%RSD	.3046	.1623	.3332	.2783	.2468	.2076	.3087	.4017
#1	1.953	1.980	1.956	1.933	1.973	1.961	1.966	1.952
#2	1.958	1.975	1.961	1.942	1.977	1.968	1.979	1.952
#3	1.965	1.981	1.969	1.943	1.982	1.968	1.971	1.965
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**275610.**	**32337.**	**8187.1**	**14192.**
Stddev	911.	73.	6.1	9.
%RSD	.33067	.22574	.07429	.06619
#1	276530.	32253.	8181.4	14184.
#2	275590.	32381.	8186.5	14189.
#3	274700.	32378.	8193.5	14202.

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 15:11:23 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**.0001**	**.0002**	**.0002**	**.0002**	**.0006**	**.0001**	**-.0001**	**-.0001**
Stddev	.0001	.0000	.0002	.0001	.0000	.0002	.0000	.0002	.0002
%RSD	672.0	19.45	111.9	32.20	11.41	43.69	31.37	351.1	301.3
#1	.0000	.0001	.0001	.0002	.0002	.0007	.0000	-.0001	-.0002
#2	.0001	.0001	.0004	.0002	.0002	.0008	.0001	.0002	-.0002
#3	-.0001	.0001	.0000	.0001	.0003	.0003	.0001	-.0003	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0010**	**-.0004**	**-.0003**	**-.0003**	**-.0001**	**.0001**	**-.0075**	**.0078**
Stddev	.0001	.0009	.0005	.0008	.0005	.0016	.0006	.0084	.0014
%RSD	47.02	87.74	140.8	250.2	181.5	2222.	446.0	112.0	18.21
#1	-.0002	.0001	-.0004	.0004	.0000	.0017	-.0006	-.0148	.0084
#2	-.0003	.0009	.0002	-.0012	-.0009	-.0013	.0005	.0017	.0089
#3	-.0001	.0019	-.0009	-.0001	-.0000	-.0006	.0004	-.0093	.0062
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0031**	**-.0091**	**.0147**	**.0087**	**.0015**	**.0002**	**.0002**	**.0004**	**.0001**
Stddev	.0011	.0059	.0066	.0018	.0002	.0001	.0006	.0008	.0000
%RSD	35.97	64.52	44.70	21.11	14.72	71.15	380.4	187.4	58.43
#1	.0029	-.0048	.0099	.0069	.0017	.0000	-.0003	-.0005	.0000
#2	.0021	-.0157	.0221	.0087	.0013	.0002	-.0001	.0007	.0001
#3	.0043	-.0067	.0119	.0105	.0015	.0003	.0009	.0010	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 15:11:23 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0003**	**.0001**	**-.0012**	**.0001**	**.0006**	**-.0018**	**-.0009**
Stddev	.0001	.0005	.0000	.0014	.0008	.0003	.0011	.0016
%RSD	570.5	187.7	25.48	118.7	1145.	45.39	60.87	174.4
#1	-.0001	-.0001	.0001	-.0025	-.0008	.0009	-.0030	-.0027
#2	.0001	.0008	.0001	.0003	.0001	.0003	-.0016	.0005
#3	.0000	.0001	.0001	-.0013	.0009	.0006	-.0008	-.0006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**285260.**	**32623.**	**8409.0**	**15127.**
Stddev	1984.	85.	12.9	31.
%RSD	.69553	.25974	.15367	.20316
#1	283590.	32557.	8400.9	15108.
#2	284750.	32593.	8423.9	15162.
#3	287460.	32718.	8402.1	15111.

Zoom In Zoom Out

Sample Name: jc99337-6 Acquired: 12/10/2019 15:16:33 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9968**	**.0085**	**.0009**	**.1314**	**.3001**	**.0769**	**3.494**	**.3079**	**.0022**
Stddev	.0030	.0001	.0001	.0009	.0029	.0011	.028	.0028	.0009
%RSD	.2977	1.015	5.638	.6578	.9646	1.463	.7939	.9152	41.59
#1	.9935	.0084	.0009	.1304	.3012	.0779	3.508	.3047	.0013
#2	.9975	.0085	.0010	.1320	.3022	.0771	3.511	.3094	.0023
#3	.9993	.0086	.0009	.1318	.2968	.0757	3.462	.3097	.0031

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3853**	**.7069**	**.0482**	**-.0034**	**.1948**	**.0083**	**.0018**	**196.2**	**12.23**
Stddev	.0033	.0052	.0003	.0018	.0027	.0008	.0021	.6	.03
%RSD	.8590	.7288	.5671	52.31	1.402	9.672	115.0	.2814	.2721
#1	.3864	.7010	.0485	-.0016	.1917	.0075	.0029	195.6	12.19
#2	.3879	.7106	.0480	-.0051	.1961	.0084	.0032	196.6	12.24
#3	.3816	.7090	.0480	-.0034	.1967	.0090	-.0006	196.4	12.26

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**339.0**	**74.16**	**29.53**	**1.567**	**.1950**	**.0068**	**3.216**	**.0415**	**.0861**
Stddev	1.0	.32	.09	.005	.0014	.0004	.029	.0007	.0001
%RSD	.2981	.4281	.3063	.2945	.7116	6.112	.8951	1.607	.1397
#1	337.8	73.82	29.43	1.562	.1952	.0072	3.183	.0420	.0863
#2	339.5	74.21	29.60	1.571	.1963	.0065	3.230	.0419	.0861
#3	339.6	74.45	29.56	1.566	.1935	.0066	3.236	.0408	.0860

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.876**	**.0055**	**.1040**	**2.131**	**-.0076**	**.5181**	**3.015**	**.4043**
Stddev	.036	.0015	.0005	.014	.0023	.0028	.017	.0069
%RSD	.9382	27.63	.5011	.6319	29.49	.5495	.5717	1.703
#1	3.889	.0073	.1038	2.116	-.0065	.5159	2.996	.3964
#2	3.904	.0048	.1046	2.141	-.0102	.5170	3.023	.4089
#3	3.835	.0046	.1037	2.136	-.0062	.5213	3.027	.4075

Zoom In Zoom Out

Sample Name: jc99337-6 Acquired: 12/10/2019 15:16:33 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**281710.**	**33108.**	**8249.4**	**14397.**
Stddev	2782.	164.	54.8	85.
%RSD	.98757	.49598	.66419	.58960
#1	280010.	33260.	8312.5	14494.
#2	280210.	32934.	8213.8	14339.
#3	284920.	33130.	8221.9	14357.

Zoom In Zoom Out

Sample Name: jc99337-6conf Acquired: 12/10/2019 15:21:40 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.013**	**.0091**	**-.0002**	**.1313**	**.3100**	**.0807**	**3.624**	**.3104**	**.0026**
Stddev	.002	.0002	.0005	.0017	.0022	.0003	.015	.0027	.0029
%RSD	.1558	1.999	242.5	1.304	.7052	.4020	.4169	.8596	114.6
#1	1.012	.0089	-.0006	.1315	.3121	.0805	3.631	.3112	-.0008
#2	1.015	.0091	-.0003	.1329	.3077	.0805	3.607	.3074	.0048
#3	1.013	.0092	.0003	.1295	.3101	.0811	3.635	.3126	.0037

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3907**	**.7258**	**.0497**	**-.0049**	**.1890**	**.0032**	**.0107**	**196.8**	**12.71**
Stddev	.0028	.0014	.0039	.0021	.0039	.0037	.0104	.5	.03
%RSD	.7082	.1906	7.765	43.75	2.082	113.8	96.62	.2385	.2033
#1	.3919	.7249	.0454	-.0057	.1934	-.0009	.0087	196.3	12.74
#2	.3875	.7251	.0508	-.0065	.1878	.0060	.0015	197.3	12.70
#3	.3926	.7274	.0529	-.0025	.1858	.0046	.0220	196.7	12.69

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**352.8**	**75.51**	**29.84**	**1.690**	**.1940**	**.0084**	**3.484**	**.0428**	**.0872**
Stddev	.5	.14	.23	.041	.0058	.0023	.010	.0053	.0005
%RSD	.1544	.1805	.7603	2.426	2.998	27.38	.2944	12.29	.5434
#1	352.6	75.66	29.60	1.725	.1995	.0058	3.474	.0482	.0870
#2	353.4	75.39	29.86	1.699	.1879	.0099	3.485	.0424	.0878
#3	352.4	75.48	30.05	1.645	.1946	.0096	3.494	.0377	.0869

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.882**	**.0057**	**.1027**	**2.091**	**-.0076**	**.5250**	**2.967**	**.4062**
Stddev	.018	.0075	.0006	.023	.0080	.0053	.005	.0189
%RSD	.4648	131.0	.5826	1.117	105.1	1.005	.1829	4.654
#1	3.891	.0059	.1032	2.064	-.0149	.5282	2.969	.4249
#2	3.861	-.0019	.1027	2.103	-.0088	.5189	2.961	.4067
#3	3.894	.0131	.1021	2.106	.0009	.5280	2.971	.3871

Zoom In Zoom Out

Sample Name: jc99337-6conf Acquired: 12/10/2019 15:21:40 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**286180.**	**32907.**	**8491.9**	**14939.**
Stddev	1275.	25.	15.3	27.
%RSD	.44550	.07593	.17984	.18217
#1	286150.	32904.	8495.1	14954.
#2	287470.	32933.	8505.4	14954.
#3	284920.	32883.	8475.3	14907.

Zoom In Zoom Out

Sample Name: jc99337-7 Acquired: 12/10/2019 15:26:42 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8297**	**.0068**	**.0002**	**.0558**	**.2415**	**.0515**	**.9475**	**.1494**	**.0025**
Stddev	.0020	.0001	.0003	.0007	.0011	.0009	.0033	.0009	.0007
%RSD	.2431	1.160	178.3	1.300	.4447	1.794	.3445	.6071	28.93
#1	.8278	.0068	.0001	.0555	.2423	.0509	.9510	.1484	.0032
#2	.8296	.0067	.0004	.0566	.2403	.0511	.9445	.1501	.0018
#3	.8318	.0067	-.0001	.0552	.2419	.0526	.9469	.1497	.0024

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4027**	**.3278**	**.0434**	**-.0026**	**.1248**	**.0086**	**-.0006**	**200.4**	**12.34**
Stddev	.0012	.0017	.0017	.0015	.0014	.0021	.0005	.4	.03
%RSD	.2997	.5207	3.818	57.13	1.117	24.37	75.56	.1873	.2132
#1	.4031	.3267	.0451	-.0013	.1247	.0081	-.0009	200.1	12.34
#2	.4013	.3297	.0434	-.0042	.1262	.0108	-.0008	200.2	12.31
#3	.4036	.3268	.0417	-.0024	.1234	.0067	-.0001	200.8	12.36

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**294.2**	**36.30**	**17.51**	**1.024**	**.0838**	**.0042**	**3.606**	**.0210**	**.0734**
Stddev	.5	.07	.07	.009	.0012	.0002	.011	.0005	.0003
%RSD	.1667	.2020	.3764	.9012	1.383	4.916	.2978	2.403	.3547
#1	293.8	36.24	17.48	1.023	.0844	.0039	3.598	.0210	.0731
#2	294.0	36.28	17.47	1.015	.0825	.0043	3.618	.0216	.0735
#3	294.7	36.38	17.59	1.033	.0845	.0043	3.603	.0206	.0735

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.099**	**.0101**	**.0765**	**.8987**	**-.0114**	**.3601**	**3.386**	**.3595**
Stddev	.007	.0016	.0003	.0032	.0007	.0044	.012	.0018
%RSD	.3243	15.87	.4430	.3518	6.000	1.211	.3612	.5118
#1	2.106	.0120	.0765	.8960	-.0116	.3561	3.375	.3614
#2	2.092	.0093	.0761	.9022	-.0107	.3595	3.399	.3577
#3	2.099	.0092	.0768	.8980	-.0120	.3648	3.384	.3594

Zoom In Zoom Out

Sample Name: jc99337-7 Acquired: 12/10/2019 15:26:42 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**284940.**	**33691.**	**8438.5**	**14748.**
Stddev	819.	93.	33.7	52.
%RSD	.28740	.27705	.39935	.35312
#1	284170.	33607.	8472.1	14797.
#2	285800.	33674.	8404.7	14693.
#3	284840.	33791.	8438.7	14753.

Zoom In Zoom Out

Sample Name: jc99337-7conf Acquired: 12/10/2019 15:31:42 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8531**	**.0070**	**.0019**	**.0577**	**.2513**	**.0588**	**.9699**	**.1533**	**.0058**
Stddev	.0035	.0005	.0008	.0003	.0047	.0012	.0061	.0027	.0007
%RSD	.4109	6.659	39.02	.4982	1.872	2.015	.6291	1.779	11.64
#1	.8498	.0065	.0018	.0580	.2482	.0579	.9639	.1542	.0052
#2	.8527	.0075	.0028	.0574	.2567	.0601	.9761	.1503	.0065
#3	.8568	.0071	.0013	.0576	.2490	.0583	.9696	.1556	.0057

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4103**	**.3499**	**.0438**	**-.0027**	**.1304**	**.0134**	**-.0053**	**202.7**	**13.12**
Stddev	.0032	.0026	.0119	.0052	.0081	.0070	.0122	.2	.04
%RSD	.7784	.7322	27.21	191.0	6.178	51.95	228.1	.0790	.3215
#1	.4092	.3471	.0533	.0026	.1340	.0067	.0072	202.5	13.07
#2	.4139	.3507	.0478	-.0030	.1212	.0207	-.0061	202.7	13.14
#3	.4078	.3520	.0304	-.0078	.1360	.0129	-.0171	202.8	13.14

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**308.2**	**37.61**	**17.84**	**1.183**	**.0922**	**.0054**	**3.978**	**.0203**	**.0760**
Stddev	.4	.23	.24	.060	.0048	.0002	.010	.0068	.0005
%RSD	.1303	.6089	1.346	5.057	5.258	3.620	.2515	33.45	.6649
#1	307.7	37.35	17.58	1.252	.0943	.0052	3.976	.0181	.0764
#2	308.5	37.67	17.89	1.144	.0867	.0054	3.969	.0279	.0762
#3	308.3	37.80	18.05	1.154	.0957	.0056	3.989	.0148	.0754

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.128**	**.0092**	**.0793**	**.9913**	**-.0081**	**.3624**	**3.437**	**.3837**
Stddev	.007	.0080	.0009	.0078	.0012	.0080	.022	.0025
%RSD	.3272	86.67	1.087	.7857	14.86	2.197	.6508	.6471
#1	2.122	.0027	.0784	.9853	-.0087	.3537	3.428	.3808
#2	2.135	.0181	.0795	1.000	-.0090	.3641	3.462	.3848
#3	2.126	.0068	.0800	.9886	-.0067	.3694	3.420	.3854

Zoom In Zoom Out

Sample Name: jc99337-7conf Acquired: 12/10/2019 15:31:42 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**287150.**	**33111.**	**8454.2**	**14990.**
Stddev	1513.	266.	18.2	26.
%RSD	.52699	.80215	.21544	.17184
#1	288310.	33404.	8433.5	14961.
#2	285440.	32886.	8467.5	15011.
#3	287700.	33043.	8461.7	14996.

Zoom In Zoom Out

Sample Name: jc99337-8 Acquired: 12/10/2019 15:36:44 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8700**	**.0079**	**.0011**	**.0652**	**.1913**	**.0554**	**2.668**	**.1467**	**.0040**
Stddev	.0014	.0001	.0003	.0002	.0004	.0004	.010	.0005	.0004
%RSD	.1658	1.302	24.70	.3782	.2171	.6523	.3889	.3395	10.94
#1	.8687	.0080	.0010	.0654	.1918	.0554	2.656	.1464	.0037
#2	.8716	.0078	.0014	.0652	.1911	.0551	2.676	.1464	.0045
#3	.8697	.0080	.0009	.0649	.1910	.0558	2.671	.1473	.0038

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3310**	**.4394**	**.0805**	**-.0013**	**.1893**	**.0072**	**-.0006**	**173.6**	**11.91**
Stddev	.0016	.0007	.0031	.0019	.0016	.0016	.0030	.5	.01
%RSD	.4879	.1666	3.897	151.4	.8678	21.58	537.2	.3075	.0544
#1	.3291	.4388	.0841	-.0018	.1908	.0090	-.0030	173.7	11.91
#2	.3321	.4403	.0783	-.0030	.1875	.0063	.0028	174.1	11.92
#3	.3317	.4392	.0791	.0009	.1896	.0064	-.0015	173.1	11.91

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**243.9**	**32.31**	**12.89**	**.8407**	**.0791**	**.0042**	**3.585**	**.0225**	**.0844**
Stddev	.5	.11	.09	.0100	.0014	.0004	.004	.0006	.0001
%RSD	.2114	.3507	.7290	1.186	1.716	8.383	.1173	2.868	.0738
#1	243.9	32.37	12.84	.8308	.0781	.0043	3.581	.0224	.0845
#2	244.5	32.38	12.99	.8405	.0806	.0045	3.589	.0231	.0844
#3	243.4	32.18	12.83	.8508	.0785	.0038	3.586	.0218	.0843

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.745**	**.0074**	**.0561**	**1.090**	**-.0118**	**.3086**	**3.491**	**.4601**
Stddev	.006	.0012	.0001	.007	.0037	.0010	.013	.0043
%RSD	.3208	15.67	.1134	.6183	31.61	.3329	.3676	.9324
#1	1.739	.0080	.0561	1.096	-.0080	.3098	3.476	.4581
#2	1.750	.0061	.0560	1.092	-.0119	.3078	3.500	.4650
#3	1.744	.0082	.0562	1.083	-.0154	.3084	3.497	.4571

Zoom In Zoom Out

Sample Name: jc99337-8 Acquired: 12/10/2019 15:36:44 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**286870.**	**34018.**	**8441.9**	**14764.**
Stddev	972.	77.	6.4	14.
%RSD	.33871	.22751	.07608	.09348
#1	287770.	33939.	8449.1	14779.
#2	285840.	34021.	8436.7	14752.
#3	287000.	34093.	8439.8	14761.

Zoom In Zoom Out

Sample Name: jc99337-8conf Acquired: 12/10/2019 15:41:45 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8917**	**.0084**	**.0013**	**.0679**	**.1998**	**.0639**	**2.750**	**.1483**	**.0092**
Stddev	.0035	.0003	.0013	.0010	.0031	.0012	.027	.0016	.0001
%RSD	.3950	4.125	98.81	1.526	1.557	1.811	.9822	1.087	1.012
#1	.8952	.0080	-.0001	.0689	.2017	.0650	2.781	.1494	.0091
#2	.8917	.0085	.0023	.0668	.1962	.0641	2.738	.1464	.0092
#3	.8882	.0087	.0017	.0680	.2015	.0627	2.731	.1490	.0093

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3393**	**.4640**	**.0609**	**-.0161**	**.1803**	**.0002**	**-.0022**	**175.5**	**12.63**
Stddev	.0041	.0006	.0112	.0096	.0050	.0116	.0087	.6	.05
%RSD	1.204	.1191	18.31	59.82	2.780	7258.	399.3	.3334	.4089
#1	.3437	.4638	.0534	-.0157	.1824	-.0045	.0078	176.2	12.68
#2	.3357	.4635	.0737	-.0067	.1746	-.0084	-.0063	175.2	12.63
#3	.3384	.4646	.0555	-.0259	.1840	.0134	-.0081	175.2	12.58

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**253.7**	**33.34**	**13.20**	**1.038**	**.0838**	**.0048**	**3.924**	**.0256**	**.0866**
Stddev	1.0	.27	.24	.005	.0044	.0007	.002	.0047	.0008
%RSD	.3819	.8062	1.825	.4492	5.222	14.94	.0582	18.35	.8888
#1	254.7	33.65	12.96	1.035	.0860	.0056	3.923	.0206	.0870
#2	253.4	33.21	13.44	1.043	.0866	.0042	3.923	.0266	.0871
#3	252.9	33.16	13.19	1.035	.0787	.0047	3.927	.0298	.0857

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.771**	**.0046**	**.0586**	**1.163**	**-.0294**	**.3189**	**3.518**	**.4591**
Stddev	.011	.0020	.0016	.013	.0154	.0069	.021	.0122
%RSD	.6298	43.82	2.677	1.153	52.37	2.165	.6067	2.659
#1	1.784	.0068	.0602	1.163	-.0346	.3140	3.497	.4537
#2	1.766	.0040	.0571	1.176	-.0121	.3268	3.540	.4731
#3	1.763	.0029	.0586	1.149	-.0416	.3159	3.517	.4506

Zoom In Zoom Out

Sample Name: jc99337-8conf Acquired: 12/10/2019 15:41:45 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**286030.**	**33396.**	**8461.5**	**15003.**
Stddev	2595.	148.	12.9	3.
%RSD	.90734	.44249	.15244	.01892
#1	283040.	33245.	8475.5	15004.
#2	287400.	33404.	8450.1	15000.
#3	287660.	33540.	8458.8	15006.

Zoom In Zoom Out

Sample Name: jc99337-10 Acquired: 12/10/2019 15:46:49 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9217**	**.0090**	**.0011**	**.0657**	**.2212**	**.0692**	**2.987**	**.1582**	**.0046**
Stddev	.0020	.0000	.0002	.0002	.0017	.0005	.021	.0005	.0003
%RSD	.2169	.0723	19.18	.2788	.7485	.7374	.6981	.3458	6.011
#1	.9198	.0090	.0013	.0659	.2221	.0688	3.007	.1577	.0047
#2	.9214	.0090	.0009	.0658	.2193	.0690	2.965	.1588	.0047
#3	.9238	.0090	.0010	.0655	.2223	.0698	2.987	.1582	.0043

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3764**	**.4322**	**.0612**	**-.0038**	**.1852**	**.0089**	**-.0010**	**190.9**	**10.94**
Stddev	.0024	.0013	.0005	.0002	.0018	.0028	.0016	.7	.04
%RSD	.6292	.3034	.8424	5.244	.9786	31.13	158.8	.3701	.4051
#1	.3783	.4337	.0617	-.0040	.1842	.0097	-.0009	190.3	10.90
#2	.3738	.4315	.0612	-.0039	.1840	.0058	.0006	190.8	10.93
#3	.3772	.4313	.0607	-.0036	.1872	.0112	-.0027	191.7	10.99

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**249.2**	**36.40**	**15.09**	**.9825**	**.0751**	**.0037**	**3.607**	**.0217**	**.0782**
Stddev	.7	.09	.02	.0164	.0008	.0006	.004	.0003	.0002
%RSD	.2646	.2584	.1207	1.670	1.069	17.18	.1063	1.399	.2771
#1	248.6	36.38	15.07	.9699	.0747	.0042	3.608	.0214	.0783
#2	249.0	36.32	15.08	.9767	.0760	.0030	3.603	.0220	.0779
#3	249.9	36.50	15.11	1.001	.0746	.0040	3.611	.0218	.0783

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.015**	**.0082**	**.0663**	**1.290**	**-.0133**	**.3673**	**4.505**	**.4231**
Stddev	.014	.0024	.0004	.005	.0009	.0007	.010	.0034
%RSD	.7016	29.00	.5720	.4001	6.566	.1815	.2218	.7958
#1	2.027	.0098	.0667	1.296	-.0142	.3665	4.516	.4263
#2	1.999	.0055	.0661	1.286	-.0124	.3677	4.497	.4196
#3	2.019	.0094	.0660	1.287	-.0135	.3676	4.502	.4234

Zoom In Zoom Out

Sample Name: jc99337-10 Acquired: 12/10/2019 15:46:49 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**282790.**	**33236.**	**8433.7**	**14737.**
Stddev	1710.	131.	14.5	30.
%RSD	.60478	.39561	.17192	.20591
#1	280980.	33371.	8417.7	14704.
#2	284380.	33230.	8446.0	14745.
#3	283020.	33108.	8437.3	14763.

Zoom In Zoom Out

Sample Name: jc99337-10conf Acquired: 12/10/2019 15:51:49 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9612**	**.0095**	**.0024**	**.0676**	**.2317**	**.0786**	**3.068**	**.1609**	**.0105**
Stddev	.0024	.0002	.0020	.0024	.0010	.0011	.008	.0025	.0007
%RSD	.2506	1.762	83.15	3.590	.4322	1.376	.2734	1.544	6.418
#1	.9637	.0094	.0002	.0691	.2305	.0782	3.077	.1608	.0113
#2	.9609	.0097	.0042	.0648	.2322	.0778	3.061	.1584	.0102
#3	.9590	.0094	.0030	.0689	.2323	.0798	3.066	.1634	.0100

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3848**	**.4634**	**.0573**	**-.0077**	**.1937**	**.0233**	**.0021**	**195.6**	**11.66**
Stddev	.0027	.0019	.0015	.0031	.0077	.0079	.0110	.3	.02
%RSD	.6960	.4156	2.662	40.85	3.960	33.73	526.1	.1343	.1815
#1	.3878	.4655	.0557	-.0044	.1905	.0230	-.0053	195.9	11.68
#2	.3838	.4627	.0588	-.0107	.1882	.0156	.0148	195.4	11.64
#3	.3827	.4619	.0574	-.0079	.2024	.0313	-.0032	195.4	11.66

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**262.7**	**37.55**	**15.41**	**1.113**	**.0827**	**.0033**	**4.056**	**.0208**	**.0817**
Stddev	.3	.36	.10	.010	.0041	.0008	.030	.0021	.0005
%RSD	.1162	.9525	.6234	.9242	5.007	24.96	.7462	10.31	.6434
#1	263.0	37.76	15.51	1.104	.0837	.0041	4.087	.0218	.0823
#2	262.5	37.13	15.32	1.124	.0863	.0024	4.054	.0222	.0815
#3	262.5	37.75	15.39	1.110	.0782	.0034	4.026	.0183	.0813

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.042**	**.0087**	**.0681**	**1.382**	**-.0157**	**.3744**	**4.587**	**.4260**
Stddev	.001	.0046	.0013	.019	.0062	.0049	.006	.0233
%RSD	.0663	52.67	1.881	1.403	39.51	1.301	.1418	5.463
#1	2.042	.0119	.0678	1.404	-.0165	.3781	4.579	.4299
#2	2.041	.0035	.0670	1.369	-.0214	.3763	4.590	.4471
#3	2.043	.0108	.0696	1.373	-.0091	.3689	4.591	.4010

Zoom In Zoom Out

Sample Name: jc99337-10conf Acquired: 12/10/2019 15:51:49 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**285130.**	**32873.**	**8394.3**	**14936.**
Stddev	334.	129.	18.0	8.
%RSD	.11729	.39183	.21404	.05230
#1	284790.	32795.	8376.6	14927.
#2	285450.	33022.	8393.7	14943.
#3	285160.	32802.	8412.5	14936.

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 15:56:53 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.027**	**2.036**	**2.038**	**2.000**	**1.989**	**1.972**	**2.026**	**1.991**	**.2419**
Stddev	.019	.019	.002	.002	.011	.009	.012	.003	.0012
%RSD	.9548	.9369	.0891	.1195	.5517	.4763	.5710	.1325	.4758
#1	2.048	2.058	2.040	2.003	1.990	1.973	2.025	1.994	.2419
#2	2.023	2.029	2.037	1.998	1.977	1.962	2.014	1.991	.2407
#3	2.010	2.022	2.038	1.999	1.999	1.980	2.037	1.989	.2430
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.966**	**2.053**	**2.021**	**2.013**	**1.976**	**2.016**	**1.975**	**40.78**	**41.20**
Stddev	.012	.006	.006	.002	.003	.007	.003	.36	.38
%RSD	.5976	.3020	.2751	.0725	.1331	.3556	.1362	.8850	.9245
#1	1.968	2.060	2.027	2.014	1.979	2.023	1.973	41.19	41.63
#2	1.953	2.049	2.016	2.014	1.976	2.009	1.978	40.63	41.05
#3	1.977	2.050	2.021	2.011	1.973	2.015	1.973	40.51	40.91
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.73**	**40.67**	**40.48**	**40.27**	**1.978**	**2.046**	**4.866**	**2.092**	**2.069**
Stddev	.36	.51	.34	.35	.001	.006	.006	.009	.020
%RSD	.8939	1.261	.8485	.8798	.0233	.3158	.1336	.4136	.9432
#1	41.14	41.26	40.86	40.66	1.977	2.054	4.873	2.101	2.090
#2	40.62	40.40	40.41	40.19	1.978	2.043	4.860	2.084	2.065
#3	40.44	40.35	40.19	39.97	1.978	2.042	4.864	2.090	2.052
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 15:56:53 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.939**	**2.001**	**1.944**	**1.957**	**1.996**	**2.013**	**1.975**	**1.960**
Stddev	.013	.006	.011	.004	.003	.021	.004	.012
%RSD	.6573	.2918	.5757	.1898	.1458	1.038	.1794	.6066
#1	1.943	2.005	1.945	1.960	1.999	2.037	1.976	1.966
#2	1.924	1.995	1.932	1.959	1.993	2.005	1.979	1.947
#3	1.949	2.004	1.954	1.953	1.995	1.998	1.971	1.968
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**275520.**	**31710.**	**8058.0**	**14090.**
Stddev	1680.	262.	24.3	34.
%RSD	.60974	.82691	.30106	.23875
#1	274730.	31407.	8029.9	14053.
#2	277450.	31867.	8072.2	14098.
#3	274380.	31855.	8071.7	14119.

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 16:01:51 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0001**	**.0002**	**.0000**	**.0002**	**.0011**	**.0000**	**-.0000**	**.0004**
Stddev	.0001	.0000	.0001	.0002	.0001	.0003	.0000	.0002	.0002
%RSD	113.6	13.75	74.01	967.2	36.99	30.83	142.8	1080.	52.84
#1	-.0000	.0001	.0002	-.0002	.0003	.0015	.0000	.0001	.0002
#2	-.0002	.0001	.0002	.0002	.0002	.0009	.0001	-.0003	.0006
#3	-.0000	.0001	.0000	.0000	.0001	.0009	.0000	.0001	.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0001**	**.0004**	**-.0007**	**-.0008**	**-.0008**	**.0012**	**-.0087**	**.0111**
Stddev	.0002	.0000	.0004	.0004	.0013	.0007	.0010	.0032	.0018
%RSD	98.24	38.90	89.30	57.29	151.2	79.36	88.19	37.00	16.17
#1	-.0001	.0001	.0009	-.0008	-.0003	-.0007	.0009	-.0112	.0121
#2	-.0005	.0001	.0001	-.0002	-.0023	-.0002	.0023	-.0099	.0090
#3	-.0001	.0001	.0003	-.0009	.0001	-.0016	.0003	-.0051	.0121
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0065**	**.0192**	**.0100**	**.0012**	**.0001**	**.0003**	**.0001**	**-.0000**
Stddev	.0006	.0169	.0101	.0084	.0005	.0002	.0005	.0002	.0001
%RSD	1130.	259.8	52.69	84.61	46.23	328.4	179.3	118.6	438.2
#1	-.0000	-.0001	.0303	.0193	.0009	.0002	.0009	.0003	-.0000
#2	.0005	-.0257	.0105	.0028	.0018	.0002	-.0001	.0001	.0001
#3	-.0007	.0063	.0168	.0079	.0008	-.0002	.0001	-.0000	-.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 16:01:51 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**.0009**	**.0001**	**-.0010**	**.0008**	**-.0000**	**-.0049**	**.0005**
Stddev	.0001	.0005	.0001	.0024	.0008	.0003	.0014	.0010
%RSD	127.4	54.94	97.81	245.7	103.4	658.2	28.92	187.9
#1	-.0001	.0011	.0000	-.0031	.0005	-.0004	-.0066	.0014
#2	.0000	.0004	.0003	.0016	.0001	.0003	-.0041	-.0006
#3	-.0001	.0013	.0001	-.0015	.0018	-.0000	-.0041	.0007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**284600.**	**32071.**	**8372.5**	**15145.**
Stddev	4469.	909.	6.4	11.
%RSD	1.5701	2.8349	.07672	.07140
#1	280140.	32699.	8365.3	15149.
#2	284580.	32487.	8374.8	15133.
#3	289080.	31029.	8377.5	15154.

Zoom In Zoom Out

Sample Name: jc99337-11 Acquired: 12/10/2019 16:07:03 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.342**	**.0112**	**.0010**	**.1144**	**.3129**	**.0735**	**6.066**	**.2829**	**.0062**
Stddev	.004	.0000	.0002	.0003	.0022	.0006	.072	.0010	.0007
%RSD	.2806	.3750	16.50	.2205	.6952	.7964	1.186	.3574	11.29
#1	1.346	.0112	.0010	.1146	.3150	.0738	6.147	.2826	.0064
#2	1.339	.0112	.0011	.1141	.3130	.0738	6.040	.2840	.0068
#3	1.340	.0113	.0008	.1144	.3106	.0728	6.010	.2820	.0054

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3891**	**.6914**	**.3516**	**.0004**	**.1658**	**.0084**	**.0006**	**224.8**	**12.87**
Stddev	.0035	.0012	.0052	.0022	.0022	.0022	.0044	1.1	.07
%RSD	.9063	.1700	1.475	622.6	1.339	26.74	776.2	.4890	.5181
#1	.3927	.6918	.3562	-.0014	.1634	.0105	-.0041	226.1	12.94
#2	.3890	.6924	.3527	.0028	.1679	.0061	.0014	223.9	12.81
#3	.3856	.6901	.3460	-.0004	.1660	.0086	.0044	224.5	12.87

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**331.8**	**70.68**	**31.22**	**1.521**	**.1832**	**.0074**	**3.269**	**.0171**	**.0922**
Stddev	1.5	.11	.17	.015	.0028	.0004	.004	.0008	.0005
%RSD	.4624	.1573	.5311	.9995	1.543	5.374	.1368	4.625	.4891
#1	333.5	70.72	31.40	1.532	.1802	.0077	3.264	.0169	.0927
#2	330.6	70.55	31.08	1.526	.1859	.0075	3.272	.0180	.0918
#3	331.3	70.76	31.18	1.503	.1835	.0069	3.271	.0164	.0919

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.647**	**.0084**	**.0588**	**.4119**	**-.0117**	**.5341**	**3.375**	**.4256**
Stddev	.030	.0015	.0004	.0014	.0025	.0016	.012	.0067
%RSD	.8325	18.26	.6067	.3474	21.01	.2992	.3463	1.566
#1	3.682	.0067	.0592	.4126	-.0127	.5328	3.382	.4296
#2	3.626	.0090	.0589	.4103	-.0135	.5336	3.382	.4293
#3	3.633	.0096	.0585	.4129	-.0089	.5359	3.362	.4179

Zoom In Zoom Out

Sample Name: jc99337-11 Acquired: 12/10/2019 16:07:03 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**283360.**	**33217.**	**8356.0**	**14580.**
Stddev	2277.	78.	12.2	20.
%RSD	.80364	.23430	.14563	.13480
#1	280740.	33159.	8370.0	14602.
#2	284660.	33306.	8350.2	14564.
#3	284700.	33187.	8347.8	14575.

Zoom In Zoom Out

Sample Name: jc99337-11conf Acquired: 12/10/2019 16:12:08 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.358**	**.0119**	**.0019**	**.1174**	**.3165**	**.0810**	**6.222**	**.2891**	**.0104**
Stddev	.004	.0002	.0006	.0005	.0059	.0080	.139	.0023	.0017
%RSD	.2817	1.996	30.86	.4311	1.863	9.821	2.239	.7820	16.00
#1	1.354	.0120	.0019	.1171	.3233	.0897	6.373	.2866	.0103
#2	1.358	.0120	.0025	.1172	.3129	.0742	6.099	.2898	.0088
#3	1.361	.0116	.0013	.1180	.3132	.0789	6.195	.2910	.0121

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3888**	**.7239**	**.3499**	**-.0088**	**.1645**	**.0214**	**.0008**	**223.4**	**13.29**
Stddev	.0114	.0008	.0030	.0055	.0079	.0160	.0083	.6	.04
%RSD	2.926	.1109	.8460	62.90	4.800	74.74	1088.	.2791	.3165
#1	.4015	.7233	.3506	-.0026	.1720	.0265	-.0012	222.7	13.25
#2	.3796	.7248	.3525	-.0104	.1652	.0035	.0099	223.4	13.29
#3	.3853	.7235	.3467	-.0134	.1562	.0342	-.0064	224.0	13.34

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**342.0**	**71.35**	**31.26**	**1.620**	**.1885**	**.0135**	**3.670**	**.0243**	**.0930**
Stddev	.5	.27	.14	.031	.0013	.0003	.006	.0042	.0011
%RSD	.1326	.3843	.4537	1.918	.7107	2.493	.1556	17.30	1.209
#1	341.5	71.60	31.38	1.597	.1877	.0135	3.667	.0250	.0917
#2	342.1	71.06	31.30	1.655	.1877	.0139	3.677	.0281	.0936
#3	342.3	71.40	31.11	1.607	.1900	.0132	3.667	.0198	.0937

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.598**	**.0337**	**.0598**	**1.042**	**-.0170**	**.5342**	**3.382**	**.4131**
Stddev	.080	.0028	.0014	.018	.0066	.0071	.012	.0205
%RSD	2.229	8.305	2.285	1.700	38.64	1.338	.3641	4.963
#1	3.685	.0343	.0613	1.033	-.0094	.5268	3.395	.4230
#2	3.528	.0307	.0588	1.063	-.0204	.5347	3.379	.4268
#3	3.582	.0362	.0593	1.031	-.0213	.5410	3.371	.3895

Zoom In Zoom Out

Sample Name: jc99337-11conf Acquired: 12/10/2019 16:12:08 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**292460.**	**33277.**	**8388.3**	**14864.**
Stddev	7088.	91.	15.5	32.
%RSD	2.4235	.27306	.18500	.21197
#1	284490.	33179.	8371.4	14830.
#2	298070.	33291.	8401.8	14892.
#3	294810.	33359.	8391.8	14871.

Zoom In Zoom Out

Sample Name: mp18771-b1 Acquired: 12/10/2019 16:17:09 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.892**	**1.898**	**1.891**	**1.853**	**1.859**	**1.832**	**1.879**	**1.846**
Stddev	.006	.007	.009	.006	.023	.022	.030	.007
%RSD	.2936	.3702	.4530	.3317	1.241	1.219	1.613	.3930
#1	1.891	1.900	1.893	1.852	1.875	1.845	1.895	1.842
#2	1.897	1.904	1.882	1.847	1.832	1.806	1.844	1.842
#3	1.886	1.890	1.899	1.859	1.870	1.845	1.899	1.855

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2345**	**1.834**	**1.910**	**1.901**	**1.877**	**1.856**	**1.849**	**1.878**
Stddev	.0028	.023	.008	.009	.006	.008	.009	.009
%RSD	1.186	1.265	.4330	.4778	.2967	.4421	.4813	.4631
#1	.2358	1.850	1.905	1.899	1.878	1.854	1.853	1.881
#2	.2313	1.807	1.905	1.894	1.871	1.849	1.839	1.869
#3	.2364	1.844	1.920	1.911	1.882	1.865	1.856	1.886

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.32**	**25.72**	**25.41**	**25.17**	**25.23**	**25.23**	**1.818**	**1.967**
Stddev	.11	.09	.09	.04	.07	.09	.008	.010
%RSD	.4389	.3559	.3428	.1685	.2886	.3622	.4603	.4951
#1	25.35	25.76	25.43	25.19	25.21	25.23	1.820	1.969
#2	25.42	25.79	25.48	25.20	25.31	25.31	1.809	1.957
#3	25.20	25.62	25.31	25.12	25.17	25.13	1.825	1.976

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0294**	**2.025**	**1.933**	**1.855**	**1.505**	**1.855**	F **-.0568**	**.0114**
Stddev	.0005	.008	.007	.021	.009	.023	.0052	.0003
%RSD	1.668	.3903	.3500	1.152	.5863	1.238	9.125	2.539
#1	.0291	2.025	1.934	1.869	1.512	1.870	-.0589	.0117
#2	.0290	2.017	1.939	1.830	1.495	1.829	-.0606	.0111
#3	.0299	2.033	1.926	1.865	1.507	1.867	-.0509	.0114

Zoom In Zoom Out

Sample Name: mp18771-b1 Acquired: 12/10/2019 16:17:09 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**-.0006**	**1.835**	**.0016**
Stddev	.0011	.006	.0012
%RSD	177.8	.3161	78.97
#1	-.0016	1.833	.0016
#2	-.0006	1.830	.0028
#3	.0005	1.841	.0003

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**282990.**	**32412.**	**8237.1**	**14585.**
Stddev	4166.	97.	39.6	58.
%RSD	1.4722	.29829	.48044	.39722
#1	280700.	32472.	8241.7	14602.
#2	287800.	32301.	8274.2	14632.
#3	280460.	32465.	8195.4	14520.

Zoom In Zoom Out

Sample Name: mp18771-mb1 Acquired: 12/10/2019 16:22:05 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0007**	**.0002**	**.0001**	**.0001**	**.0017**	**.0022**	**.0005**	**.0011**	**.0006**
Stddev	.0001	.0000	.0000	.0001	.0002	.0001	.0000	.0002	.0002
%RSD	8.134	15.64	28.74	102.5	9.711	6.475	4.135	14.41	26.35
#1	.0008	.0002	.0002	.0002	.0019	.0024	.0005	.0012	.0004
#2	.0008	.0002	.0001	-.0000	.0016	.0021	.0005	.0010	.0005
#3	.0007	.0001	.0002	.0002	.0017	.0021	.0005	.0010	.0007

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0096**	**-.0009**	**-.0011**	**-.0004**	**-.0000**	**.0003**	**-.0124**	**.0791**
Stddev	.0002	.0002	.0005	.0013	.0006	.0017	.0005	.0023	.0020
%RSD	157.5	2.444	50.09	114.6	153.9	3868.	140.7	18.89	2.573
#1	-.0001	.0097	-.0004	-.0015	-.0011	-.0020	.0008	-.0107	.0776
#2	.0000	.0094	-.0010	.0003	-.0002	.0008	.0004	-.0114	.0814
#3	-.0003	.0098	-.0013	-.0021	.0001	.0011	-.0002	-.0151	.0783

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0322**	**.0054**	**.0194**	**.0859**	**.0250**	**.0007**	**.0382**	**.0186**	**.0003**
Stddev	.0019	.0008	.0227	.0027	.0007	.0002	.0010	.0003	.0000
%RSD	5.947	14.53	117.4	3.127	2.633	24.24	2.595	1.438	6.916
#1	.0305	.0046	.0182	.0887	.0258	.0010	.0382	.0188	.0003
#2	.0317	.0061	-.0028	.0834	.0247	.0006	.0373	.0188	.0003
#3	.0343	.0057	.0426	.0856	.0246	.0007	.0392	.0183	.0004

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**.0032**	**.0004**	**.0125**	**-.0010**	**-.0015**	**.0126**	**.0002**
Stddev	.0002	.0004	.0001	.0012	.0011	.0005	.0015	.0021
%RSD	46.67	11.14	18.36	9.658	108.9	31.77	11.61	1048.
#1	.0006	.0036	.0003	.0111	-.0020	-.0011	.0133	.0025
#2	.0002	.0032	.0005	.0130	-.0013	-.0021	.0109	-.0003
#3	.0004	.0029	.0005	.0134	.0002	-.0014	.0136	-.0016

Zoom In Zoom Out

Sample Name: mp18771-mb1 Acquired: 12/10/2019 16:22:05 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**284360.**	**32612.**	**8362.3**	**15172.**
Stddev	2289.	213.	111.2	172.
%RSD	.80490	.65437	1.3299	1.1330
#1	282050.	32420.	8247.5	14994.
#2	286630.	32842.	8469.5	15338.
#3	284390.	32575.	8370.0	15185.

Zoom In Zoom Out

Sample Name: mp18771-s1 Acquired: 12/10/2019 16:27:12 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.900**	**1.846**	**1.875**	**1.843**	**1.854**	**1.876**	**2.217**	**1.844**	**.2337**
Stddev	.001	.004	.029	.029	.016	.014	.015	.027	.0018
%RSD	.0503	.1948	1.551	1.596	.8454	.7199	.6699	1.484	.7596
#1	1.901	1.849	1.859	1.824	1.836	1.860	2.200	1.830	.2317
#2	1.901	1.848	1.909	1.876	1.865	1.884	2.228	1.876	.2348
#3	1.899	1.842	1.858	1.827	1.861	1.882	2.222	1.827	.2346

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.826**	**2.039**	**1.875**	**1.859**	**1.869**	**1.821**	**1.718**	**46.64**	**27.43**
Stddev	.017	.035	.032	.023	.027	.032	.024	.12	.07
%RSD	.9056	1.700	1.726	1.221	1.446	1.762	1.421	.2645	.2474
#1	1.807	2.016	1.856	1.842	1.852	1.800	1.705	46.74	27.49
#2	1.837	2.079	1.912	1.885	1.900	1.858	1.746	46.67	27.45
#3	1.834	2.022	1.856	1.851	1.854	1.804	1.702	46.50	27.36

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**64.41**	**26.87**	**26.53**	**25.05**	**1.778**	**1.916**	**4.182**	**1.986**	**1.903**
Stddev	.11	.07	.03	.04	.025	.031	.085	.034	.005
%RSD	.1682	.2616	.1225	.1599	1.413	1.639	2.030	1.713	.2424
#1	64.48	26.94	26.55	25.05	1.763	1.895	4.156	1.962	1.906
#2	64.47	26.80	26.56	25.09	1.807	1.952	4.277	2.025	1.905
#3	64.29	26.86	26.50	25.01	1.764	1.901	4.113	1.972	1.897

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.424**	**1.290**	**1.824**	**-.0091**	**.0085**	**.0094**	**2.292**	**.1290**
Stddev	.021	.023	.015	.0037	.0013	.0018	.035	.0014
%RSD	.8595	1.761	.8108	40.83	14.82	18.63	1.540	1.089
#1	2.400	1.282	1.807	-.0060	.0072	.0083	2.269	.1288
#2	2.439	1.315	1.834	-.0081	.0097	.0114	2.333	.1278
#3	2.433	1.272	1.830	-.0132	.0085	.0085	2.274	.1306

Zoom In Zoom Out

Sample Name: mp18771-s1 Acquired: 12/10/2019 16:27:12 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**284110.**	**33081.**	**8262.1**	**14542.**
Stddev	2053.	125.	112.5	184.
%RSD	.72243	.37656	1.3622	1.2628
#1	286480.	33069.	8339.0	14671.
#2	282960.	33211.	8132.9	14332.
#3	282900.	32962.	8314.2	14623.

Zoom In Zoom Out

Sample Name: mp18771-s2 Acquired: 12/10/2019 16:32:08 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.921**	**1.855**	**1.887**	**1.859**	**1.887**	**1.890**	**3.288**	**1.863**	**.2363**
Stddev	.002	.002	.017	.016	.004	.005	.013	.016	.0005
%RSD	.1098	.1263	.9120	.8539	.1900	.2926	.3994	.8420	.2312
#1	1.918	1.852	1.878	1.850	1.888	1.883	3.284	1.855	.2357
#2	1.921	1.856	1.876	1.849	1.889	1.892	3.302	1.853	.2364
#3	1.922	1.856	1.907	1.877	1.882	1.893	3.277	1.881	.2367

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.875**	**2.071**	**1.898**	**1.861**	**1.874**	**1.843**	**1.713**	**62.08**	**27.39**
Stddev	.003	.017	.017	.008	.016	.013	.015	.25	.13
%RSD	.1656	.8270	.8684	.4503	.8503	.7176	.8517	.3994	.4812
#1	1.876	2.062	1.891	1.863	1.864	1.839	1.705	61.80	27.24
#2	1.878	2.060	1.886	1.852	1.865	1.833	1.704	62.16	27.42
#3	1.872	2.091	1.916	1.868	1.892	1.858	1.729	62.27	27.50

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**109.0**	**32.51**	**27.14**	**25.19**	**1.795**	**1.939**	**4.144**	**1.999**	**1.913**
Stddev	.4	.06	.08	.09	.014	.014	.049	.015	.004
%RSD	.3518	.1852	.2923	.3437	.7680	.7162	1.175	.7248	.2377
#1	108.6	32.46	27.06	25.09	1.787	1.932	4.173	1.992	1.908
#2	109.2	32.48	27.15	25.22	1.787	1.929	4.088	1.989	1.914
#3	109.4	32.57	27.21	25.26	1.810	1.955	4.172	2.015	1.916

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.590**	**1.323**	**1.866**	**-.0070**	**.0019**	**.0195**	**2.290**	**.3785**
Stddev	.005	.016	.002	.0043	.0010	.0011	.015	.0009
%RSD	.1899	1.241	.0927	61.20	52.76	5.589	.6687	.2483
#1	2.586	1.310	1.866	-.0119	.0029	.0186	2.285	.3790
#2	2.590	1.319	1.867	-.0038	.0009	.0207	2.277	.3790
#3	2.595	1.342	1.864	-.0054	.0020	.0191	2.307	.3774

Zoom In Zoom Out

Sample Name: mp18771-s2 Acquired: 12/10/2019 16:32:08 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**283840.**	**33007.**	**8277.3**	**14574.**
Stddev	1005.	101.	55.7	89.
%RSD	.35423	.30713	.67262	.60788
#1	283850.	33082.	8309.8	14620.
#2	282830.	33048.	8309.1	14630.
#3	284840.	32892.	8213.0	14471.

Zoom In Zoom Out

Sample Name: jc99645-1 Acquired: 12/10/2019 16:37:05 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0597**	**.0021**	**.0007**	**.0079**	**.0877**	**.0573**	**.4725**	**.0163**	**.0004**
Stddev	.0054	.0002	.0001	.0003	.0043	.0029	.0248	.0004	.0015
%RSD	9.044	7.659	8.504	3.558	4.943	5.140	5.254	2.709	344.1
#1	.0553	.0020	.0008	.0076	.0888	.0576	.4758	.0168	-.0001
#2	.0658	.0023	.0007	.0081	.0830	.0543	.4462	.0159	.0021
#3	.0581	.0020	.0007	.0079	.0914	.0601	.4955	.0163	-.0007

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0451**	**.1776**	**.0111**	**-.0008**	**.0314**	**.0032**	**.0014**	**22.22**	**1.915**
Stddev	.0026	.0010	.0009	.0010	.0006	.0011	.0012	1.99	.167
%RSD	5.735	.5649	7.888	126.8	1.847	33.13	84.92	8.953	8.736
#1	.0459	.1775	.0104	.0003	.0308	.0026	.0026	20.57	1.777
#2	.0422	.1766	.0121	-.0012	.0315	.0045	.0014	24.43	2.101
#3	.0472	.1786	.0108	-.0014	.0320	.0026	.0002	21.66	1.867

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**48.88**	**3.681**	**1.805**	**.4460**	**.0330**	**.0021**	**1.943**	**.0199**	**.0187**
Stddev	4.33	.346	.134	.0337	.0002	.0002	.022	.0003	.0016
%RSD	8.854	9.399	7.398	7.553	.7006	9.969	1.117	1.319	8.471
#1	45.30	3.391	1.690	.4148	.0333	.0022	1.967	.0199	.0175
#2	53.69	4.064	1.951	.4817	.0328	.0019	1.927	.0197	.0205
#3	47.64	3.587	1.773	.4414	.0329	.0022	1.933	.0202	.0182

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7663**	**.0048**	**.0120**	**.0683**	**-.0027**	**.0163**	**.4605**	**.1716**
Stddev	.0419	.0005	.0004	.0045	.0020	.0014	.0012	.0078
%RSD	5.468	10.79	3.234	6.627	74.84	8.718	.2695	4.531
#1	.7716	.0052	.0116	.0632	-.0041	.0157	.4591	.1722
#2	.7220	.0042	.0121	.0717	-.0036	.0180	.4609	.1636
#3	.8053	.0050	.0123	.0701	-.0004	.0153	.4614	.1791

Zoom In Zoom Out

Sample Name: jc99645-1 Acquired: 12/10/2019 16:37:05 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**271260.**	**33471.**	**8530.4**	**15063.**
Stddev	13320.	2399.	51.9	83.
%RSD	4.9106	7.1663	.60893	.55295
#1	269950.	35595.	8535.2	15070.
#2	285180.	30869.	8579.8	15143.
#3	258640.	33950.	8476.2	14977.

Zoom In Zoom Out

Sample Name: mp18771-sd1 Acquired: 12/10/2019 16:42:07 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0658**	**.0024**	**.0008**	**.0084**	**.0864**	**.0571**	**.4548**	**.0162**	**.0033**
Stddev	.0023	.0001	.0006	.0003	.0019	.0048	.0117	.0004	.0008
%RSD	3.459	6.067	79.07	3.457	2.172	8.436	2.579	2.238	22.87
#1	.0645	.0022	.0001	.0081	.0843	.0517	.4413	.0166	.0035
#2	.0644	.0025	.0009	.0087	.0878	.0609	.4625	.0163	.0025
#3	.0684	.0025	.0014	.0083	.0872	.0588	.4606	.0159	.0039

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0427**	**.1986**	**.0113**	**-.0065**	**.0331**	**.0028**	**-.0018**	**24.18**	**2.201**
Stddev	.0013	.0041	.0027	.0057	.0033	.0008	.0028	.47	.037
%RSD	3.125	2.054	24.09	87.91	9.909	29.20	155.0	1.947	1.674
#1	.0411	.2030	.0092	-.0030	.0293	.0019	-.0050	23.90	2.190
#2	.0435	.1979	.0103	-.0034	.0349	.0030	-.0008	23.91	2.171
#3	.0434	.1949	.0143	-.0131	.0351	.0034	.0004	24.72	2.242

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**53.49**	**3.975**	**1.902**	**.5297**	**.0412**	**.0027**	**2.037**	**.0216**	**.0202**
Stddev	1.17	.152	.127	.0079	.0037	.0008	.085	.0024	.0005
%RSD	2.187	3.831	6.658	1.491	8.899	28.18	4.179	11.10	2.650
#1	52.95	3.833	1.927	.5241	.0452	.0021	2.121	.0200	.0199
#2	52.69	3.958	1.764	.5387	.0405	.0024	2.040	.0205	.0200
#3	54.83	4.136	2.014	.5261	.0380	.0036	1.951	.0244	.0208

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7371**	**.0113**	**.0126**	**.0943**	**-.0020**	**.0150**	**.4635**	**.1649**
Stddev	.0169	.0022	.0007	.0109	.0057	.0043	.0080	.0052
%RSD	2.294	19.12	5.503	11.52	288.4	28.86	1.722	3.153
#1	.7186	.0111	.0120	.0817	.0011	.0134	.4652	.1660
#2	.7518	.0092	.0133	.1002	.0016	.0117	.4704	.1592
#3	.7409	.0135	.0124	.1008	-.0086	.0199	.4548	.1694

Zoom In Zoom Out

Sample Name: mp18771-sd1 Acquired: 12/10/2019 16:42:07 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**291750.**	**31709.**	**8407.7**	**15080.**
Stddev	9293.	563.	135.9	209.
%RSD	3.1852	1.7765	1.6160	1.3827
#1	302290.	31884.	8280.8	14882.
#2	284740.	32164.	8391.3	15060.
#3	288210.	31079.	8551.0	15298.

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 16:47:13 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.948**	**1.950**	**1.933**	**1.909**	**1.943**	**1.903**	**1.967**	**1.908**	**.2351**
Stddev	.004	.003	.006	.006	.007	.005	.018	.006	.0004
%RSD	.2080	.1664	.3234	.2910	.3464	.2894	.9429	.2964	.1895
#1	1.950	1.953	1.928	1.906	1.943	1.903	1.946	1.906	.2356
#2	1.944	1.946	1.931	1.906	1.949	1.908	1.981	1.904	.2349
#3	1.951	1.951	1.940	1.916	1.936	1.897	1.975	1.915	.2347
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.912**	**1.953**	**1.916**	**1.932**	**1.895**	**1.907**	**1.882**	**39.75**	**40.30**
Stddev	.008	.007	.007	.007	.005	.005	.008	.10	.10
%RSD	.4100	.3729	.3682	.3627	.2889	.2774	.4214	.2487	.2512
#1	1.909	1.949	1.909	1.935	1.895	1.905	1.878	39.83	40.35
#2	1.921	1.948	1.915	1.937	1.890	1.903	1.877	39.64	40.18
#3	1.906	1.961	1.923	1.924	1.901	1.913	1.891	39.78	40.36
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.78**	**39.43**	**39.56**	**39.41**	**1.882**	**1.944**	**4.672**	**1.981**	**1.990**
Stddev	.10	.12	.11	.14	.008	.006	.017	.009	.004
%RSD	.2399	.3056	.2834	.3608	.4353	.3296	.3690	.4640	.2174
#1	39.84	39.48	39.55	39.48	1.877	1.938	4.656	1.975	1.993
#2	39.67	39.29	39.46	39.24	1.878	1.943	4.669	1.977	1.985
#3	39.84	39.51	39.68	39.49	1.891	1.951	4.690	1.992	1.992
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 16:47:13 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.889**	**1.906**	**1.898**	**1.845**	**1.879**	**1.919**	**1.890**	**1.893**
Stddev	.008	.005	.006	.002	.009	.003	.009	.009
%RSD	.4471	.2452	.3402	.1223	.4769	.1374	.4753	.4680
#1	1.887	1.902	1.900	1.843	1.872	1.918	1.880	1.889
#2	1.899	1.904	1.904	1.848	1.875	1.916	1.896	1.903
#3	1.882	1.911	1.891	1.845	1.889	1.922	1.895	1.887
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**278470.**	**32291.**	**8350.9**	**14502.**
Stddev	1390.	133.	26.1	28.
%RSD	.49905	.41337	.31223	.19388
#1	279590.	32258.	8372.7	14519.
#2	276910.	32438.	8357.9	14516.
#3	278900.	32177.	8322.0	14469.

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 16:52:11 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0001**	**.0002**	**.0001**	**.0004**	**.0009**	**-.0000**	**-.0001**	**.0001**
Stddev	.0001	.0000	.0001	.0003	.0001	.0006	.0000	.0000	.0001
%RSD	67.76	29.97	52.54	394.1	23.59	65.54	66.32	24.00	83.34
#1	-.0002	.0001	.0002	.0005	.0004	.0006	-.0000	-.0001	.0002
#2	-.0000	.0001	.0003	-.0001	.0003	.0016	-.0000	-.0001	.0000
#3	-.0002	.0001	.0001	-.0001	.0005	.0006	-.0000	-.0002	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0003**	**.0001**	**-.0004**	**-.0001**	**-.0005**	**.0000**	**-.0071**	**.0129**
Stddev	.0001	.0001	.0011	.0009	.0012	.0023	.0020	.0030	.0016
%RSD	68.93	25.06	727.7	211.6	1329.	476.1	6641.	41.86	12.44
#1	-.0003	.0004	-.0009	-.0008	.0013	-.0024	.0012	-.0068	.0130
#2	-.0002	.0003	.0001	-.0011	-.0009	-.0013	-.0023	-.0103	.0145
#3	-.0001	.0003	.0012	.0006	-.0006	.0021	.0011	-.0043	.0113
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**-.0067**	**-.0028**	**.0149**	**.0028**	**.0000**	**.0011**	**.0008**	**.0000**
Stddev	.0018	.0087	.0186	.0033	.0005	.0001	.0006	.0004	.0000
%RSD	429.5	128.7	675.4	22.27	18.75	310.5	57.73	51.83	63.64
#1	.0004	-.0159	-.0207	.0158	.0034	-.0000	.0005	.0006	.0000
#2	-.0025	.0012	.0165	.0177	.0025	.0000	.0009	.0005	.0000
#3	.0008	-.0055	-.0041	.0113	.0025	.0001	.0017	.0013	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 16:52:11 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0008**	**.0001**	**.0009**	**.0006**	**.0000**	**-.0047**	**-.0006**
Stddev	.0001	.0006	.0001	.0026	.0005	.0005	.0015	.0012
%RSD	188.9	80.07	69.15	274.7	77.48	1962.	32.86	198.0
#1	.0001	.0015	.0002	.0033	.0007	-.0001	-.0030	.0003
#2	-.0001	.0003	.0000	-.0018	.0001	-.0004	-.0060	-.0002
#3	-.0002	.0006	.0001	.0014	.0009	.0006	-.0050	-.0020
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**283240.**	**32587.**	**8408.5**	**15162.**
Stddev	7811.	33.	24.8	33.
%RSD	2.7579	.09998	.29449	.21689
#1	288280.	32617.	8412.9	15167.
#2	274240.	32592.	8381.8	15126.
#3	287190.	32553.	8430.7	15191.

Zoom In Zoom Out

Sample Name: mp18771-ps1 Acquired: 12/10/2019 16:57:21 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.084**	**2.022**	**2.064**	**2.019**	**2.010**	**1.977**	**2.357**	**2.018**	**.2454**
Stddev	.040	.037	.077	.072	.066	.062	.103	.071	.0069
%RSD	1.931	1.853	3.748	3.566	3.270	3.117	4.364	3.514	2.822
#1	2.041	1.982	2.025	1.979	1.936	1.906	2.240	1.978	.2376
#2	2.120	2.057	2.015	1.976	2.061	2.016	2.433	1.976	.2509
#3	2.090	2.027	2.154	2.103	2.034	2.009	2.398	2.100	.2478

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.944**	**2.224**	**1.999**	**2.009**	**2.161**	**2.028**	**1.970**	**48.27**	**28.09**
Stddev	.066	.086	.077	.076	.077	.075	.074	.99	.50
%RSD	3.384	3.883	3.835	3.781	3.557	3.716	3.780	2.044	1.787
#1	1.869	2.176	1.958	1.974	2.117	1.987	1.932	47.20	27.56
#2	1.994	2.172	1.952	1.957	2.116	1.983	1.922	49.15	28.56
#3	1.968	2.324	2.087	2.097	2.250	2.115	2.055	48.45	28.15

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**73.98**	**29.36**	**27.56**	**26.16**	**2.038**	**2.042**	**2.025**	**2.102**	**2.086**
Stddev	1.35	.48	.47	.47	.075	.080	.088	.085	.040
%RSD	1.821	1.652	1.711	1.809	3.679	3.891	4.369	4.046	1.934
#1	72.56	28.84	27.06	25.65	2.001	2.002	1.982	2.057	2.042
#2	75.24	29.79	28.00	26.58	1.988	1.991	1.967	2.050	2.122
#3	74.15	29.44	27.63	26.25	2.124	2.134	2.127	2.200	2.093

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.543**	**1.959**	**1.874**	**-.0265**	**.0109**	**.0160**	**2.477**	**.1530**
Stddev	.092	.078	.065	.0033	.0018	.0004	.100	.0075
%RSD	3.610	3.972	3.463	12.29	16.28	2.546	4.038	4.875
#1	2.440	1.919	1.801	-.0235	.0095	.0165	2.426	.1446
#2	2.617	1.909	1.922	-.0260	.0129	.0157	2.412	.1588
#3	2.571	2.048	1.901	-.0299	.0103	.0160	2.592	.1555

Zoom In Zoom Out

Sample Name: mp18771-ps1 Acquired: 12/10/2019 16:57:21 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**287870.**	**32213.**	**8136.8**	**14335.**
Stddev	8979.	378.	248.5	410.
%RSD	3.1190	1.1748	3.0540	2.8606
#1	297890.	32592.	8268.6	14564.
#2	280570.	31835.	8291.6	14579.
#3	285150.	32211.	7850.2	13862.

Zoom In Zoom Out

Sample Name: jc99645-1 Acquired: 12/10/2019 17:02:18 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0609**	**.0020**	**.0007**	**.0078**	**.0831**	**.0538**	**.4445**	**.0161**	**.0014**
Stddev	.0006	.0000	.0001	.0005	.0006	.0003	.0016	.0005	.0003
%RSD	.9750	.8206	10.74	6.157	.6689	.5746	.3704	3.258	22.15
#1	.0611	.0021	.0006	.0077	.0837	.0541	.4461	.0162	.0014
#2	.0613	.0020	.0007	.0074	.0827	.0538	.4428	.0155	.0016
#3	.0602	.0020	.0006	.0083	.0827	.0534	.4447	.0165	.0010

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0421**	**.1787**	**.0129**	**.0000**	**.0319**	**.0040**	**.0002**	**22.75**	**1.982**
Stddev	.0001	.0061	.0015	.0009	.0004	.0011	.0011	.21	.016
%RSD	.1877	3.435	11.54	40220.	1.380	28.26	431.9	.9232	.8109
#1	.0422	.1780	.0139	-.0008	.0316	.0052	.0002	22.91	1.998
#2	.0421	.1729	.0135	.0010	.0316	.0029	-.0008	22.83	1.981
#3	.0420	.1851	.0112	-.0002	.0324	.0039	.0013	22.51	1.966

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**50.01**	**3.753**	**1.799**	**.4491**	**.0338**	**.0023**	**1.843**	**.0199**	**.0191**
Stddev	.47	.040	.017	.0049	.0015	.0003	.053	.0010	.0002
%RSD	.9392	1.075	.9177	1.102	4.388	14.08	2.857	5.079	1.116
#1	50.43	3.793	1.806	.4540	.0340	.0027	1.838	.0191	.0192
#2	50.10	3.754	1.811	.4441	.0323	.0022	1.794	.0196	.0192
#3	49.51	3.713	1.780	.4490	.0352	.0021	1.898	.0211	.0189

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7197**	**.0042**	**.0113**	**.0719**	**-.0036**	**.0168**	**.4729**	**.1622**
Stddev	.0050	.0004	.0002	.0032	.0012	.0007	.0175	.0013
%RSD	.6889	9.885	1.379	4.385	35.00	4.192	3.697	.7963
#1	.7223	.0042	.0113	.0684	-.0043	.0174	.4720	.1635
#2	.7140	.0038	.0114	.0729	-.0043	.0160	.4559	.1609
#3	.7228	.0046	.0111	.0745	-.0021	.0168	.4908	.1621

Zoom In Zoom Out

Sample Name: jc99645-1 Acquired: 12/10/2019 17:02:18 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**290000.**	**33095.**	**8422.0**	**14967.**
Stddev	1224.	163.	235.3	411.
%RSD	.42220	.49271	2.7935	2.7461
#1	289080.	32907.	8430.8	14985.
#2	289520.	33183.	8652.7	15369.
#3	291390.	33196.	8182.4	14547.

Zoom In Zoom Out

Sample Name: mp18771-s2 Acquired: 12/10/2019 17:07:19 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.949**	**1.884**	**1.955**	**1.889**	**1.912**	**1.857**	**3.371**	**1.932**	**.2358**
Stddev	.003	.001	.068	.065	.010	.011	.015	.067	.0013
%RSD	.1738	.0522	3.497	3.417	.5162	.5912	.4478	3.469	.5320
#1	1.948	1.883	1.925	1.858	1.901	1.845	3.367	1.900	.2345
#2	1.947	1.884	2.033	1.964	1.914	1.866	3.387	2.009	.2369
#3	1.953	1.885	1.906	1.847	1.920	1.861	3.358	1.887	.2362

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.892**	**2.159**	**1.940**	**1.948**	**1.947**	**1.884**	**1.750**	**62.60**	**27.96**
Stddev	.008	.078	.065	.052	.066	.062	.064	.26	.06
%RSD	.4451	3.595	3.342	2.665	3.393	3.307	3.641	.4195	.2286
#1	1.883	2.119	1.905	1.922	1.914	1.852	1.724	62.35	27.90
#2	1.898	2.249	2.015	2.007	2.024	1.956	1.823	62.58	27.95
#3	1.897	2.110	1.899	1.914	1.905	1.845	1.704	62.87	28.03

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**111.7**	**33.14**	**27.35**	**25.51**	**1.847**	**2.007**	**4.184**	**2.066**	**1.939**
Stddev	.2	.14	.05	.09	.062	.073	.174	.077	.005
%RSD	.1921	.4325	.1781	.3432	3.341	3.632	4.149	3.716	.2625
#1	111.5	32.99	27.29	25.44	1.820	1.974	4.116	2.029	1.934
#2	111.6	33.27	27.37	25.48	1.918	2.091	4.381	2.154	1.937
#3	111.9	33.17	27.38	25.61	1.804	1.956	4.054	2.015	1.944

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.614**	**1.375**	**1.881**	**-.0082**	**-.0007**	**.0189**	**2.342**	**.3809**
Stddev	.018	.052	.011	.0055	.0020	.0006	.088	.0048
%RSD	.6917	3.764	.5846	67.03	287.1	3.331	3.747	1.253
#1	2.593	1.346	1.868	-.0138	-.0006	.0192	2.309	.3822
#2	2.624	1.435	1.885	-.0082	-.0027	.0194	2.442	.3848
#3	2.625	1.345	1.889	-.0028	.0012	.0182	2.276	.3756

Zoom In Zoom Out

Sample Name: mp18771-s2 Acquired: 12/10/2019 17:07:19 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**284980.**	**32762.**	**8216.5**	**14526.**
Stddev	1973.	104.	253.2	410.
%RSD	.69214	.31622	3.0814	2.8222
#1	286760.	32866.	8332.5	14724.
#2	282860.	32760.	7926.1	14055.
#3	285320.	32659.	8391.0	14800.

Zoom In Zoom Out

Sample Name: jc99645-2 Acquired: 12/10/2019 17:12:17 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1338**	**.0017**	**.0005**	**.0121**	**.0705**	**.1582**	**.7361**	**.0500**	**.0018**
Stddev	.0017	.0001	.0003	.0002	.0007	.0020	.0101	.0004	.0003
%RSD	1.286	3.863	53.54	1.944	.9730	1.249	1.372	.8290	18.06
#1	.1358	.0017	.0008	.0121	.0711	.1598	.7427	.0504	.0018
#2	.1332	.0017	.0004	.0118	.0708	.1588	.7410	.0496	.0015
#3	.1325	.0016	.0003	.0122	.0698	.1560	.7244	.0500	.0022

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0659**	**.3031**	**.0210**	**.0001**	**.0402**	**.0005**	**.0022**	**34.37**	**55.46**
Stddev	.0007	.0025	.0011	.0006	.0003	.0018	.0007	.40	.59
%RSD	1.103	.8334	5.121	623.5	.6410	393.9	30.96	1.167	1.070
#1	.0661	.3060	.0222	.0008	.0401	-.0014	.0017	34.80	56.09
#2	.0665	.3012	.0201	-.0005	.0399	.0022	.0019	34.32	55.37
#3	.0651	.3021	.0206	.0000	.0404	.0006	.0029	34.00	54.91

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**69.23**	**6.578**	**3.285**	**1.476**	**.0460**	**.0100**	**2.558**	**.0287**	**.3818**
Stddev	.78	.069	.048	.018	.0005	.0001	.010	.0004	.0041
%RSD	1.126	1.055	1.454	1.256	1.152	1.109	.4026	1.497	1.071
#1	70.10	6.657	3.333	1.497	.0466	.0101	2.568	.0287	.3863
#2	68.99	6.526	3.284	1.470	.0455	.0101	2.558	.0291	.3808
#3	68.60	6.552	3.238	1.461	.0459	.0099	2.547	.0282	.3783

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.441**	**.0033**	**.0185**	**.6538**	**-.0025**	**.0250**	**.7198**	**.1499**
Stddev	.019	.0006	.0002	.0058	.0008	.0002	.0045	.0031
%RSD	1.318	18.12	.9879	.8838	32.21	.7142	.6258	2.086
#1	1.453	.0039	.0186	.6605	-.0016	.0249	.7250	.1524
#2	1.451	.0035	.0186	.6507	-.0030	.0252	.7166	.1510
#3	1.419	.0027	.0183	.6503	-.0030	.0248	.7179	.1464

Zoom In Zoom Out

Sample Name: jc99645-2 Acquired: 12/10/2019 17:12:17 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**285260.**	**32796.**	**8400.1**	**14799.**
Stddev	3834.	247.	49.1	100.
%RSD	1.3440	.75187	.58406	.67690
#1	282560.	32525.	8343.9	14685.
#2	283580.	32857.	8434.1	14875.
#3	289650.	33007.	8422.4	14836.

Zoom In Zoom Out

Sample Name: jc99645-3 Acquired: 12/10/2019 17:17:19 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0296**	**.0008**	**.0002**	**.0035**	**.0190**	**.0774**	**.1576**	**.0100**	**.0007**
Stddev	.0001	.0001	.0001	.0004	.0004	.0017	.0039	.0002	.0002
%RSD	.4801	7.025	41.31	10.35	1.990	2.142	2.446	1.743	27.58
#1	.0296	.0009	.0001	.0037	.0187	.0761	.1536	.0098	.0009
#2	.0297	.0008	.0003	.0031	.0189	.0769	.1581	.0100	.0005
#3	.0294	.0009	.0002	.0038	.0194	.0793	.1612	.0101	.0007

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0365**	**.4136**	**.0070**	**-.0009**	**.0195**	**-.0002**	**.0001**	**8.779**	**.8464**
Stddev	.0009	.0017	.0019	.0008	.0002	.0009	.0008	.044	.0074
%RSD	2.471	.3997	27.45	85.36	.7829	427.8	972.7	.5059	.8699
#1	.0356	.4119	.0066	-.0000	.0197	-.0005	.0008	8.826	.8549
#2	.0365	.4137	.0091	-.0014	.0194	-.0009	-.0008	8.774	.8413
#3	.0374	.4152	.0054	-.0013	.0195	.0008	.0003	8.738	.8431

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**22.27**	**1.213**	**.9579**	**.2547**	**.0235**	**.0007**	**1.200**	**.0166**	**.0142**
Stddev	.07	.012	.0218	.0046	.0004	.0001	.015	.0002	.0001
%RSD	.3089	1.012	2.280	1.799	1.553	19.61	1.243	1.303	.4554
#1	22.33	1.228	.9638	.2593	.0240	.0007	1.217	.0168	.0141
#2	22.29	1.206	.9338	.2501	.0234	.0008	1.197	.0164	.0142
#3	22.19	1.207	.9762	.2547	.0232	.0006	1.188	.0167	.0141

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4290**	**.0015**	**.0073**	**.0370**	**-.0025**	**.0056**	**.2688**	**.1317**
Stddev	.0091	.0011	.0001	.0017	.0008	.0006	.0010	.0022
%RSD	2.123	76.25	1.300	4.576	33.31	9.983	.3560	1.660
#1	.4190	.0002	.0073	.0359	-.0018	.0063	.2699	.1293
#2	.4309	.0024	.0074	.0362	-.0024	.0052	.2685	.1321
#3	.4369	.0018	.0072	.0390	-.0034	.0055	.2680	.1336

Zoom In Zoom Out

Sample Name: jc99645-3 Acquired: 12/10/2019 17:17:19 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**286270.**	**33404.**	**8518.0**	**15167.**
Stddev	5513.	125.	19.9	37.
%RSD	1.9259	.37524	.23371	.24621
#1	288420.	33266.	8534.5	15192.
#2	290370.	33435.	8523.8	15184.
#3	280000.	33511.	8495.9	15124.

Zoom In Zoom Out

Sample Name: jc99722-12 Acquired: 12/10/2019 17:22:22 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.256**	**.0099**	**.0013**	**.1571**	**.3591**	**.1659**	**6.924**	**.3297**
Stddev	.030	.0002	.0002	.0012	.0022	.0012	.052	.0027
%RSD	2.397	2.110	14.47	.7599	.6007	.7038	.7511	.8333
#1	1.290	.0101	.0012	.1559	.3605	.1660	6.961	.3269
#2	1.233	.0097	.0015	.1583	.3566	.1646	6.865	.3324
#3	1.245	.0098	.0011	.1572	.3601	.1670	6.947	.3297

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0024**	**.3790**	**.6773**	**.0187**	F **-.0041**	**.1524**	**.0033**	**.0008**
Stddev	.0008	.0017	.0044	.0017	.0021	.0020	.0020	.0006
%RSD	32.63	.4516	.6525	8.929	51.76	1.282	61.21	78.01
#1	.0030	.3802	.6733	.0200	-.0018	.1502	.0049	.0001
#2	.0015	.3771	.6820	.0168	-.0045	.1537	.0010	.0009
#3	.0027	.3799	.6765	.0192	-.0059	.1534	.0041	.0013

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**197.3**	**15.70**	F **318.8**	**77.15**	**26.43**	**2.989**	**.2243**	**.0063**
Stddev	5.0	.41	6.2	1.96	.66	.068	.0019	.0001
%RSD	2.532	2.602	1.946	2.538	2.487	2.262	.8627	1.190
#1	202.9	16.16	325.0	79.37	27.18	3.065	.2225	.0063
#2	193.3	15.37	312.6	75.65	25.93	2.935	.2263	.0062
#3	195.7	15.57	318.8	76.44	26.18	2.968	.2241	.0064

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.571**	**.0145**	**.1229**	**3.686**	**.0036**	**.1198**	**.2497**	**-.0083**
Stddev	.014	.0004	.0033	.015	.0005	.0006	.0003	.0007
%RSD	.5529	2.705	2.710	.4110	13.80	.4848	.1334	8.503
#1	2.587	.0140	.1266	3.687	.0040	.1200	.2493	-.0076
#2	2.564	.0147	.1202	3.670	.0037	.1191	.2500	-.0084
#3	2.562	.0147	.1219	3.701	.0030	.1202	.2499	-.0090

Zoom In Zoom Out

Sample Name: jc99722-12 Acquired: 12/10/2019 17:22:22 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.4297**	**2.030**	**.3864**
Stddev	.0097	.013	.0021
%RSD	2.266	.6317	.5371
#1	.4405	2.017	.3878
#2	.4216	2.043	.3841
#3	.4271	2.030	.3875

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**291410.**	**34157.**	**8626.9**	**14522.**
Stddev	1354.	776.	43.1	71.
%RSD	.46467	2.2728	.49935	.49070
#1	290630.	33281.	8668.6	14594.
#2	292970.	34759.	8582.5	14451.
#3	290630.	34431.	8629.8	14521.

Zoom In Zoom Out

Sample Name: jc99722-13 Acquired: 12/10/2019 17:27:33 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.430**	**.0103**	**.0014**	**.1453**	**.3115**	**.1365**	**7.490**	**.3370**	**.0010**
Stddev	.007	.0000	.0001	.0011	.0265	.0106	.660	.0026	.0052
%RSD	.5205	.1072	7.382	.7799	8.515	7.770	8.818	.7770	533.8
#1	1.439	.0103	.0013	.1444	.2948	.1300	7.139	.3346	.0041
#2	1.426	.0103	.0013	.1450	.3421	.1487	8.252	.3365	-.0050
#3	1.426	.0103	.0015	.1466	.2976	.1307	7.080	.3398	.0039

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3387**	**.7287**	**.0118**	**-.0004**	**.1547**	**.0038**	**.0005**	**198.6**	**18.09**
Stddev	.0284	.0075	.0014	.0036	.0017	.0015	.0015	1.0	.09
%RSD	8.372	1.031	11.62	836.6	1.070	39.00	314.7	.5080	.4730
#1	.3207	.7231	.0132	-.0008	.1539	.0044	.0017	199.7	18.17
#2	.3714	.7258	.0116	.0033	.1537	.0050	-.0011	197.8	18.00
#3	.3240	.7372	.0105	-.0038	.1567	.0022	.0008	198.2	18.08

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **305.1**	**85.58**	**30.19**	**2.155**	**.2309**	**.0062**	**2.676**	**.0165**	**.1359**
Stddev	2.8	.39	.11	.018	.0034	.0003	.014	.0004	.0009
%RSD	.9286	.4596	.3745	.8500	1.492	4.087	.5224	2.201	.6269
#1	307.5	86.02	30.32	2.175	.2288	.0061	2.660	.0162	.1369
#2	302.0	85.26	30.12	2.150	.2290	.0061	2.682	.0169	.1353
#3	305.8	85.46	30.13	2.140	.2348	.0065	2.686	.0165	.1356

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.013**	**.0057**	**.1104**	**.1613**	**-.0078**	**.4616**	**2.185**	**.3161**
Stddev	.256	.0006	.0085	.0014	.0057	.0021	.020	.0265
%RSD	8.492	9.654	7.704	.8411	73.59	.4628	.9033	8.390
#1	2.858	.0058	.1047	.1623	-.0125	.4638	2.172	.2989
#2	3.308	.0051	.1201	.1619	-.0014	.4615	2.175	.3466
#3	2.872	.0062	.1063	.1598	-.0094	.4596	2.208	.3028

Zoom In Zoom Out

Sample Name: jc99722-13 Acquired: 12/10/2019 17:27:33 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**284150.**	**34721.**	**8522.2**	**14364.**
Stddev	21983.	318.	39.5	75.
%RSD	7.7364	.91487	.46296	.52321
#1	297120.	34394.	8560.7	14440.
#2	258770.	35029.	8524.0	14362.
#3	296570.	34740.	8481.9	14290.

Zoom In Zoom Out

Sample Name: jc99722-17 Acquired: 12/10/2019 17:32:45 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.094**	**.0085**	**.0015**	**.2216**	**.5006**	**.2220**	**7.763**	**.3429**
Stddev	.004	.0000	.0001	.0035	.0079	.0037	.153	.0057
%RSD	.3366	.5510	9.203	1.595	1.585	1.667	1.969	1.671
#1	1.098	.0084	.0014	.2251	.5008	.2209	7.775	.3480
#2	1.091	.0085	.0017	.2217	.5084	.2261	7.909	.3439
#3	1.093	.0085	.0015	.2180	.4925	.2190	7.604	.3367

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0041**	**.5356**	**.5948**	**.0214**	F **-.0041**	**.1287**	**.0061**	**.0000**
Stddev	.0011	.0084	.0100	.0012	.0013	.0015	.0006	.0009
%RSD	26.77	1.563	1.689	5.431	30.88	1.173	9.602	11050.
#1	.0041	.5339	.6040	.0225	-.0056	.1299	.0065	.0006
#2	.0030	.5447	.5963	.0202	-.0033	.1293	.0054	-.0010
#3	.0052	.5282	.5841	.0217	-.0035	.1270	.0064	.0004

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**210.2**	**17.07**	F **334.3**	**62.35**	**19.30**	**4.895**	**.1410**	**.0051**
Stddev	.5	.05	2.6	.37	.06	.006	.0016	.0003
%RSD	.2466	.2698	.7789	.5855	.3326	.1320	1.166	6.469
#1	210.8	17.11	335.8	62.77	19.37	4.902	.1423	.0054
#2	210.1	17.08	331.3	62.22	19.24	4.890	.1416	.0050
#3	209.8	17.02	335.9	62.07	19.31	4.892	.1391	.0048

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.105**	**.0137**	**.1240**	**4.460**	**.0035**	**.1368**	**.2162**	**-.0083**
Stddev	.035	.0007	.0005	.062	.0022	.0020	.0021	.0017
%RSD	1.683	4.770	.3885	1.396	62.64	1.448	.9915	20.49
#1	2.141	.0143	.1245	4.450	.0041	.1366	.2183	-.0074
#2	2.104	.0130	.1236	4.526	.0052	.1389	.2163	-.0072
#3	2.070	.0139	.1238	4.403	.0010	.1349	.2140	-.0102

Zoom In Zoom Out

Sample Name: jc99722-17 Acquired: 12/10/2019 17:32:45 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.3502**	**1.330**	**.4209**
Stddev	.0014	.025	.0072
%RSD	.3931	1.864	1.713
#1	.3510	1.353	.4173
#2	.3487	1.334	.4292
#3	.3510	1.304	.4161

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**288830.**	**34230.**	**8428.3**	**14450.**
Stddev	5289.	108.	99.9	170.
%RSD	1.8313	.31540	1.1858	1.1764
#1	288830.	34146.	8336.9	14288.
#2	283540.	34191.	8413.0	14435.
#3	294110.	34352.	8535.0	14627.

Zoom In Zoom Out

Sample Name: jc99722-18 Acquired: 12/10/2019 17:37:55 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.246**	**.0098**	**.0013**	**.1365**	**.2911**	**.1194**	**6.495**	**.2898**
Stddev	.033	.0002	.0001	.0015	.0055	.0019	.136	.0039
%RSD	2.628	2.505	10.15	1.126	1.877	1.585	2.092	1.341
#1	1.284	.0100	.0013	.1377	.2848	.1173	6.339	.2921
#2	1.222	.0096	.0015	.1370	.2941	.1210	6.587	.2919
#3	1.233	.0096	.0012	.1347	.2944	.1199	6.560	.2853

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0049**	**.2978**	**.6388**	**.0120**	F **-.0038**	**.1953**	**.0057**	**.0015**
Stddev	.0016	.0057	.0086	.0005	.0012	.0021	.0010	.0025
%RSD	33.36	1.915	1.342	4.024	30.85	1.088	17.36	169.8
#1	.0067	.2912	.6424	.0122	-.0050	.1968	.0060	.0037
#2	.0036	.3016	.6450	.0115	-.0038	.1961	.0046	.0019
#3	.0044	.3006	.6291	.0123	-.0026	.1928	.0065	-.0012

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**182.0**	**10.95**	F **282.6**	**70.29**	**25.32**	**1.928**	**.1695**	**.0060**
Stddev	5.0	.28	4.2	1.63	.69	.060	.0021	.0005
%RSD	2.744	2.576	1.480	2.322	2.717	3.100	1.243	8.341
#1	187.7	11.27	286.4	72.15	26.10	1.996	.1708	.0065
#2	178.1	10.74	278.1	69.08	24.80	1.883	.1706	.0057
#3	180.3	10.84	283.3	69.64	25.05	1.905	.1670	.0057

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.468**	**.0157**	**.1290**	**2.766**	**.0048**	**.0954**	**.1395**	**-.0107**
Stddev	.062	.0007	.0035	.056	.0001	.0005	.0010	.0012
%RSD	2.517	4.234	2.751	2.025	2.143	.5211	.6861	10.94
#1	2.505	.0156	.1330	2.702	.0047	.0948	.1386	-.0119
#2	2.504	.0151	.1263	2.795	.0049	.0957	.1405	-.0096
#3	2.397	.0164	.1276	2.802	.0047	.0957	.1392	-.0105

Zoom In Zoom Out

Sample Name: jc99722-18 Acquired: 12/10/2019 17:37:55 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.3781**	**1.173**	**.3187**
Stddev	.0102	.016	.0078
%RSD	2.708	1.341	2.434
#1	.3897	1.180	.3100
#2	.3702	1.184	.3250
#3	.3745	1.155	.3211

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**296150.**	**34452.**	**8684.8**	**14578.**
Stddev	5338.	595.	95.4	162.
%RSD	1.8026	1.7284	1.0987	1.1102
#1	302290.	33795.	8633.4	14502.
#2	293540.	34957.	8626.0	14468.
#3	292610.	34604.	8794.9	14764.

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 17:43:07 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.932**	**1.939**	**1.960**	**1.940**	**1.909**	**1.905**	**1.959**	**1.916**	**.2310**
Stddev	.002	.004	.004	.003	.019	.017	.018	.003	.0017
%RSD	.0908	.2221	.1976	.1331	.9901	.9011	.9273	.1301	.7435
#1	1.932	1.943	1.958	1.938	1.920	1.920	1.962	1.913	.2323
#2	1.934	1.940	1.957	1.939	1.921	1.910	1.976	1.916	.2316
#3	1.930	1.934	1.964	1.943	1.888	1.886	1.940	1.918	.2291
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.893**	**1.994**	**1.975**	**1.947**	**1.900**	**1.969**	**1.889**	**39.41**	**39.84**
Stddev	.017	.004	.002	.011	.002	.009	.005	.10	.07
%RSD	.9099	.1811	.1186	.5440	.0938	.4678	.2893	.2654	.1667
#1	1.904	1.990	1.974	1.941	1.899	1.961	1.887	39.47	39.91
#2	1.903	1.994	1.973	1.941	1.902	1.965	1.885	39.46	39.84
#3	1.873	1.997	1.978	1.959	1.898	1.979	1.895	39.28	39.78
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.14**	**39.65**	**39.19**	**38.57**	**1.898**	**1.989**	**4.719**	**2.045**	**1.977**
Stddev	.05	.05	.07	.04	.006	.006	.010	.004	.004
%RSD	.1265	.1202	.1701	.1026	.3055	.3170	.2095	.1932	.1816
#1	39.18	39.66	39.27	38.62	1.897	1.986	4.712	2.045	1.979
#2	39.16	39.70	39.16	38.55	1.893	1.984	4.715	2.042	1.978
#3	39.09	39.60	39.15	38.55	1.904	1.996	4.731	2.049	1.973
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 17:43:07 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.854**	**1.943**	**1.856**	**1.886**	**1.919**	**1.913**	**1.881**	**1.887**
Stddev	.017	.005	.017	.006	.005	.003	.003	.014
%RSD	.8878	.2480	.9168	.3003	.2595	.1656	.1670	.7573
#1	1.865	1.940	1.866	1.883	1.918	1.915	1.878	1.899
#2	1.861	1.941	1.866	1.883	1.914	1.915	1.879	1.890
#3	1.835	1.949	1.837	1.893	1.924	1.910	1.884	1.871
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**281870.**	**32641.**	**8260.7**	**14433.**
Stddev	2789.	109.	6.1	7.
%RSD	.98938	.33456	.07330	.04945
#1	280870.	32671.	8260.9	14442.
#2	279720.	32520.	8266.7	14430.
#3	285020.	32732.	8254.6	14428.

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 17:48:06 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	F **.0002**	**.0003**	**.0002**	**.0006**	F **.0014**	**.0002**	**-.0001**	**.0004**
Stddev	.0002	.0001	.0001	.0002	.0003	.0001	.0001	.0002	.0002
%RSD	224.7	41.21	22.72	148.0	52.61	5.558	47.67	223.2	58.39
#1	-.0002	.0001	.0003	.0004	.0004	.0014	.0001	-.0002	.0004
#2	-.0003	.0001	.0002	.0001	.0010	.0014	.0003	-.0001	.0002
#3	.0002	.0002	.0003	-.0001	.0004	.0013	.0002	.0001	.0006
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit		.0001				.0013			
Low Limit		-.0001				-.0013			

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0004**	**.0001**	**-.0009**	**-.0005**	**.0007**	**.0001**	**-.0079**	**.0155**
Stddev	.0003	.0001	.0012	.0009	.0005	.0020	.0005	.0058	.0016
%RSD	545.0	18.97	1771.	99.29	104.8	290.5	621.7	73.15	10.27
#1	.0002	.0003	.0012	-.0010	.0001	-.0003	.0006	-.0031	.0138
#2	-.0004	.0004	-.0012	.0000	-.0007	-.0007	-.0003	-.0064	.0157
#3	.0000	.0005	.0002	-.0018	-.0008	.0030	-.0000	-.0143	.0170
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**-.0065**	**.0169**	**.0151**	**.0026**	**.0004**	**.0009**	**.0002**	**.0000**
Stddev	.0011	.0079	.0178	.0057	.0004	.0001	.0007	.0001	.0000
%RSD	3456.	120.3	105.5	37.72	15.75	26.91	79.40	68.84	62.80
#1	.0007	.0018	-.0002	.0101	.0021	.0003	.0001	.0003	.0000
#2	-.0013	-.0139	.0155	.0139	.0027	.0005	.0013	.0003	.0001
#3	.0005	-.0076	.0353	.0213	.0029	.0003	.0012	.0000	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 17:48:06 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0005**	**.0002**	**.0020**	**-.0001**	**-.0006**	**-.0091**	**.0004**
Stddev	.0001	.0002	.0002	.0016	.0011	.0010	.0002	.0021
%RSD	73.12	47.01	65.57	77.72	1138.	166.7	2.725	531.9
#1	.0002	.0007	.0001	.0018	-.0005	-.0002	-.0092	.0018
#2	.0003	.0003	.0003	.0006	.0011	-.0017	-.0093	-.0020
#3	.0000	.0005	.0003	.0037	-.0009	.0001	-.0088	.0014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**288080.**	**33027.**	**8515.9**	**15442.**
Stddev	1554.	43.	20.3	32.
%RSD	.53943	.12920	.23806	.20946
#1	286320.	33008.	8537.9	15470.
#2	288630.	32996.	8497.9	15407.
#3	289280.	33075.	8512.0	15448.

Zoom In Zoom Out

Sample Name: jc99722-19 Acquired: 12/10/2019 17:53:16 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.075**	**.0094**	**.0013**	**.1508**	**.3492**	**.1843**	**6.034**	**.3052**
Stddev	.001	.0001	.0001	.0012	.0200	.0098	.060	.0014
%RSD	.1166	.7126	6.940	.8095	5.732	5.335	.9911	.4652
#1	1.074	.0094	.0013	.1506	.3390	.1792	6.037	.3043
#2	1.076	.0094	.0013	.1497	.3723	.1957	6.092	.3045
#3	1.074	.0093	.0012	.1521	.3363	.1781	5.973	.3069

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0026**	**.3728**	**.6416**	**.0170**	F **-.0024**	**.1470**	**.0055**	**.0002**
Stddev	.0034	.0213	.0035	.0010	.0010	.0014	.0011	.0024
%RSD	132.8	5.722	.5448	5.826	40.79	.9300	20.23	1057.
#1	.0043	.3617	.6391	.0164	-.0035	.1464	.0067	.0029
#2	-.0014	.3974	.6400	.0181	-.0016	.1485	.0045	-.0016
#3	.0048	.3593	.6456	.0163	-.0022	.1459	.0054	-.0006

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**186.0**	**15.48**	F **299.2**	**73.73**	**26.08**	**3.295**	**.2256**	**.0060**
Stddev	.3	.02	1.4	.30	.02	.009	.0006	.0002
%RSD	.1439	.1237	.4809	.4048	.0629	.2875	.2788	3.584
#1	186.3	15.50	297.7	73.42	26.09	3.304	.2249	.0059
#2	185.7	15.47	299.4	74.01	26.09	3.285	.2260	.0062
#3	186.1	15.48	300.5	73.75	26.06	3.297	.2259	.0058

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.466**	**.0145**	**.1138**	**3.484**	**.0021**	**.1120**	**.3554**	**-.0093**
Stddev	.016	.0003	.0002	.200	.0003	.0061	.0018	.0024
%RSD	.6410	2.149	.1712	5.732	14.23	5.444	.5051	26.27
#1	2.477	.0144	.1140	3.380	.0022	.1089	.3555	-.0098
#2	2.448	.0149	.1136	3.714	.0024	.1190	.3535	-.0066
#3	2.473	.0143	.1138	3.357	.0018	.1081	.3571	-.0114

Zoom In Zoom Out

Sample Name: jc99722-19 Acquired: 12/10/2019 17:53:16 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.3981**	**1.911**	**.3508**
Stddev	.0014	.006	.0201
%RSD	.3523	.3083	5.728
#1	.3981	1.906	.3408
#2	.3994	1.910	.3739
#3	.3966	1.918	.3377

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**283100.**	**34327.**	**8565.5**	**14612.**
Stddev	14506.	71.	19.3	33.
%RSD	5.1240	.20713	.22494	.22331
#1	289950.	34391.	8565.1	14617.
#2	266440.	34251.	8585.0	14642.
#3	292910.	34339.	8546.4	14577.

Zoom In Zoom Out

Sample Name: jc99722-20 Acquired: 12/10/2019 17:58:28 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.070**	**.0095**	**.0012**	**.1516**	**.3079**	**.1582**	**6.360**	**.3391**
Stddev	.002	.0000	.0001	.0005	.0025	.0015	.073	.0015
%RSD	.1912	.4657	12.06	.3572	.8061	.9332	1.150	.4283
#1	1.068	.0095	.0011	.1521	.3056	.1581	6.363	.3402
#2	1.072	.0096	.0012	.1515	.3076	.1567	6.285	.3397
#3	1.071	.0095	.0014	.1511	.3105	.1597	6.432	.3375

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0045**	**.3201**	**.7066**	**.0129**	F **-.0043**	**.1461**	**.0029**	**.0006**
Stddev	.0001	.0029	.0028	.0019	.0028	.0015	.0027	.0023
%RSD	1.946	.8982	.3923	15.05	64.73	1.012	92.64	362.8
#1	.0046	.3193	.7087	.0140	-.0052	.1470	.0059	.0030
#2	.0044	.3177	.7078	.0141	-.0065	.1470	.0005	.0004
#3	.0045	.3233	.7035	.0107	-.0012	.1444	.0025	-.0015

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**191.4**	**17.12**	F **310.4**	**85.77**	**28.76**	**2.976**	**.2414**	**.0059**
Stddev	.5	.06	.6	.20	.08	.014	.0008	.0003
%RSD	.2646	.3530	.2023	.2309	.2673	.4669	.3467	5.795
#1	190.8	17.07	311.1	85.55	28.67	2.961	.2422	.0056
#2	191.5	17.12	310.2	85.93	28.80	2.986	.2415	.0062
#3	191.8	17.19	309.9	85.84	28.80	2.982	.2406	.0058

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.444**	**.0164**	**.1246**	**3.055**	**.0023**	**.1073**	**.1597**	**-.0110**
Stddev	.027	.0001	.0003	.029	.0005	.0006	.0024	.0016
%RSD	1.087	.5844	.2653	.9460	20.97	.5478	1.482	14.17
#1	2.474	.0163	.1242	3.056	.0027	.1067	.1574	-.0125
#2	2.431	.0164	.1246	3.025	.0018	.1073	.1622	-.0109
#3	2.426	.0164	.1248	3.083	.0026	.1079	.1596	-.0094

Zoom In Zoom Out

Sample Name: jc99722-20 Acquired: 12/10/2019 17:58:28 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.4719**	**2.132**	**.3226**
Stddev	.0017	.005	.0028
%RSD	.3627	.2151	.8596
#1	.4738	2.136	.3217
#2	.4716	2.134	.3203
#3	.4704	2.127	.3257

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**294880.**	**34581.**	**8560.0**	**14556.**
Stddev	2583.	133.	19.6	28.
%RSD	.87609	.38504	.22935	.19435
#1	295200.	34673.	8545.5	14539.
#2	297290.	34642.	8552.3	14541.
#3	292150.	34428.	8582.3	14589.

Zoom In Zoom Out

Sample Name: jc99722-21 Acquired: 12/10/2019 18:03:39 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.288**	**.0098**	**.0013**	**.1549**	**.3322**	**.1587**	**7.131**	**.3338**
Stddev	.002	.0001	.0002	.0021	.0216	.0089	.582	.0039
%RSD	.1390	1.210	12.37	1.344	6.495	5.638	8.156	1.157
#1	1.287	.0099	.0013	.1527	.3461	.1649	7.481	.3299
#2	1.290	.0098	.0011	.1552	.3431	.1629	7.451	.3340
#3	1.289	.0097	.0014	.1568	.3073	.1485	6.459	.3376

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0068**	**.3640**	**.6922**	**.0168**	F **-.0035**	**.1486**	**.0064**	**-.0000**
Stddev	.0044	.0226	.0078	.0014	.0007	.0020	.0017	.0021
%RSD	65.37	6.218	1.128	8.299	21.04	1.327	26.02	9597.
#1	.0046	.3782	.6835	.0183	-.0044	.1463	.0078	-.0016
#2	.0038	.3759	.6945	.0155	-.0031	.1500	.0046	-.0009
#3	.0119	.3379	.6986	.0166	-.0031	.1495	.0069	.0024

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**198.7**	**17.08**	F **321.1**	**81.11**	**28.60**	**2.406**	**.2386**	**.0063**
Stddev	.3	.01	3.0	.25	.12	.011	.0025	.0003
%RSD	.1760	.0427	.9282	.3111	.4119	.4676	1.038	4.860
#1	198.5	17.07	321.3	80.88	28.51	2.403	.2358	.0066
#2	199.1	17.09	318.0	81.07	28.73	2.418	.2401	.0060
#3	198.5	17.08	324.0	81.38	28.55	2.396	.2400	.0064

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.338**	**.0156**	**.1239**	**3.494**	**.0033**	**.1136**	**.1961**	**-.0137**
Stddev	.024	.0006	.0003	.211	.0003	.0063	.0056	.0033
%RSD	1.032	3.694	.2070	6.039	10.22	5.585	2.845	24.26
#1	2.310	.0150	.1240	3.633	.0031	.1182	.1935	-.0117
#2	2.355	.0162	.1241	3.597	.0032	.1163	.1924	-.0118
#3	2.349	.0156	.1236	3.251	.0037	.1064	.2025	-.0175

Zoom In Zoom Out

Sample Name: jc99722-21 Acquired: 12/10/2019 18:03:39 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.4474**	**2.134**	**.3349**
Stddev	.0003	.025	.0186
%RSD	.0767	1.156	5.553
#1	.4472	2.106	.3469
#2	.4472	2.140	.3442
#3	.4478	2.154	.3135

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**309980.**	**34420.**	**8721.5**	**14775.**
Stddev	26730.	86.	70.5	116.
%RSD	8.6232	.24853	.80860	.78354
#1	293450.	34519.	8798.8	14902.
#2	295670.	34368.	8705.0	14748.
#3	340810.	34373.	8660.7	14675.

Zoom In Zoom Out

Sample Name: jc99722-22 Acquired: 12/10/2019 18:08:49 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.132**	**.0105**	**.0013**	**.1546**	**.4032**	**.1678**	**7.215**	**.3477**
Stddev	.003	.0001	.0002	.0003	.0188	.0066	.343	.0018
%RSD	.2373	.6501	13.61	.1761	4.671	3.935	4.749	.5048
#1	1.129	.0106	.0014	.1549	.4129	.1718	7.412	.3497
#2	1.132	.0105	.0012	.1543	.4153	.1713	7.415	.3468
#3	1.134	.0104	.0015	.1547	.3815	.1601	6.820	.3466

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0039**	**.3593**	**.7050**	**.0166**	F **-.0038**	**.1461**	**.0038**	**.0012**
Stddev	.0037	.0166	.0021	.0004	.0006	.0016	.0011	.0008
%RSD	96.05	4.616	.2996	2.112	14.54	1.080	28.37	70.87
#1	.0014	.3685	.7074	.0162	-.0045	.1478	.0027	.0006
#2	.0021	.3692	.7039	.0167	-.0037	.1460	.0038	.0021
#3	.0082	.3401	.7037	.0169	-.0034	.1447	.0048	.0008

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**199.9**	**16.03**	F **328.8**	**85.32**	**29.51**	**3.458**	**.2451**	**.0060**
Stddev	.3	.02	3.4	.24	.07	.010	.0010	.0000
%RSD	.1290	.0965	1.048	.2780	.2523	.2992	.4194	.0313
#1	199.9	16.01	325.1	85.07	29.44	3.453	.2463	.0060
#2	199.7	16.03	329.4	85.54	29.52	3.452	.2443	.0060
#3	200.2	16.04	332.0	85.35	29.59	3.470	.2448	.0060

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.265**	**.0159**	**.1202**	**3.161**	**.0026**	**.1145**	**.1715**	**-.0114**
Stddev	.029	.0002	.0002	.143	.0010	.0047	.0027	.0026
%RSD	1.287	1.496	.2064	4.515	36.35	4.127	1.574	22.61
#1	2.290	.0161	.1200	3.240	.0037	.1175	.1697	-.0099
#2	2.233	.0157	.1202	3.246	.0018	.1170	.1701	-.0099
#3	2.273	.0158	.1205	2.996	.0024	.1091	.1746	-.0143

Zoom In Zoom Out

Sample Name: jc99722-22 Acquired: 12/10/2019 18:08:49 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.4745**	**2.491**	**.3148**
Stddev	.0026	.008	.0146
%RSD	.5388	.3191	4.642
#1	.4724	2.500	.3239
#2	.4738	2.486	.3226
#3	.4774	2.486	.2980

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**298350.**	**34172.**	**8586.4**	**14516.**
Stddev	12387.	75.	13.8	31.
%RSD	4.1519	.21860	.16062	.21345
#1	290710.	34145.	8570.5	14481.
#2	291690.	34114.	8593.3	14527.
#3	312640.	34256.	8595.3	14540.

Zoom In Zoom Out

Sample Name: jc99722-23 Acquired: 12/10/2019 18:14:00 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.146**	**.0104**	**.0014**	**.1803**	**.4812**	**.2125**	**6.574**	**.3460**
Stddev	.005	.0001	.0002	.0023	.0174	.0065	.205	.0038
%RSD	.4265	1.250	12.21	1.269	3.614	3.068	3.122	1.088
#1	1.150	.0105	.0012	.1804	.4728	.2095	6.472	.3448
#2	1.146	.0103	.0016	.1826	.4696	.2081	6.439	.3502
#3	1.141	.0105	.0013	.1780	.5012	.2200	6.810	.3429

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0014**	**.5620**	**.7403**	**.0164**	F **-.0054**	**.1533**	**.0030**	**-.0010**
Stddev	.0028	.0210	.0068	.0013	.0014	.0013	.0023	.0019
%RSD	203.3	3.739	.9213	7.859	25.12	.8401	74.92	187.0
#1	.0037	.5526	.7384	.0155	-.0054	.1526	.0045	-.0021
#2	.0021	.5473	.7479	.0157	-.0068	.1548	.0004	.0012
#3	-.0017	.5861	.7346	.0178	-.0041	.1525	.0042	-.0021

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**195.6**	**24.86**	F **368.4**	**87.19**	**30.56**	**2.718**	**.3119**	**.0070**
Stddev	.6	.09	5.1	.27	.07	.006	.0044	.0004
%RSD	.3264	.3686	1.371	.3128	.2347	.2289	1.413	6.072
#1	196.3	24.96	372.1	87.50	30.62	2.723	.3118	.0068
#2	195.1	24.78	362.6	87.08	30.56	2.720	.3163	.0074
#3	195.2	24.83	370.4	86.99	30.48	2.711	.3075	.0066

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.825**	**.0161**	**.1392**	**3.822**	**.0029**	**.1239**	**.3002**	**-.0098**
Stddev	.030	.0005	.0006	.138	.0006	.0043	.0051	.0032
%RSD	1.073	3.162	.4119	3.620	22.38	3.486	1.691	32.97
#1	2.812	.0156	.1398	3.760	.0023	.1221	.3035	-.0135
#2	2.860	.0166	.1389	3.725	.0036	.1208	.3027	-.0086
#3	2.804	.0161	.1387	3.980	.0027	.1288	.2943	-.0074

Zoom In Zoom Out

Sample Name: jc99722-23 Acquired: 12/10/2019 18:14:00 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.4513**	**3.381**	**.3222**
Stddev	.0015	.026	.0117
%RSD	.3338	.7571	3.643
#1	.4512	3.381	.3168
#2	.4529	3.406	.3142
#3	.4499	3.355	.3357

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**286130.**	**34126.**	**8484.7**	**14566.**
Stddev	8745.	127.	74.5	115.
%RSD	3.0563	.37344	.87849	.79127
#1	290830.	33985.	8483.0	14578.
#2	291520.	34162.	8411.1	14446.
#3	276040.	34232.	8560.1	14675.

Zoom In Zoom Out

Sample Name: jc99722-24 Acquired: 12/10/2019 18:19:12 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.567**	**.0108**	**.0016**	**.1576**	**.3311**	**.2080**	F **8.367**	**.3643**	**.0033**
Stddev	.005	.0000	.0001	.0017	.0022	.0007	.041	.0036	.0010
%RSD	.2963	.2654	8.062	1.054	.6689	.3180	.4931	.9998	30.59
#1	1.565	.0109	.0017	.1564	.3322	.2086	8.378	.3608	.0029
#2	1.572	.0109	.0015	.1571	.3285	.2073	8.401	.3639	.0045
#3	1.564	.0108	.0017	.1595	.3325	.2079	8.321	.3681	.0026

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3649**	**.7839**	**.0155**	**-.0020**	**.1666**	**.0030**	**.0001**	**206.1**	**26.89**
Stddev	.0023	.0088	.0012	.0011	.0014	.0018	.0004	.6	.06
%RSD	.6436	1.124	7.906	55.96	.8287	60.11	672.4	.3035	.2400
#1	.3667	.7757	.0166	-.0011	.1651	.0046	.0001	206.2	26.91
#2	.3622	.7828	.0142	-.0016	.1679	.0031	-.0004	206.7	26.94
#3	.3657	.7932	.0157	-.0032	.1668	.0011	.0005	205.5	26.82

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **337.7**	**100.2**	**37.01**	**1.822**	**.2956**	**.0070**	**2.641**	**.0170**	**.1361**
Stddev	2.6	.3	.07	.005	.0033	.0003	.039	.0007	.0005
%RSD	.7679	.3118	.1943	.2887	1.110	3.977	1.486	4.213	.3432
#1	337.8	99.89	37.04	1.820	.2929	.0067	2.595	.0167	.1360
#2	340.3	100.5	37.06	1.828	.2947	.0073	2.660	.0165	.1367
#3	335.1	100.1	36.93	1.818	.2993	.0070	2.666	.0178	.1357

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.305**	**.0028**	**.1157**	**.2478**	**-.0104**	**.5379**	**4.564**	**.3002**
Stddev	.018	.0009	.0007	.0054	.0003	.0011	.055	.0008
%RSD	.5589	30.99	.6338	2.161	2.730	.2128	1.197	.2724
#1	3.317	.0037	.1162	.2434	-.0107	.5365	4.516	.2997
#2	3.284	.0026	.1149	.2463	-.0104	.5386	4.552	.2997
#3	3.314	.0020	.1161	.2538	-.0101	.5385	4.623	.3011

Zoom In Zoom Out

Sample Name: jc99722-24 Acquired: 12/10/2019 18:19:12 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**291990.**	**33880.**	**8508.6**	**14444.**
Stddev	1183.	32.	89.4	131.
%RSD	.40501	.09449	1.0510	.90943
#1	290990.	33871.	8593.1	14566.
#2	291700.	33853.	8517.8	14460.
#3	293300.	33915.	8414.9	14305.

Zoom In Zoom Out

Sample Name: jc99722-25 Acquired: 12/10/2019 18:24:25 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.522**	**.0095**	**.0010**	**.1903**	**.4129**	**.2136**	F **8.593**	**.3372**
Stddev	.016	.0001	.0001	.0041	.0063	.0028	.127	.0072
%RSD	1.077	.8582	9.954	2.143	1.520	1.330	1.476	2.137
#1	1.522	.0095	.0010	.1905	.4056	.2104	8.453	.3368
#2	1.538	.0096	.0009	.1861	.4160	.2158	8.628	.3302
#3	1.506	.0095	.0010	.1943	.4169	.2145	8.699	.3446

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0026**	**.4725**	**.6371**	**.0259**	F **-.0020**	**.1477**	F **-.0151**	**.0209**
Stddev	.0013	.0070	.0121	.0005	.0012	.0037	.0015	.0013
%RSD	49.08	1.490	1.899	2.019	59.88	2.525	9.666	6.403
#1	.0035	.4644	.6377	.0256	-.0026	.1505	-.0163	.0194
#2	.0032	.4769	.6247	.0257	-.0006	.1435	-.0135	.0217
#3	.0011	.4761	.6489	.0265	-.0028	.1492	-.0155	.0217

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**205.1**	**20.65**	F **335.3**	**71.04**	**25.02**	**2.714**	**.2420**	**.0062**
Stddev	2.4	.20	3.6	.75	.23	.025	.0057	.0002
%RSD	1.155	.9833	1.068	1.056	.9134	.9053	2.345	2.907
#1	205.3	20.67	334.4	71.05	25.07	2.707	.2422	.0064
#2	207.3	20.85	339.3	71.79	25.23	2.741	.2362	.0061
#3	202.6	20.44	332.3	70.29	24.78	2.694	.2475	.0062

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.852**	**.0126**	**.1262**	**4.477**	**.0028**	**.1305**	**.3037**	**-.0096**
Stddev	.076	.0007	.0014	.064	.0006	.0016	.0032	.0018
%RSD	2.661	5.481	1.104	1.418	20.87	1.208	1.039	18.90
#1	2.867	.0119	.1264	4.403	.0021	.1287	.3039	-.0116
#2	2.770	.0126	.1275	4.517	.0033	.1316	.3004	-.0081
#3	2.919	.0133	.1248	4.509	.0030	.1313	.3067	-.0091

Zoom In Zoom Out

Sample Name: jc99722-25 Acquired: 12/10/2019 18:24:25 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.3862**	**2.451**	**.4047**
Stddev	.0049	.044	.0064
%RSD	1.260	1.802	1.578
#1	.3883	2.461	.3976
#2	.3897	2.403	.4101
#3	.3807	2.489	.4064

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**295110.**	**34114.**	**8757.5**	**14814.**
Stddev	3982.	252.	141.2	227.
%RSD	1.3493	.73962	1.6118	1.5325
#1	299570.	34016.	8743.8	14805.
#2	293820.	33926.	8905.0	15046.
#3	291930.	34401.	8623.7	14592.

Zoom In Zoom Out

Sample Name: jc99722-27 Acquired: 12/10/2019 18:29:36 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.380**	**.0102**	**.0014**	**.1655**	**.3288**	**.1751**	**6.958**	**.3528**
Stddev	.011	.0001	.0000	.0017	.0276	.0144	.585	.0023
%RSD	.7669	.7751	3.397	1.050	8.382	8.230	8.408	.6549
#1	1.392	.0102	.0014	.1665	.2994	.1598	6.356	.3535
#2	1.376	.0102	.0013	.1664	.3329	.1772	6.994	.3546
#3	1.373	.0103	.0014	.1635	.3540	.1884	7.525	.3502

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0073**	**.3601**	**.7425**	**.0172**	F **-.0048**	**.1693**	**.0023**	**.0025**
Stddev	.0052	.0305	.0038	.0018	.0016	.0020	.0038	.0013
%RSD	71.71	8.482	.5155	10.48	33.68	1.162	162.3	50.40
#1	.0130	.3273	.7452	.0179	-.0036	.1699	.0025	.0037
#2	.0061	.3651	.7442	.0152	-.0066	.1710	-.0015	.0012
#3	.0027	.3878	.7381	.0186	-.0041	.1671	.0061	.0026

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**207.3**	**19.50**	F **335.4**	**86.43**	**29.51**	**2.924**	**.2396**	**.0067**
Stddev	1.7	.15	2.3	.56	.20	.024	.0015	.0002
%RSD	.7971	.7669	.6976	.6493	.6665	.8027	.6113	3.062
#1	209.2	19.68	337.1	87.06	29.74	2.951	.2399	.0069
#2	206.6	19.40	332.7	85.97	29.40	2.909	.2408	.0065
#3	206.1	19.43	336.4	86.28	29.39	2.912	.2380	.0068

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.950**	**.0176**	**.1303**	**3.340**	**.0039**	**.1140**	**.2199**	**-.0149**
Stddev	.041	.0007	.0008	.282	.0008	.0087	.0054	.0028
%RSD	2.125	3.720	.5778	8.457	21.47	7.647	2.449	19.04
#1	1.992	.0175	.1312	3.039	.0047	.1048	.2251	-.0182
#2	1.949	.0183	.1298	3.384	.0040	.1151	.2202	-.0139
#3	1.909	.0170	.1300	3.599	.0030	.1222	.2143	-.0128

Zoom In Zoom Out

Sample Name: jc99722-27 Acquired: 12/10/2019 18:29:36 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.4680**	**2.552**	**.3201**
Stddev	.0042	.019	.0261
%RSD	.8869	.7450	8.143
#1	.4728	2.565	.2921
#2	.4655	2.561	.3244
#3	.4657	2.531	.3437

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**313680.**	**33749.**	**8477.1**	**14342.**
Stddev	26955.	167.	19.4	41.
%RSD	8.5933	.49423	.22877	.28708
#1	342970.	33559.	8469.3	14329.
#2	308150.	33872.	8462.7	14308.
#3	289910.	33816.	8499.1	14388.

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 18:34:49 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.922**	**1.926**	**2.005**	**1.977**	**1.954**	**1.919**	**1.975**	**1.963**	**.2350**
Stddev	.031	.033	.004	.008	.012	.014	.016	.008	.0016
%RSD	1.628	1.687	.2163	.4258	.6213	.7266	.8239	.4131	.6838
#1	1.899	1.905	2.003	1.971	1.940	1.902	1.959	1.956	.2332
#2	1.958	1.964	2.003	1.974	1.961	1.926	1.992	1.961	.2358
#3	1.909	1.910	2.010	1.987	1.960	1.927	1.975	1.972	.2362
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.919**	**2.035**	**2.001**	**1.997**	**1.946**	**1.993**	**1.941**	**39.58**	**40.05**
Stddev	.014	.008	.005	.005	.007	.006	.006	.61	.59
%RSD	.7282	.3835	.2712	.2326	.3850	.3283	.2886	1.552	1.462
#1	1.903	2.030	1.997	2.002	1.941	1.988	1.942	39.16	39.70
#2	1.929	2.030	1.998	1.993	1.944	1.990	1.935	40.29	40.72
#3	1.924	2.044	2.007	1.997	1.955	2.000	1.947	39.29	39.72
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.25**	**39.15**	**39.15**	**38.80**	**1.941**	**2.024**	**4.830**	**2.080**	**1.972**
Stddev	.61	.65	.45	.57	.004	.006	.013	.008	.031
%RSD	1.550	1.652	1.155	1.461	.1926	.3183	.2777	.4047	1.561
#1	38.87	38.88	38.84	38.45	1.939	2.023	4.826	2.079	1.950
#2	39.96	39.89	39.67	39.45	1.939	2.018	4.820	2.072	2.007
#3	38.94	38.68	38.94	38.49	1.945	2.031	4.845	2.089	1.959
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 18:34:49 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.879**	**1.979**	**1.895**	**1.922**	**1.957**	**1.890**	**1.951**	**1.892**
Stddev	.013	.007	.012	.007	.004	.033	.004	.014
%RSD	.7053	.3625	.6487	.3873	.1776	1.734	.2218	.7549
#1	1.864	1.975	1.880	1.922	1.954	1.869	1.951	1.876
#2	1.889	1.974	1.902	1.915	1.957	1.928	1.948	1.905
#3	1.884	1.987	1.901	1.929	1.961	1.874	1.956	1.895
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**280470.**	**32550.**	**8189.2**	**14295.**
Stddev	2328.	297.	18.9	33.
%RSD	.83019	.91240	.23061	.22824
#1	283030.	32627.	8198.1	14319.
#2	278480.	32222.	8201.9	14307.
#3	279900.	32802.	8167.5	14258.

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 18:39:48 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0001**	**.0001**	**.0000**	**.0004**	F **.0014**	**.0001**	**.0001**	**.0005**
Stddev	.0001	.0000	.0001	.0001	.0004	.0001	.0000	.0002	.0001
%RSD	44.76	13.11	58.56	262.6	97.13	6.235	52.66	240.1	24.82
#1	-.0002	.0001	.0001	.0001	.0003	.0014	.0000	.0003	.0006
#2	-.0002	.0001	.0001	-.0001	.0001	.0015	.0001	-.0000	.0004
#3	-.0001	.0001	.0000	.0001	.0008	.0013	.0001	-.0001	.0005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit						.0013			
Low Limit						-.0013			

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0004**	**-.0009**	**-.0011**	**.0001**	**-.0008**	**-.0002**	**-.0124**	**.0165**
Stddev	.0002	.0000	.0005	.0019	.0009	.0030	.0010	.0015	.0019
%RSD	58.30	9.872	54.22	169.7	960.9	381.3	598.6	11.90	11.63
#1	-.0006	.0003	-.0014	.0005	.0001	-.0041	-.0012	-.0121	.0168
#2	-.0002	.0004	-.0005	-.0032	.0010	.0015	.0001	-.0111	.0183
#3	-.0003	.0004	-.0007	-.0006	-.0008	.0003	.0007	-.0140	.0145
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0047**	**.0202**	**.0102**	**.0024**	**.0002**	**.0009**	**.0003**	**.0000**
Stddev	.0013	.0153	.0210	.0038	.0003	.0001	.0008	.0003	.0000
%RSD	1248.	324.8	103.7	36.78	12.14	37.11	85.14	84.76	66.80
#1	.0014	-.0187	.0179	.0143	.0027	.0001	.0000	.0004	.0000
#2	.0002	.0116	.0423	.0095	.0024	.0003	.0013	.0005	.0000
#3	-.0012	-.0071	.0005	.0069	.0021	.0002	.0014	.0000	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 18:39:48 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0016**	**.0002**	**-.0022**	**-.0002**	**.0009**	**-.0075**	**.0012**
Stddev	.0001	.0005	.0001	.0006	.0010	.0014	.0019	.0012
%RSD	116.4	30.14	42.82	26.72	502.2	148.9	24.92	105.7
#1	-.0000	.0021	.0001	-.0026	.0007	.0010	-.0091	.0025
#2	.0001	.0015	.0001	-.0015	-.0001	-.0005	-.0080	.0001
#3	.0001	.0012	.0003	-.0026	-.0013	.0023	-.0054	.0008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**281910.**	**32379.**	**8550.2**	**15428.**
Stddev	7150.	52.	146.6	253.
%RSD	2.5364	.16058	1.7151	1.6430
#1	288800.	32343.	8404.9	15184.
#2	274530.	32354.	8698.1	15690.
#3	282410.	32438.	8547.5	15411.

Zoom In Zoom Out

Sample Name: jc99722-28 Acquired: 12/10/2019 18:44:57 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.519**	**.0104**	**.0012**	**.1459**	**.3173**	**.1841**	**6.869**	**.3411**
Stddev	.005	.0000	.0004	.0007	.0013	.0008	.027	.0018
%RSD	.3548	.1700	31.94	.4931	.4138	.4077	.3964	.5168
#1	1.525	.0104	.0011	.1466	.3170	.1840	6.891	.3391
#2	1.517	.0104	.0009	.1452	.3188	.1849	6.877	.3421
#3	1.514	.0104	.0017	.1460	.3162	.1834	6.839	.3422

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0039**	**.3560**	**.7771**	**.0208**	F **-.0042**	**.1545**	F **-.0135**	**.0210**
Stddev	.0003	.0016	.0009	.0012	.0003	.0028	.0017	.0006
%RSD	7.034	.4358	.1104	5.720	8.290	1.783	12.54	2.798
#1	.0042	.3562	.7762	.0211	-.0038	.1516	-.0143	.0216
#2	.0037	.3574	.7779	.0218	-.0044	.1547	-.0116	.0206
#3	.0037	.3543	.7771	.0195	-.0044	.1571	-.0147	.0207

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**202.2**	**45.35**	F **326.1**	**104.2**	**35.29**	**1.957**	**.2665**	**.0066**
Stddev	1.1	.24	1.2	.2	.17	.013	.0009	.0003
%RSD	.5588	.5316	.3532	.2174	.4905	.6841	.3262	4.168
#1	203.3	45.58	326.5	104.5	35.43	1.964	.2661	.0068
#2	202.2	45.37	327.1	104.2	35.35	1.965	.2675	.0063
#3	201.1	45.10	324.9	104.0	35.10	1.942	.2660	.0067

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.526**	**.0176**	**.1608**	**2.907**	**.0025**	**.1044**	**.2841**	**-.0118**
Stddev	.007	.0006	.0008	.015	.0008	.0004	.0029	.0015
%RSD	.2917	3.641	.5041	.5027	33.34	.4306	1.007	12.46
#1	2.533	.0178	.1615	2.909	.0015	.1043	.2828	-.0111
#2	2.519	.0169	.1608	2.921	.0030	.1049	.2874	-.0108
#3	2.527	.0182	.1599	2.892	.0028	.1041	.2821	-.0135

Zoom In Zoom Out

Sample Name: jc99722-28 Acquired: 12/10/2019 18:44:57 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.5523**	**4.386**	**.2775**
Stddev	.0021	.011	.0013
%RSD	.3760	.2423	.4667
#1	.5541	4.378	.2761
#2	.5527	4.398	.2778
#3	.5500	4.381	.2787

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**287610.**	**33215.**	**8423.7**	**14372.**
Stddev	975.	188.	23.2	33.
%RSD	.33905	.56564	.27572	.22943
#1	287470.	33012.	8450.1	14408.
#2	286720.	33249.	8406.3	14344.
#3	288650.	33383.	8414.8	14363.

Zoom In Zoom Out

Sample Name: jc99722-30 Acquired: 12/10/2019 18:50:09 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.410**	**.0086**	**.0015**	**.1362**	**.2588**	**.1257**	F **9.703**	**.3179**
Stddev	.003	.0000	.0003	.0012	.0014	.0005	.034	.0030
%RSD	.2025	.3854	17.54	.8803	.5275	.4026	.3548	.9495
#1	1.411	.0085	.0017	.1376	.2587	.1252	9.665	.3213
#2	1.412	.0086	.0012	.1359	.2574	.1258	9.714	.3163
#3	1.407	.0086	.0014	.1352	.2602	.1262	9.731	.3160

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0048**	**.2674**	**.6911**	**.0080**	F **-.0037**	**.1391**	**.0056**	**.0019**
Stddev	.0007	.0008	.0066	.0017	.0006	.0014	.0020	.0005
%RSD	13.69	.3088	.9515	21.72	15.69	1.004	35.23	23.63
#1	.0047	.2669	.6982	.0064	-.0044	.1407	.0038	.0017
#2	.0054	.2669	.6900	.0099	-.0035	.1382	.0052	.0016
#3	.0041	.2683	.6852	.0078	-.0033	.1384	.0077	.0024

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**174.0**	**14.40**	F **281.8**	**73.90**	**25.26**	**2.174**	**.1934**	**.0055**
Stddev	.6	.06	2.1	.16	.07	.017	.0022	.0002
%RSD	.3376	.4331	.7397	.2164	.2904	.7890	1.158	4.021
#1	173.7	14.37	280.8	73.88	25.22	2.164	.1960	.0054
#2	174.6	14.47	284.1	73.75	25.34	2.193	.1922	.0058
#3	173.5	14.35	280.3	74.06	25.21	2.163	.1921	.0054

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.930**	**.0176**	**.1268**	**2.572**	**.0032**	**.1011**	**.1830**	**-.0121**
Stddev	.028	.0008	.0004	.014	.0013	.0009	.0039	.0009
%RSD	1.435	4.483	.3511	.5387	42.10	.8847	2.110	7.281
#1	1.962	.0184	.1266	2.569	.0037	.1006	.1875	-.0120
#2	1.913	.0168	.1273	2.560	.0041	.1006	.1810	-.0131
#3	1.915	.0177	.1265	2.587	.0016	.1021	.1806	-.0113

Zoom In Zoom Out

Sample Name: jc99722-30 Acquired: 12/10/2019 18:50:09 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.4036**	**1.226**	**.2963**
Stddev	.0025	.014	.0009
%RSD	.6091	1.099	.3140
#1	.4051	1.240	.2973
#2	.4049	1.226	.2955
#3	.4007	1.213	.2960

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**292860.**	**33841.**	**8567.1**	**14625.**
Stddev	1509.	141.	84.7	126.
%RSD	.51537	.41621	.98817	.86078
#1	294090.	33986.	8472.8	14483.
#2	293320.	33705.	8591.8	14667.
#3	291180.	33833.	8636.7	14723.

Zoom In Zoom Out

Sample Name: jc99722-31 Acquired: 12/10/2019 18:55:21 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.029**	**.0104**	**.0013**	**.1530**	**.2848**	**.1341**	F **11.58**	**.3434**
Stddev	.009	.0001	.0001	.0008	.0016	.0008	.02	.0022
%RSD	.4334	.4973	6.747	.5003	.5694	.5601	.1391	.6546
#1	2.036	.0105	.0014	.1530	.2841	.1334	11.59	.3445
#2	2.020	.0104	.0012	.1537	.2867	.1349	11.59	.3449
#3	2.032	.0104	.0013	.1522	.2838	.1340	11.56	.3408

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0044**	**.3131**	**.7212**	**.0109**	F **-.0031**	**.1587**	F **-.0148**	**.0201**
Stddev	.0008	.0016	.0044	.0006	.0006	.0012	.0013	.0012
%RSD	17.24	.5026	.6157	5.096	18.22	.7294	9.054	6.060
#1	.0047	.3124	.7210	.0116	-.0037	.1577	-.0163	.0192
#2	.0036	.3149	.7258	.0107	-.0030	.1600	-.0144	.0196
#3	.0050	.3120	.7169	.0106	-.0026	.1585	-.0138	.0215

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**200.1**	**17.17**	F **319.3**	**77.78**	**30.94**	**2.481**	**.3365**	**.0064**
Stddev	1.0	.11	2.0	.24	.12	.015	.0024	.0003
%RSD	.5210	.6514	.6145	.3126	.3810	.6050	.7238	5.318
#1	200.5	17.20	317.4	77.95	30.98	2.497	.3372	.0064
#2	198.9	17.04	319.1	77.50	30.80	2.467	.3386	.0060
#3	200.8	17.26	321.3	77.88	31.03	2.478	.3338	.0067

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.273**	**.0176**	**.1366**	**2.386**	**.0039**	**.1064**	**.1211**	**-.0125**
Stddev	.018	.0004	.0007	.018	.0005	.0007	.0018	.0014
%RSD	.7781	2.150	.5420	.7690	11.63	.6259	1.520	11.42
#1	2.281	.0178	.1372	2.377	.0040	.1061	.1190	-.0110
#2	2.284	.0179	.1358	2.407	.0035	.1072	.1225	-.0138
#3	2.252	.0172	.1368	2.374	.0044	.1060	.1218	-.0126

Zoom In Zoom Out

Sample Name: jc99722-31 Acquired: 12/10/2019 18:55:21 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.4414**	**1.209**	**.3173**
Stddev	.0017	.006	.0043
%RSD	.3856	.5050	1.342
#1	.4431	1.207	.3154
#2	.4397	1.216	.3221
#3	.4414	1.204	.3143

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**296010.**	**34485.**	**8601.3**	**14569.**
Stddev	1432.	183.	38.7	65.
%RSD	.48383	.53017	.45044	.44721
#1	297660.	34486.	8605.1	14568.
#2	295240.	34667.	8560.8	14504.
#3	295130.	34301.	8638.0	14635.

Zoom In Zoom Out

Sample Name: jc99722-32 Acquired: 12/10/2019 19:00:32 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.278**	**.0102**	**.0012**	**.1659**	**.3549**	**.1542**	**6.208**	**.3752**
Stddev	.005	.0000	.0001	.0007	.0011	.0007	.036	.0017
%RSD	.3607	.3211	5.082	.4503	.3110	.4473	.5759	.4598
#1	1.278	.0102	.0013	.1651	.3547	.1546	6.192	.3733
#2	1.283	.0102	.0012	.1661	.3538	.1534	6.184	.3753
#3	1.274	.0101	.0011	.1666	.3560	.1545	6.249	.3768

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0038**	**.3538**	**.7399**	**.0125**	F **-.0028**	**.1564**	F **-.0151**	**.0212**
Stddev	.0005	.0019	.0021	.0001	.0003	.0015	.0025	.0016
%RSD	13.97	.5428	.2900	1.166	11.33	.9711	16.54	7.598
#1	.0036	.3542	.7381	.0124	-.0025	.1562	-.0139	.0217
#2	.0043	.3517	.7395	.0126	-.0027	.1550	-.0134	.0194
#3	.0033	.3555	.7423	.0123	-.0031	.1580	-.0180	.0225

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**209.8**	**14.12**	F **347.9**	**88.29**	**26.64**	**4.407**	**.2029**	**.0067**
Stddev	.9	.06	1.4	.33	.09	.020	.0015	.0002
%RSD	.4417	.3910	.3879	.3695	.3297	.4535	.7618	3.080
#1	209.6	14.11	349.2	88.53	26.60	4.399	.2036	.0069
#2	210.8	14.18	348.0	88.41	26.74	4.430	.2011	.0065
#3	209.0	14.07	346.5	87.92	26.58	4.393	.2039	.0067

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.939**	**.0185**	**.1345**	**2.728**	**.0018**	**.1226**	**.1028**	**-.0139**
Stddev	.008	.0006	.0006	.014	.0012	.0006	.0031	.0006
%RSD	.4302	3.344	.4147	.5133	66.65	.5147	2.999	4.250
#1	1.933	.0185	.1345	2.735	.0022	.1221	.0993	-.0142
#2	1.936	.0192	.1351	2.712	.0005	.1233	.1041	-.0142
#3	1.949	.0179	.1340	2.736	.0028	.1224	.1051	-.0132

Zoom In Zoom Out

Sample Name: jc99722-32 Acquired: 12/10/2019 19:00:32 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.4808**	**1.260**	**.3332**
Stddev	.0013	.005	.0040
%RSD	.2804	.3819	1.193
#1	.4814	1.255	.3367
#2	.4818	1.261	.3289
#3	.4793	1.264	.3341

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**295010.**	**34287.**	**8586.9**	**14530.**
Stddev	1213.	141.	18.0	40.
%RSD	.41107	.41048	.20931	.27518
#1	294770.	34187.	8599.8	14568.
#2	296320.	34225.	8594.5	14532.
#3	293930.	34448.	8566.4	14489.

Zoom In Zoom Out

Sample Name: CCV Acquired: 12/10/2019 19:05:44 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.960**	**1.959**	**1.985**	**1.963**	**1.953**	**1.934**	**1.990**	**1.939**	**.2358**
Stddev	.003	.003	.003	.000	.018	.017	.014	.001	.0019
%RSD	.1521	.1677	.1674	.0207	.9067	.8852	.6973	.0605	.7982
#1	1.961	1.961	1.988	1.963	1.935	1.918	1.981	1.941	.2340
#2	1.963	1.961	1.983	1.963	1.955	1.931	1.982	1.939	.2357
#3	1.957	1.955	1.983	1.964	1.970	1.952	2.006	1.939	.2378
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.922**	**2.020**	**2.001**	**1.977**	**1.922**	**1.995**	**1.915**	**40.23**	**40.62**
Stddev	.017	.001	.002	.004	.001	.003	.005	.11	.13
%RSD	.9062	.0600	.1050	.1765	.0750	.1409	.2627	.2688	.3261
#1	1.905	2.019	2.004	1.973	1.923	1.998	1.920	40.27	40.72
#2	1.921	2.019	1.999	1.979	1.920	1.992	1.910	40.31	40.68
#3	1.940	2.021	2.001	1.980	1.922	1.994	1.915	40.11	40.47
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.80**	**39.94**	**39.81**	**39.28**	**1.918**	**2.014**	**4.769**	**2.074**	**2.011**
Stddev	.10	.12	.09	.07	.004	.002	.012	.001	.004
%RSD	.2410	.3064	.2137	.1822	.2238	.0829	.2599	.0499	.2022
#1	39.86	40.08	39.87	39.35	1.922	2.016	4.780	2.073	2.013
#2	39.85	39.89	39.84	39.29	1.913	2.013	4.755	2.073	2.015
#3	39.69	39.85	39.71	39.21	1.918	2.013	4.772	2.075	2.007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CCV Acquired: 12/10/2019 19:05:44 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.869**	**1.967**	**1.886**	**1.909**	**1.934**	**1.930**	**1.922**	**1.899**
Stddev	.017	.004	.017	.002	.005	.002	.005	.016
%RSD	.8925	.1787	.9155	.1146	.2841	.0829	.2375	.8305
#1	1.851	1.970	1.868	1.907	1.940	1.929	1.927	1.884
#2	1.870	1.963	1.886	1.911	1.929	1.932	1.921	1.896
#3	1.885	1.968	1.903	1.908	1.933	1.929	1.918	1.915
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**279490.**	**32375.**	**8261.9**	**14432.**
Stddev	2344.	120.	6.7	14.
%RSD	.83877	.36936	.08129	.09819
#1	281520.	32287.	8255.9	14439.
#2	280010.	32326.	8260.7	14415.
#3	276920.	32511.	8269.1	14441.

Zoom In Zoom Out

Sample Name: CCB Acquired: 12/10/2019 19:10:43 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0001**	**.0002**	**.0001**	**.0003**	**.0011**	**.0000**	**.0000**	**.0007**
Stddev	.0000	.0000	.0001	.0002	.0002	.0002	.0000	.0003	.0001
%RSD	14.88	28.95	66.95	292.9	72.55	21.94	77.88	7520.	17.42
#1	-.0002	.0001	.0004	.0001	.0002	.0014	.0000	.0000	.0008
#2	-.0002	.0002	.0001	.0002	.0002	.0010	.0000	-.0004	.0008
#3	-.0002	.0001	.0001	-.0001	.0006	.0010	.0000	.0003	.0006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0003**	**-.0005**	**-.0010**	**-.0003**	**-.0000**	**-.0008**	**-.0063**	**.0183**
Stddev	.0003	.0001	.0005	.0004	.0004	.0009	.0005	.0061	.0036
%RSD	109.3	15.78	107.0	38.01	105.5	2947.	55.52	97.57	19.58
#1	-.0001	.0003	.0001	-.0006	-.0007	-.0010	-.0013	-.0081	.0200
#2	-.0006	.0003	-.0010	-.0010	-.0001	.0001	-.0007	.0006	.0142
#3	-.0001	.0004	-.0006	-.0014	-.0001	.0008	-.0004	-.0112	.0207
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**-.0129**	**.0351**	**.0145**	**.0027**	**.0001**	**.0005**	**.0005**	**-.0000**
Stddev	.0013	.0091	.0103	.0038	.0005	.0001	.0002	.0003	.0000
%RSD	310.5	69.99	29.25	25.98	17.78	76.32	47.72	65.95	32.65
#1	.0005	-.0026	.0367	.0174	.0032	.0001	.0007	.0001	-.0000
#2	.0017	-.0168	.0242	.0102	.0026	.0001	.0005	.0006	-.0000
#3	-.0009	-.0195	.0445	.0159	.0022	.0002	.0003	.0007	-.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: CCB Acquired: 12/10/2019 19:10:43 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0004**	**.0002**	**-.0003**	**.0002**	**.0003**	**-.0113**	**-.0004**
Stddev	.0001	.0004	.0001	.0019	.0003	.0006	.0015	.0006
%RSD	35.68	111.1	56.99	552.7	164.2	212.7	13.32	149.1
#1	-.0005	.0007	.0003	.0001	.0004	-.0003	-.0113	-.0010
#2	-.0003	.0004	.0001	-.0025	.0004	.0003	-.0128	-.0005
#3	-.0002	-.0001	.0003	.0013	-.0002	.0008	-.0098	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**293520.**	**32683.**	**8532.9**	**15444.**
Stddev	3081.	224.	46.6	94.
%RSD	1.0498	.68529	.54595	.60926
#1	290110.	32571.	8560.2	15485.
#2	296100.	32941.	8559.3	15511.
#3	294350.	32536.	8479.1	15337.

Zoom In Zoom Out

Sample Name: SNCONF Acquired: 12/10/2019 19:15:54 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0001**	**.0001**	**-.0000**	**.0003**	**-.0003**	**.0002**	**.0004**	**.0003**
Stddev	.0001	.0001	.0001	.0002	.0002	.0001	.0000	.0000	.0001
%RSD	46.10	80.79	242.1	1199.	73.85	43.88	14.56	2.452	20.98
#1	-.0002	.0002	-.0000	-.0002	.0005	-.0004	.0001	.0004	.0004
#2	-.0001	.0000	.0002	-.0001	.0001	-.0003	.0002	.0003	.0003
#3	-.0004	.0001	-.0000	.0002	.0004	-.0002	.0002	.0004	.0004

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0054**	**-.0003**	**-.0005**	**-.0003**	**.0006**	**-.0057**	**.0042**	**.0857**
Stddev	.0001	.0001	.0003	.0004	.0003	.0017	.0002	.0056	.0009
%RSD	24.56	1.749	96.63	79.43	103.3	285.1	2.990	135.1	1.072
#1	-.0003	.0055	.0000	-.0001	.0000	.0007	-.0059	.0107	.0854
#2	-.0004	.0054	-.0005	-.0006	-.0005	-.0012	-.0057	.0008	.0849
#3	-.0004	.0053	-.0006	-.0008	-.0004	.0022	-.0055	.0010	.0867

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0063**	**-.0170**	**.0621**	**.0157**	**.0012**	**.0001**	**-.0080**	F **10.23**	**.0001**
Stddev	.0010	.0087	.0160	.0066	.0003	.0002	.0004	.22	.0000
%RSD	15.27	51.07	25.78	42.22	24.40	233.7	5.502	2.175	20.15
#1	.0068	-.0139	.0793	.0155	.0009	-.0000	-.0084	10.34	.0001
#2	.0069	-.0103	.0592	.0225	.0011	.0003	-.0075	9.979	.0001
#3	.0052	-.0268	.0477	.0092	.0015	-.0000	-.0079	10.39	.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**-.0130**	**.0006**	**.0079**	**-.0005**	**.0008**	**-.0128**	**.0006**
Stddev	.0001	.0007	.0000	.0035	.0014	.0015	.0005	.0007
%RSD	472.6	5.335	7.295	43.86	298.2	194.1	3.965	119.3
#1	.0001	-.0132	.0006	.0071	-.0021	-.0009	-.0134	.0005
#2	-.0000	-.0123	.0005	.0117	.0004	.0013	-.0128	.0014
#3	-.0001	-.0136	.0006	.0049	.0003	.0019	-.0124	-.0001

Zoom In Zoom Out

Sample Name: SNCONF Acquired: 12/10/2019 19:15:54 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**294150.**	**32400.**	**8696.2**	**15703.**
Stddev	2631.	257.	158.3	253.
%RSD	.89455	.79254	1.8203	1.6082
#1	291950.	32452.	8630.4	15600.
#2	293430.	32121.	8876.8	15990.
#3	297070.	32627.	8581.4	15517.

Zoom In Zoom Out

Sample Name: ticonf Acquired: 12/10/2019 19:21:04 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	F **-.0012**	**-.0001**	**.0008**	**.0010**	**.0016**	**.0001**	**-.0000**
Stddev	.0001	.0001	.0002	.0006	.0003	.0005	.0000	.0001
%RSD	269.2	10.11	159.9	77.13	26.56	31.20	45.20	538.3
#1	-.0002	-.0011	-.0001	.0001	.0008	.0021	.0001	-.0001
#2	-.0000	-.0013	-.0003	.0012	.0009	.0014	.0001	-.0001
#3	.0000	-.0011	.0001	.0011	.0013	.0012	.0000	.0001

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0010**	**-.0009**	**.0002**	**-.0008**	**.0000**	**.0041**	**.0027**	**.0030**
Stddev	.0001	.0002	.0001	.0007	.0004	.0010	.0024	.0008
%RSD	8.332	25.60	29.71	81.80	1311.	24.12	89.50	24.93
#1	.0009	-.0009	.0001	-.0001	.0003	.0030	.0055	.0022
#2	.0011	-.0011	.0002	-.0013	-.0004	.0043	.0012	.0035
#3	.0010	-.0007	.0002	-.0012	.0001	.0050	.0014	.0034

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0036**	**.0776**	**.0094**	**.0899**	**.0071**	**.0128**	**.0023**	**.0001**
Stddev	.0045	.0021	.0006	.0144	.0105	.0039	.0002	.0003
%RSD	124.5	2.750	6.522	16.05	149.0	30.35	8.036	194.3
#1	-.0070	.0791	.0099	.1025	.0059	.0169	.0021	-.0002
#2	-.0052	.0786	.0087	.0929	.0181	.0092	.0024	.0003
#3	.0015	.0752	.0097	.0742	-.0029	.0124	.0023	.0002

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0017**	F **-.0227**	**-.0000**	F **10.03**	**.0010**	**-.0002**	**.0042**	**-.0074**
Stddev	.0027	.0002	.0000	.27	.0010	.0001	.0032	.0032
%RSD	159.2	.8538	124.9	2.666	104.6	67.09	77.13	42.61
#1	-.0048	-.0226	-.0001	10.33	.0016	-.0004	.0049	-.0068
#2	-.0003	-.0229	.0000	9.822	.0015	-.0002	.0071	-.0108
#3	.0000	-.0225	-.0001	9.944	-.0002	-.0001	.0007	-.0046

Zoom In Zoom Out

Sample Name: ticonf Acquired: 12/10/2019 19:21:04 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**-.0009**	**-.0142**	**-.0081**
Stddev	.0007	.0020	.0014
%RSD	73.39	13.89	16.67
#1	-.0007	-.0142	-.0097
#2	-.0017	-.0162	-.0074
#3	-.0004	-.0123	-.0072

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**282600.**	**32012.**	**8462.5**	**15278.**
Stddev	10118.	594.	28.4	60.
%RSD	3.5805	1.8562	.33522	.39244
#1	270930.	31463.	8434.0	15222.
#2	288910.	31930.	8462.6	15270.
#3	287970.	32643.	8490.7	15341.

Zoom In Zoom Out

Sample Name: vconf Acquired: 12/10/2019 19:26:22 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0000**	**.0001**	**.0002**	**-.0004**	**.0028**	**-.0001**	**.0003**	**.0007**
Stddev	.0001	.0000	.0002	.0001	.0002	.0004	.0000	.0001	.0005
%RSD	118.9	175.3	181.8	45.73	52.32	14.15	21.32	31.23	76.74
#1	-.0002	.0000	-.0001	.0003	-.0002	.0030	-.0001	.0003	.0003
#2	-.0002	.0000	.0003	.0001	-.0006	.0023	-.0001	.0002	.0004
#3	.0000	-.0000	.0001	.0001	-.0004	.0030	-.0001	.0004	.0012

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **9.895**	**.0006**	**-.0013**	**-.0002**	**.0003**	**-.0027**	**.0047**	**-.0091**	**.0865**
Stddev	.012	.0001	.0005	.0014	.0010	.0013	.0010	.0047	.0019
%RSD	.1174	11.10	36.31	831.4	321.1	48.14	21.05	51.16	2.142
#1	9.884	.0006	-.0011	.0003	-.0003	-.0036	.0035	-.0091	.0843
#2	9.893	.0005	-.0019	-.0017	.0014	-.0012	.0051	-.0138	.0875
#3	9.907	.0007	-.0011	.0010	-.0003	-.0032	.0053	-.0045	.0876

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0069**	**-.0071**	**.0035**	**.0616**	**.0006**	**-.0020**	**-.0238**	**.0019**	**-.0000**
Stddev	.0019	.0107	.0191	.0054	.0003	.0001	.0002	.0006	.0000
%RSD	28.24	150.5	550.5	8.761	40.97	4.359	.6994	31.05	70.28
#1	.0054	.0035	.0183	.0647	.0009	-.0020	-.0237	.0016	-.0000
#2	.0091	-.0180	.0102	.0554	.0004	-.0020	-.0240	.0025	-.0001
#3	.0061	-.0068	-.0181	.0647	.0006	-.0019	-.0238	.0014	-.0000

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0024**	**-.0002**	**-.0001**	**-.0007**	**-.0004**	**-.0166**	**.0094**
Stddev	.0001	.0002	.0001	.0011	.0003	.0005	.0013	.0025
%RSD	21.60	9.373	51.20	924.2	43.79	119.6	7.820	26.23
#1	.0003	.0026	-.0003	.0000	-.0010	.0000	-.0170	.0086
#2	.0003	.0024	-.0001	-.0012	-.0006	-.0009	-.0177	.0122
#3	.0002	.0021	-.0003	.0009	-.0004	-.0003	-.0152	.0075

Zoom In Zoom Out

Sample Name: vconf Acquired: 12/10/2019 19:26:22 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**286570.**	**31630.**	**8498.8**	**15304.**
Stddev	573.	101.	32.0	71.
%RSD	.19979	.31772	.37598	.46635
#1	286920.	31600.	8510.2	15325.
#2	285910.	31742.	8462.8	15225.
#3	286880.	31548.	8523.6	15363.

Zoom In Zoom Out

Sample Name: siconf Acquired: 12/10/2019 19:31:39 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0001**	**.0001**	**-.0002**	**.0006**	**.0009**	**-.0001**	**.0000**	**.0006**
Stddev	.0002	.0001	.0001	.0001	.0001	.0001	.0000	.0000	.0003
%RSD	176.6	104.3	145.5	37.48	10.35	6.411	37.39	128.8	40.27
#1	.0001	.0001	-.0001	-.0003	.0007	.0010	-.0001	-.0000	.0003
#2	-.0002	.0001	.0001	-.0001	.0006	.0009	-.0001	.0000	.0008
#3	-.0002	-.0000	.0002	-.0003	.0006	.0009	-.0001	.0001	.0008

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0001**	**-.0003**	**-.0004**	**.0009**	**.0014**	**-.0001**	**-.0085**	**.0205**
Stddev	.0001	.0001	.0005	.0005	.0007	.0014	.0009	.0087	.0009
%RSD	41.20	50.70	201.2	125.4	75.99	94.60	705.9	102.7	4.394
#1	-.0002	.0002	-.0001	.0001	.0014	.0010	-.0006	.0006	.0209
#2	-.0003	.0001	.0001	-.0010	.0001	.0004	.0009	-.0167	.0195
#3	-.0002	.0000	-.0009	-.0003	.0012	.0030	-.0007	-.0093	.0211

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0021**	**-.0058**	**.0235**	**.0263**	**.0043**	**.0000**	**9.569**	**.0001**	**-.0001**
Stddev	.0008	.0073	.0214	.0012	.0004	.0000	.061	.0002	.0000
%RSD	38.10	125.9	91.20	4.698	10.19	355.9	.6341	157.9	30.04
#1	.0024	-.0105	.0218	.0252	.0048	-.0000	9.499	.0001	-.0002
#2	.0012	.0026	.0456	.0259	.0044	.0000	9.602	.0004	-.0001
#3	.0028	-.0095	.0030	.0276	.0039	.0000	9.605	-.0001	-.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**-.0004**	**.0002**	**-.0008**	**-.0009**	**-.0020**	**-.0141**	**.0004**
Stddev	.0002	.0008	.0001	.0018	.0019	.0007	.0008	.0029
%RSD	90.79	185.6	29.02	218.9	217.0	32.99	5.983	680.6
#1	-.0000	-.0012	.0002	.0006	.0008	-.0013	-.0134	.0037
#2	-.0003	-.0005	.0001	-.0028	-.0029	-.0026	-.0150	-.0011
#3	-.0002	.0004	.0002	-.0002	-.0005	-.0022	-.0138	-.0014

Zoom In Zoom Out

Sample Name: siconf Acquired: 12/10/2019 19:31:39 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**294390.**	**31979.**	**8565.5**	**15485.**
Stddev	1969.	116.	46.8	59.
%RSD	.66898	.36395	.54607	.37817
#1	292170.	31846.	8619.5	15553.
#2	295080.	32029.	8539.5	15445.
#3	295920.	32062.	8537.6	15458.

Zoom In Zoom Out

Sample Name: moconf Acquired: 12/10/2019 19:36:48 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0003**	**-.0001**	**-.0016**	**.0004**	**-.0020**	**-.0004**	**-.0002**	**.0007**
Stddev	.0001	.0000	.0001	.0001	.0002	.0002	.0000	.0002	.0001
%RSD	41.86	6.150	82.12	4.181	62.47	10.44	6.170	81.58	17.91
#1	-.0002	.0003	-.0003	-.0015	.0006	-.0018	-.0004	-.0000	.0005
#2	-.0005	.0004	-.0001	-.0016	.0003	-.0021	-.0004	-.0003	.0007
#3	-.0003	.0003	-.0001	-.0016	.0002	-.0022	-.0004	-.0004	.0007

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0013**	**.0007**	**.0006**	**.0010**	**.0018**	**.0002**	**.0555**	**.0170**
Stddev	.0003	.0000	.0003	.0002	.0014	.0002	.0001	.0121	.0013
%RSD	209.2	3.522	41.30	30.20	145.2	12.35	71.72	21.75	7.790
#1	-.0001	-.0013	.0009	.0007	.0002	.0021	.0003	.0635	.0159
#2	-.0004	-.0013	.0004	.0004	.0002	.0017	.0001	.0416	.0185
#3	.0001	-.0013	.0008	.0007	.0026	.0017	.0001	.0614	.0167

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0579**	**-.0826**	**.0244**	**.0290**	F **9.955**	**-.0434**	**.0006**	**-.0001**
Stddev	.0005	.0068	.0124	.0043	.0006	.043	.0014	.0009	.0000
%RSD	611.6	11.75	14.98	17.45	2.021	.4330	3.297	149.9	26.41
#1	-.0004	-.0656	-.0963	.0232	.0296	9.994	-.0439	.0016	-.0001
#2	.0006	-.0556	-.0722	.0209	.0287	9.963	-.0445	.0001	-.0001
#3	.0000	-.0526	-.0794	.0292	.0285	9.909	-.0418	.0000	-.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0033**	**.0048**	**-.0016**	**-.0050**	**.0010**	**-.0016**	**-.0153**	**-.0033**
Stddev	.0002	.0014	.0001	.0018	.0003	.0009	.0006	.0005
%RSD	6.641	29.36	4.366	36.60	30.18	55.06	3.927	16.43
#1	-.0035	.0036	-.0016	-.0062	.0011	-.0024	-.0158	-.0032
#2	-.0031	.0064	-.0015	-.0029	.0013	-.0017	-.0154	-.0028
#3	-.0033	.0045	-.0016	-.0059	.0007	-.0006	-.0146	-.0039

Zoom In Zoom Out

Sample Name: moconf Acquired: 12/10/2019 19:36:48 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**294370.**	**31890.**	**8505.4**	**15390.**
Stddev	1272.	120.	36.8	58.
%RSD	.43200	.37504	.43230	.37726
#1	295800.	31782.	8471.1	15334.
#2	293360.	31869.	8500.8	15386.
#3	293960.	32019.	8544.3	15450.

Zoom In Zoom Out

Sample Name: mnconf Acquired: 12/10/2019 19:41:54 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0002**	**-.0000**	**-.0000**	**.0009**	**.0010**	F **9.661**	**.0005**	**.0009**
Stddev	.0001	.0000	.0000	.0001	.0002	.0001	.092	.0001	.0002
%RSD	189.3	9.138	214.7	227.8	22.06	10.49	.9528	10.00	26.03
#1	.0000	.0002	-.0001	.0001	.0010	.0009	9.583	.0005	.0010
#2	-.0000	.0002	.0000	-.0001	.0011	.0011	9.763	.0005	.0012
#3	-.0002	.0002	-.0000	-.0001	.0007	.0009	9.638	.0006	.0007

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0016**	**-.0000**	**.0013**	**-.0014**	**-.0003**	**-.0016**	**-.0006**	**-.0087**	**.0276**
Stddev	.0002	.0001	.0011	.0014	.0006	.0004	.0002	.0079	.0035
%RSD	11.60	214.1	84.62	95.41	209.5	24.02	26.85	90.92	12.66
#1	.0017	-.0000	.0026	-.0029	.0004	-.0019	-.0008	-.0060	.0308
#2	.0018	.0001	.0006	-.0003	-.0009	-.0012	-.0005	-.0025	.0281
#3	.0014	-.0002	.0008	-.0010	-.0004	-.0016	-.0005	-.0176	.0238

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0031**	**-.0457**	**-.0484**	**.0200**	**.0002**	**.0005**	**.0016**	**.0003**	**-.0001**
Stddev	.0016	.0135	.0103	.0063	.0006	.0000	.0006	.0003	.0000
%RSD	50.57	29.50	21.24	31.69	290.6	9.241	39.47	85.80	25.76
#1	-.0024	-.0496	-.0453	.0263	.0004	.0005	.0023	.0006	-.0001
#2	-.0021	-.0307	-.0401	.0137	.0008	.0005	.0012	.0000	-.0000
#3	-.0050	-.0567	-.0599	.0199	-.0005	.0006	.0012	.0003	-.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0023**	**.0002**	**-.0070**	**.0006**	**-.0014**	**-.0793**	**-.0042**
Stddev	.0002	.0005	.0000	.0010	.0009	.0009	.0003	.0018
%RSD	49.55	20.29	17.51	14.45	153.6	62.19	.4356	43.37
#1	-.0004	.0018	.0002	-.0061	.0016	-.0015	-.0793	-.0024
#2	-.0001	.0028	.0002	-.0081	.0004	-.0023	-.0790	-.0060
#3	-.0004	.0024	.0002	-.0069	-.0002	-.0005	-.0797	-.0042

Zoom In Zoom Out

Sample Name: mnconf Acquired: 12/10/2019 19:41:54 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**289330.**	**31662.**	**8479.5**	**15268.**
Stddev	2750.	90.	13.1	26.
%RSD	.95036	.28372	.15423	.16770
#1	292100.	31599.	8492.0	15297.
#2	286600.	31765.	8465.9	15249.
#3	289300.	31622.	8480.6	15259.

Zoom In Zoom Out

Sample Name: sconf Acquired: 12/10/2019 19:47:12 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0000**	**.0003**	**-.0001**	**.0007**	**.0007**	**.0001**	**-.0003**
Stddev	.0002	.0000	.0001	.0001	.0001	.0003	.0000	.0001
%RSD	133.5	146.5	23.30	118.8	11.23	39.18	44.12	24.76
#1	.0000	.0000	.0004	-.0000	.0008	.0007	.0001	-.0004
#2	-.0001	-.0000	.0003	-.0001	.0007	.0009	.0001	-.0003
#3	-.0003	.0001	.0003	-.0002	.0008	.0004	.0001	-.0002

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0002**	**.0019**	**-.0013**	F **-.0027**	**-.0007**	**-.0006**	**-.0001**
Stddev	.0002	.0001	.0002	.0009	.0001	.0003	.0002	.0009
%RSD	105.1	44.31	8.203	66.60	2.954	37.42	38.61	747.4
#1	.0005	-.0001	.0020	-.0003	-.0027	-.0004	-.0008	-.0005
#2	.0002	-.0003	.0017	-.0018	-.0026	-.0009	-.0004	.0009
#3	-.0000	-.0002	.0019	-.0018	-.0027	-.0008	-.0005	-.0008

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0028**	**.0395**	**.0027**	**-.0080**	**.0011**	**.0207**	**.0005**	**.0001**
Stddev	.0047	.0021	.0016	.0065	.0364	.0051	.0003	.0001
%RSD	167.4	5.199	61.31	80.87	3370.	24.52	59.10	46.78
#1	-.0033	.0405	.0027	-.0006	.0081	.0259	.0009	.0002
#2	-.0073	.0371	.0043	-.0126	-.0384	.0204	.0004	.0001
#3	.0021	.0408	.0010	-.0107	.0335	.0158	.0003	.0002

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0093**	**.0011**	**-.0000**	**-.0001**	**.0011**	**.0004**	**92.05**	**-.0010**
Stddev	.0002	.0005	.0000	.0002	.0011	.0001	1.41	.0012
%RSD	2.389	47.95	198.4	137.7	104.2	24.89	1.527	117.2
#1	.0095	.0010	-.0000	-.0000	-.0001	.0003	93.52	-.0004
#2	.0091	.0016	.0000	-.0000	.0021	.0005	90.71	-.0024
#3	.0092	.0006	-.0000	-.0003	.0012	.0003	91.93	-.0003

Zoom In Zoom Out

Sample Name: sconf Acquired: 12/10/2019 19:47:12 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**-.0000**	**-.0125**	**-.0010**
Stddev	.0004	.0020	.0014
%RSD	2740.	15.97	138.0
#1	-.0003	-.0112	-.0003
#2	-.0003	-.0148	-.0001
#3	.0005	-.0114	-.0026

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**290850.**	**31354.**	**8392.3**	**15219.**
Stddev	1339.	132.	99.9	191.
%RSD	.46049	.42168	1.1901	1.2549
#1	290690.	31324.	8288.8	15020.
#2	289600.	31239.	8488.1	15400.
#3	292260.	31498.	8400.1	15236.

Zoom In Zoom Out

Sample Name: cuconf Acquired: 12/10/2019 19:52:19 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0001**	**.0002**	**.0000**	**.0002**	F **9.190**	**-.0000**	**-.0001**	**.0008**
Stddev	.0000	.0000	.0002	.0001	.0003	.141	.0000	.0001	.0000
%RSD	18.04	30.33	100.6	494.4	145.5	1.535	175.3	79.97	2.899
#1	-.0002	.0002	-.0000	-.0001	.0001	9.286	-.0000	-.0001	.0008
#2	-.0003	.0001	.0002	.0000	-.0000	9.256	.0000	-.0002	.0008
#3	-.0002	.0001	.0003	.0001	.0005	9.028	-.0000	-.0000	.0007

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0008**	**-.0013**	**-.0009**	**-.0013**	**.0033**	**-.0001**	**-.0006**	**-.0088**	**.0356**
Stddev	.0003	.0001	.0012	.0005	.0008	.0021	.0003	.0047	.0024
%RSD	33.94	7.163	136.1	39.33	23.22	1927.	56.29	52.68	6.630
#1	-.0009	-.0014	.0004	-.0013	.0034	-.0016	-.0002	-.0124	.0381
#2	-.0010	-.0013	-.0011	-.0008	.0025	-.0010	-.0008	-.0105	.0334
#3	-.0005	-.0013	-.0020	-.0018	.0040	.0023	-.0007	-.0036	.0354

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0092**	**-.0220**	**.0598**	**.0176**	**-.0001**	**.0001**	**.0025**	**-.0000**	**-.0001**
Stddev	.0012	.0056	.0232	.0040	.0004	.0001	.0016	.0003	.0000
%RSD	12.65	25.30	38.81	22.66	324.2	198.4	65.14	973.5	23.74
#1	-.0097	-.0160	.0601	.0136	.0003	.0000	.0027	-.0001	-.0001
#2	-.0100	-.0229	.0829	.0216	-.0002	-.0000	.0039	.0003	-.0001
#3	-.0079	-.0270	.0365	.0177	-.0004	.0002	.0007	-.0003	-.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0012**	**-.0001**	**.0003**	**.0010**	**-.0006**	**-.0013**	**-.0484**	**-.0002**
Stddev	.0001	.0004	.0001	.0009	.0007	.0006	.0022	.0015
%RSD	11.31	641.4	23.40	89.64	118.6	44.60	4.533	627.9
#1	-.0011	.0004	.0002	.0009	.0002	-.0013	-.0476	-.0014
#2	-.0013	-.0002	.0004	.0002	-.0012	-.0019	-.0508	.0015
#3	-.0013	-.0004	.0003	.0020	-.0009	-.0007	-.0466	-.0008

Zoom In Zoom Out

Sample Name: cuconf Acquired: 12/10/2019 19:52:19 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**292310.**	**32094.**	**8509.5**	**15329.**
Stddev	1576.	39.	37.2	70.
%RSD	.53910	.12282	.43748	.45360
#1	291210.	32068.	8551.0	15402.
#2	291600.	32139.	8498.0	15322.
#3	294110.	32074.	8479.3	15264.

Zoom In Zoom Out

Sample Name: coconf Acquired: 12/10/2019 19:57:38 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0000**	**-.0005**	F **9.624**	**.0003**	**.0016**	**-.0001**	**.0011**	**.0007**
Stddev	.0001	.0000	.0001	.038	.0001	.0003	.0000	.0003	.0003
%RSD	136.4	46.12	20.94	.3916	29.80	18.66	12.27	25.26	51.36
#1	.0000	.0000	-.0006	9.620	.0002	.0012	-.0001	.0013	.0010
#2	-.0001	.0000	-.0004	9.588	.0004	.0018	-.0001	.0008	.0007
#3	-.0002	.0000	-.0005	9.664	.0002	.0017	-.0001	.0011	.0003

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0004**	**-.0018**	**.0008**	**.0004**	**-.0035**	**-.0008**	**-.0191**	**.0164**
Stddev	.0000	.0001	.0003	.0000	.0005	.0004	.0011	.0037	.0013
%RSD	39.39	15.69	16.56	5.572	133.5	12.77	139.1	19.57	7.858
#1	-.0002	.0003	-.0020	.0008	.0000	-.0034	-.0011	-.0163	.0151
#2	-.0001	.0004	-.0020	.0007	.0009	-.0031	.0004	-.0175	.0177
#3	-.0001	.0005	-.0015	.0008	.0002	-.0040	-.0016	-.0233	.0163

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**-.0194**	**-.0230**	**.0198**	**-.0011**	**.0000**	**-.0023**	**.0001**	**-.0001**
Stddev	.0014	.0069	.0092	.0012	.0000	.0000	.0003	.0003	.0001
%RSD	403.5	35.64	40.13	6.156	2.907	187.7	14.07	192.8	96.45
#1	-.0003	-.0223	-.0321	.0194	-.0011	.0001	-.0023	.0004	-.0002
#2	.0020	-.0243	-.0233	.0188	-.0010	.0000	-.0026	-.0001	-.0000
#3	-.0006	-.0115	-.0136	.0211	-.0011	-.0000	-.0019	.0001	-.0000

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**-.0011**	**.0001**	**-.0025**	**.0382**	**-.0010**	**-.0131**	**.0061**
Stddev	.0003	.0009	.0001	.0024	.0006	.0009	.0016	.0021
%RSD	93.74	82.49	99.33	95.16	1.635	87.63	11.87	34.98
#1	-.0003	-.0005	.0002	-.0048	.0378	-.0019	-.0135	.0078
#2	-.0000	-.0007	.0000	-.0001	.0379	-.0001	-.0144	.0037
#3	-.0005	-.0022	.0001	-.0026	.0389	-.0010	-.0113	.0067

Zoom In Zoom Out

Sample Name: coconf Acquired: 12/10/2019 19:57:38 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**288250.**	**32381.**	**8559.2**	**15480.**
Stddev	5309.	46.	26.4	43.
%RSD	1.8416	.14092	.30830	.27972
#1	291590.	32364.	8554.5	15479.
#2	291030.	32346.	8587.7	15524.
#3	282130.	32433.	8535.5	15437.

Zoom In Zoom Out

Sample Name: niconf Acquired: 12/10/2019 20:02:46 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0006**	**.0004**	**.0003**	**.0005**	**.0015**	**-.0003**	F **9.807**	**.0005**
Stddev	.0000	.0000	.0001	.0001	.0003	.0002	.0000	.038	.0003
%RSD	30.73	4.669	35.42	31.77	57.44	11.06	9.436	.3855	60.51
#1	-.0001	.0006	.0004	.0003	.0002	.0013	-.0002	9.764	.0002
#2	-.0001	.0005	.0002	.0004	.0006	.0016	-.0003	9.829	.0009
#3	-.0002	.0006	.0005	.0002	.0007	.0017	-.0003	9.829	.0004

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0002**	**.0013**	**-.0004**	**.0014**	**-.0004**	**-.0019**	**-.0068**	**.0342**
Stddev	.0001	.0000	.0007	.0007	.0007	.0018	.0009	.0015	.0006
%RSD	21.80	14.52	55.90	182.4	50.32	435.9	47.08	21.57	1.881
#1	-.0003	.0002	.0005	.0001	.0017	-.0025	-.0014	-.0062	.0335
#2	-.0003	.0002	.0019	-.0012	.0006	.0007	-.0014	-.0084	.0346
#3	-.0004	.0002	.0016	-.0001	.0020	.0006	-.0030	-.0057	.0346

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0040**	**-.0125**	**.0662**	**.0196**	**-.0004**	**.0001**	**.0038**	**-.0000**	**-.0000**
Stddev	.0017	.0152	.0050	.0049	.0003	.0001	.0005	.0005	.0000
%RSD	42.12	121.9	7.524	25.15	65.99	52.31	13.76	3529.	26.54
#1	.0022	-.0272	.0614	.0153	-.0005	.0001	.0043	.0005	-.0000
#2	.0056	.0032	.0713	.0185	-.0007	.0001	.0033	-.0003	-.0000
#3	.0043	-.0133	.0659	.0250	-.0001	.0002	.0038	-.0003	-.0000

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**.0030**	**.0004**	**-.0018**	**-.0010**	**-.0013**	**-.0017**	**-.0024**
Stddev	.0002	.0003	.0002	.0031	.0011	.0007	.0008	.0014
%RSD	52.35	8.986	42.07	171.8	109.8	53.15	46.34	56.39
#1	.0005	.0031	.0004	-.0045	-.0015	-.0006	-.0008	-.0017
#2	.0002	.0031	.0006	-.0025	.0003	-.0020	-.0018	-.0015
#3	.0006	.0027	.0003	.0016	-.0019	-.0014	-.0023	-.0040

Zoom In Zoom Out

Sample Name: niconf Acquired: 12/10/2019 20:02:46 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**288430.**	**31999.**	**8450.6**	**15354.**
Stddev	2026.	115.	38.9	65.
%RSD	.70250	.35982	.46032	.42268
#1	289770.	31943.	8495.5	15428.
#2	286100.	31922.	8427.4	15327.
#3	289420.	32131.	8428.8	15307.

Zoom In Zoom Out

Sample Name: alconf Acquired: 12/10/2019 20:07:54 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0001**	**-.0000**	**-.0001**	**.0005**	**.0006**	**-.0004**	**-.0004**	**.0007**
Stddev	.0001	.0000	.0002	.0001	.0003	.0001	.0000	.0002	.0001
%RSD	46.64	55.57	478.4	63.89	63.16	17.72	5.330	48.72	12.12
#1	-.0003	.0001	-.0002	-.0002	.0008	.0007	-.0004	-.0002	.0006
#2	-.0002	.0001	.0001	-.0002	.0004	.0006	-.0004	-.0004	.0007
#3	-.0001	.0000	.0001	-.0000	.0002	.0005	-.0003	-.0005	.0008

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**-.0007**	**.0008**	**.0043**	**.0005**	**-.0012**	**.0002**	F **479.3**	**.0272**
Stddev	.0001	.0001	.0008	.0013	.0007	.0029	.0040	6.0	.0033
%RSD	38.53	11.38	107.5	29.49	160.2	253.1	1911.	1.247	12.05
#1	-.0003	-.0007	.0001	.0056	.0013	-.0041	.0042	473.3	.0236
#2	-.0005	-.0008	.0006	.0042	-.0001	-.0012	.0002	485.2	.0301
#3	-.0003	-.0006	.0017	.0031	.0002	.0018	-.0038	479.5	.0279

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0487**	**-.0084**	**.0084**	**-.0032**	**.0020**	**-.0022**	**-.0113**	**-.0007**	**-.0000**
Stddev	.0007	.0109	.0061	.0078	.0004	.0001	.0008	.0010	.0000
%RSD	1.425	130.3	72.43	246.6	22.21	6.240	7.490	141.0	80.52
#1	.0493	.0039	.0136	-.0122	.0015	-.0023	-.0106	.0004	-.0000
#2	.0479	-.0169	.0098	.0014	.0024	-.0020	-.0110	-.0016	-.0001
#3	.0488	-.0122	.0017	.0013	.0021	-.0022	-.0122	-.0009	-.0000

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**.0009**	**.0003**	**.0246**	**-.0035**	**-.0010**	**-.0109**	**.0003**
Stddev	.0001	.0011	.0001	.0010	.0003	.0007	.0019	.0007
%RSD	21.75	119.8	45.64	4.218	8.645	62.63	17.04	245.4
#1	.0004	.0009	.0004	.0247	-.0038	-.0003	-.0129	.0007
#2	.0006	.0020	.0001	.0235	-.0035	-.0014	-.0103	-.0006
#3	.0005	-.0002	.0003	.0255	-.0032	-.0014	-.0094	.0007

Zoom In Zoom Out

Sample Name: alconf Acquired: 12/10/2019 20:07:54 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**283220.**	**33218.**	**8727.8**	**14448.**
Stddev	424.	141.	64.9	106.
%RSD	.14973	.42594	.74326	.73480
#1	283080.	33381.	8795.2	14560.
#2	282890.	33137.	8665.8	14350.
#3	283700.	33135.	8722.3	14433.

Zoom In Zoom Out

Sample Name: caconf Acquired: 12/10/2019 20:13:05 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0011**	**.0035**	**.0036**	**.0036**	**.0033**	**.0048**	**.0040**	**.0038**	**.0031**
Stddev	.0000	.0000	.0001	.0001	.0001	.0002	.0000	.0001	.0001
%RSD	2.877	.4409	2.242	2.186	1.896	3.251	.3771	3.930	1.939
#1	.0011	.0036	.0037	.0035	.0034	.0046	.0040	.0039	.0030
#2	.0011	.0035	.0035	.0035	.0033	.0049	.0039	.0036	.0031
#3	.0012	.0035	.0036	.0037	.0033	.0048	.0040	.0038	.0031

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0012**	**.0294**	**.0012**	**.0029**	**.0040**	**-.0018**	**.0006**	**-.0363**	F **446.9**
Stddev	.0001	.0001	.0007	.0003	.0017	.0022	.0011	.0043	6.0
%RSD	8.922	.2578	55.98	9.077	42.80	122.9	177.4	11.73	1.353
#1	.0013	.0293	.0014	.0031	.0054	-.0043	.0010	-.0409	449.1
#2	.0011	.0294	.0017	.0030	.0021	.0001	-.0006	-.0355	451.5
#3	.0013	.0294	.0004	.0026	.0045	-.0012	.0014	-.0325	440.0

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0132**	**.0036**	**-.0909**	**.0049**	**.0022**	**.0004**	**.0572**	**-.0009**	**.0060**
Stddev	.0011	.0106	.0211	.0052	.0010	.0001	.0001	.0011	.0001
%RSD	8.473	291.8	23.20	105.5	46.19	18.87	.2284	121.6	1.981
#1	.0141	.0135	-.1087	.0015	.0012	.0005	.0573	-.0014	.0058
#2	.0135	-.0076	-.0676	.0108	.0031	.0004	.0572	-.0016	.0060
#3	.0120	.0050	-.0964	.0023	.0021	.0003	.0571	.0004	.0061

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0011**	**.0018**	**.0002**	**.0336**	**.0013**	**-.0123**	**-.0090**	**.0020**
Stddev	.0001	.0005	.0001	.0037	.0006	.0006	.0014	.0006
%RSD	8.555	27.70	62.58	10.87	44.83	5.256	15.27	30.49
#1	-.0011	.0013	.0003	.0378	.0014	-.0130	-.0081	.0024
#2	-.0012	.0022	.0002	.0319	.0007	-.0117	-.0106	.0023
#3	-.0010	.0020	.0001	.0312	.0018	-.0122	-.0083	.0013

Zoom In Zoom Out

Sample Name: caconf Acquired: 12/10/2019 20:13:05 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**269130.**	**31033.**	**7810.9**	**13796.**
Stddev	1490.	35.	14.3	21.
%RSD	.55366	.11195	.18258	.15533
#1	267850.	30998.	7827.3	13813.
#2	270760.	31035.	7801.2	13772.
#3	268770.	31067.	7804.2	13803.

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 20:18:22 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.989**	**1.991**	**1.989**	**1.962**	**1.943**	**1.914**	**1.960**	**1.935**	**.2339**
Stddev	.009	.006	.006	.004	.018	.013	.015	.005	.0015
%RSD	.4717	.3234	.3201	.2133	.9512	.6827	.7662	.2779	.6551
#1	1.999	1.998	1.987	1.959	1.923	1.902	1.945	1.932	.2327
#2	1.987	1.989	1.996	1.967	1.959	1.928	1.975	1.941	.2357
#3	1.980	1.985	1.984	1.961	1.948	1.911	1.961	1.932	.2334
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.899**	**2.044**	**2.005**	**1.966**	**1.919**	**1.996**	**1.906**	**41.54**	**41.87**
Stddev	.018	.009	.007	.018	.007	.013	.010	.20	.21
%RSD	.9463	.4174	.3384	.9092	.3463	.6257	.5147	.4820	.5033
#1	1.879	2.036	2.003	1.945	1.915	1.985	1.902	41.76	42.09
#2	1.915	2.053	2.013	1.977	1.927	2.010	1.917	41.46	41.83
#3	1.902	2.041	2.000	1.974	1.916	1.994	1.898	41.38	41.68
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.82**	**40.51**	**40.71**	**40.24**	**1.907**	**2.019**	**4.752**	**2.096**	**2.057**
Stddev	.23	.13	.25	.23	.005	.008	.014	.009	.011
%RSD	.5731	.3219	.6047	.5608	.2854	.3764	.2882	.4221	.5209
#1	41.09	40.63	41.00	40.50	1.905	2.012	4.744	2.091	2.069
#2	40.74	40.53	40.57	40.15	1.914	2.027	4.767	2.107	2.053
#3	40.64	40.37	40.57	40.07	1.903	2.018	4.743	2.092	2.048
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 20:18:22 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.833**	**1.974**	**1.863**	**1.913**	**1.932**	**1.947**	**1.946**	**1.859**
Stddev	.017	.009	.016	.006	.006	.006	.007	.016
%RSD	.9071	.4667	.8739	.3053	.3331	.3057	.3552	.8387
#1	1.816	1.967	1.847	1.911	1.928	1.954	1.941	1.844
#2	1.850	1.984	1.879	1.919	1.939	1.943	1.953	1.875
#3	1.832	1.970	1.863	1.908	1.927	1.944	1.942	1.859
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**281310.**	**31506.**	**8214.8**	**14418.**
Stddev	1823.	57.	28.8	45.
%RSD	.64790	.18108	.35050	.31413
#1	283140.	31483.	8219.6	14435.
#2	279500.	31465.	8183.9	14367.
#3	281290.	31571.	8240.9	14453.

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 20:23:21 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0001**	**.0002**	**.0000**	**.0003**	**.0013**	**.0000**	**.0001**
Stddev	.0001	.0001	.0001	.0001	.0001	.0002	.0000	.0001
%RSD	40.11	84.22	50.52	624.3	24.73	16.28	102.4	100.9
#1	-.0001	.0002	.0001	-.0001	.0004	.0010	.0000	.0003
#2	-.0003	.0000	.0002	.0001	.0004	.0013	.0000	.0000
#3	-.0002	.0001	.0001	-.0000	.0002	.0014	-.0000	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0007**	**-.0005**	**.0004**	**-.0001**	**-.0004**	**.0001**	**-.0005**	**.0006**
Stddev	.0001	.0001	.0001	.0010	.0001	.0009	.0010	.0001
%RSD	11.52	32.20	18.44	1537.	16.89	918.4	196.2	20.49
#1	.0007	-.0003	.0004	.0002	-.0005	.0009	.0007	.0006
#2	.0007	-.0006	.0005	.0008	-.0004	-.0008	-.0011	.0005
#3	.0008	-.0005	.0004	-.0011	-.0004	.0002	-.0011	.0008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0103**	**.0223**	**.0007**	**-.0178**	**.0004**	**.0135**	**.0015**	**.0002**
Stddev	.0046	.0032	.0009	.0085	.0098	.0046	.0004	.0002
%RSD	44.82	14.55	120.4	47.87	2510.	33.93	27.37	123.4
#1	-.0055	.0213	.0018	-.0265	.0022	.0158	.0018	.0003
#2	-.0148	.0259	.0001	-.0095	.0091	.0082	.0016	.0003
#3	-.0107	.0196	.0004	-.0174	-.0102	.0164	.0010	-.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 20:23:21 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0001**	**-.0000**	**-.0001**	**.0005**	**.0001**	**-.0012**	**.0008**
Stddev	.0006	.0002	.0000	.0001	.0002	.0001	.0019	.0002
%RSD	910.6	142.6	111.7	84.61	35.80	112.2	160.8	26.83
#1	.0007	-.0001	.0000	-.0001	.0003	.0002	-.0018	.0006
#2	-.0001	.0003	-.0001	-.0000	.0005	-.0000	.0009	.0011
#3	-.0004	.0003	-.0000	-.0002	.0006	.0001	-.0028	.0009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**-.0012**	F **-.0169**	**-.0023**
Stddev	.0010	.0011	.0043
%RSD	82.35	6.501	190.3
#1	-.0021	-.0158	-.0072
#2	-.0013	-.0180	.0008
#3	-.0001	-.0169	-.0004
Check ?	Chk Pass	Chk Fail	Chk Pass
High Limit		.0125	
Low Limit		-.0125	

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**293000.**	**31896.**	**8443.7**	**15364.**
Stddev	258.	80.	116.6	174.
%RSD	.08797	.24983	1.3804	1.1327
#1	292740.	31962.	8572.5	15550.
#2	293010.	31919.	8345.5	15206.
#3	293250.	31808.	8413.1	15335.

Zoom In Zoom Out

Sample Name: MP18781A-MB1 Acquired: 12/10/2019 20:28:31 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0001**	**.0000**	**-.0001**	**.0007**	**.0017**	**.0000**	**.0001**	**.0006**
Stddev	.0001	.0000	.0000	.0002	.0002	.0006	.0000	.0001	.0002
%RSD	79.94	38.45	1917.	220.0	35.34	37.19	28.97	225.7	26.50
#1	-.0000	.0001	-.0000	.0000	.0004	.0013	.0000	-.0000	.0006
#2	-.0001	.0001	.0000	-.0004	.0009	.0014	.0000	-.0000	.0008
#3	-.0002	.0001	-.0000	.0000	.0007	.0024	.0001	.0002	.0005

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**.0003**	**-.0005**	**-.0014**	**.0002**	**.0018**	**.0006**	**-.0099**	**.0214**
Stddev	.0001	.0000	.0012	.0007	.0005	.0017	.0003	.0066	.0010
%RSD	24.71	.9195	233.8	46.47	240.8	93.02	54.41	66.51	4.868
#1	-.0005	.0003	-.0018	-.0020	.0005	.0021	.0002	-.0049	.0202
#2	-.0003	.0003	-.0001	-.0016	.0004	.0033	.0008	-.0173	.0220
#3	-.0005	.0003	.0004	-.0007	-.0003	-.0000	.0008	-.0074	.0220

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0028**	**-.0060**	**-.0172**	**.0159**	**.0003**	**.0000**	**.0042**	**.0003**	**-.0000**
Stddev	.0004	.0065	.0144	.0017	.0001	.0003	.0015	.0006	.0001
%RSD	16.20	107.7	83.56	10.70	24.83	5044.	35.28	164.5	142.5
#1	.0030	.0013	-.0006	.0139	.0003	-.0003	.0031	.0005	.0000
#2	.0023	-.0085	-.0265	.0169	.0003	-.0001	.0058	.0008	-.0001
#3	.0030	-.0109	-.0245	.0168	.0004	.0004	.0035	-.0003	-.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0001**	**.0003**	**.0001**	**-.0007**	**-.0021**	**-.0162**	**-.0011**
Stddev	.0003	.0007	.0000	.0036	.0009	.0003	.0011	.0030
%RSD	296.7	571.3	13.72	6875.	139.6	14.55	6.724	279.0
#1	-.0004	-.0006	.0002	-.0040	-.0015	-.0019	-.0149	-.0001
#2	-.0000	.0007	.0002	.0025	-.0008	-.0020	-.0168	-.0044
#3	.0001	-.0005	.0003	.0017	.0003	-.0025	-.0168	.0013

Zoom In Zoom Out

Sample Name: MP18781A-MB1 Acquired: 12/10/2019 20:28:31 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**285800.**	**32147.**	**8516.8**	**15548.**
Stddev	11739.	135.	12.2	17.
%RSD	4.1076	.41940	.14336	.10961
#1	293600.	32275.	8502.9	15530.
#2	291490.	32006.	8521.8	15564.
#3	272300.	32162.	8525.7	15551.

Zoom In Zoom Out

Sample Name: MP18781A-B1 Acquired: 12/10/2019 20:33:40 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.917**	**1.921**	**1.937**	**1.901**	**1.881**	**1.854**	**1.888**	**1.876**
Stddev	.001	.002	.117	.111	.013	.013	.009	.107
%RSD	.0503	.0959	6.019	5.848	.7057	.7215	.5007	5.693
#1	1.918	1.919	2.058	2.016	1.871	1.846	1.880	1.986
#2	1.917	1.922	1.826	1.795	1.896	1.870	1.899	1.773
#3	1.916	1.922	1.926	1.892	1.875	1.847	1.886	1.868

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2353**	**1.834**	**1.977**	**1.969**	**1.920**	**1.877**	**1.926**	**1.900**
Stddev	.0020	.011	.122	.116	.103	.104	.114	.114
%RSD	.8338	.6099	6.177	5.895	5.387	5.517	5.911	6.000
#1	.2338	1.826	2.103	2.088	2.025	1.985	2.044	2.018
#2	.2375	1.847	1.859	1.857	1.818	1.779	1.817	1.791
#3	.2345	1.829	1.969	1.961	1.916	1.866	1.917	1.891

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**26.32**	**26.58**	**25.89**	**25.52**	**25.84**	**25.59**	**1.855**	**2.035**
Stddev	.03	.02	.02	.08	.06	.02	.107	.124
%RSD	.1154	.0611	.0709	.3167	.2398	.0759	5.754	6.105
#1	26.35	26.56	25.87	25.43	25.86	25.59	1.967	2.164
#2	26.29	26.59	25.90	25.57	25.89	25.57	1.754	1.916
#3	26.34	26.58	25.90	25.57	25.77	25.61	1.845	2.026

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0322**	**2.094**	**1.985**	**1.797**	**1.928**	**1.835**	F **-.0908**	**.0080**
Stddev	.0040	.128	.001	.008	.116	.012	.0085	.0019
%RSD	12.38	6.089	.0662	.4222	6.014	.6702	9.379	24.05
#1	.0363	2.226	1.987	1.791	2.048	1.825	-.0999	.0063
#2	.0283	1.972	1.984	1.805	1.816	1.848	-.0831	.0101
#3	.0319	2.083	1.985	1.793	1.919	1.830	-.0893	.0076

Zoom In Zoom Out

Sample Name: MP18781A-B1 Acquired: 12/10/2019 20:33:40 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**-.0012**	**1.904**	**.0030**
Stddev	.0016	.117	.0022
%RSD	139.2	6.141	74.04
#1	-.0012	2.024	.0036
#2	-.0028	1.791	.0049
#3	.0005	1.898	.0005

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**290300.**	**32318.**	**8373.1**	**14867.**
Stddev	1662.	51.	424.8	707.
%RSD	.57248	.15649	5.0732	4.7562
#1	291340.	32309.	7940.9	14151.
#2	288380.	32272.	8790.1	15565.
#3	291170.	32372.	8388.3	14884.

Zoom In Zoom Out

Sample Name: MP18781A-S1 Acquired: 12/10/2019 20:38:38 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.938**	**1.893**	**1.891**	**1.835**	**1.860**	**1.871**	**3.729**	**1.801**	**.2387**
Stddev	.004	.005	.053	.050	.020	.025	.054	.050	.0023
%RSD	.2227	.2860	2.823	2.715	1.050	1.327	1.439	2.790	.9605
#1	1.943	1.899	1.830	1.777	1.841	1.849	3.683	1.743	.2366
#2	1.935	1.889	1.918	1.861	1.858	1.866	3.717	1.829	.2383
#3	1.937	1.892	1.927	1.866	1.880	1.898	3.788	1.831	.2411

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.827**	**1.889**	**3.440**	**1.836**	**1.801**	**1.871**	**1.851**	**26.00**	**75.17**
Stddev	.020	.057	.099	.048	.048	.051	.053	.06	.10
%RSD	1.078	3.005	2.872	2.629	2.683	2.720	2.878	.2423	.1350
#1	1.809	1.824	3.327	1.781	1.745	1.813	1.790	26.05	75.24
#2	1.824	1.918	3.486	1.864	1.829	1.896	1.876	25.93	75.05
#3	1.848	1.926	3.507	1.864	1.828	1.905	1.887	26.02	75.21

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**88.69**	**31.56**	**34.35**	**38.35**	**1.938**	**1.963**	**8.665**	**2.006**	**2.314**
Stddev	.21	.11	.04	.09	.055	.057	.241	.057	.006
%RSD	.2400	.3554	.1260	.2370	2.816	2.925	2.782	2.863	.2737
#1	88.93	31.66	34.35	38.39	1.875	1.897	8.387	1.940	2.320
#2	88.52	31.57	34.31	38.24	1.963	1.992	8.787	2.034	2.308
#3	88.62	31.44	34.40	38.41	1.975	2.000	8.821	2.045	2.313

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.793**	**1.895**	**1.829**	**1.696**	**.0100**	**-.0014**	**1.889**	**.0211**
Stddev	.021	.056	.023	.049	.0009	.0004	.060	.0015
%RSD	1.162	2.927	1.237	2.869	9.011	27.89	3.202	7.057
#1	1.774	1.832	1.809	1.640	.0105	-.0012	1.820	.0196
#2	1.789	1.922	1.825	1.725	.0090	-.0018	1.922	.0226
#3	1.815	1.932	1.853	1.724	.0105	-.0011	1.926	.0212

Zoom In Zoom Out

Sample Name: MP18781A-S1 Acquired: 12/10/2019 20:38:38 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**286150.**	**32282.**	**8381.8**	**14892.**
Stddev	2381.	140.	194.4	324.
%RSD	.83215	.43226	2.3198	2.1778
#1	287750.	32251.	8604.7	15266.
#2	287290.	32160.	8294.2	14732.
#3	283410.	32434.	8246.6	14680.

Zoom In Zoom Out

Sample Name: MP18781A-S2 Acquired: 12/10/2019 20:43:34 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.971**	**1.925**	**1.949**	**1.881**	**1.871**	**1.871**	**3.763**	**1.850**	**.2408**
Stddev	.002	.005	.016	.016	.005	.003	.017	.013	.0002
%RSD	.1081	.2598	.8211	.8305	.2596	.1843	.4376	.7216	.0964
#1	1.971	1.923	1.943	1.874	1.877	1.874	3.781	1.843	.2411
#2	1.973	1.931	1.967	1.899	1.867	1.870	3.749	1.866	.2406
#3	1.969	1.922	1.936	1.870	1.870	1.868	3.759	1.842	.2408

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.833**	**1.940**	**3.562**	**1.870**	**1.844**	**1.916**	**1.913**	**26.46**	**77.45**
Stddev	.008	.017	.028	.015	.016	.018	.012	.07	.25
%RSD	.4414	.8570	.7898	.7811	.8420	.9428	.6259	.2638	.3199
#1	1.843	1.931	3.552	1.865	1.835	1.913	1.910	26.40	77.22
#2	1.828	1.959	3.593	1.886	1.862	1.936	1.926	26.54	77.71
#3	1.829	1.930	3.539	1.858	1.835	1.901	1.903	26.45	77.42

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**91.61**	**32.04**	**35.07**	**39.31**	**2.000**	**2.020**	**9.083**	**2.066**	**2.363**
Stddev	.26	.17	.09	.08	.015	.016	.068	.019	.003
%RSD	.2817	.5281	.2675	.1923	.7545	.8118	.7496	.9025	.1125
#1	91.38	32.03	34.97	39.24	1.995	2.016	9.060	2.060	2.360
#2	91.89	32.21	35.16	39.39	2.017	2.038	9.160	2.087	2.366
#3	91.57	31.87	35.08	39.32	1.988	2.007	9.030	2.051	2.362

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.804**	**1.947**	**1.844**	**1.780**	**.0075**	**-.0004**	**1.946**	**.0197**
Stddev	.011	.016	.005	.014	.0005	.0004	.016	.0010
%RSD	.5883	.8297	.2795	.8081	6.649	117.4	.8384	4.855
#1	1.816	1.943	1.850	1.776	.0080	-.0008	1.942	.0206
#2	1.796	1.964	1.840	1.796	.0075	.0000	1.964	.0198
#3	1.799	1.933	1.841	1.768	.0070	-.0003	1.932	.0187

Zoom In Zoom Out

Sample Name: MP18781A-S2 Acquired: 12/10/2019 20:43:34 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**285370.**	**31853.**	**8185.3**	**14589.**
Stddev	1417.	131.	49.8	88.
%RSD	.49664	.41080	.60811	.60635
#1	283740.	31936.	8213.9	14653.
#2	286070.	31703.	8127.8	14488.
#3	286300.	31921.	8214.1	14625.

Zoom In Zoom Out

Sample Name: JC99822-1 Acquired: 12/10/2019 20:48:30 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0503**	**.0001**	**.0016**	**.0159**	**.0008**	**.0011**	**1.920**	**.0053**	**.0027**
Stddev	.0015	.0000	.0000	.0001	.0001	.0002	.010	.0003	.0003
%RSD	2.996	65.76	2.083	.5934	6.607	17.47	.5322	4.886	12.51
#1	.0496	.0000	.0016	.0160	.0008	.0011	1.916	.0053	.0028
#2	.0494	.0000	.0015	.0158	.0009	.0009	1.913	.0056	.0024
#3	.0521	.0001	.0016	.0159	.0009	.0013	1.932	.0051	.0030

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**.0019**	**1.553**	**-.0015**	**-.0003**	**.0045**	**-.0004**	**-.0065**	**50.70**
Stddev	.0001	.0001	.008	.0004	.0013	.0015	.0017	.0078	1.36
%RSD	12.65	7.409	.5215	27.88	484.7	32.15	383.3	121.2	2.691
#1	.0005	.0020	1.558	-.0011	-.0002	.0042	-.0023	-.0153	50.08
#2	.0007	.0019	1.544	-.0019	.0010	.0033	-.0000	-.0007	49.75
#3	.0005	.0017	1.557	-.0015	-.0016	.0061	.0010	-.0033	52.26

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**65.90**	**6.772**	**8.909**	**13.32**	**.1294**	**.0020**	**8.845**	**.0009**	**.3709**
Stddev	1.85	.197	.223	.35	.0007	.0003	.057	.0001	.0099
%RSD	2.814	2.910	2.505	2.621	.5753	12.54	.6390	5.948	2.677
#1	65.02	6.669	8.792	13.15	.1301	.0019	8.876	.0009	.3663
#2	64.64	6.648	8.768	13.08	.1286	.0019	8.780	.0009	.3641
#3	68.03	6.999	9.166	13.72	.1295	.0023	8.879	.0010	.3823

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**.0038**	**.0007**	**1.788**	**-.0036**	**-.0007**	**.0154**	**.0195**
Stddev	.0004	.0003	.0001	.008	.0017	.0002	.0014	.0007
%RSD	85.34	7.087	16.88	.4572	47.85	28.68	9.020	3.750
#1	-.0000	.0035	.0007	1.787	-.0023	-.0005	.0154	.0186
#2	-.0007	.0040	.0006	1.780	-.0029	-.0009	.0141	.0199
#3	-.0007	.0038	.0008	1.796	-.0055	-.0006	.0169	.0199

Zoom In Zoom Out

Sample Name: JC99822-1 Acquired: 12/10/2019 20:48:30 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**293650.**	**31791.**	**8393.9**	**15119.**
Stddev	1125.	831.	26.0	32.
%RSD	.38294	2.6142	.30952	.21133
#1	294100.	32063.	8379.5	15100.
#2	294480.	32451.	8423.9	15156.
#3	292370.	30858.	8378.4	15101.

Zoom In Zoom Out

Sample Name: MP18781A-SD1 Acquired: 12/10/2019 20:53:39 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0493**	**.0003**	**.0021**	**.0159**	**.0029**	**.0062**	**2.034**	**.0043**	**.0038**
Stddev	.0012	.0001	.0013	.0003	.0006	.0016	.019	.0003	.0010
%RSD	2.373	22.03	61.93	1.852	18.75	25.28	.9405	8.165	25.50
#1	.0507	.0004	.0021	.0157	.0024	.0080	2.056	.0040	.0035
#2	.0484	.0003	.0034	.0162	.0030	.0056	2.019	.0047	.0030
#3	.0489	.0002	.0008	.0157	.0035	.0050	2.028	.0041	.0048

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**.0026**	**1.566**	**-.0004**	**-.0026**	**.0069**	**.0040**	**-.0444**	**50.68**
Stddev	.0011	.0003	.009	.0031	.0033	.0059	.0030	.0214	1.66
%RSD	197.3	12.40	.5636	723.1	130.6	86.47	74.29	48.29	3.271
#1	-.0009	.0030	1.555	-.0038	-.0006	.0006	.0064	-.0350	52.58
#2	-.0014	.0027	1.572	.0022	-.0064	.0076	.0007	-.0690	49.56
#3	.0007	.0023	1.569	.0003	-.0006	.0124	.0051	-.0293	49.90

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**66.20**	**6.735**	**8.931**	**13.37**	**.1365**	**.0011**	**8.897**	**.0017**	**.3706**
Stddev	2.21	.167	.363	.47	.0014	.0004	.017	.0027	.0116
%RSD	3.333	2.481	4.061	3.510	.9932	31.13	.1911	161.9	3.128
#1	68.73	6.926	9.344	13.91	.1352	.0010	8.878	.0034	.3839
#2	64.66	6.661	8.667	13.05	.1379	.0009	8.904	-.0014	.3627
#3	65.22	6.617	8.781	13.16	.1364	.0015	8.910	.0030	.3651

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0008**	**.0114**	**.0020**	**1.806**	**-.0055**	**-.0106**	**-.0436**	**.0255**
Stddev	.0014	.0009	.0001	.009	.0037	.0019	.0035	.0086
%RSD	174.5	8.035	7.065	.5281	67.42	17.66	8.089	33.81
#1	.0006	.0104	.0019	1.817	-.0056	-.0098	-.0462	.0303
#2	.0024	.0117	.0020	1.799	-.0092	-.0127	-.0396	.0155
#3	-.0005	.0122	.0022	1.801	-.0018	-.0092	-.0451	.0306

Zoom In Zoom Out

Sample Name: MP18781A-SD1 Acquired: 12/10/2019 20:53:39 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**287680.**	**31708.**	**8416.0**	**15209.**
Stddev	2589.	907.	19.6	30.
%RSD	.89991	2.8593	.23311	.19900
#1	284730.	30674.	8432.4	15241.
#2	289540.	32366.	8421.4	15206.
#3	288790.	32084.	8394.3	15181.

Zoom In Zoom Out

Sample Name: JC99810-1 Acquired: 12/10/2019 20:58:45 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0144**	**.0001**	**.0000**	**.0002**	**.0011**	**.0230**	**.0373**	**.0048**	**.0009**
Stddev	.0002	.0000	.0001	.0001	.0002	.0002	.0004	.0001	.0002
%RSD	1.324	35.99	269.9	52.22	23.71	1.025	.9694	2.205	26.94
#1	.0143	.0000	.0000	.0002	.0012	.0232	.0377	.0047	.0011
#2	.0144	.0001	-.0000	.0001	.0008	.0227	.0370	.0049	.0008
#3	.0147	.0001	.0001	.0002	.0012	.0230	.0372	.0048	.0007

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0061**	**.0376**	**-.0012**	**.0006**	**.0005**	**-.0003**	**-.0056**	**40.34**
Stddev	.0003	.0001	.0012	.0006	.0005	.0005	.0018	.0112	.15
%RSD	76.55	1.287	3.149	51.17	85.31	85.57	631.9	199.0	.3780
#1	-.0003	.0061	.0373	-.0013	.0001	.0007	.0004	.0032	40.17
#2	-.0001	.0061	.0389	-.0005	.0012	.0000	-.0023	-.0181	40.47
#3	-.0007	.0060	.0365	-.0017	.0006	.0009	.0010	-.0019	40.39

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9988**	**5.333**	**7.443**	**23.24**	**.0959**	**.0004**	**7.584**	**-.0001**	**.2791**
Stddev	.0053	.027	.031	.05	.0027	.0000	.172	.0004	.0009
%RSD	.5291	.5116	.4166	.2250	2.833	5.069	2.263	461.8	.3290
#1	.9930	5.302	7.409	23.18	.0955	.0003	7.543	.0004	.2780
#2	1.003	5.347	7.470	23.28	.0988	.0004	7.773	-.0002	.2797
#3	1.000	5.351	7.450	23.26	.0935	.0004	7.437	-.0005	.2795

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**.0013**	**-.0001**	**1.853**	**-.0013**	**-.0007**	**-.0122**	**.0039**
Stddev	.0001	.0008	.0001	.039	.0006	.0006	.0007	.0007
%RSD	21.04	62.06	98.22	2.111	43.67	76.49	5.487	17.17
#1	-.0004	.0022	-.0002	1.836	-.0008	-.0009	-.0118	.0033
#2	-.0005	.0009	-.0002	1.897	-.0011	-.0012	-.0118	.0047
#3	-.0006	.0007	.0000	1.824	-.0019	-.0001	-.0130	.0038

Zoom In Zoom Out

Sample Name: JC99810-1 Acquired: 12/10/2019 20:58:45 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**286970.**	**32311.**	**8274.5**	**14960.**
Stddev	3429.	92.	163.5	268.
%RSD	1.1948	.28557	1.9763	1.7939
#1	283140.	32397.	8328.7	15038.
#2	289750.	32214.	8090.7	14662.
#3	288020.	32321.	8404.0	15182.

Zoom In Zoom Out

Sample Name: JC99822-2 Acquired: 12/10/2019 21:03:47 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0141**	**.0001**	**.0043**	**.0126**	**.0008**	**.0010**	**2.118**	**.0051**	**.0023**
Stddev	.0001	.0001	.0005	.0002	.0003	.0002	.014	.0002	.0002
%RSD	.9642	74.09	11.84	1.517	38.75	20.95	.6818	3.119	6.738
#1	.0142	.0000	.0046	.0128	.0008	.0008	2.112	.0053	.0024
#2	.0142	.0001	.0047	.0124	.0011	.0010	2.106	.0051	.0024
#3	.0139	.0001	.0037	.0126	.0005	.0012	2.134	.0050	.0022

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**.0008**	**3.201**	**-.0016**	**-.0003**	**.0031**	**-.0002**	**-.0080**	**26.46**
Stddev	.0002	.0001	.003	.0008	.0011	.0008	.0008	.0104	.07
%RSD	26.64	14.05	.0889	52.26	406.8	26.24	346.3	128.8	.2623
#1	.0005	.0007	3.198	-.0020	-.0015	.0040	-.0002	.0004	26.52
#2	.0005	.0009	3.202	-.0021	.0005	.0027	.0006	-.0196	26.46
#3	.0008	.0008	3.204	-.0006	.0003	.0025	-.0011	-.0049	26.38

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.52**	**2.918**	**3.695**	**6.408**	**.0416**	**.0027**	**7.538**	**-.0001**	**.1739**
Stddev	.09	.006	.013	.014	.0003	.0002	.008	.0004	.0006
%RSD	.2278	.2049	.3489	.2210	.7561	7.872	.1092	432.7	.3445
#1	40.62	2.925	3.710	6.419	.0419	.0028	7.535	-.0001	.1746
#2	40.49	2.916	3.688	6.414	.0416	.0028	7.533	-.0004	.1738
#3	40.45	2.914	3.688	6.392	.0413	.0024	7.548	.0003	.1734

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0041**	**.0003**	**1.792**	**-.0021**	**-.0015**	**.0164**	**.0123**
Stddev	.0001	.0006	.0001	.004	.0013	.0012	.0011	.0017
%RSD	88.52	14.59	20.90	.2034	62.56	78.58	6.503	14.18
#1	-.0000	.0040	.0003	1.797	-.0027	-.0013	.0166	.0134
#2	-.0001	.0036	.0003	1.790	-.0032	-.0004	.0152	.0103
#3	-.0002	.0048	.0004	1.791	-.0006	-.0028	.0173	.0131

Zoom In Zoom Out

Sample Name: JC99822-2 Acquired: 12/10/2019 21:03:47 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**296980.**	**32217.**	**8379.3**	**15171.**
Stddev	1277.	64.	8.2	22.
%RSD	.43010	.19736	.09760	.14675
#1	297220.	32240.	8385.0	15196.
#2	298120.	32145.	8370.0	15155.
#3	295600.	32266.	8383.0	15160.

Zoom In Zoom Out

Sample Name: MP18781A-PS1 Acquired: 12/10/2019 21:08:56 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.698**	**1.649**	**1.683**	**1.639**	**1.606**	**1.595**	**3.487**	**1.606**	**.1962**
Stddev	.004	.002	.020	.015	.015	.020	.033	.018	.0019
%RSD	.2111	.1309	1.213	.8943	.9505	1.224	.9456	1.105	.9436
#1	1.699	1.648	1.670	1.631	1.590	1.574	3.456	1.597	.1944
#2	1.702	1.651	1.706	1.656	1.608	1.598	3.484	1.626	.1960
#3	1.695	1.647	1.672	1.630	1.621	1.613	3.521	1.595	.1981

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.572**	**1.694**	**3.167**	**1.629**	**1.697**	**1.663**	**1.542**	**21.07**	**70.34**
Stddev	.016	.017	.031	.018	.017	.018	.020	.05	.19
%RSD	.9986	1.012	.9825	1.084	.9890	1.067	1.310	.2438	.2733
#1	1.556	1.683	3.147	1.617	1.687	1.650	1.527	21.04	70.20
#2	1.573	1.714	3.202	1.649	1.716	1.683	1.565	21.13	70.56
#3	1.587	1.685	3.150	1.620	1.687	1.656	1.534	21.05	70.27

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**84.16**	**26.85**	**29.35**	**33.41**	**1.736**	**1.651**	**8.895**	**1.696**	**2.066**
Stddev	.22	.11	.05	.06	.018	.017	.103	.017	.006
%RSD	.2583	.4038	.1772	.1933	1.041	1.026	1.163	1.007	.2752
#1	83.97	26.78	29.30	33.35	1.725	1.640	8.836	1.685	2.065
#2	84.40	26.80	29.41	33.47	1.757	1.671	9.014	1.716	2.073
#3	84.10	26.98	29.35	33.39	1.727	1.643	8.834	1.688	2.062

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.455**	**1.571**	**1.479**	**1.729**	**.0052**	**-.0012**	**1.657**	**.0187**
Stddev	.016	.016	.014	.017	.0020	.0009	.023	.0021
%RSD	1.106	1.024	.9640	1.009	37.77	76.89	1.369	11.04
#1	1.438	1.560	1.464	1.715	.0059	-.0006	1.642	.0208
#2	1.456	1.589	1.479	1.749	.0030	-.0007	1.683	.0188
#3	1.470	1.563	1.493	1.723	.0067	-.0023	1.645	.0167

Zoom In Zoom Out

Sample Name: MP18781A-PS1 Acquired: 12/10/2019 21:08:56 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**284190.**	**31764.**	**8110.6**	**14465.**
Stddev	2510.	26.	62.3	106.
%RSD	.88305	.08262	.76772	.73202
#1	286790.	31768.	8150.5	14517.
#2	284020.	31736.	8038.9	14344.
#3	281780.	31788.	8142.4	14535.

Zoom In Zoom Out

Sample Name: CCV Acquired: 12/10/2019 21:13:53 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.962**	**1.964**	**1.999**	**1.973**	**1.945**	**1.913**	**1.955**	**1.947**	**.2338**
Stddev	.014	.012	.055	.052	.017	.016	.019	.052	.0023
%RSD	.6929	.5880	2.733	2.656	.8599	.8565	.9714	2.693	.9943
#1	1.971	1.972	1.974	1.951	1.964	1.931	1.976	1.924	.2364
#2	1.969	1.970	2.061	2.033	1.932	1.908	1.948	2.007	.2330
#3	1.947	1.951	1.960	1.935	1.939	1.899	1.940	1.910	.2320
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.898**	**2.048**	**2.008**	**1.990**	**1.934**	**2.001**	**1.920**	**41.03**	**41.44**
Stddev	.017	.061	.053	.051	.054	.057	.055	.27	.25
%RSD	.8726	2.983	2.654	2.540	2.777	2.841	2.867	.6625	.5947
#1	1.917	2.024	1.986	1.967	1.909	1.977	1.895	41.25	41.66
#2	1.886	2.117	2.068	2.048	1.996	2.066	1.983	41.10	41.49
#3	1.891	2.002	1.969	1.955	1.897	1.960	1.881	40.73	41.17
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.33**	**40.02**	**40.31**	**39.74**	**1.923**	**2.024**	**4.776**	**2.100**	**2.030**
Stddev	.23	.22	.30	.27	.052	.056	.133	.057	.014
%RSD	.5811	.5528	.7347	.6804	2.707	2.769	2.792	2.720	.6948
#1	40.52	40.13	40.54	39.98	1.899	2.000	4.717	2.077	2.039
#2	40.38	40.18	40.42	39.80	1.982	2.089	4.929	2.165	2.036
#3	40.07	39.77	39.98	39.45	1.886	1.985	4.682	2.058	2.014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CCV Acquired: 12/10/2019 21:13:53 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.833**	**1.979**	**1.863**	**1.928**	**1.938**	**1.919**	**1.965**	**1.858**
Stddev	.015	.054	.016	.057	.050	.015	.056	.014
%RSD	.7960	2.718	.8425	2.967	2.560	.7775	2.844	.7509
#1	1.849	1.957	1.881	1.909	1.914	1.929	1.943	1.874
#2	1.821	2.040	1.853	1.993	1.996	1.926	2.029	1.850
#3	1.828	1.939	1.856	1.883	1.906	1.902	1.924	1.850
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**283760.**	**31934.**	**8265.5**	**14464.**
Stddev	2272.	114.	182.2	301.
%RSD	.80079	.35655	2.2042	2.0778
#1	281150.	31840.	8341.3	14595.
#2	285320.	31902.	8057.6	14120.
#3	284800.	32061.	8397.5	14677.

Zoom In Zoom Out

Sample Name: CCB Acquired: 12/10/2019 21:18:52 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**.0001**	**.0001**	**.0000**	**.0005**	**.0011**	**.0000**	**-.0001**
Stddev	.0001	.0000	.0001	.0001	.0001	.0003	.0000	.0002
%RSD	389.4	17.12	62.16	657.3	17.18	23.24	94.60	145.1
#1	.0000	.0001	.0001	-.0001	.0006	.0009	-.0000	-.0002
#2	.0000	.0001	.0000	.0001	.0005	.0014	.0000	-.0002
#3	-.0001	.0001	.0002	.0001	.0004	.0010	.0000	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0008**	**-.0006**	**.0003**	**.0007**	**-.0007**	**-.0005**	**-.0006**	**.0002**
Stddev	.0002	.0002	.0001	.0003	.0005	.0008	.0007	.0009
%RSD	24.36	34.49	31.27	39.62	70.90	149.1	114.5	534.4
#1	.0008	-.0006	.0002	.0007	-.0012	-.0007	-.0013	.0011
#2	.0010	-.0003	.0002	.0009	-.0003	.0003	-.0004	-.0000
#3	.0006	-.0007	.0004	.0004	-.0005	-.0013	-.0000	-.0006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0107**	**.0188**	**.0014**	**-.0116**	**.0246**	**.0190**	**.0033**	**.0003**
Stddev	.0092	.0026	.0008	.0084	.0137	.0057	.0004	.0002
%RSD	85.63	13.58	59.65	72.89	55.74	30.09	11.14	78.05
#1	-.0210	.0178	.0009	-.0019	.0176	.0164	.0037	.0005
#2	-.0082	.0217	.0023	-.0155	.0405	.0255	.0031	.0003
#3	-.0031	.0169	.0009	-.0173	.0159	.0150	.0030	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Zoom In Zoom Out

Sample Name: CCB Acquired: 12/10/2019 21:18:52 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0007**	**-.0000**	**-.0002**	**.0013**	**.0001**	**-.0020**	**-.0004**
Stddev	.0004	.0002	.0000	.0001	.0003	.0001	.0027	.0006
%RSD	125.0	29.55	90.72	55.08	20.78	70.25	136.9	150.0
#1	.0005	.0006	-.0000	-.0002	.0010	.0002	-.0047	-.0011
#2	.0005	.0005	.0000	-.0003	.0015	.0000	-.0020	-.0003
#3	-.0001	.0009	-.0000	-.0001	.0013	.0001	.0007	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**-.0011**	F **-.0158**	**-.0030**
Stddev	.0002	.0024	.0028
%RSD	21.13	15.37	95.88
#1	-.0014	-.0144	.0001
#2	-.0009	-.0186	-.0034
#3	-.0011	-.0145	-.0056
Check ?	Chk Pass	Chk Fail	Chk Pass
High Limit		.0125	
Low Limit		-.0125	

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**294170.**	**31878.**	**8462.3**	**15326.**
Stddev	2366.	241.	49.1	70.
%RSD	.80419	.75488	.58025	.45758
#1	296870.	32130.	8499.5	15352.
#2	293170.	31650.	8480.7	15379.
#3	292460.	31855.	8406.6	15246.

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Ba 455.403 { 74}	☒	1	Zr	0.001200	0.000000	No
Be 313.042 {108}	☒	12	V	0.000773	0.000000	No
			Mo	-0.000067	0.000000	No
			Ti	-0.000340	0.000000	No
			Mn	-0.000015	0.000000	No
			Cu	-0.000008	0.000000	No
			Zn	-0.000010	0.000000	No
			Al	0.000000	0.000000	No
			Ni	-0.000050	0.000000	No
			Cr	0.000003	0.000000	No
			Fe	0.000001	0.000000	No
			Mg	0.000000	0.000000	No
			K	0.000000	0.000000	No
Cd 228.802 {448}	☒	11	As	0.014600	0.000000	No
			Ni	-0.000230	0.000000	No
			Fe	0.000008	0.000000	No
			V	0.000110	0.000000	No
			Ba	0.000021	0.000000	No
			Co	-0.002050	0.000000	No
			Mn	0.000013	0.000000	No
			Cr	-0.000050	0.000000	No
			Cu	-0.000009	0.000000	No
			Ti	0.000000	0.000000	No
			Mo	0.000030	0.000000	No
Co 228.616 {448}	☒	7	Cr	0.000051	0.000000	No
			Mo	-0.001058	0.000000	No
			Ni	0.000091	0.000000	No
			Ti	0.001910	0.000000	No
			W	0.000160	0.000000	No
			Cd	0.000012	0.000000	No
			Be	0.000100	0.000000	No
Cr 267.716 {126}	☒	7	Mn	0.000417	0.000000	No
			Mo	-0.000099	0.000000	No
			Ba	0.000013	0.000000	No
			Cu	0.000020	0.000000	No
			Sr	0.000003	0.000000	No
			Fe	-0.000010	0.000000	No
			W	0.000000	0.000000	No
Cu 324.754 {104}2	☒	16	Cr	0.000056	0.000000	No
			V	-0.000411	0.000000	No
			Mo	0.000624	0.000000	No
			Ti	0.000010	0.000000	No
			Fe	-0.000073	0.000000	No
			Sn	0.000103	0.000000	No
			Co	-0.000570	0.000000	No
			Zr	0.000699	0.000000	No
			Si	-0.000007	0.000000	No
			Ag	-0.000077	0.000000	No
			Sb	0.000010	0.000000	No
			B	0.000000	0.000000	No
			Mg	-0.000001	0.000000	No
			Al	0.000002	0.000000	No
			W	-0.021000	0.000000	No
			Mn	0.000004	0.000000	No
Mn 257.610 {131}	☒	8	Fe	-0.000084	0.000000	No
			Si	0.000011	0.000000	No
			Ba	0.000012	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Ni	0.000028	0.000000	No
			Mo	0.000000	0.000000	No
			Cr	-0.000110	0.000000	No
			Mg	0.000000	0.000000	No
			Al	0.000000	0.000000	No
Ni 231.604 {446}	☒	10	Fe	0.000032	0.000000	No
			Zn	-0.000021	0.000000	No
			Be	-0.000112	0.000000	No
			Co	-0.000075	0.000000	No
			Tl	0.000209	0.000000	No
			Mo	0.000081	0.000000	No
			V	-0.000032	0.000000	No
			Cu	0.000006	0.000000	No
			Se	0.000286	0.000000	No
			Sn	-0.000026	0.000000	No
Ag 328.068 {103}	☒	16	Mn	0.000162	0.000000	No
			Mo	0.000019	0.000000	No
			Ti	-0.000075	0.000000	No
			Fe	-0.000200	0.000000	No
			V	-0.005240	0.000000	No
			Zn	-0.000090	0.000000	No
			Ca	-0.000004	0.000000	No
			Al	-0.000000	0.000000	No
			Ba	-0.000095	0.000000	No
			Cr	0.000016	0.000000	No
			Si	-0.000000	0.000000	No
			Zr	0.017087	0.000000	No
			W	0.000000	0.000000	No
			Sn	0.000008	0.000000	No
			Ni	0.000020	0.000000	No
			Ce	-0.001200	0.000000	No
V 292.402 {115}	☒	6	Ti	0.000704	0.000000	No
			Mo	-0.000100	0.000000	No
			Sr	0.000000	0.000000	No
			Cr	-0.009162	0.000000	No
			Mn	-0.001020	0.000000	No
			Fe	0.000005	0.000000	No
Zn 206.200 {464}	☒	13	Cr	-0.001272	0.000000	No
			Mo	-0.000125	0.000000	No
			Fe	0.000009	0.000000	No
			Ba	0.000108	0.000000	No
			Sr	-0.000023	0.000000	No
			Sn	0.000069	0.000000	No
			Cu	0.000156	0.000000	No
			As	0.000449	0.000000	No
			Be	0.000071	0.000000	No
			Bi	-0.002000	0.000000	No
			Mn	0.000055	0.000000	No
			W	0.000000	0.000000	No
			Al	0.000008	0.000000	No
As 189.042 {478}	☒	23	Al	-0.000001	0.000000	No
			Fe	-0.000135	0.000000	No
			Ca	-0.000005	0.000000	No
			Mn	-0.000224	0.000000	No
			Mo	0.001160	0.000000	No
			Cr	0.000719	0.000000	No
			V	0.000178	0.000000	No

	Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
				Co	0.000100	0.000000	No
				Sn	-0.000085	0.000000	No
				Cd	0.000092	0.000000	No
				Tl	0.000150	0.000000	No
				Si	0.000050	0.000000	No
				Zn	-0.000052	0.000000	No
				Sr	-0.000090	0.000000	No
				Zr	0.000123	0.000000	No
				Ti	0.000034	0.000000	No
				Cu	0.000100	0.000000	No
				Ag	0.000300	0.000000	No
				Mg	0.000007	0.000000	No
				W	0.000000	0.000000	No
				S	-0.000009	0.000000	No
				B	-0.000013	0.000000	No
				Ce	-0.000600	0.000000	No
	Tl 190.856 {477}	☒	24	Cr	0.000227	0.000000	No
				Mo	-0.006800	0.000000	No
				Al	0.000001	0.000000	No
				Fe	-0.000049	0.000000	No
				V	-0.025900	0.000000	No
				Mn	0.001450	0.000000	No
				Si	-0.000062	0.000000	No
				Ca	-0.000001	0.000000	No
				Ti	-0.001730	0.000000	No
				Mg	0.000001	0.000000	No
				Co	0.003300	0.000000	No
				Sr	-0.000060	0.000000	No
				B	0.000056	0.000000	No
				Ba	-0.000122	0.000000	No
				Zn	0.000087	0.000000	No
				As	0.000005	0.000000	No
				Ni	-0.000030	0.000000	No
				Pb	0.000035	0.000000	No
				S	0.000006	0.000000	No
				W	-0.020000	0.000000	No
				K	0.000000	0.000000	No
				Sn	-0.000054	0.000000	No
				Ag	0.000700	0.000000	No
				Cu	-0.000078	0.000000	No
	Pb 220.353 {453}	☒	22	Al	-0.000137	0.000000	No
				Fe	0.000041	0.000000	No
				Ca	-0.000002	0.000000	No
				Mn	0.000125	0.000000	No
				Zn	-0.000036	0.000000	No
				Mo	-0.001000	0.000000	No
				Cu	0.000200	0.000000	No
				V	-0.000093	0.000000	No
				Co	-0.000061	0.000000	No
				Ti	-0.000210	0.000000	No
				Si	0.000025	0.000000	No
				Ba	-0.000012	0.000000	No
				Sb	-0.000190	0.000000	No
				Sr	0.000070	0.000000	No
				W	0.000000	0.000000	No
				Cd	0.000193	0.000000	No
				Cr	-0.000124	0.000000	No

	Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
				Zr	-0.000135	0.000000	No
				Ni	-0.000009	0.000000	No
				S	0.000001	0.000000	No
				B	0.000000	0.000000	No
				Mg	0.000018	0.000000	No
	Se 196.090 {472}	☒	21	Al	0.000012	0.000000	No
				Ca	0.000001	0.000000	No
				Mn	0.000879	0.000000	No
				Mo	-0.000072	0.000000	No
				Fe	-0.000257	0.000000	No
				Co	0.000119	0.000000	No
				V	0.000421	0.000000	No
				Sr	0.000042	0.000000	No
				Si	-0.000237	0.000000	No
				Tl	-0.000520	0.000000	No
				Be	-0.000543	0.000000	No
				Zn	-0.000038	0.000000	No
				B	-0.000140	0.000000	No
				Ti	-0.000192	0.000000	No
				Cd	-0.000160	0.000000	No
				Zr	-0.000152	0.000000	No
				Ba	0.000087	0.000000	No
				Mg	-0.000002	0.000000	No
				Cr	0.000053	0.000000	No
				S	0.000008	0.000000	No
				W	0.000000	0.000000	No
	Sb 206.833 {463}	☒	15	Fe	0.000026	0.000000	No
				Al	0.000006	0.000000	No
				Ca	0.000003	0.000000	No
				Ni	-0.000901	0.000000	No
				Cr	0.022200	0.000000	No
				V	-0.002105	0.000000	No
				Zn	-0.000084	0.000000	No
				Mo	-0.001420	0.000000	No
				Ti	0.001130	0.000000	No
				Sn	-0.012300	0.000000	No
				Mg	0.000002	0.000000	No
				Zr	-0.000291	0.000000	No
				Sr	-0.000049	0.000000	No
				W	0.000000	0.000000	No
				Ce	-0.001800	0.000000	No
	Al 396.152 { 85}	☒	5	Si	0.000378	0.000000	No
				Ca	0.000191	0.000000	No
				Mo	0.041162	0.000000	No
				Zr	0.013506	0.000000	No
				Ti	-0.000017	0.000000	No
	Ca 317.933 {106}	☒	14	Fe	0.000130	0.000000	No
				W	0.003960	0.000000	No
				Tl	0.004948	0.000000	No
				Be	0.001840	0.000000	No
				Ba	0.003500	0.000000	No
				Cu	-0.001800	0.000000	No
				Cd	0.003700	0.000000	No
				Ni	0.001513	0.000000	No
				B	-0.000210	0.000000	No
				Se	0.002000	0.000000	No
				Co	0.000540	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Cr	0.000640	0.000000	No
			Al	0.000026	0.000000	No
			As	0.002488	0.000000	No
Fe 259.940 {130}	☒	8	Cr	-0.000566	0.000000	No
			Mn	-0.000025	0.000000	No
			V	-0.000064	0.000000	No
			Cu	0.001043	0.000000	No
			Zn	0.000046	0.000000	No
			Ti	-0.000631	0.000000	No
			Ca	-0.000020	0.000000	No
			Ba	-0.009000	0.000000	No
Mg 279.079 {121}	☒	2	Mo	-0.017699	0.000000	No
			Ti	-0.014200	0.000000	No
K 766.490 { 44}	☒	10	Al	-0.000023	0.000000	No
			Ca	0.000179	0.000000	No
			Mn	0.001430	0.000000	No
			Si	-0.003000	0.000000	No
			V	-0.002000	0.000000	No
			Sn	-0.004700	0.000000	No
			Ba	-0.002700	0.000000	No
			Mo	0.007150	0.000000	No
			Cu	-0.010000	0.000000	No
			Ni	-0.010000	0.000000	No
Na 589.592 { 57}	☒	5	K	-0.000560	0.000000	No
			Ba	0.000900	0.000000	No
			Ca	0.000055	0.000000	No
			Al	0.000040	0.000000	No
			V	-0.005000	0.000000	No
B 208.959 {462}	☒	1	Mo	0.028218	0.000000	No
Mo 202.030 {467}	☒	1	Fe	-0.000010	0.000000	No
Si 212.412 {459}	☒	14	Sr	0.000366	0.000000	No
			Ni	0.000106	0.000000	No
			Mo	0.028291	0.000000	No
			V	0.008723	0.000000	No
			Ti	0.006772	0.000000	No
			Al	0.000024	0.000000	No
			Cd	0.001043	0.000000	No
			Ba	0.000170	0.000000	No
			Sn	0.001790	0.000000	No
			Zn	0.000385	0.000000	No
			As	0.000140	0.000000	No
			Pb	0.000471	0.000000	No
			Ca	0.000011	0.000000	No
			W	0.000000	0.000000	No
Sn 189.989 {478}	☒	5	Ti	-0.000359	0.000000	No
			Mo	0.000011	0.000000	No
			Si	-0.000009	0.000000	No
			Fe	0.000000	0.000000	No
			W	0.000000	0.000000	No
Sr 407.771 { 83}	☒	1	Ca	0.000011	0.000000	No
Ti 334.904 {101}	☒	3	Cr	0.000069	0.000000	No
			Mo	0.001092	0.000000	No
			Si	0.000035	0.000000	No
Y 360.073 { 94}*	☒	None				
Y 371.030 { 91}*	☒	None				
Y 224.306 {451}*	☒	None				
In 230.606 {446}*	☒	None				

	Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
	W 207.911 {462}	☒	18	As	-0.000459	0.000000	No
				Mn	-0.000110	0.000000	No
				Mo	-0.000300	0.000000	No
				Sr	0.000050	0.000000	No
				V	-0.000140	0.000000	No
				Cd	-0.000650	0.000000	No
				Cr	-0.000390	0.000000	No
				Zn	0.012900	0.000000	No
				Sn	0.001300	0.000000	No
				Zr	0.000763	0.000000	No
				Sb	-0.000200	0.000000	No
				Co	0.000041	0.000000	No
				Ni	-0.000263	0.000000	No
				Be	-0.000130	0.000000	No
				Se	-0.002600	0.000000	No
				Cu	-0.000118	0.000000	No
				Ba	-0.000090	0.000000	No
				Tl	-0.000110	0.000000	No
	Zr 339.198 { 99}	☒	6	Mo	0.000415	0.000000	No
				Fe	-0.000033	0.000000	No
				Si	0.000083	0.000000	No
				Ti	0.000049	0.000000	No
				V	0.000120	0.000000	No
				W	0.000100	0.000000	No
	S 182.034 {485}	☒	9	Ca	-0.000105	0.000000	No
				Mo	-0.001096	0.000000	No
				Al	-0.000207	0.000000	No
				Fe	-0.000075	0.000000	No
				Mn	0.004790	0.000000	No
				Zn	-0.001538	0.000000	No
				Cd	-0.001300	0.000000	No
				W	0.000000	0.000000	No
				Mg	0.000038	0.000000	No
	Bi 223.061 {451}	☒	9	V	-0.000380	0.000000	No
				Co	-0.008710	0.000000	No
				Mg	-0.000002	0.000000	No
				W	-0.003914	0.000000	No
				Cu	-0.001404	0.000000	No
				Fe	0.000167	0.000000	No
				Cr	0.001500	0.000000	No
				Ti	-0.015470	0.000000	No
				Mo	-0.000200	0.000000	No
	Li 670.784 { 50}	☒	1	Ca	0.000036	0.000000	No
	P 177.495 {490}	☒	None				
	Ce 404.076 { 83}	☒	None				

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)
	Ba 455.403 { 74}	12/11/2019 9:43:01	12/10/2019 10:57:00	Linear	None	0.002266	1.226944	0.000000	1.000000
	Be 313.042 {108}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.000138	1.866716	0.000000	1.000000
	Cd 228.802 {448}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000415	0.806072	0.000000	1.000000
	Co 228.616 {448}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.000103	0.523566	0.000000	1.000000
	Cr 267.716 {126}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.000039	0.078993	0.000000	1.000000
	Cu 324.754 {104}2	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.002291	0.186182	0.000000	1.000000
	Mn 257.610 {131}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000077	0.463640	0.000000	1.000000
	Ni 231.604 {446}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000341	0.381410	0.000000	1.000000
	Ag 328.068 {103}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.000195	0.090279	0.000000	1.000000
	V 292.402 {115}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000043	0.107985	0.000000	1.000000
	Zn 206.200 {464}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000114	0.830868	0.000000	1.000000
	As 189.042 {478}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.000312	0.071334	0.000000	1.000000
	Tl 190.856 {477}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.000042	0.046736	0.000000	1.000000
	Pb 220.353 {453}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000125	0.142414	0.000000	1.000000
	Se 196.090 {472}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000250	0.059351	0.000000	1.000000
	Sb 206.833 {463}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.000009	0.108568	0.000000	1.000000
	Al 396.152 { 85}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000213	0.023577	0.000000	1.000000
	Ca 317.933 {106}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.004735	0.046944	0.000000	1.000000
	Fe 259.940 {130}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000065	0.033639	0.000000	1.000000
	Mg 279.079 {121}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.000016	0.004162	0.000000	1.000000
	K 766.490 { 44}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000443	0.015550	0.000000	1.000000
	Na 589.592 { 57}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.002526	0.051578	0.000000	1.000000
	B 208.959 {462}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000433	0.162054	0.000000	1.000000
	Mo 202.030 {467}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.000257	0.552325	0.000000	1.000000
	Si 212.412 {459}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.001804	0.161129	0.000000	1.000000
	Sn 189.989 {478}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000118	0.126581	0.000000	1.000000
	Sr 407.771 { 83}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.001412	2.705190	0.000000	1.000000
	Ti 334.904 {101}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000070	0.104946	0.000000	1.000000
	Y 360.073 { 94}*	12/11/2019 9:43:01	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
	Y 371.030 { 91}*	12/11/2019 9:43:01	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
	Y 224.306 {451}*	12/11/2019 9:43:01	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
	In 230.606 {446}*	12/11/2019 9:43:01	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
	W 207.911 {462}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000052	0.259385	0.000000	1.000000
	Zr 339.198 { 99}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.000236	0.232935	0.000000	1.000000
	S 182.034 {485}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.001237	0.031243	0.000000	1.000000
	Bi 223.061 {451}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.000031	0.155290	0.000000	1.000000
	Li 670.784 { 50}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.000139	0.314681	0.000000	1.000000
	P 177.495 {490}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.005823	0.049093	0.000000	1.000000
	Ce 404.076 { 83}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	1/Conc	0.000004	0.020508	0.000000	1.000000

	Element, Wavelength and Order	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Reslope		QC Norm	
							Slope	Y-int	Slope factor	Offset
	Ba 455.403 { 74}	1.000000	0.000000	0.000171	0.000571	OK.	1.000000	0.000000	1	0
	Be 313.042 {108}	1.000000	0.000000	0.000055	0.000184	OK.	1.000000	0.000000	1	0
	Cd 228.802 {448}	1.000000	0.000000	0.000165	0.000550	OK.	1.000000	0.000000	1	0
	Co 228.616 {448}	1.000000	0.000000	0.000223	0.000744	OK.	1.000000	0.000000	1	0
	Cr 267.716 {126}	1.000000	0.000000	0.000253	0.000844	OK.	1.000000	0.000000	1	0
	Cu 324.754 {104}2	1.000000	0.000000	0.000257	0.000858	OK.	1.000000	0.000000	1	0
	Mn 257.610 {131}	1.000000	0.000000	0.000038	0.000127	OK.	1.000000	0.000000	1	0
	Ni 231.604 {446}	1.000000	0.000000	0.000271	0.000904	OK.	1.000000	0.000000	1	0
	Ag 328.068 {103}	1.000000	0.000000	0.000347	0.001158	OK.	1.000000	0.000000	1	0
	V 292.402 {115}	1.000000	0.000000	0.000291	0.000969	OK.	1.000000	0.000000	1	0
	Zn 206.200 {464}	1.000000	0.000000	0.000131	0.000437	OK.	1.000000	0.000000	1	0
	As 189.042 {478}	1.000000	0.000000	0.001255	0.004183	OK.	1.000000	0.000000	1	0
	Tl 190.856 {477}	1.000000	0.000000	0.001171	0.003903	OK.	1.000000	0.000000	1	0
	Pb 220.353 {453}	1.000000	0.000000	0.001008	0.003360	OK.	1.000000	0.000000	1	0
	Se 196.090 {472}	1.000000	0.000000	0.001884	0.006279	OK.	1.000000	0.000000	1	0
	Sb 206.833 {463}	1.000000	0.000000	0.001337	0.004456	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	1.000000	0.000000	0.008505	0.028352	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	1.000000	0.000000	0.002355	0.007849	OK.	1.000000	0.000000	1	0
	Fe 259.940 {130}	1.000000	0.000000	0.001771	0.005902	OK.	1.000000	0.000000	1	0
	Mg 279.079 {121}	1.000000	0.000000	0.016921	0.056405	OK.	1.000000	0.000000	1	0
	K 766.490 { 44}	1.000000	0.000000	0.024373	0.081243	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	1.000000	0.000000	0.007331	0.024436	OK.	1.000000	0.000000	1	0
	B 208.959 {462}	1.000000	0.000000	0.000606	0.002020	OK.	1.000000	0.000000	1	0
	Mo 202.030 {467}	1.000000	0.000000	0.000228	0.000760	OK.	1.000000	0.000000	1	0
	Si 212.412 {459}	1.000000	0.000000	0.000914	0.003046	OK.	1.000000	0.000000	1	0
	Sn 189.989 {478}	1.000000	0.000000	0.000656	0.002188	OK.	1.000000	0.000000	1	0
	Sr 407.771 { 83}	1.000000	0.000000	0.000068	0.000226	OK.	1.000000	0.000000	1	0
	Ti 334.904 {101}	1.000000	0.000000	0.000265	0.000883	OK.	1.000000	0.000000	1	0
	Y 360.073 { 94}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
	Y 371.030 { 91}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
	Y 224.306 {451}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
	In 230.606 {446}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
	W 207.911 {462}	1.000000	0.000000	0.000949	0.003164	OK.	1.000000	0.000000	1	0
	Zr 339.198 { 99}	1.000000	0.000000	0.000153	0.000511	OK.	1.000000	0.000000	1	0
	S 182.034 {485}	1.000000	0.000000	0.002888	0.009628	OK.	1.000000	0.000000	1	0
	Bi 223.061 {451}	1.000000	0.000000	0.001290	0.004299	OK.	1.000000	0.000000	1	0
	Li 670.784 { 50}	1.000000	0.000000	0.001221	0.004069	OK.	1.000000	0.000000	1	0
	P 177.495 {490}	1.000000	0.000000	0.001897	0.006324	OK.	1.000000	0.000000	1	0
	Ce 404.076 { 83}	1.000000	0.000000	0.002336	0.007785	OK.	1.000000	0.000000	1	0

Quantitation Report

File Name 001CALB.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 9:04
Sample Name STDA 5
Sample Type CalBlk
Comment 0
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.001	ug/l	158.58	14.67	1.107E-05	Pulse	0.25	3
B			1	-1.519	ug/l	-0.81	3,584.90	2.708E-03	Pulse	0.15	3
Ca			1	3.826	ug/l	23.85	19,805.78	1.003E-02	Pulse	0.10	3
Sr			1	0.001	ug/l	96.33	243.34	9.346E-05	Pulse	0.10	3
Mo			1	-0.002	ug/l	-238.96	50.00	1.908E-05	Pulse	0.10	3
Ag			1	0.000	ug/l	539.68	13.33	5.134E-06	Pulse	0.10	3
Sn			1	0.230	ug/l	4.20	1,103.41	4.309E-04	Pulse	0.10	3
Sb			1	-0.045	ug/l	-8.01	143.34	3.761E-05	Pulse	0.10	3
Ba			1	-0.002	ug/l	-72.80	36.67	9.615E-06	Pulse	0.10	3
Tl			1	0.000	ug/l	-270.17	40.00	1.678E-05	Pulse	0.10	3
Pb			1	-0.003	ug/l	-120.24	200.01	8.296E-05	Pulse	0.10	3
Pb			1	-0.010	ug/l	-9.18	163.34	6.787E-05	Pulse	0.10	3
Pb			1	-0.004	ug/l	-51.42	756.70	3.142E-04	Pulse	0.10	3
Na			2	-0.427	ug/l	-113.41	16,056.66	1.393E-01	Pulse	0.30	3
Mg			2	-0.090	ug/l	-49.43	102.23	8.882E-04	Pulse	0.30	3
Al			2	-1.162	ug/l	-7.81	73.33	6.368E-04	Pulse	0.30	3
K			2	-0.691	ug/l	-99.17	8,816.84	7.651E-02	Pulse	0.30	3
Ca			2	-0.844	ug/l	-184.94	92.22	7.991E-04	Pulse	0.30	3
Ti			2	0.000	ug/l	16150.21	1.11	9.666E-06	Pulse	0.30	3
V			2	-0.101	ug/l	-4.57	161.11	1.399E-03	Pulse	0.30	3
Cr			2	0.008	ug/l	57.03	500.01	4.339E-03	Pulse	0.30	3
Mn			2	0.006	ug/l	136.72	67.78	5.894E-04	Pulse	0.30	3
Fe			2	-1.321	ug/l	-2.40	2,385.80	2.071E-02	Pulse	0.30	3
Co			2	0.001	ug/l	152.14	22.21	1.931E-04	Pulse	0.30	3
Ni			2	-0.061	ug/l	-9.88	305.56	2.651E-03	Pulse	0.30	3
Cu			2	0.247	ug/l	18.74	7,518.46	6.524E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Zn			2	-0.633	ug/l	-11.08	320.01	2.778E-03	Pulse	0.30	3
As			2	0.004	ug/l	143.77	10.33	8.953E-05	Pulse	1.00	3
Cd			2	0.005	ug/l	72.91	10.00	1.639E-05	Pulse	0.30	3
Sn			2	0.112	ug/l	9.50	323.34	5.305E-04	Pulse	0.30	3
Se			3	-0.020	ug/l	-9.51	2.80	1.501E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,323,998.01	0.15	100.0	Pulse	0.10	3
1	Sc		1,975,935.96	1.50	100.0	Pulse	0.10	3
1	Ge		372,221.78	1.94	100.0	Pulse	0.10	3
1	Ge		513,153.71	0.86	100.0	Pulse	0.10	3
1	Rh		2,599,918.97	2.40	100.0	Pulse	0.10	3
1	In		2,560,681.08	1.91	100.0	Pulse	0.10	3
1	Tb		3,817,137.76	1.66	100.0	Pulse	0.10	3
1	Ho		384,845.28	1.72	100.0	Pulse	0.10	3
1	Bi		2,405,368.82	1.73	100.0	Pulse	0.10	3
2	Sc		115,251.51	0.94	100.0	Pulse	0.30	3
2	Ge		62,055.11	0.90	100.0	Pulse	0.30	3
2	Ge		93,884.72	0.61	100.0	Pulse	0.30	3
2	Rh		1,734,005.80	0.38	100.0	Pulse	0.30	3
2	In		609,426.11	0.81	100.0	Pulse	0.30	3
2	Tb		2,275,917.97	0.51	100.0	Pulse	0.30	3
2	Ho		229,015.83	0.25	100.0	Pulse	0.30	3
2	Bi		1,565,827.65	1.00	100.0	Pulse	0.30	3
3	Sc		195,899.47	0.74	100.0	Pulse	0.30	3
3	Ge		123,559.26	0.96	100.0	Pulse	0.30	3
3	Ge		186,471.96	1.14	100.0	Pulse	0.30	3
3	Rh		1,948,830.20	1.00	100.0	Pulse	0.30	3
3	Tb		3,322,809.17	0.68	100.0	Pulse	0.30	3

Quantitation Report

File Name	002CALB.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 9:09
Sample Name	STDA
Sample Type	CalBlk
Comment	0
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.000	ug/l	-410.42	5.33	4.110E-06	Pulse	0.25	3
B			1	-1.517	ug/l	-2.75	3,549.33	2.715E-03	Pulse	0.15	3
Ca			1	3.428	ug/l	17.25	19,512.13	9.900E-03	Pulse	0.10	3
Sr			1	0.003	ug/l	90.90	303.35	1.169E-04	Pulse	0.10	3
Mo			1	-0.009	ug/l	-21.00	6.67	2.507E-06	Pulse	0.10	3
Ag			1	0.001	ug/l	205.87	20.00	7.773E-06	Pulse	0.10	3
Sn			1	0.210	ug/l	6.37	920.07	3.607E-04	Pulse	0.10	3
Sb			1	-0.047	ug/l	-7.85	123.34	3.217E-05	Pulse	0.10	3
Ba			1	-0.001	ug/l	-175.17	40.00	1.041E-05	Pulse	0.10	3
Tl			1	-0.001	ug/l	-57.51	16.67	6.839E-06	Pulse	0.10	3
Pb			1	-0.011	ug/l	-12.09	116.67	4.843E-05	Pulse	0.10	3
Pb			1	-0.008	ug/l	-98.64	186.68	7.772E-05	Pulse	0.10	3
Pb			1	-0.005	ug/l	-54.59	690.03	2.866E-04	Pulse	0.10	3
Na			2	-0.290	ug/l	-36.27	16,336.89	1.407E-01	Pulse	0.30	3
Mg			2	-0.122	ug/l	-21.66	86.67	7.454E-04	Pulse	0.30	3
Al			2	-1.102	ug/l	-10.15	84.44	7.261E-04	Pulse	0.30	3
K			2	-0.905	ug/l	-124.15	8,814.64	7.591E-02	Pulse	0.30	3
Ca			2	-1.875	ug/l	-57.91	74.45	6.399E-04	Pulse	0.30	3
Ti			2	0.016	ug/l	150.34	3.33	2.887E-05	Pulse	0.30	3
V			2	-0.113	ug/l	-2.83	111.12	9.570E-04	Pulse	0.30	3
Cr			2	0.009	ug/l	142.34	507.79	4.373E-03	Pulse	0.30	3
Mn			2	0.005	ug/l	65.19	65.56	5.643E-04	Pulse	0.30	3
Fe			2	-1.386	ug/l	-1.19	2,107.94	1.815E-02	Pulse	0.30	3
Co			2	0.001	ug/l	91.61	23.32	2.011E-04	Pulse	0.30	3
Ni			2	-0.055	ug/l	-35.14	323.34	2.785E-03	Pulse	0.30	3
Cu			2	0.243	ug/l	23.81	7,544.03	6.497E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Zn			2	-0.633	ug/l	-6.94	322.23	2.777E-03	Pulse	0.30	3
As			2	-0.007	ug/l	-16.59	5.33	4.591E-05	Pulse	1.00	3
Cd			2	0.005	ug/l	85.48	10.00	1.635E-05	Pulse	0.30	3
Sn			2	0.099	ug/l	10.53	288.90	4.716E-04	Pulse	0.30	3
Se			3	-0.022	ug/l	-22.64	2.40	1.288E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,306,872.44	0.96	100.0	Pulse	0.10	3
1	Sc		1,970,900.08	0.99	100.0	Pulse	0.10	3
1	Ge		368,776.78	1.29	100.0	Pulse	0.10	3
1	Ge		506,478.66	1.59	100.0	Pulse	0.10	3
1	Rh		2,602,678.45	2.46	100.0	Pulse	0.10	3
1	In		2,553,281.48	2.16	100.0	Pulse	0.10	3
1	Tb		3,831,827.86	1.82	100.0	Pulse	0.10	3
1	Ho		382,093.46	2.21	100.0	Pulse	0.10	3
1	Bi		2,413,550.43	2.32	100.0	Pulse	0.10	3
2	Sc		116,148.44	0.97	100.0	Pulse	0.30	3
2	Ge		62,739.79	1.26	100.0	Pulse	0.30	3
2	Ge		94,546.15	0.99	100.0	Pulse	0.30	3
2	Rh		1,726,407.78	0.60	100.0	Pulse	0.30	3
2	In		612,578.77	0.63	100.0	Pulse	0.30	3
2	Tb		2,293,763.73	0.33	100.0	Pulse	0.30	3
2	Ho		228,160.95	1.04	100.0	Pulse	0.30	3
2	Bi		1,561,193.69	0.99	100.0	Pulse	0.30	3
3	Sc		192,375.40	0.48	100.0	Pulse	0.30	3
3	Ge		123,604.22	1.57	100.0	Pulse	0.30	3
3	Ge		186,206.44	0.75	100.0	Pulse	0.30	3
3	Rh		1,956,037.21	0.89	100.0	Pulse	0.30	3
3	Tb		3,332,490.15	0.96	100.0	Pulse	0.30	3

Quantitation Report

File Name 003CALB.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 9:14
Sample Name STDA
Sample Type CalBlk
Comment 0
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.002	ug/l	75.55	16.00	1.238E-05	Pulse	0.25	3
B			1	-1.539	ug/l	-1.10	3,413.76	2.639E-03	Pulse	0.15	3
Ca			1	3.364	ug/l	28.74	19,151.66	9.879E-03	Pulse	0.10	3
Sr			1	0.000	ug/l	627.38	220.01	8.584E-05	Pulse	0.10	3
Mo			1	-0.004	ug/l	-78.92	33.33	1.298E-05	Pulse	0.10	3
Ag			1	0.000	ug/l	-156.36	6.67	2.607E-06	Pulse	0.10	3
Sn			1	0.237	ug/l	9.43	1,160.19	4.585E-04	Pulse	0.10	3
Sb			1	-0.054	ug/l	-1.21	53.33	1.405E-05	Pulse	0.10	3
Ba			1	-0.007	ug/l	-41.03	16.67	4.385E-06	Pulse	0.10	3
Tl			1	0.000	ug/l	-38.92	36.67	1.534E-05	Pulse	0.10	3
Pb			1	-0.005	ug/l	-55.83	180.01	7.543E-05	Pulse	0.10	3
Pb			1	-0.012	ug/l	-59.10	150.01	6.267E-05	Pulse	0.10	3
Pb			1	-0.005	ug/l	-22.79	726.71	3.042E-04	Pulse	0.10	3
Na			2	-0.621	ug/l	-28.30	15,631.76	1.375E-01	Pulse	0.30	3
Mg			2	-0.079	ug/l	-71.80	106.67	9.381E-04	Pulse	0.30	3
Al			2	-1.138	ug/l	-5.86	76.67	6.736E-04	Pulse	0.30	3
K			2	-0.823	ug/l	-28.28	8,658.99	7.614E-02	Pulse	0.30	3
Ca			2	-2.348	ug/l	-33.44	64.45	5.670E-04	Pulse	0.30	3
Ti			2	-0.008	ug/l	0.00	0.00	0.000E+00	Pulse	0.30	3
V			2	-0.109	ug/l	-5.23	125.56	1.104E-03	Pulse	0.30	3
Cr			2	0.018	ug/l	94.29	551.13	4.850E-03	Pulse	0.30	3
Mn			2	0.000	ug/l	-2571.79	48.89	4.293E-04	Pulse	0.30	3
Fe			2	-1.380	ug/l	-0.23	2,091.27	1.839E-02	Pulse	0.30	3
Co			2	0.001	ug/l	128.80	23.32	2.054E-04	Pulse	0.30	3
Ni			2	-0.055	ug/l	-22.32	316.67	2.786E-03	Pulse	0.30	3
Cu			2	0.083	ug/l	13.85	6,353.52	5.587E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Zn			2	-0.699	ug/l	-4.49	252.23	2.216E-03	Pulse	0.30	3
As			2	-0.006	ug/l	-161.49	5.67	4.982E-05	Pulse	1.00	3
Cd			2	0.004	ug/l	188.86	7.78	1.305E-05	Pulse	0.30	3
Sn			2	0.101	ug/l	13.47	288.90	4.818E-04	Pulse	0.30	3
Se			3	-0.023	ug/l	-11.33	2.27	1.263E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,293,536.87	0.79	100.0	Pulse	0.10	3
1	Sc		1,939,101.48	2.13	100.0	Pulse	0.10	3
1	Ge		362,335.19	2.03	100.0	Pulse	0.10	3
1	Ge		503,488.70	2.86	100.0	Pulse	0.10	3
1	Rh		2,566,318.76	1.56	100.0	Pulse	0.10	3
1	In		2,527,874.14	2.27	100.0	Pulse	0.10	3
1	Tb		3,803,448.28	2.29	100.0	Pulse	0.10	3
1	Ho		381,848.59	2.97	100.0	Pulse	0.10	3
1	Bi		2,390,851.00	1.87	100.0	Pulse	0.10	3
2	Sc		113,721.14	0.91	100.0	Pulse	0.30	3
2	Ge		61,158.29	0.13	100.0	Pulse	0.30	3
2	Ge		92,072.20	1.41	100.0	Pulse	0.30	3
2	Rh		1,710,535.90	0.49	100.0	Pulse	0.30	3
2	In		599,791.36	0.74	100.0	Pulse	0.30	3
2	Tb		2,266,117.48	0.67	100.0	Pulse	0.30	3
2	Ho		227,152.63	0.30	100.0	Pulse	0.30	3
2	Bi		1,552,672.72	0.31	100.0	Pulse	0.30	3
3	Sc		187,853.79	0.16	100.0	Pulse	0.30	3
3	Ge		119,394.20	0.67	100.0	Pulse	0.30	3
3	Ge		179,457.76	0.34	100.0	Pulse	0.30	3
3	Rh		1,946,671.52	0.73	100.0	Pulse	0.30	3
3	Tb		3,329,566.05	0.67	100.0	Pulse	0.30	3

Quantitation Report

File Name 004CALS.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 9:27
Sample Name STDB
Sample Type CalStd
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.466	ug/l	6.58	2,769.60	2.180E-03	Pulse	0.25	3
B			1	21.434	ug/l	1.43	105,187.55	8.278E-02	Pulse	0.15	3
Ca			1	256.353	ug/l	0.98	170,976.15	8.990E-02	Pulse	0.10	3
Sr			1	4.776	ug/l	0.96	137,631.39	5.547E-02	Pulse	0.10	3
Mo			1	1.005	ug/l	4.01	5,877.97	2.368E-03	Pulse	0.10	3
Ag			1	0.493	ug/l	1.45	7,095.18	2.873E-03	Pulse	0.10	3
Sn			1	4.797	ug/l	2.45	42,387.83	1.717E-02	Pulse	0.10	3
Sb			1	2.014	ug/l	2.97	21,485.43	5.810E-03	Pulse	0.10	3
Ba			1	0.923	ug/l	1.17	3,913.96	1.059E-03	Pulse	0.10	3
Tl			1	0.487	ug/l	4.83	14,293.99	6.170E-03	Pulse	0.10	3
Pb			1	0.454	ug/l	5.82	4,911.00	2.118E-03	Pulse	0.10	3
Pb			1	0.453	ug/l	0.83	4,367.48	1.885E-03	Pulse	0.10	3
Pb			1	0.457	ug/l	0.67	19,859.26	8.571E-03	Pulse	0.10	3
Na			2	239.897	ug/l	0.47	288,584.03	2.457E+00	Pulse	0.30	3
Mg			2	249.604	ug/l	0.78	132,128.24	1.125E+00	Pulse	0.30	3
Al			2	25.170	ug/l	1.08	4,712.93	4.013E-02	Pulse	0.30	3
K			2	252.659	ug/l	0.37	92,183.03	7.850E-01	Pulse	0.30	3
Ca			2	291.817	ug/l	0.80	5,396.48	4.595E-02	Pulse	0.30	3
Ti			2	0.992	ug/l	38.26	137.78	1.173E-03	Pulse	0.30	3
V			2	0.877	ug/l	2.38	4,427.31	3.770E-02	Pulse	0.30	3
Cr			2	0.928	ug/l	2.67	5,868.88	4.998E-02	Pulse	0.30	3
Mn			2	1.011	ug/l	7.02	3,160.34	2.691E-02	Pulse	0.30	3
Fe			2	23.754	ug/l	0.56	117,031.10	9.965E-01	Pulse	0.30	3
Co			2	0.471	ug/l	3.54	4,305.85	3.666E-02	Pulse	0.30	3
Ni			2	0.924	ug/l	2.33	2,735.82	2.330E-02	Pulse	0.30	3
Cu			2	1.861	ug/l	1.51	18,467.17	1.573E-01	Pulse	0.30	3
Zn			2	5.234	ug/l	2.49	6,152.33	5.239E-02	Pulse	0.30	3
As			2	0.497	ug/l	4.65	247.33	2.106E-03	Pulse	1.00	3
Cd			2	0.458	ug/l	7.48	678.46	1.099E-03	Pulse	0.30	3
Sn			2	4.730	ug/l	0.66	13,448.07	2.179E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	0.465	ug/l	7.04	83.67	4.609E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,270,718.75	0.66	98.2	Pulse	0.10	3
1	Sc		1,901,673.05	1.53	98.1	Pulse	0.10	3
1	Ge		353,435.46	1.73	97.5	Pulse	0.10	3
1	Ge		489,860.17	2.21	97.3	Pulse	0.10	3
1	Rh		2,480,879.50	2.34	96.7	Pulse	0.10	3
1	In		2,470,162.32	2.88	97.7	Pulse	0.10	3
1	Tb		3,697,289.84	3.23	97.2	Pulse	0.10	3
1	Ho		369,113.17	2.68	96.7	Pulse	0.10	3
1	Bi		2,317,135.17	2.85	96.9	Pulse	0.10	3
2	Sc		117,437.71	0.28	103.3	Pulse	0.30	3
2	Ge		62,472.27	1.16	102.1	Pulse	0.30	3
2	Ge		94,770.89	0.73	102.9	Pulse	0.30	3
2	Rh		1,709,093.13	0.63	99.9	Pulse	0.30	3
2	In		617,267.34	0.19	102.9	Pulse	0.30	3
2	Tb		2,288,869.35	0.94	101.0	Pulse	0.30	3
2	Ho		228,443.77	1.22	100.6	Pulse	0.30	3
2	Bi		1,557,875.84	0.89	100.3	Pulse	0.30	3
3	Sc		193,293.94	0.22	102.9	Pulse	0.30	3
3	Ge		120,946.31	1.63	101.3	Pulse	0.30	3
3	Ge		181,549.25	1.01	101.2	Pulse	0.30	3
3	Rh		1,930,688.82	0.45	99.2	Pulse	0.30	3
3	Tb		3,291,771.05	0.43	98.9	Pulse	0.30	3

Quantitation Report

File Name 005CALS.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 9:32
Sample Name STDC
Sample Type CalStd
Comment 5
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	4.972	ug/l	0.46	29,982.38	2.322E-02	Pulse	0.25	3
B			1	3.673	ug/l	0.44	26,881.82	2.082E-02	Pulse	0.15	3
Ca			1	13.921	ug/l	5.16	25,223.14	1.322E-02	Pulse	0.10	3
Sr			1	5.196	ug/l	0.43	152,319.47	6.034E-02	Pulse	0.10	3
Mo			1	5.088	ug/l	2.14	30,032.48	1.190E-02	Pulse	0.10	3
Ag			1	4.994	ug/l	2.23	72,369.06	2.909E-02	Pulse	0.10	3
Sn			1	5.403	ug/l	1.43	48,228.59	1.939E-02	Pulse	0.10	3
Sb			1	4.899	ug/l	1.37	52,277.83	1.390E-02	Pulse	0.10	3
Ba			1	5.027	ug/l	4.91	21,488.93	5.713E-03	Pulse	0.10	3
Tl			1	5.055	ug/l	0.79	151,816.41	6.383E-02	Pulse	0.10	3
Pb			1	4.976	ug/l	0.92	52,895.24	2.224E-02	Pulse	0.10	3
Pb			1	5.017	ug/l	3.00	47,082.79	1.980E-02	Pulse	0.10	3
Pb			1	5.022	ug/l	0.64	214,950.35	9.038E-02	Pulse	0.10	3
Na			2	6.543	ug/l	6.32	23,546.44	2.066E-01	Pulse	0.30	3
Mg			2	5.620	ug/l	2.37	3,031.42	2.659E-02	Pulse	0.30	3
Al			2	5.067	ug/l	17.16	1,137.83	9.979E-03	Pulse	0.30	3
K			2	5.522	ug/l	5.64	10,702.44	9.388E-02	Pulse	0.30	3
Ca			2	32.008	ug/l	8.90	668.91	5.868E-03	Pulse	0.30	3
Ti			2	4.604	ug/l	5.98	616.68	5.409E-03	Pulse	0.30	3
V			2	5.031	ug/l	1.54	21,883.48	1.920E-01	Pulse	0.30	3
Cr			2	5.022	ug/l	0.26	28,838.54	2.530E-01	Pulse	0.30	3
Mn			2	5.165	ug/l	0.99	15,464.04	1.357E-01	Pulse	0.30	3
Fe			2	5.182	ug/l	1.29	31,206.24	2.738E-01	Pulse	0.30	3
Co			2	5.090	ug/l	1.16	45,022.29	3.950E-01	Pulse	0.30	3
Ni			2	5.034	ug/l	0.72	12,473.72	1.094E-01	Pulse	0.30	3
Cu			2	5.214	ug/l	1.53	39,727.92	3.485E-01	Pulse	0.30	3
Zn			2	5.506	ug/l	2.55	6,233.48	5.469E-02	Pulse	0.30	3
As			2	5.116	ug/l	5.86	2,389.85	2.097E-02	Pulse	1.00	3
Cd			2	4.982	ug/l	2.90	7,161.64	1.191E-02	Pulse	0.30	3
Sn			2	5.276	ug/l	0.88	14,610.18	2.430E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	5.156	ug/l	2.44	856.09	4.771E-03	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,291,015.21	1.56	99.8	Pulse	0.10	3
1	Sc		1,908,038.46	0.98	98.4	Pulse	0.10	3
1	Ge		357,549.69	1.54	98.7	Pulse	0.10	3
1	Ge		497,360.66	0.97	98.8	Pulse	0.10	3
1	Rh		2,524,200.33	1.45	98.4	Pulse	0.10	3
1	In		2,487,111.42	1.81	98.4	Pulse	0.10	3
1	Tb		3,760,965.36	2.29	98.9	Pulse	0.10	3
1	Ho		374,291.16	1.77	98.0	Pulse	0.10	3
1	Bi		2,378,514.13	2.62	99.5	Pulse	0.10	3
2	Sc		113,992.80	0.38	100.2	Pulse	0.30	3
2	Ge		61,429.42	0.80	100.4	Pulse	0.30	3
2	Ge		92,246.21	1.22	100.2	Pulse	0.30	3
2	Rh		1,698,866.29	0.76	99.3	Pulse	0.30	3
2	In		601,273.65	0.22	100.2	Pulse	0.30	3
2	Tb		2,253,809.28	0.31	99.5	Pulse	0.30	3
2	Ho		226,233.24	0.53	99.6	Pulse	0.30	3
2	Bi		1,553,542.09	0.01	100.1	Pulse	0.30	3
3	Sc		186,739.62	0.79	99.4	Pulse	0.30	3
3	Ge		119,142.44	0.76	99.8	Pulse	0.30	3
3	Ge		179,477.48	1.49	100.0	Pulse	0.30	3
3	Rh		1,935,348.95	0.22	99.4	Pulse	0.30	3
3	Tb		3,306,202.72	1.17	99.3	Pulse	0.30	3

Quantitation Report

File Name	006CALS.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 9:37
Sample Name	STDD
Sample Type	CalStd
Comment	25
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	24.809	ug/l	1.86	148,238.96	1.159E-01	Pulse	0.25	3
B			1	22.635	ug/l	2.60	111,269.97	8.697E-02	Pulse	0.15	3
Ca			1	41.798	ug/l	1.75	42,134.33	2.204E-02	Pulse	0.10	3
Sr			1	25.264	ug/l	1.12	750,549.05	2.931E-01	Pulse	0.10	3
Mo			1	25.239	ug/l	0.38	150,958.93	5.894E-02	Pulse	0.10	3
Ag			1	24.385	ug/l	0.69	355,387.52	1.420E-01	Pulse	0.10	3
Sn			1	25.444	ug/l	1.02	232,266.52	9.283E-02	Pulse	0.10	3
Sb			1	25.294	ug/l	0.18	267,985.79	7.108E-02	Pulse	0.10	3
Ba			1	25.409	ug/l	1.59	108,678.62	2.883E-02	Pulse	0.10	3
Tl			1	25.261	ug/l	0.47	755,565.56	3.189E-01	Pulse	0.10	3
Pb			1	25.292	ug/l	0.48	266,884.54	1.126E-01	Pulse	0.10	3
Pb			1	25.456	ug/l	1.07	236,953.20	1.000E-01	Pulse	0.10	3
Pb			1	25.432	ug/l	0.88	1,080,602.07	4.561E-01	Pulse	0.10	3
Na			2	26.584	ug/l	2.60	44,564.99	3.999E-01	Pulse	0.30	3
Mg			2	26.162	ug/l	2.14	13,270.87	1.191E-01	Pulse	0.30	3
Al			2	28.578	ug/l	3.99	5,041.92	4.524E-02	Pulse	0.30	3
K			2	23.967	ug/l	3.61	16,211.29	1.455E-01	Pulse	0.30	3
Ca			2	142.394	ug/l	12.01	2,550.23	2.290E-02	Pulse	0.30	3
Ti			2	25.695	ug/l	1.87	3,360.38	3.015E-02	Pulse	0.30	3
V			2	25.537	ug/l	0.49	106,268.24	9.534E-01	Pulse	0.30	3
Cr			2	25.327	ug/l	1.39	140,420.90	1.260E+00	Pulse	0.30	3
Mn			2	25.448	ug/l	1.53	74,297.94	6.667E-01	Pulse	0.30	3
Fe			2	26.593	ug/l	2.70	123,369.07	1.107E+00	Pulse	0.30	3
Co			2	25.578	ug/l	1.13	221,148.62	1.984E+00	Pulse	0.30	3
Ni			2	25.627	ug/l	2.57	60,290.92	5.410E-01	Pulse	0.30	3
Cu			2	25.620	ug/l	1.71	168,538.00	1.512E+00	Pulse	0.30	3
Zn			2	25.788	ug/l	1.98	25,207.26	2.262E-01	Pulse	0.30	3
As			2	25.644	ug/l	1.52	11,680.19	1.048E-01	Pulse	1.00	3
Cd			2	25.252	ug/l	0.80	35,856.74	6.036E-02	Pulse	0.30	3
Sn			2	25.362	ug/l	1.15	69,350.41	1.167E-01	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	25.469	ug/l	1.17	4,164.00	2.344E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,279,453.05	0.23	98.9	Pulse	0.10	3
1	Sc		1,912,007.52	1.01	98.6	Pulse	0.10	3
1	Ge		357,137.39	2.39	98.6	Pulse	0.10	3
1	Ge		495,958.55	2.32	98.5	Pulse	0.10	3
1	Rh		2,561,246.47	2.41	99.8	Pulse	0.10	3
1	In		2,502,434.81	2.68	99.0	Pulse	0.10	3
1	Tb		3,770,428.28	2.10	99.1	Pulse	0.10	3
1	Ho		374,380.76	2.41	98.0	Pulse	0.10	3
1	Bi		2,369,131.94	2.43	99.1	Pulse	0.10	3
2	Sc		111,457.89	1.01	98.0	Pulse	0.30	3
2	Ge		60,761.32	0.73	99.4	Pulse	0.30	3
2	Ge		91,156.06	0.45	99.0	Pulse	0.30	3
2	Rh		1,685,143.72	0.49	98.5	Pulse	0.30	3
2	In		594,044.18	0.20	99.0	Pulse	0.30	3
2	Tb		2,247,315.75	1.02	99.2	Pulse	0.30	3
2	Ho		224,802.47	0.82	99.0	Pulse	0.30	3
2	Bi		1,552,063.27	0.28	100.0	Pulse	0.30	3
3	Sc		185,090.32	0.29	98.5	Pulse	0.30	3
3	Ge		117,900.09	0.78	98.7	Pulse	0.30	3
3	Ge		177,674.54	0.35	99.0	Pulse	0.30	3
3	Rh		1,942,030.83	1.05	99.8	Pulse	0.30	3
3	Tb		3,319,490.91	0.20	99.7	Pulse	0.30	3

Quantitation Report

File Name	007CALS.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 9:43
Sample Name	STDE
Sample Type	CalStd
Comment	50
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	48.760	ug/l	0.69	290,127.07	2.277E-01	Pulse	0.25	3
B			1	46.561	ug/l	1.33	217,143.95	1.704E-01	Pulse	0.15	3
Ca			1	77.789	ug/l	4.26	63,565.54	3.342E-02	Pulse	0.10	3
Sr			1	49.882	ug/l	0.93	1,458,677.79	5.785E-01	Pulse	0.10	3
Mo			1	49.607	ug/l	0.35	292,020.75	1.158E-01	Pulse	0.10	3
Ag			1	48.818	ug/l	0.49	707,597.57	2.843E-01	Pulse	0.10	3
Sn			1	49.247	ug/l	1.06	448,003.65	1.800E-01	Pulse	0.10	3
Sb			1	49.165	ug/l	1.42	522,724.33	1.380E-01	Pulse	0.10	3
Ba			1	49.484	ug/l	0.75	212,656.87	5.613E-02	Pulse	0.10	3
Tl			1	49.290	ug/l	0.73	1,492,260.03	6.222E-01	Pulse	0.10	3
Pb			1	49.569	ug/l	0.58	529,181.97	2.207E-01	Pulse	0.10	3
Pb			1	49.502	ug/l	0.34	466,122.27	1.944E-01	Pulse	0.10	3
Pb			1	49.453	ug/l	0.13	2,125,828.45	8.865E-01	Pulse	0.10	3
Na			2	50.660	ug/l	0.75	71,008.61	6.321E-01	Pulse	0.30	3
Mg			2	50.887	ug/l	1.33	25,884.30	2.304E-01	Pulse	0.30	3
Al			2	52.163	ug/l	0.47	9,056.96	8.062E-02	Pulse	0.30	3
K			2	50.433	ug/l	1.15	24,654.93	2.195E-01	Pulse	0.30	3
Ca			2	289.328	ug/l	3.47	5,119.73	4.557E-02	Pulse	0.30	3
Ti			2	50.566	ug/l	3.41	6,664.75	5.932E-02	Pulse	0.30	3
V			2	49.607	ug/l	0.59	207,517.19	1.847E+00	Pulse	0.30	3
Cr			2	49.507	ug/l	0.54	276,256.78	2.459E+00	Pulse	0.30	3
Mn			2	49.674	ug/l	0.37	146,146.59	1.301E+00	Pulse	0.30	3
Fe			2	51.400	ug/l	1.33	232,806.28	2.072E+00	Pulse	0.30	3
Co			2	49.519	ug/l	0.97	431,529.35	3.841E+00	Pulse	0.30	3
Ni			2	49.221	ug/l	1.11	116,324.41	1.035E+00	Pulse	0.30	3
Cu			2	49.490	ug/l	1.46	322,809.62	2.874E+00	Pulse	0.30	3
Zn			2	49.680	ug/l	0.70	48,104.77	4.282E-01	Pulse	0.30	3
As			2	49.913	ug/l	0.82	22,907.36	2.039E-01	Pulse	1.00	3
Cd			2	49.285	ug/l	0.79	70,033.85	1.178E-01	Pulse	0.30	3
Sn			2	49.641	ug/l	0.11	135,833.61	2.285E-01	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	50.531	ug/l	0.54	8,186.18	4.647E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,274,126.66	0.78	98.5	Pulse	0.10	3
1	Sc		1,902,643.41	1.80	98.1	Pulse	0.10	3
1	Ge		358,782.31	2.65	99.0	Pulse	0.10	3
1	Ge		495,244.13	2.25	98.4	Pulse	0.10	3
1	Rh		2,521,295.43	2.02	98.2	Pulse	0.10	3
1	In		2,488,580.50	2.06	98.4	Pulse	0.10	3
1	Tb		3,788,930.88	3.11	99.6	Pulse	0.10	3
1	Ho		378,781.05	3.56	99.2	Pulse	0.10	3
1	Bi		2,397,960.75	2.09	100.3	Pulse	0.10	3
2	Sc		112,341.88	0.61	98.8	Pulse	0.30	3
2	Ge		60,725.72	1.06	99.3	Pulse	0.30	3
2	Ge		91,295.82	1.20	99.2	Pulse	0.30	3
2	Rh		1,692,859.86	0.66	99.0	Pulse	0.30	3
2	In		594,500.79	0.99	99.1	Pulse	0.30	3
2	Tb		2,254,520.54	0.90	99.5	Pulse	0.30	3
2	Ho		225,731.55	0.31	99.4	Pulse	0.30	3
2	Bi		1,553,994.00	0.83	100.1	Pulse	0.30	3
3	Sc		184,919.71	0.18	98.4	Pulse	0.30	3
3	Ge		116,641.10	0.32	97.7	Pulse	0.30	3
3	Ge		176,174.32	0.67	98.2	Pulse	0.30	3
3	Rh		1,930,786.10	0.41	99.2	Pulse	0.30	3
3	Tb		3,331,520.35	0.25	100.1	Pulse	0.30	3

Quantitation Report

File Name 008CALS.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 9:48
Sample Name STDF
Sample Type CalStd
Comment 100
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	100.669	ug/l	0.69	581,635.90	4.701E-01	Pulse	0.25	3
B			1	96.639	ug/l	1.97	427,017.54	3.451E-01	Pulse	0.15	3
Ca			1	145.185	ug/l	0.77	103,470.73	5.474E-02	Pulse	0.10	3
Sr			1	100.090	ug/l	0.41	2,925,026.73	1.161E+00	Pulse	0.10	3
Mo			1	99.685	ug/l	0.91	586,353.21	2.327E-01	Pulse	0.10	3
Ag			1	100.745	ug/l	0.19	1,455,364.20	5.868E-01	Pulse	0.10	3
Sn			1	100.276	ug/l	0.47	910,426.18	3.670E-01	Pulse	0.10	3
Sb			1	100.652	ug/l	0.28	1,073,642.35	2.823E-01	Pulse	0.10	3
Ba			1	100.174	ug/l	0.67	432,091.50	1.136E-01	Pulse	0.10	3
Tl			1	100.287	ug/l	0.43	3,036,999.02	1.266E+00	Pulse	0.10	3
Pb			1	100.144	ug/l	1.04	1,069,091.26	4.457E-01	Pulse	0.10	3
Pb			1	100.134	ug/l	0.73	942,959.75	3.931E-01	Pulse	0.10	3
Pb			1	100.165	ug/l	0.19	4,306,592.12	1.795E+00	Pulse	0.10	3
Na			2	100.653	ug/l	0.79	125,813.98	1.114E+00	Pulse	0.30	3
Mg			2	101.921	ug/l	0.53	51,958.29	4.602E-01	Pulse	0.30	3
Al			2	105.302	ug/l	3.44	18,100.92	1.603E-01	Pulse	0.30	3
K			2	101.216	ug/l	0.94	40,814.20	3.615E-01	Pulse	0.30	3
Ca			2	539.211	ug/l	0.66	9,498.37	8.412E-02	Pulse	0.30	3
Ti			2	99.563	ug/l	2.10	13,187.58	1.168E-01	Pulse	0.30	3
V			2	100.062	ug/l	0.95	420,126.66	3.721E+00	Pulse	0.30	3
Cr			2	99.387	ug/l	0.48	556,989.67	4.933E+00	Pulse	0.30	3
Mn			2	100.468	ug/l	0.68	297,053.31	2.631E+00	Pulse	0.30	3
Fe			2	102.692	ug/l	0.44	459,383.94	4.069E+00	Pulse	0.30	3
Co			2	100.092	ug/l	0.67	876,693.22	7.764E+00	Pulse	0.30	3
Ni			2	100.232	ug/l	0.47	237,628.39	2.105E+00	Pulse	0.30	3
Cu			2	100.092	ug/l	0.63	650,327.32	5.760E+00	Pulse	0.30	3
Zn			2	99.951	ug/l	0.61	96,345.79	8.533E-01	Pulse	0.30	3
As			2	99.877	ug/l	0.74	46,062.87	4.080E-01	Pulse	1.00	3
Cd			2	100.162	ug/l	0.40	141,799.34	2.394E-01	Pulse	0.30	3
Sn			2	100.102	ug/l	0.57	272,883.34	4.607E-01	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	103.945	ug/l	0.43	16,747.27	9.555E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,237,196.04	0.94	95.6	Pulse	0.10	3
1	Sc		1,890,173.05	2.02	97.5	Pulse	0.10	3
1	Ge		356,830.07	2.75	98.5	Pulse	0.10	3
1	Ge		494,657.02	2.42	98.2	Pulse	0.10	3
1	Rh		2,519,761.89	2.27	98.2	Pulse	0.10	3
1	In		2,480,258.94	2.58	98.1	Pulse	0.10	3
1	Tb		3,802,704.63	2.90	100.0	Pulse	0.10	3
1	Ho		381,921.15	3.25	100.0	Pulse	0.10	3
1	Bi		2,399,056.68	2.81	100.3	Pulse	0.10	3
2	Sc		112,913.48	0.57	99.3	Pulse	0.30	3
2	Ge		60,555.08	0.68	99.0	Pulse	0.30	3
2	Ge		91,996.22	1.18	99.9	Pulse	0.30	3
2	Rh		1,680,287.19	0.27	98.2	Pulse	0.30	3
2	In		592,292.30	0.54	98.7	Pulse	0.30	3
2	Tb		2,258,757.27	0.63	99.7	Pulse	0.30	3
2	Ho		225,223.15	0.57	99.2	Pulse	0.30	3
2	Bi		1,556,006.54	0.88	100.2	Pulse	0.30	3
3	Sc		186,564.82	0.64	99.3	Pulse	0.30	3
3	Ge		116,274.13	0.60	97.4	Pulse	0.30	3
3	Ge		175,272.02	0.02	97.7	Pulse	0.30	3
3	Rh		1,922,864.02	0.60	98.8	Pulse	0.30	3
3	Tb		3,336,699.24	0.88	100.2	Pulse	0.30	3

Quantitation Report

File Name 009CALS.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 9:53
Sample Name STDG
Sample Type CalStd
Comment 500MIN
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.011	ug/l	9.91	69.33	5.533E-05	Pulse	0.25	3
B			1	203.315	ug/l	0.88	898,814.86	7.172E-01	Pulse	0.15	3
Ca			1	507.809	ug/l	1.18	320,975.71	1.694E-01	Pulse	0.10	3
Sr			1	0.062	ug/l	9.79	2,013.54	8.063E-04	Pulse	0.10	3
Mo			1	0.210	ug/l	19.03	1,286.78	5.133E-04	Pulse	0.10	3
Ag			1	0.014	ug/l	50.12	210.01	8.509E-05	Pulse	0.10	3
Sn			1	1.038	ug/l	6.89	8,429.21	3.394E-03	Pulse	0.10	3
Sb			1	0.697	ug/l	2.65	7,958.99	2.118E-03	Pulse	0.10	3
Ba			1	0.090	ug/l	24.82	426.69	1.135E-04	Pulse	0.10	3
Tl			1	0.029	ug/l	5.97	903.40	3.855E-04	Pulse	0.10	3
Pb			1	0.047	ug/l	11.95	723.38	3.080E-04	Pulse	0.10	3
Pb			1	0.035	ug/l	16.01	580.03	2.473E-04	Pulse	0.10	3
Pb			1	0.049	ug/l	9.58	2,966.91	1.266E-03	Pulse	0.10	3
Na			2	487.141	ug/l	1.07	549,541.94	4.842E+00	Pulse	0.30	3
Mg			2	506.485	ug/l	1.02	258,957.30	2.282E+00	Pulse	0.30	3
Al			2	512.301	ug/l	0.79	87,478.49	7.708E-01	Pulse	0.30	3
K			2	510.877	ug/l	0.78	171,039.74	1.507E+00	Pulse	0.30	3
Ca			2	516.145	ug/l	3.01	9,141.51	8.056E-02	Pulse	0.30	3
Ti			2	0.150	ug/l	41.85	21.11	1.858E-04	Pulse	0.30	3
V			2	-0.093	ug/l	-4.25	191.12	1.682E-03	Pulse	0.30	3
Cr			2	0.066	ug/l	28.18	818.92	7.223E-03	Pulse	0.30	3
Mn			2	0.035	ug/l	25.43	154.45	1.361E-03	Pulse	0.30	3
Fe			2	503.946	ug/l	1.04	2,234,022.20	1.968E+01	Pulse	0.30	3
Co			2	0.032	ug/l	7.18	297.31	2.620E-03	Pulse	0.30	3
Ni			2	0.013	ug/l	141.09	476.68	4.202E-03	Pulse	0.30	3
Cu			2	-0.057	ug/l	-24.21	5,436.51	4.789E-02	Pulse	0.30	3
Zn			2	0.247	ug/l	16.35	1,158.94	1.021E-02	Pulse	0.30	3
As			2	0.026	ug/l	44.76	20.33	1.796E-04	Pulse	1.00	3
Cd			2	0.022	ug/l	38.43	33.19	5.547E-05	Pulse	0.30	3
Sn			2	1.170	ug/l	1.59	3,240.38	5.400E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	202.236	ug/l	0.90	32,886.28	1.859E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,253,184.53	0.32	96.9	Pulse	0.10	3
1	Sc		1,894,332.63	0.93	97.7	Pulse	0.10	3
1	Ge		356,479.68	0.84	98.4	Pulse	0.10	3
1	Ge		493,640.54	1.44	98.0	Pulse	0.10	3
1	Rh		2,499,954.08	2.31	97.4	Pulse	0.10	3
1	In		2,481,776.58	1.92	98.2	Pulse	0.10	3
1	Tb		3,757,187.65	2.16	98.8	Pulse	0.10	3
1	Ho		376,451.48	1.94	98.6	Pulse	0.10	3
1	Bi		2,345,890.59	2.99	98.1	Pulse	0.10	3
2	Sc		113,503.69	1.47	99.8	Pulse	0.30	3
2	Ge		61,256.70	0.48	100.2	Pulse	0.30	3
2	Ge		91,971.63	0.71	99.9	Pulse	0.30	3
2	Rh		1,686,293.65	1.21	98.6	Pulse	0.30	3
2	In		600,001.80	1.11	100.0	Pulse	0.30	3
2	Tb		2,256,952.90	1.28	99.6	Pulse	0.30	3
2	Ho		226,754.11	1.80	99.8	Pulse	0.30	3
2	Bi		1,555,308.45	1.56	100.2	Pulse	0.30	3
3	Sc		189,071.45	0.88	100.6	Pulse	0.30	3
3	Ge		116,938.77	0.67	97.9	Pulse	0.30	3
3	Ge		176,939.41	0.81	98.6	Pulse	0.30	3
3	Rh		1,929,903.05	0.32	99.1	Pulse	0.30	3
3	Tb		3,339,430.77	0.69	100.3	Pulse	0.30	3

Quantitation Report

File Name 010CALS.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 9:58
Sample Name STDH
Sample Type CalStd
Comment 1000MIN
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.000	ug/l	-350.85	5.33	4.221E-06	Pulse	0.25	3
B			1	4.235	ug/l	6.85	28,668.93	2.278E-02	Pulse	0.15	3
Ca			1	1005.507	ug/l	0.42	614,770.94	3.269E-01	Pulse	0.10	3
Sr			1	0.028	ug/l	1.80	1,016.75	4.070E-04	Pulse	0.10	3
Mo			1	0.038	ug/l	5.35	280.01	1.121E-04	Pulse	0.10	3
Ag			1	0.004	ug/l	22.52	60.00	2.447E-05	Pulse	0.10	3
Sn			1	0.597	ug/l	2.04	4,370.77	1.778E-03	Pulse	0.10	3
Sb			1	0.187	ug/l	6.76	2,556.98	6.894E-04	Pulse	0.10	3
Ba			1	0.034	ug/l	9.28	186.68	5.034E-05	Pulse	0.10	3
Tl			1	0.005	ug/l	9.36	190.01	8.164E-05	Pulse	0.10	3
Pb			1	0.020	ug/l	28.12	436.69	1.875E-04	Pulse	0.10	3
Pb			1	0.015	ug/l	29.63	386.69	1.664E-04	Pulse	0.10	3
Pb			1	0.018	ug/l	14.52	1,660.11	7.132E-04	Pulse	0.10	3
Na			2	980.853	ug/l	1.09	1,071,444.16	9.604E+00	Pulse	0.30	3
Mg			2	1013.355	ug/l	0.99	509,139.79	4.564E+00	Pulse	0.30	3
Al			2	1014.685	ug/l	1.50	170,054.49	1.524E+00	Pulse	0.30	3
K			2	1023.859	ug/l	1.16	328,172.44	2.941E+00	Pulse	0.30	3
Ca			2	1017.039	ug/l	2.88	17,608.32	1.578E-01	Pulse	0.30	3
Ti			2	0.068	ug/l	64.58	10.00	8.954E-05	Pulse	0.30	3
V			2	-0.104	ug/l	-2.88	141.11	1.265E-03	Pulse	0.30	3
Cr			2	0.050	ug/l	18.34	715.58	6.415E-03	Pulse	0.30	3
Mn			2	0.052	ug/l	5.64	198.89	1.783E-03	Pulse	0.30	3
Fe			2	1030.096	ug/l	4.28	4,479,638.85	4.016E+01	Mix	0.30	3
Co			2	0.045	ug/l	3.27	409.03	3.667E-03	Pulse	0.30	3
Ni			2	0.017	ug/l	58.21	478.90	4.294E-03	Pulse	0.30	3
Cu			2	-0.102	ug/l	-18.71	5,057.51	4.534E-02	Pulse	0.30	3
Zn			2	1.177	ug/l	2.17	2,016.81	1.808E-02	Pulse	0.30	3
As			2	0.018	ug/l	47.04	16.67	1.496E-04	Pulse	1.00	3
Cd			2	0.014	ug/l	50.83	22.19	3.736E-05	Pulse	0.30	3
Sn			2	0.576	ug/l	5.41	1,586.77	2.668E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	397.798	ug/l	0.98	64,789.03	3.656E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,258,825.69	0.95	97.3	Pulse	0.10	3
1	Sc		1,880,827.84	1.98	97.0	Pulse	0.10	3
1	Ge		353,535.80	1.65	97.6	Pulse	0.10	3
1	Ge		494,925.97	2.31	98.3	Pulse	0.10	3
1	Rh		2,497,714.65	1.75	97.3	Pulse	0.10	3
1	In		2,458,756.97	2.16	97.3	Pulse	0.10	3
1	Tb		3,706,617.65	1.84	97.5	Pulse	0.10	3
1	Ho		373,026.68	1.38	97.7	Pulse	0.10	3
1	Bi		2,325,323.09	2.39	97.3	Pulse	0.10	3
2	Sc		111,568.63	0.87	98.1	Pulse	0.30	3
2	Ge		60,633.33	0.99	99.1	Pulse	0.30	3
2	Ge		91,318.94	0.89	99.2	Pulse	0.30	3
2	Rh		1,668,903.72	0.48	97.6	Pulse	0.30	3
2	In		594,781.69	1.22	99.2	Pulse	0.30	3
2	Tb		2,246,436.71	0.98	99.1	Pulse	0.30	3
2	Ho		224,645.62	0.71	98.9	Pulse	0.30	3
2	Bi		1,540,649.80	0.90	99.2	Pulse	0.30	3
3	Sc		186,073.53	0.38	99.1	Pulse	0.30	3
3	Ge		116,910.93	0.79	97.9	Pulse	0.30	3
3	Ge		177,227.00	0.38	98.8	Pulse	0.30	3
3	Rh		1,928,095.06	0.76	99.0	Pulse	0.30	3
3	Tb		3,366,249.59	0.60	101.1	Pulse	0.30	3

Quantitation Report

File Name 011CALS.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 10:03
Sample Name STDI
Sample Type CalStd
Comment 5000MIN
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.002	ug/l	184.95	17.33	1.374E-05	Pulse	0.25	3
B			1	1.814	ug/l	6.16	18,145.52	1.433E-02	Pulse	0.15	3
Ca			1	4868.030	ug/l	0.59	2,915,676.52	1.549E+00	Pulse	0.10	3
Sr			1	0.056	ug/l	7.97	1,786.84	7.376E-04	Pulse	0.10	3
Mo			1	0.023	ug/l	49.17	186.68	7.700E-05	Pulse	0.10	3
Ag			1	0.004	ug/l	7.78	63.33	2.615E-05	Pulse	0.10	3
Sn			1	0.524	ug/l	3.81	3,657.24	1.511E-03	Pulse	0.10	3
Sb			1	0.087	ug/l	24.49	1,510.13	4.090E-04	Pulse	0.10	3
Ba			1	0.060	ug/l	7.15	293.35	7.956E-05	Pulse	0.10	3
Tl			1	0.003	ug/l	56.14	130.00	5.738E-05	Pulse	0.10	3
Pb			1	0.019	ug/l	30.70	410.02	1.804E-04	Pulse	0.10	3
Pb			1	0.019	ug/l	33.08	413.36	1.826E-04	Pulse	0.10	3
Pb			1	0.019	ug/l	6.94	1,653.43	7.285E-04	Pulse	0.10	3
Na			2	5049.943	ug/l	0.58	5,362,597.01	4.885E+01	Analog	0.30	3
Mg			2	4961.347	ug/l	0.55	2,452,195.25	2.234E+01	Pulse	0.30	3
Al			2	5063.333	ug/l	0.77	833,923.00	7.597E+00	Pulse	0.30	3
K			2	5050.420	ug/l	0.37	1,558,897.65	1.420E+01	Pulse	0.30	3
Ca			2	5047.185	ug/l	0.54	85,583.55	7.796E-01	Pulse	0.30	3
Ti			2	0.052	ug/l	103.19	7.78	7.085E-05	Pulse	0.30	3
V			2	-0.107	ug/l	-2.30	128.89	1.174E-03	Pulse	0.30	3
Cr			2	0.089	ug/l	12.50	917.82	8.360E-03	Pulse	0.30	3
Mn			2	0.099	ug/l	7.29	331.12	3.016E-03	Pulse	0.30	3
Fe			2	5159.701	ug/l	1.66	22,050,506.35	2.009E+02	Analog	0.30	3
Co			2	0.235	ug/l	4.11	2,016.18	1.837E-02	Pulse	0.30	3
Ni			2	0.154	ug/l	7.59	786.70	7.167E-03	Pulse	0.30	3
Cu			2	-0.139	ug/l	-12.30	4,744.07	4.322E-02	Pulse	0.30	3
Zn			2	0.111	ug/l	82.29	995.60	9.070E-03	Pulse	0.30	3
As			2	0.047	ug/l	25.97	29.33	2.672E-04	Pulse	1.00	3
Cd			2	0.011	ug/l	100.32	17.76	3.043E-05	Pulse	0.30	3
Sn			2	0.486	ug/l	3.62	1,310.07	2.251E-03	Pulse	0.30	3
Se			3	0.183	ug/l	3.70	34.13	2.019E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,265,961.73	0.56	97.9	Pulse	0.10	3
1	Sc		1,882,696.80	1.11	97.1	Pulse	0.10	3
1	Ge		349,895.76	2.07	96.6	Pulse	0.10	3

Quantitation Report

1	Ge		482,627.41	1.68	95.9	Pulse	0.10	3
1	Rh		2,423,596.42	1.41	94.4	Pulse	0.10	3
1	In		2,419,496.82	2.56	95.7	Pulse	0.10	3
1	Tb		3,684,783.49	2.24	96.9	Pulse	0.10	3
1	Ho		369,031.10	2.13	96.6	Pulse	0.10	3
1	Bi		2,268,201.69	2.85	94.9	Pulse	0.10	3
2	Sc		109,773.95	0.14	96.5	Pulse	0.30	3
2	Ge		59,795.62	0.92	97.8	Pulse	0.30	3
2	Ge		89,577.50	0.43	97.3	Pulse	0.30	3
2	Rh		1,631,383.27	0.46	95.4	Pulse	0.30	3
2	In		581,985.13	0.53	97.0	Pulse	0.30	3
2	Tb		2,231,469.56	0.55	98.5	Pulse	0.30	3
2	Ho		222,130.98	0.32	97.8	Pulse	0.30	3
2	Bi		1,484,928.62	0.31	95.6	Pulse	0.30	3
3	Sc		179,678.00	0.28	95.6	Pulse	0.30	3
3	Ge		113,555.37	0.65	95.1	Pulse	0.30	3
3	Ge		169,067.56	0.44	94.2	Pulse	0.30	3
3	Rh		1,856,128.12	0.12	95.3	Pulse	0.30	3
3	Tb		3,284,629.87	0.59	98.7	Pulse	0.30	3

Quantitation Report

File Name 012CALS.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 10:08
Sample Name STDJ
Sample Type CalStd
Comment 10000MIN
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.000	ug/l	465.30	9.33	7.484E-06	Pulse	0.25	3
B			1	0.890	ug/l	11.88	13,959.32	1.111E-02	Pulse	0.15	3
Ca			1	10241.991	ug/l	1.29	6,066,139.28	3.249E+00	Analog	0.10	3
Sr			1	0.101	ug/l	1.67	3,003.74	1.251E-03	Pulse	0.10	3
Mo			1	0.019	ug/l	21.01	160.01	6.676E-05	Pulse	0.10	3
Ag			1	0.001	ug/l	111.18	23.33	9.800E-06	Pulse	0.10	3
Sn			1	0.403	ug/l	0.98	2,543.63	1.067E-03	Pulse	0.10	3
Sb			1	0.067	ug/l	32.90	1,290.09	3.525E-04	Pulse	0.10	3
Ba			1	0.026	ug/l	41.30	150.01	4.111E-05	Pulse	0.10	3
Tl			1	0.002	ug/l	43.70	116.67	5.238E-05	Pulse	0.10	3
Pb			1	0.008	ug/l	39.91	300.02	1.354E-04	Pulse	0.10	3
Pb			1	0.008	ug/l	72.68	310.01	1.400E-04	Pulse	0.10	3
Pb			1	0.009	ug/l	54.63	1,213.41	5.481E-04	Pulse	0.10	3
Na			2	9977.839	ug/l	1.73	10,720,205.41	9.638E+01	Analog	0.30	3
Mg			2	10132.683	ug/l	2.23	5,074,252.71	4.562E+01	Analog	0.30	3
Al			2	9966.186	ug/l	0.88	1,662,922.71	1.495E+01	Pulse	0.30	3
K			2	9914.768	ug/l	1.23	3,092,469.46	2.780E+01	Pulse	0.30	3
Ca			2	9988.057	ug/l	0.07	171,513.69	1.542E+00	Pulse	0.30	3
Ti			2	0.000	ug/l	5047.11	1.11	9.902E-06	Pulse	0.30	3
V			2	-0.105	ug/l	-4.83	137.78	1.238E-03	Pulse	0.30	3
Cr			2	0.061	ug/l	27.32	776.70	6.985E-03	Pulse	0.30	3
Mn			2	0.152	ug/l	11.01	492.23	4.424E-03	Pulse	0.30	3
Fe			2	10055.508	ug/l	0.96	43,534,386.05	3.914E+02	Analog	0.30	3
Co			2	0.439	ug/l	4.20	3,800.75	3.418E-02	Pulse	0.30	3
Ni			2	0.301	ug/l	11.53	1,140.05	1.025E-02	Pulse	0.30	3
Cu			2	-0.248	ug/l	-1.96	4,113.89	3.699E-02	Pulse	0.30	3
Zn			2	0.092	ug/l	105.27	991.16	8.908E-03	Pulse	0.30	3
As			2	0.054	ug/l	16.96	33.00	2.965E-04	Pulse	1.00	3
Cd			2	0.007	ug/l	76.30	11.09	1.923E-05	Pulse	0.30	3
Sn			2	0.320	ug/l	2.16	858.92	1.487E-03	Pulse	0.30	3
Se			3	0.041	ug/l	8.38	11.93	7.129E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,256,361.77	0.82	97.1	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,867,440.60	0.82	96.3	Pulse	0.10	3
1	Ge		347,532.41	1.64	95.9	Pulse	0.10	3
1	Ge		477,173.31	1.35	94.8	Pulse	0.10	3
1	Rh		2,400,029.18	2.02	93.5	Pulse	0.10	3
1	In		2,384,002.41	1.52	94.3	Pulse	0.10	3
1	Tb		3,651,659.53	1.93	96.0	Pulse	0.10	3
1	Ho		363,534.70	2.17	95.2	Pulse	0.10	3
1	Bi		2,219,657.05	2.50	92.8	Pulse	0.10	3
2	Sc		111,233.20	0.71	97.8	Pulse	0.30	3
2	Ge		59,783.27	1.09	97.8	Pulse	0.30	3
2	Ge		88,984.26	2.22	96.6	Pulse	0.30	3
2	Rh		1,609,256.88	0.67	94.1	Pulse	0.30	3
2	In		577,526.38	1.36	96.3	Pulse	0.30	3
2	Tb		2,227,115.89	1.05	98.3	Pulse	0.30	3
2	Ho		222,570.26	0.63	98.0	Pulse	0.30	3
2	Bi		1,467,959.90	0.63	94.5	Pulse	0.30	3
3	Sc		180,715.21	0.57	96.2	Pulse	0.30	3
3	Ge		111,129.65	0.67	93.1	Pulse	0.30	3
3	Ge		167,401.70	0.46	93.3	Pulse	0.30	3
3	Rh		1,830,012.50	0.70	94.0	Pulse	0.30	3
3	Tb		3,271,610.15	0.58	98.3	Pulse	0.30	3

Quantitation Report

File Name	013SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 10:15
Sample Name	STDA
Sample Type	CalBlk
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.000	ug/l	---	6.67	5.263E-06	Pulse	0.25	3
B			1	0.000	ug/l	---	10,149.92	8.008E-03	Pulse	0.15	3
Ca			1	-0.705	ug/l	-101.21	16,468.67	8.592E-03	Pulse	0.10	3
Sr			1	0.000	ug/l	401.04	220.01	8.731E-05	Pulse	0.10	3
Mo			1	0.000	ug/l	-1222.48	56.67	2.251E-05	Pulse	0.10	3
Ag			1	0.000	ug/l	---	10.00	4.051E-06	Pulse	0.10	3
Sn			1	0.236	ug/l	4.06	1,120.08	4.558E-04	Pulse	0.10	3
Sb			1	0.001	ug/l	1916.31	610.03	1.663E-04	Pulse	0.10	3
Ba			1	0.001	ug/l	322.64	46.67	1.268E-05	Pulse	0.10	3
Tl			1	0.000	ug/l	---	50.00	2.151E-05	Pulse	0.10	3
Pb			1	0.000	ug/l	---	226.68	9.764E-05	Pulse	0.10	3
Pb			1	0.000	ug/l	---	253.35	1.090E-04	Pulse	0.10	3
Pb			1	0.000	ug/l	---	893.38	3.848E-04	Pulse	0.10	3
Na			2	0.000	ug/l	---	16,557.10	1.435E-01	Pulse	0.30	3
Mg			2	0.000	ug/l	-10121.42	148.89	1.291E-03	Pulse	0.30	3
Al			2	0.000	ug/l	---	274.45	2.380E-03	Pulse	0.30	3
K			2	-1.665	ug/l	-28.65	8,515.59	7.379E-02	Pulse	0.30	3
Ca			2	-0.596	ug/l	-47.28	96.67	8.373E-04	Pulse	0.30	3
Ti			2	0.000	ug/l	---	1.11	9.562E-06	Pulse	0.30	3
V			2	-0.114	ug/l	-3.99	103.34	8.944E-04	Pulse	0.30	3
Cr			2	0.000	ug/l	-2832.08	454.46	3.939E-03	Pulse	0.30	3
Mn			2	-0.001	ug/l	-480.69	47.78	4.143E-04	Pulse	0.30	3
Fe			2	0.253	ug/l	27.28	9,459.48	8.194E-02	Pulse	0.30	3
Co			2	0.000	ug/l	---	16.64	1.445E-04	Pulse	0.30	3
Ni			2	-0.038	ug/l	-64.88	362.23	3.136E-03	Pulse	0.30	3
Cu			2	-0.277	ug/l	-11.00	4,077.21	3.533E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Zn			2	-0.654	ug/l	-2.59	300.01	2.599E-03	Pulse	0.30	3
As			2	0.000	ug/l	---	8.67	7.495E-05	Pulse	1.00	3
Cd			2	0.000	ug/l	2229.99	2.21	3.645E-06	Pulse	0.30	3
Sn			2	0.164	ug/l	5.63	465.57	7.689E-04	Pulse	0.30	3
Se			3	0.000	ug/l	---	5.93	3.333E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,267,501.11	0.70	100.0	Pulse	0.10	3
1	Sc		1,916,838.62	2.02	100.0	Pulse	0.10	3
1	Ge		356,536.91	2.63	100.0	Pulse	0.10	3
1	Ge		492,513.20	2.44	100.0	Pulse	0.10	3
1	Rh		2,516,527.46	2.78	100.0	Pulse	0.10	3
1	In		2,454,842.18	2.04	100.0	Pulse	0.10	3
1	Tb		3,670,076.72	2.61	100.0	Pulse	0.10	3
1	Ho		368,792.87	2.57	100.0	Pulse	0.10	3
1	Bi		2,315,502.67	2.28	100.0	Pulse	0.10	3
2	Sc		115,419.12	0.82	100.0	Pulse	0.30	3
2	Ge		61,264.42	1.36	100.0	Pulse	0.30	3
2	Ge		93,588.69	0.12	100.0	Pulse	0.30	3
2	Rh		1,706,777.47	0.78	100.0	Pulse	0.30	3
2	In		605,420.60	0.58	100.0	Pulse	0.30	3
2	Tb		2,275,863.45	0.56	100.0	Pulse	0.30	3
2	Ho		226,053.81	0.80	100.0	Pulse	0.30	3
2	Bi		1,550,052.23	0.88	100.0	Pulse	0.30	3
3	Sc		187,722.45	0.36	100.0	Pulse	0.30	3
3	Ge		117,374.14	0.43	100.0	Pulse	0.30	3
3	Ge		178,060.75	1.12	100.0	Pulse	0.30	3
3	Rh		1,938,785.97	0.56	100.0	Pulse	0.30	3
3	Tb		3,319,110.36	0.63	100.0	Pulse	0.30	3

Quantitation Report

File Name 014SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 10:21
Sample Name ICVA
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	56.036	ug/l	1.30	343,012.35	2.617E-01	Pulse	0.25	3
B			1	116.042	ug/l	1.21	541,111.04	4.128E-01	Pulse	0.15	3
Ca			1	5415.003	ug/l	0.17	3,431,746.41	1.722E+00	Pulse	0.10	3
Sr			1	58.056	ug/l	1.16	1,715,111.75	6.733E-01	Pulse	0.10	3
Mo			1	57.803	ug/l	1.46	343,755.16	1.350E-01	Pulse	0.10	3
Ag			1	56.874	ug/l	1.08	842,376.00	3.312E-01	Pulse	0.10	3
Sn			1	57.358	ug/l	0.22	533,582.66	2.098E-01	Pulse	0.10	3
Sb			1	61.487	ug/l	0.65	658,492.75	1.725E-01	Pulse	0.10	3
Ba			1	58.388	ug/l	1.23	252,722.25	6.623E-02	Pulse	0.10	3
Tl			1	59.951	ug/l	0.73	1,777,441.33	7.568E-01	Pulse	0.10	3
Pb			1	58.269	ug/l	0.46	609,106.20	2.594E-01	Pulse	0.10	3
Pb			1	55.033	ug/l	0.31	507,496.27	2.161E-01	Pulse	0.10	3
Pb			1	56.675	ug/l	0.68	2,385,582.25	1.016E+00	Pulse	0.10	3
Na			2	5279.331	ug/l	0.94	6,053,926.84	5.106E+01	Analog	0.30	3
Mg			2	5571.528	ug/l	0.39	2,974,091.27	2.509E+01	Pulse	0.30	3
Al			2	5772.440	ug/l	0.40	1,026,740.86	8.660E+00	Pulse	0.30	3
K			2	5428.846	ug/l	0.15	1,809,116.87	1.526E+01	Pulse	0.30	3
Ca			2	5753.963	ug/l	0.99	105,355.65	8.887E-01	Pulse	0.30	3
Ti			2	58.438	ug/l	0.74	8,127.62	6.855E-02	Pulse	0.30	3
V			2	57.099	ug/l	1.84	251,971.43	2.125E+00	Pulse	0.30	3
Cr			2	55.399	ug/l	0.41	326,191.63	2.751E+00	Pulse	0.30	3
Mn			2	57.029	ug/l	1.15	177,063.52	1.493E+00	Pulse	0.30	3
Fe			2	5408.193	ug/l	1.29	24,960,507.34	2.105E+02	Analog	0.30	3
Co			2	55.216	ug/l	1.07	507,804.69	4.283E+00	Pulse	0.30	3
Ni			2	54.278	ug/l	1.49	135,324.58	1.141E+00	Pulse	0.30	3
Cu			2	54.131	ug/l	1.21	372,056.58	3.138E+00	Pulse	0.30	3
Zn			2	55.671	ug/l	0.48	56,774.48	4.789E-01	Pulse	0.30	3
As			2	59.171	ug/l	0.80	28,657.68	2.417E-01	Pulse	1.00	3
Cd			2	56.567	ug/l	1.40	82,354.90	1.352E-01	Pulse	0.30	3
Sn			2	57.863	ug/l	1.67	162,212.11	2.663E-01	Pulse	0.30	3
Se			3	267.891	ug/l	0.40	42,945.90	2.462E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,310,769.45	0.77	103.4	Pulse	0.10	3
1	Sc		1,993,279.03	2.33	104.0	Pulse	0.10	3
1	Ge		370,829.08	2.85	104.0	Pulse	0.10	3

Quantitation Report

1	Ge		515,962.09	3.03	104.8	Pulse	0.10	3
1	Rh		2,548,006.32	3.87	101.3	Pulse	0.10	3
1	In		2,543,703.28	3.60	103.6	Pulse	0.10	3
1	Tb		3,815,927.13	3.26	104.0	Pulse	0.10	3
1	Ho		383,961.11	3.69	104.1	Pulse	0.10	3
1	Bi		2,348,550.07	3.55	101.4	Pulse	0.10	3
2	Sc		118,558.64	0.74	102.7	Pulse	0.30	3
2	Ge		62,714.18	1.35	102.4	Pulse	0.30	3
2	Ge		95,340.76	0.43	101.9	Pulse	0.30	3
2	Rh		1,703,621.53	0.53	99.8	Pulse	0.30	3
2	In		609,156.47	1.12	100.6	Pulse	0.30	3
2	Tb		2,314,097.20	0.34	101.7	Pulse	0.30	3
2	Ho		234,025.52	0.73	103.5	Pulse	0.30	3
2	Bi		1,561,669.45	0.70	100.7	Pulse	0.30	3
3	Sc		189,004.23	0.70	100.7	Pulse	0.30	3
3	Ge		116,873.03	0.15	99.6	Pulse	0.30	3
3	Ge		174,433.42	0.37	98.0	Pulse	0.30	3
3	Rh		1,899,168.39	0.08	98.0	Pulse	0.30	3
3	Tb		3,335,093.90	0.61	100.5	Pulse	0.30	3

Quantitation Report

File Name 015SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 10:25
Sample Name ICVA
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	55.830	ug/l	1.91	336,082.63	2.607E-01	Pulse	0.25	3
B			1	117.837	ug/l	1.28	540,193.97	4.191E-01	Pulse	0.15	3
Ca			1	5439.822	ug/l	0.45	3,372,819.01	1.730E+00	Pulse	0.10	3
Sr			1	58.368	ug/l	0.08	1,698,970.13	6.769E-01	Pulse	0.10	3
Mo			1	57.815	ug/l	0.82	338,814.53	1.350E-01	Pulse	0.10	3
Ag			1	57.612	ug/l	0.11	835,743.30	3.355E-01	Pulse	0.10	3
Sn			1	57.663	ug/l	1.02	525,342.53	2.109E-01	Pulse	0.10	3
Sb			1	61.258	ug/l	0.92	652,659.85	1.719E-01	Pulse	0.10	3
Ba			1	58.171	ug/l	1.43	250,485.10	6.599E-02	Pulse	0.10	3
Tl			1	60.436	ug/l	0.77	1,771,900.44	7.629E-01	Pulse	0.10	3
Pb			1	58.482	ug/l	0.77	604,684.26	2.603E-01	Pulse	0.10	3
Pb			1	55.410	ug/l	0.74	505,299.65	2.176E-01	Pulse	0.10	3
Pb			1	56.844	ug/l	0.97	2,366,351.13	1.019E+00	Pulse	0.10	3
Na			2	5316.506	ug/l	0.34	5,989,716.01	5.142E+01	Analog	0.30	3
Mg			2	5598.916	ug/l	0.19	2,936,356.62	2.521E+01	Pulse	0.30	3
Al			2	5841.874	ug/l	0.20	1,020,891.28	8.765E+00	Pulse	0.30	3
K			2	5474.941	ug/l	0.31	1,792,386.46	1.539E+01	Pulse	0.30	3
Ca			2	5782.504	ug/l	0.84	104,024.92	8.931E-01	Pulse	0.30	3
Ti			2	56.195	ug/l	1.60	7,678.52	6.592E-02	Pulse	0.30	3
V			2	57.697	ug/l	0.59	250,151.98	2.148E+00	Pulse	0.30	3
Cr			2	55.728	ug/l	0.92	322,369.76	2.768E+00	Pulse	0.30	3
Mn			2	57.232	ug/l	0.46	174,577.45	1.499E+00	Pulse	0.30	3
Fe			2	5462.920	ug/l	0.36	24,771,476.24	2.127E+02	Analog	0.30	3
Co			2	55.871	ug/l	0.98	504,823.13	4.334E+00	Pulse	0.30	3
Ni			2	55.356	ug/l	1.48	135,584.55	1.164E+00	Pulse	0.30	3
Cu			2	54.474	ug/l	1.08	367,814.42	3.158E+00	Pulse	0.30	3
Zn			2	56.028	ug/l	0.13	56,129.98	4.819E-01	Pulse	0.30	3
As			2	59.858	ug/l	0.62	28,482.73	2.445E-01	Pulse	1.00	3
Cd			2	56.155	ug/l	0.47	81,057.19	1.342E-01	Pulse	0.30	3
Sn			2	58.561	ug/l	0.98	162,771.90	2.695E-01	Pulse	0.30	3
Se			3	264.446	ug/l	0.96	42,492.20	2.430E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,289,048.40	0.20	101.7	Pulse	0.10	3
1	Sc		1,950,108.83	1.25	101.7	Pulse	0.10	3
1	Ge		365,692.12	2.37	102.6	Pulse	0.10	3

Quantitation Report

1	Ge		506,972.91	1.94	102.9	Pulse	0.10	3
1	Rh		2,509,789.18	2.19	99.7	Pulse	0.10	3
1	In		2,490,731.59	2.00	101.5	Pulse	0.10	3
1	Tb		3,796,224.21	2.07	103.4	Pulse	0.10	3
1	Ho		381,822.51	2.85	103.5	Pulse	0.10	3
1	Bi		2,322,664.92	3.05	100.3	Pulse	0.10	3
2	Sc		116,479.57	0.41	100.9	Pulse	0.30	3
2	Ge		62,416.67	1.31	101.9	Pulse	0.30	3
2	Ge		94,672.51	0.73	101.2	Pulse	0.30	3
2	Rh		1,689,878.02	0.22	99.0	Pulse	0.30	3
2	In		603,902.09	0.45	99.7	Pulse	0.30	3
2	Tb		2,309,143.03	0.20	101.5	Pulse	0.30	3
2	Ho		230,593.00	0.76	102.0	Pulse	0.30	3
2	Bi		1,545,767.96	0.72	99.7	Pulse	0.30	3
3	Sc		187,147.75	0.49	99.7	Pulse	0.30	3
3	Ge		114,864.49	0.53	97.9	Pulse	0.30	3
3	Ge		174,845.56	0.67	98.2	Pulse	0.30	3
3	Rh		1,881,892.91	0.53	97.1	Pulse	0.30	3
3	Tb		3,323,899.66	0.56	100.1	Pulse	0.30	3

Quantitation Report

File Name 016SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 10:31
Sample Name ICV
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.003	ug/l	43.80	25.33	2.124E-05	Pulse	0.25	3
B			1	3.042	ug/l	0.98	22,212.61	1.862E-02	Pulse	0.15	3
Ca			1	4.123	ug/l	23.64	18,283.97	1.012E-02	Pulse	0.10	3
Sr			1	0.012	ug/l	16.45	533.36	2.219E-04	Pulse	0.10	3
Mo			1	0.130	ug/l	15.43	786.71	3.266E-04	Pulse	0.10	3
Ag			1	0.025	ug/l	13.06	356.68	1.504E-04	Pulse	0.10	3
Sn			1	1.849	ug/l	2.62	15,114.43	6.367E-03	Pulse	0.10	3
Sb			1	-0.016	ug/l	-46.90	420.02	1.184E-04	Pulse	0.10	3
Ba			1	0.023	ug/l	29.03	136.67	3.842E-05	Pulse	0.10	3
Tl			1	0.012	ug/l	25.60	390.02	1.744E-04	Pulse	0.10	3
Pb			1	0.032	ug/l	53.52	533.37	2.385E-04	Pulse	0.10	3
Pb			1	0.019	ug/l	6.96	413.36	1.845E-04	Pulse	0.10	3
Pb			1	0.030	ug/l	15.31	2,063.47	9.217E-04	Pulse	0.10	3
Na			2	2.739	ug/l	3.83	19,068.58	1.699E-01	Pulse	0.30	3
Mg			2	0.689	ug/l	24.91	493.35	4.395E-03	Pulse	0.30	3
Al			2	62.732	ug/l	2.89	10,829.13	9.647E-02	Pulse	0.30	3
K			2	-1.689	ug/l	-23.84	8,274.35	7.372E-02	Pulse	0.30	3
Ca			2	3.916	ug/l	26.17	172.23	1.533E-03	Pulse	0.30	3
Ti			2	0.017	ug/l	147.83	3.33	2.988E-05	Pulse	0.30	3
V			2	-0.108	ug/l	-6.67	128.89	1.147E-03	Pulse	0.30	3
Cr			2	1.861	ug/l	0.75	10,804.73	9.626E-02	Pulse	0.30	3
Mn			2	0.018	ug/l	37.73	100.00	8.919E-04	Pulse	0.30	3
Fe			2	17.740	ug/l	2.99	85,571.97	7.625E-01	Pulse	0.30	3
Co			2	0.003	ug/l	65.23	43.10	3.839E-04	Pulse	0.30	3
Ni			2	-0.013	ug/l	-127.23	411.12	3.664E-03	Pulse	0.30	3
Cu			2	-0.348	ug/l	-5.95	3,512.63	3.129E-02	Pulse	0.30	3
Zn			2	-0.108	ug/l	-46.94	810.03	7.215E-03	Pulse	0.30	3
As			2	0.039	ug/l	66.01	26.00	2.322E-04	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.019	ug/l	56.83	28.81	4.847E-05	Pulse	0.30	3
Sn			2	1.562	ug/l	3.71	4,290.64	7.206E-03	Pulse	0.30	3
Se			3	0.112	ug/l	9.53	22.13	1.362E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,193,022.88	0.23	94.1	Pulse	0.10	3
1	Sc		1,806,617.78	1.58	94.2	Pulse	0.10	3
1	Ge		341,845.14	2.26	95.9	Pulse	0.10	3
1	Ge		472,749.66	2.06	96.0	Pulse	0.10	3
1	Rh		2,406,553.66	1.75	95.6	Pulse	0.10	3
1	In		2,374,673.88	2.16	96.7	Pulse	0.10	3
1	Tb		3,546,805.99	2.51	96.6	Pulse	0.10	3
1	Ho		354,893.85	1.97	96.2	Pulse	0.10	3
1	Bi		2,240,284.60	1.81	96.8	Pulse	0.10	3
2	Sc		112,248.59	0.95	97.3	Pulse	0.30	3
2	Ge		60,286.22	1.16	98.4	Pulse	0.30	3
2	Ge		90,729.09	0.65	96.9	Pulse	0.30	3
2	Rh		1,627,518.72	0.26	95.4	Pulse	0.30	3
2	In		595,541.26	0.66	98.4	Pulse	0.30	3
2	Tb		2,197,292.83	0.33	96.5	Pulse	0.30	3
2	Ho		219,144.14	0.80	96.9	Pulse	0.30	3
2	Bi		1,506,179.56	0.74	97.2	Pulse	0.30	3
3	Sc		172,605.87	0.13	91.9	Pulse	0.30	3
3	Ge		107,046.17	0.97	91.2	Pulse	0.30	3
3	Ge		162,482.49	0.39	91.3	Pulse	0.30	3
3	Rh		1,804,484.51	1.07	93.1	Pulse	0.30	3
3	Tb		3,107,015.57	0.44	93.6	Pulse	0.30	3

Quantitation Report

File Name	017_CCB.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 10:41
Sample Name	ICB
Sample Type	CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.000	ug/l	-236.09	4.00	3.036E-06	Pulse	0.25	3
B			1	0.853	ug/l	12.12	14,453.05	1.098E-02	Pulse	0.15	3
Ca			1	-1.067	ug/l	-24.78	16,562.27	8.478E-03	Pulse	0.10	3
Sr			1	0.003	ug/l	28.02	310.01	1.220E-04	Pulse	0.10	3
Mo			1	0.005	ug/l	48.86	86.67	3.401E-05	Pulse	0.10	3
Ag			1	0.004	ug/l	22.60	73.33	2.949E-05	Pulse	0.10	3
Sn			1	0.298	ug/l	9.09	1,686.89	6.805E-04	Pulse	0.10	3
Sb			1	-0.020	ug/l	-25.40	400.02	1.080E-04	Pulse	0.10	3
Ba			1	-0.005	ug/l	-70.09	23.33	6.211E-06	Pulse	0.10	3
Tl			1	0.000	ug/l	-40163.27	50.00	2.147E-05	Pulse	0.10	3
Pb			1	0.003	ug/l	140.88	260.01	1.123E-04	Pulse	0.10	3
Pb			1	-0.004	ug/l	-170.32	216.68	9.425E-05	Pulse	0.10	3
Pb			1	0.004	ug/l	71.72	1,056.72	4.573E-04	Pulse	0.10	3
Na			2	-0.290	ug/l	-82.03	16,670.54	1.407E-01	Pulse	0.30	3
Mg			2	-0.087	ug/l	-54.27	106.67	9.002E-04	Pulse	0.30	3
Al			2	-0.912	ug/l	-17.57	120.00	1.012E-03	Pulse	0.30	3
K			2	-1.828	ug/l	-34.77	8,691.22	7.333E-02	Pulse	0.30	3
Ca			2	-1.523	ug/l	-97.97	82.22	6.943E-04	Pulse	0.30	3
Ti			2	0.000	ug/l	-7709.78	1.11	9.352E-06	Pulse	0.30	3
V			2	-0.113	ug/l	-1.29	110.00	9.284E-04	Pulse	0.30	3
Cr			2	0.004	ug/l	226.15	493.35	4.161E-03	Pulse	0.30	3
Mn			2	-0.001	ug/l	-472.79	47.78	4.028E-04	Pulse	0.30	3
Fe			2	-0.190	ug/l	-17.61	7,670.76	6.472E-02	Pulse	0.30	3
Co			2	0.000	ug/l	210.11	21.09	1.778E-04	Pulse	0.30	3
Ni			2	-0.061	ug/l	-9.75	315.56	2.662E-03	Pulse	0.30	3
Cu			2	-0.263	ug/l	-1.62	4,279.50	3.611E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Zn			2	-0.652	ug/l	-6.23	310.01	2.616E-03	Pulse	0.30	3
As			2	-0.004	ug/l	-52.23	7.00	5.905E-05	Pulse	1.00	3
Cd			2	0.002	ug/l	115.01	5.55	8.966E-06	Pulse	0.30	3
Sn			2	0.192	ug/l	11.28	557.79	8.988E-04	Pulse	0.30	3
Se			3	0.008	ug/l	53.88	7.20	4.040E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,315,542.40	0.93	103.8	Pulse	0.10	3
1	Sc		1,953,646.69	1.72	101.9	Pulse	0.10	3
1	Ge		359,792.72	2.30	100.9	Pulse	0.10	3
1	Ge		500,952.86	2.19	101.7	Pulse	0.10	3
1	Rh		2,542,095.69	2.22	101.0	Pulse	0.10	3
1	In		2,483,544.21	1.99	101.2	Pulse	0.10	3
1	Tb		3,710,806.92	3.09	101.1	Pulse	0.10	3
1	Ho		369,224.11	3.85	100.1	Pulse	0.10	3
1	Bi		2,306,681.74	3.02	99.6	Pulse	0.10	3
2	Sc		118,518.32	0.61	102.7	Pulse	0.30	3
2	Ge		63,480.49	1.00	103.6	Pulse	0.30	3
2	Ge		95,613.46	0.90	102.2	Pulse	0.30	3
2	Rh		1,740,333.78	1.00	102.0	Pulse	0.30	3
2	In		620,542.04	1.18	102.5	Pulse	0.30	3
2	Tb		2,286,974.22	1.07	100.5	Pulse	0.30	3
2	Ho		229,000.22	1.01	101.3	Pulse	0.30	3
2	Bi		1,568,862.30	1.24	101.2	Pulse	0.30	3
3	Sc		191,674.40	1.11	102.1	Pulse	0.30	3
3	Ge		118,092.85	1.02	100.6	Pulse	0.30	3
3	Ge		178,143.66	0.70	100.0	Pulse	0.30	3
3	Rh		1,950,732.77	0.81	100.6	Pulse	0.30	3
3	Tb		3,292,301.19	0.32	99.2	Pulse	0.30	3

Quantitation Report

File Name 018_CCV.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 10:46
Sample Name CCVA
Sample Type CCV
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	51.562	ug/l	0.17	319,855.31	2.408E-01	Pulse	0.25	3
B			1	101.434	ug/l	1.04	480,662.27	3.618E-01	Pulse	0.15	3
Ca			1	4957.580	ug/l	0.45	3,155,667.56	1.577E+00	Pulse	0.10	3
Sr			1	52.514	ug/l	0.68	1,566,065.66	6.090E-01	Pulse	0.10	3
Mo			1	51.219	ug/l	0.70	307,552.43	1.196E-01	Pulse	0.10	3
Ag			1	50.692	ug/l	0.15	748,281.63	2.952E-01	Pulse	0.10	3
Sn			1	50.725	ug/l	0.79	470,016.91	1.855E-01	Pulse	0.10	3
Sb			1	52.462	ug/l	0.13	567,553.52	1.472E-01	Pulse	0.10	3
Ba			1	52.320	ug/l	1.34	228,751.10	5.935E-02	Pulse	0.10	3
Tl			1	52.350	ug/l	0.33	1,562,286.91	6.609E-01	Pulse	0.10	3
Pb			1	51.541	ug/l	1.05	542,381.49	2.294E-01	Pulse	0.10	3
Pb			1	51.622	ug/l	0.24	479,170.68	2.027E-01	Pulse	0.10	3
Pb			1	51.524	ug/l	0.43	2,183,306.35	9.236E-01	Pulse	0.10	3
Na			2	5017.579	ug/l	1.52	5,815,024.77	4.854E+01	Analog	0.30	3
Mg			2	4945.546	ug/l	1.20	2,667,713.58	2.227E+01	Pulse	0.30	3
Al			2	5093.722	ug/l	1.15	915,576.94	7.642E+00	Pulse	0.30	3
K			2	5113.559	ug/l	1.34	1,722,471.08	1.438E+01	Pulse	0.30	3
Ca			2	5322.390	ug/l	1.27	98,489.71	8.221E-01	Pulse	0.30	3
Ti			2	51.421	ug/l	2.44	7,228.33	6.032E-02	Pulse	0.30	3
V			2	51.767	ug/l	0.08	230,930.56	1.927E+00	Pulse	0.30	3
Cr			2	50.827	ug/l	0.90	302,462.56	2.525E+00	Pulse	0.30	3
Mn			2	51.566	ug/l	0.86	161,797.36	1.350E+00	Pulse	0.30	3
Fe			2	5082.490	ug/l	2.07	23,703,208.50	1.979E+02	Analog	0.30	3
Co			2	50.504	ug/l	1.03	469,377.58	3.918E+00	Pulse	0.30	3
Ni			2	50.383	ug/l	0.93	126,973.69	1.060E+00	Pulse	0.30	3
Cu			2	50.054	ug/l	1.40	348,123.39	2.906E+00	Pulse	0.30	3
Zn			2	50.043	ug/l	0.58	51,672.14	4.313E-01	Pulse	0.30	3
As			2	50.901	ug/l	0.61	24,913.92	2.079E-01	Pulse	1.00	3
Cd			2	51.426	ug/l	0.68	76,368.07	1.229E-01	Pulse	0.30	3
Sn			2	50.661	ug/l	0.82	144,866.64	2.332E-01	Pulse	0.30	3
Se			3	208.771	ug/l	0.73	33,907.94	1.919E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,328,380.38	1.57	104.8	Pulse	0.10	3
1	Sc		2,001,116.43	2.40	104.4	Pulse	0.10	3
1	Ge		371,006.64	3.38	104.1	Pulse	0.10	3

Quantitation Report

1	Ge		514,561.07	2.19	104.5	Pulse	0.10	3
1	Rh		2,571,596.47	2.54	102.2	Pulse	0.10	3
1	In		2,534,487.79	2.96	103.2	Pulse	0.10	3
1	Tb		3,854,665.57	2.65	105.0	Pulse	0.10	3
1	Ho		384,184.24	2.43	104.2	Pulse	0.10	3
1	Bi		2,363,915.43	2.57	102.1	Pulse	0.10	3
2	Sc		119,812.92	1.10	103.8	Pulse	0.30	3
2	Ge		63,886.62	0.99	104.3	Pulse	0.30	3
2	Ge		97,770.58	1.15	104.5	Pulse	0.30	3
2	Rh		1,726,095.10	0.37	101.1	Pulse	0.30	3
2	In		621,291.91	0.62	102.6	Pulse	0.30	3
2	Tb		2,339,953.38	0.55	102.8	Pulse	0.30	3
2	Ho		232,731.18	1.43	103.0	Pulse	0.30	3
2	Bi		1,552,959.28	1.27	100.2	Pulse	0.30	3
3	Sc		191,726.35	0.62	102.1	Pulse	0.30	3
3	Ge		118,234.63	0.70	100.7	Pulse	0.30	3
3	Ge		176,723.20	0.59	99.2	Pulse	0.30	3
3	Rh		1,905,645.48	0.44	98.3	Pulse	0.30	3
3	Tb		3,330,596.40	0.35	100.3	Pulse	0.30	3

Quantitation Report

File Name	019_CCB.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 10:51
Sample Name	CCB
Sample Type	CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.004	ug/l	100.70	33.33	2.500E-05	Pulse	0.25	3
B			1	2.241	ug/l	3.61	21,051.12	1.583E-02	Pulse	0.15	3
Ca			1	-0.939	ug/l	-149.28	16,688.88	8.518E-03	Pulse	0.10	3
Sr			1	0.012	ug/l	40.84	583.36	2.261E-04	Pulse	0.10	3
Mo			1	0.146	ug/l	13.20	940.07	3.643E-04	Pulse	0.10	3
Ag			1	0.011	ug/l	28.59	173.34	6.838E-05	Pulse	0.10	3
Sn			1	0.434	ug/l	2.36	2,987.06	1.178E-03	Pulse	0.10	3
Sb			1	0.114	ug/l	25.47	1,823.50	4.842E-04	Pulse	0.10	3
Ba			1	0.006	ug/l	130.56	70.00	1.854E-05	Pulse	0.10	3
Tl			1	0.011	ug/l	38.96	380.02	1.613E-04	Pulse	0.10	3
Pb			1	0.017	ug/l	17.63	403.36	1.718E-04	Pulse	0.10	3
Pb			1	0.020	ug/l	10.43	440.02	1.875E-04	Pulse	0.10	3
Pb			1	0.020	ug/l	6.70	1,726.78	7.360E-04	Pulse	0.10	3
Na			2	-0.263	ug/l	-20.94	16,478.15	1.409E-01	Pulse	0.30	3
Mg			2	0.114	ug/l	24.44	211.12	1.806E-03	Pulse	0.30	3
Al			2	0.226	ug/l	55.41	317.78	2.718E-03	Pulse	0.30	3
K			2	-1.523	ug/l	-11.81	8,674.56	7.418E-02	Pulse	0.30	3
Ca			2	-0.728	ug/l	-49.04	95.56	8.170E-04	Pulse	0.30	3
Ti			2	0.024	ug/l	58.84	4.44	3.806E-05	Pulse	0.30	3
V			2	-0.109	ug/l	-4.53	127.78	1.092E-03	Pulse	0.30	3
Cr			2	0.025	ug/l	43.11	606.69	5.189E-03	Pulse	0.30	3
Mn			2	0.008	ug/l	56.26	74.45	6.366E-04	Pulse	0.30	3
Fe			2	1.803	ug/l	2.35	16,638.50	1.423E-01	Pulse	0.30	3
Co			2	0.003	ug/l	55.45	44.40	3.801E-04	Pulse	0.30	3
Ni			2	-0.051	ug/l	-34.69	335.56	2.870E-03	Pulse	0.30	3
Cu			2	-0.297	ug/l	-3.71	3,999.42	3.420E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Zn			2	-0.647	ug/l	-2.80	311.12	2.660E-03	Pulse	0.30	3
As			2	0.015	ug/l	12.95	16.00	1.368E-04	Pulse	1.00	3
Cd			2	0.002	ug/l	57.46	5.46	8.887E-06	Pulse	0.30	3
Sn			2	0.430	ug/l	10.80	1,223.40	1.994E-03	Pulse	0.30	3
Se			3	0.100	ug/l	12.19	22.07	1.250E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,330,234.33	0.93	104.9	Pulse	0.10	3
1	Sc		1,960,466.22	1.84	102.3	Pulse	0.10	3
1	Ge		366,275.46	2.00	102.7	Pulse	0.10	3
1	Ge		504,550.41	2.44	102.4	Pulse	0.10	3
1	Rh		2,577,959.28	1.97	102.4	Pulse	0.10	3
1	In		2,534,025.37	2.16	103.2	Pulse	0.10	3
1	Tb		3,755,275.46	2.59	102.3	Pulse	0.10	3
1	Ho		376,640.14	2.34	102.1	Pulse	0.10	3
1	Bi		2,345,260.17	2.10	101.3	Pulse	0.10	3
2	Sc		116,936.29	0.61	101.3	Pulse	0.30	3
2	Ge		62,404.18	1.01	101.9	Pulse	0.30	3
2	Ge		95,518.62	0.35	102.1	Pulse	0.30	3
2	Rh		1,727,639.20	0.33	101.2	Pulse	0.30	3
2	In		613,280.26	0.90	101.3	Pulse	0.30	3
2	Tb		2,283,663.38	0.26	100.3	Pulse	0.30	3
2	Ho		228,208.58	0.43	101.0	Pulse	0.30	3
2	Bi		1,559,564.94	0.23	100.6	Pulse	0.30	3
3	Sc		190,430.11	0.27	101.4	Pulse	0.30	3
3	Ge		116,867.08	1.36	99.6	Pulse	0.30	3
3	Ge		176,501.28	0.39	99.1	Pulse	0.30	3
3	Rh		1,943,214.50	0.50	100.2	Pulse	0.30	3
3	Tb		3,311,719.94	0.69	99.8	Pulse	0.30	3

Quantitation Report

File Name 020SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 10:56
Sample Name jc99565-4und
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.041	ug/l	13.60	238.67	1.982E-04	Pulse	0.25	3
B			1	1.234	ug/l	9.92	14,826.77	1.231E-02	Pulse	0.15	3
Ca			1	17.645	ug/l	12.27	26,341.57	1.440E-02	Pulse	0.10	3
Sr			1	0.408	ug/l	6.52	11,701.31	4.811E-03	Pulse	0.10	3
Mo			1	0.061	ug/l	9.54	403.36	1.660E-04	Pulse	0.10	3
Ag			1	0.002	ug/l	175.76	36.67	1.565E-05	Pulse	0.10	3
Sn			1	0.179	ug/l	3.79	586.70	2.462E-04	Pulse	0.10	3
Sb			1	-0.026	ug/l	-8.98	323.35	9.237E-05	Pulse	0.10	3
Ba			1	0.831	ug/l	9.32	3,347.15	9.544E-04	Pulse	0.10	3
Tl			1	0.022	ug/l	5.35	670.04	3.003E-04	Pulse	0.10	3
Pb			1	0.009	ug/l	57.04	306.68	1.371E-04	Pulse	0.10	3
Pb			1	0.002	ug/l	199.85	263.35	1.179E-04	Pulse	0.10	3
Pb			1	0.008	ug/l	29.80	1,186.73	5.309E-04	Pulse	0.10	3
Na			2	7.137	ug/l	4.71	23,900.29	2.123E-01	Pulse	0.30	3
Mg			2	0.984	ug/l	9.35	644.47	5.723E-03	Pulse	0.30	3
Al			2	5.631	ug/l	2.44	1,218.95	1.083E-02	Pulse	0.30	3
K			2	9.800	ug/l	4.28	11,916.57	1.058E-01	Pulse	0.30	3
Ca			2	20.211	ug/l	7.27	455.57	4.047E-03	Pulse	0.30	3
Ti			2	0.026	ug/l	151.74	4.44	3.955E-05	Pulse	0.30	3
V			2	-0.129	ug/l	-1.89	40.00	3.556E-04	Pulse	0.30	3
Cr			2	0.003	ug/l	208.67	462.23	4.104E-03	Pulse	0.30	3
Mn			2	0.047	ug/l	15.38	186.67	1.659E-03	Pulse	0.30	3
Fe			2	-1.300	ug/l	-2.54	2,422.43	2.151E-02	Pulse	0.30	3
Co			2	0.011	ug/l	16.06	114.44	1.016E-03	Pulse	0.30	3
Ni			2	0.159	ug/l	15.57	816.70	7.256E-03	Pulse	0.30	3
Cu			2	21.670	ug/l	0.81	144,895.13	1.287E+00	Pulse	0.30	3
Zn			2	8.109	ug/l	4.09	8,635.71	7.669E-02	Pulse	0.30	3
As			2	0.013	ug/l	19.25	14.33	1.273E-04	Pulse	1.00	3
Cd			2	0.002	ug/l	148.86	5.52	9.219E-06	Pulse	0.30	3
Sn			2	0.065	ug/l	13.30	187.78	3.135E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	0.025	ug/l	56.77	8.93	5.609E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,204,057.55	0.70	95.0	Pulse	0.10	3
1	Sc		1,829,994.40	0.80	95.5	Pulse	0.10	3
1	Ge		343,996.39	2.14	96.5	Pulse	0.10	3
1	Ge		473,787.29	1.60	96.2	Pulse	0.10	3
1	Rh		2,430,896.11	1.36	96.6	Pulse	0.10	3
1	In		2,386,233.95	2.24	97.2	Pulse	0.10	3
1	Tb		3,504,237.76	2.21	95.5	Pulse	0.10	3
1	Ho		350,541.19	1.94	95.1	Pulse	0.10	3
1	Bi		2,233,018.45	1.98	96.4	Pulse	0.10	3
2	Sc		112,585.27	0.64	97.5	Pulse	0.30	3
2	Ge		60,285.29	1.16	98.4	Pulse	0.30	3
2	Ge		91,049.90	1.39	97.3	Pulse	0.30	3
2	Rh		1,625,034.42	0.66	95.2	Pulse	0.30	3
2	In		598,804.36	0.23	98.9	Pulse	0.30	3
2	Tb		2,181,895.33	0.79	95.9	Pulse	0.30	3
2	Ho		217,708.83	0.20	96.3	Pulse	0.30	3
2	Bi		1,492,843.24	0.78	96.3	Pulse	0.30	3
3	Sc		171,155.21	0.97	91.2	Pulse	0.30	3
3	Ge		104,858.69	0.38	89.3	Pulse	0.30	3
3	Ge		159,091.04	1.32	89.3	Pulse	0.30	3
3	Rh		1,779,586.66	0.98	91.8	Pulse	0.30	3
3	Tb		3,072,204.53	1.07	92.6	Pulse	0.30	3

Quantitation Report

File Name 021LCCV.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 11:01
Sample Name CRI
Sample Type LLCCV
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.445	ug/l	3.86	2,805.60	2.083E-03	Pulse	0.25	3
B			1	22.934	ug/l	1.46	118,539.70	8.801E-02	Pulse	0.15	3
Ca			1	247.051	ug/l	1.46	172,114.62	8.696E-02	Pulse	0.10	3
Sr			1	4.820	ug/l	0.92	144,844.00	5.598E-02	Pulse	0.10	3
Mo			1	1.021	ug/l	5.84	6,224.79	2.407E-03	Pulse	0.10	3
Ag			1	0.491	ug/l	2.12	7,258.60	2.861E-03	Pulse	0.10	3
Sn			1	4.962	ug/l	1.55	45,092.05	1.777E-02	Pulse	0.10	3
Sb			1	2.061	ug/l	1.76	22,426.57	5.942E-03	Pulse	0.10	3
Ba			1	0.982	ug/l	4.42	4,250.74	1.126E-03	Pulse	0.10	3
Tl			1	0.487	ug/l	1.80	14,517.63	6.163E-03	Pulse	0.10	3
Pb			1	0.480	ug/l	6.74	5,257.77	2.234E-03	Pulse	0.10	3
Pb			1	0.450	ug/l	3.60	4,420.83	1.876E-03	Pulse	0.10	3
Pb			1	0.479	ug/l	2.93	21,123.55	8.970E-03	Pulse	0.10	3
Na			2	239.292	ug/l	0.30	288,226.56	2.451E+00	Pulse	0.30	3
Mg			2	248.193	ug/l	0.63	131,532.05	1.119E+00	Pulse	0.30	3
Al			2	24.572	ug/l	2.68	4,612.90	3.923E-02	Pulse	0.30	3
K			2	248.729	ug/l	0.74	90,996.41	7.740E-01	Pulse	0.30	3
Ca			2	271.427	ug/l	4.95	5,033.05	4.281E-02	Pulse	0.30	3
Ti			2	0.999	ug/l	23.23	138.89	1.182E-03	Pulse	0.30	3
V			2	0.832	ug/l	2.59	4,237.26	3.604E-02	Pulse	0.30	3
Cr			2	0.946	ug/l	2.03	5,981.15	5.087E-02	Pulse	0.30	3
Mn			2	0.938	ug/l	3.49	2,938.07	2.499E-02	Pulse	0.30	3
Fe			2	25.071	ug/l	0.44	123,192.18	1.048E+00	Pulse	0.30	3
Co			2	0.465	ug/l	3.73	4,256.93	3.620E-02	Pulse	0.30	3
Ni			2	0.876	ug/l	2.32	2,621.35	2.230E-02	Pulse	0.30	3
Cu			2	1.622	ug/l	2.32	16,886.57	1.436E-01	Pulse	0.30	3
Zn			2	4.597	ug/l	2.31	5,525.43	4.700E-02	Pulse	0.30	3
As			2	0.497	ug/l	5.25	247.33	2.104E-03	Pulse	1.00	3
Cd			2	0.476	ug/l	1.92	698.43	1.140E-03	Pulse	0.30	3
Sn			2	4.984	ug/l	2.64	14,054.59	2.295E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	0.492	ug/l	7.85	86.13	4.856E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,346,825.86	1.05	106.3	Pulse	0.10	3
1	Sc		1,979,485.18	1.92	103.3	Pulse	0.10	3
1	Ge		369,204.48	1.45	103.6	Pulse	0.10	3
1	Ge		507,522.60	1.93	103.0	Pulse	0.10	3
1	Rh		2,587,948.29	2.72	102.8	Pulse	0.10	3
1	In		2,537,841.18	2.70	103.4	Pulse	0.10	3
1	Tb		3,773,284.00	2.83	102.8	Pulse	0.10	3
1	Ho		376,681.00	2.06	102.1	Pulse	0.10	3
1	Bi		2,356,227.20	2.93	101.8	Pulse	0.10	3
2	Sc		117,572.91	0.37	101.9	Pulse	0.30	3
2	Ge		62,620.65	0.31	102.2	Pulse	0.30	3
2	Ge		95,456.11	1.35	102.0	Pulse	0.30	3
2	Rh		1,727,847.15	0.79	101.2	Pulse	0.30	3
2	In		612,506.82	1.32	101.2	Pulse	0.30	3
2	Tb		2,287,297.96	0.82	100.5	Pulse	0.30	3
2	Ho		227,856.51	1.34	100.8	Pulse	0.30	3
2	Bi		1,559,026.05	0.82	100.6	Pulse	0.30	3
3	Sc		189,697.01	0.51	101.1	Pulse	0.30	3
3	Ge		117,446.88	1.27	100.1	Pulse	0.30	3
3	Ge		177,438.00	0.86	99.7	Pulse	0.30	3
3	Rh		1,959,139.92	0.53	101.0	Pulse	0.30	3
3	Tb		3,329,017.02	0.77	100.3	Pulse	0.30	3

Quantitation Report

File Name 022ICSA.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 11:08
Sample Name ICSA
Sample Type ICSA
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.000	ug/l	-1016.37	5.33	4.850E-06	Pulse	0.25	3
B			1	1.129	ug/l	2.24	13,180.95	1.195E-02	Pulse	0.15	3
Ca			1	89788.078	ug/l	1.27	48,030,569.28	2.841E+01	Analog	0.10	3
Sr			1	1970.725	ug/l	2.80	47,140,662.63	2.285E+01	Analog	0.10	3
Mo			1	1997.482	ug/l	2.50	9,618,899.65	4.663E+00	Analog	0.10	3
Ag			1	0.030	ug/l	18.87	350.02	1.784E-04	Pulse	0.10	3
Sn			1	1954.968	ug/l	3.43	14,018,943.12	7.163E+00	Analog	0.10	3
Sb			1	0.129	ug/l	4.03	1,736.83	5.245E-04	Pulse	0.10	3
Ba			1	0.174	ug/l	13.88	693.37	2.096E-04	Pulse	0.10	3
Tl			1	0.004	ug/l	53.18	143.34	7.356E-05	Pulse	0.10	3
Pb			1	0.105	ug/l	10.10	1,093.41	5.642E-04	Pulse	0.10	3
Pb			1	0.087	ug/l	9.56	873.39	4.510E-04	Pulse	0.10	3
Pb			1	0.099	ug/l	6.49	4,173.71	2.154E-03	Pulse	0.10	3
Na			2	83604.284	ug/l	2.17	84,582,474.42	8.065E+02	Analog	0.30	3
Mg			2	85218.169	ug/l	1.50	40,240,225.07	3.837E+02	Analog	0.30	3
Al			2	91185.423	ug/l	2.11	14,343,582.76	1.368E+02	Analog	0.30	3
K			2	91706.399	ug/l	3.01	26,899,308.38	2.565E+02	Analog	0.30	3
Ca			2	94974.815	ug/l	0.75	1,537,029.31	1.465E+01	Pulse	0.30	3
Ti			2	1706.556	ug/l	0.63	209,962.38	2.002E+00	Pulse	0.30	3
V			2	-0.090	ug/l	-17.91	186.67	1.785E-03	Pulse	0.30	3
Cr			2	0.232	ug/l	6.20	1,622.32	1.547E-02	Pulse	0.30	3
Mn			2	0.373	ug/l	5.76	1,070.05	1.020E-02	Pulse	0.30	3
Fe			2	85822.819	ug/l	2.55	350,257,639.41	3.340E+03	Analog	0.30	3
Co			2	0.167	ug/l	9.45	1,376.72	1.314E-02	Pulse	0.30	3
Ni			2	0.483	ug/l	6.54	1,474.53	1.405E-02	Pulse	0.30	3
Cu			2	-0.250	ug/l	-4.08	3,867.17	3.687E-02	Pulse	0.30	3
Zn			2	-0.169	ug/l	-18.73	702.25	6.698E-03	Pulse	0.30	3
As			2	0.048	ug/l	48.94	28.67	2.725E-04	Pulse	1.00	3
Cd			2	-0.181	ug/l	-34.10	-210.62	-4.287E-04	Pulse	0.30	3
Sn			2	1835.421	ug/l	0.84	4,132,912.06	8.447E+00	Pulse	0.30	3
Se			3	0.088	ug/l	5.59	16.93	1.141E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,103,445.18	0.60	87.1	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,690,848.46	1.73	88.2	Pulse	0.10	3
1	Ge		340,472.43	1.65	95.5	Pulse	0.10	3
1	Ge		424,127.67	2.06	86.1	Pulse	0.10	3
1	Rh		2,063,662.99	2.64	82.0	Pulse	0.10	3
1	In		1,958,575.27	3.54	79.8	Pulse	0.10	3
1	Tb		3,312,331.72	2.74	90.3	Pulse	0.10	3
1	Ho		330,852.45	1.92	89.7	Pulse	0.10	3
1	Bi		1,935,505.02	2.70	83.6	Pulse	0.10	3
2	Sc		104,895.83	1.62	90.9	Pulse	0.30	3
2	Ge		57,501.93	0.99	93.9	Pulse	0.30	3
2	Ge		81,694.36	0.71	87.3	Pulse	0.30	3
2	Rh		1,415,296.54	1.37	82.9	Pulse	0.30	3
2	In		489,289.18	1.75	80.8	Pulse	0.30	3
2	Tb		2,066,581.86	1.31	90.8	Pulse	0.30	3
2	Ho		206,486.31	1.21	91.3	Pulse	0.30	3
2	Bi		1,304,849.15	1.44	84.2	Pulse	0.30	3
3	Sc		168,211.45	0.92	89.6	Pulse	0.30	3
3	Ge		103,655.67	0.61	88.3	Pulse	0.30	3
3	Ge		148,471.99	0.78	83.4	Pulse	0.30	3
3	Rh		1,571,846.78	0.47	81.1	Pulse	0.30	3
3	Tb		2,976,482.73	0.20	89.7	Pulse	0.30	3

Quantitation Report

File Name 023ICSB.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 11:13
Sample Name ICSAB
Sample Type ICSB
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.001	ug/l	133.88	9.33	8.335E-06	Pulse	0.25	3
B			1	49.370	ug/l	0.89	201,626.94	1.802E-01	Pulse	0.15	3
Ca			1	89462.755	ug/l	1.89	49,624,707.59	2.831E+01	Analog	0.10	3
Sr			1	2015.663	ug/l	3.18	49,865,042.59	2.337E+01	Analog	0.10	3
Mo			1	2001.365	ug/l	2.72	9,968,161.93	4.672E+00	Analog	0.10	3
Ag			1	20.893	ug/l	1.75	248,014.58	1.217E-01	Pulse	0.10	3
Sn			1	1943.852	ug/l	2.26	14,510,488.12	7.123E+00	Analog	0.10	3
Sb			1	0.144	ug/l	3.93	1,956.86	5.672E-04	Pulse	0.10	3
Ba			1	0.191	ug/l	1.87	786.71	2.280E-04	Pulse	0.10	3
Tl			1	0.003	ug/l	75.05	126.67	6.364E-05	Pulse	0.10	3
Pb			1	0.085	ug/l	10.44	953.40	4.767E-04	Pulse	0.10	3
Pb			1	0.078	ug/l	22.85	830.06	4.159E-04	Pulse	0.10	3
Pb			1	0.090	ug/l	3.33	4,010.38	2.006E-03	Pulse	0.10	3
Na			2	84553.811	ug/l	1.01	86,588,543.23	8.157E+02	Analog	0.30	3
Mg			2	85609.501	ug/l	0.43	40,915,201.71	3.854E+02	Analog	0.30	3
Al			2	90187.798	ug/l	0.59	14,359,549.43	1.353E+02	Analog	0.30	3
K			2	93216.489	ug/l	1.19	27,677,536.12	2.607E+02	Analog	0.30	3
Ca			2	95310.889	ug/l	0.54	1,561,048.51	1.471E+01	Pulse	0.30	3
Ti			2	1724.642	ug/l	0.67	214,739.81	2.023E+00	Pulse	0.30	3
V			2	20.254	ug/l	1.23	80,385.48	7.572E-01	Pulse	0.30	3
Cr			2	19.786	ug/l	0.95	104,580.08	9.852E-01	Pulse	0.30	3
Mn			2	19.987	ug/l	1.99	55,595.29	5.237E-01	Pulse	0.30	3
Fe			2	86358.333	ug/l	0.54	356,761,639.16	3.361E+03	Analog	0.30	3
Co			2	19.081	ug/l	0.67	157,132.87	1.480E+00	Pulse	0.30	3
Ni			2	18.543	ug/l	1.25	41,671.47	3.926E-01	Pulse	0.30	3
Cu			2	17.659	ug/l	0.93	112,337.66	1.058E+00	Pulse	0.30	3
Zn			2	17.115	ug/l	0.48	16,224.80	1.528E-01	Pulse	0.30	3
As			2	20.139	ug/l	1.41	8,738.69	8.232E-02	Pulse	1.00	3
Cd			2	20.079	ug/l	3.35	23,886.93	4.799E-02	Pulse	0.30	3
Sn			2	1906.901	ug/l	5.48	4,367,255.38	8.776E+00	Mix	0.30	3
Se			3	21.048	ug/l	1.55	2,975.07	1.937E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,118,704.75	1.77	88.3	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,753,654.61	2.68	91.5	Pulse	0.10	3
1	Ge		350,925.28	2.44	98.4	Pulse	0.10	3
1	Ge		443,317.32	2.89	90.0	Pulse	0.10	3
1	Rh		2,134,241.37	2.19	84.8	Pulse	0.10	3
1	In		2,038,116.15	2.91	83.0	Pulse	0.10	3
1	Tb		3,451,331.09	2.76	94.0	Pulse	0.10	3
1	Ho		343,909.41	2.25	93.3	Pulse	0.10	3
1	Bi		1,999,506.01	2.45	86.4	Pulse	0.10	3
2	Sc		106,151.50	0.38	92.0	Pulse	0.30	3
2	Ge		59,638.36	0.39	97.3	Pulse	0.30	3
2	Ge		85,057.70	0.70	90.9	Pulse	0.30	3
2	Rh		1,459,412.96	1.29	85.5	Pulse	0.30	3
2	In		497,724.86	0.70	82.2	Pulse	0.30	3
2	Tb		2,105,644.57	0.07	92.5	Pulse	0.30	3
2	Ho		211,428.97	0.41	93.5	Pulse	0.30	3
2	Bi		1,339,159.22	1.19	86.4	Pulse	0.30	3
3	Sc		174,773.82	0.16	93.1	Pulse	0.30	3
3	Ge		108,519.37	0.63	92.5	Pulse	0.30	3
3	Ge		153,561.22	0.75	86.2	Pulse	0.30	3
3	Rh		1,623,001.22	0.35	83.7	Pulse	0.30	3
3	Tb		3,066,819.88	1.21	92.4	Pulse	0.30	3

Quantitation Report

File Name 024SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 11:18
Sample Name rinseconf
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	-0.001	ug/l	0.00	0.00	0.000E+00	Pulse	0.25	3
B			1	0.037	ug/l	175.15	8,764.68	8.136E-03	Pulse	0.15	3
Ca			1	5.450	ug/l	13.25	17,433.08	1.054E-02	Pulse	0.10	3
Sr			1	0.227	ug/l	6.00	6,268.09	2.721E-03	Pulse	0.10	3
Mo			1	1.365	ug/l	7.03	7,408.69	3.210E-03	Pulse	0.10	3
Ag			1	0.016	ug/l	31.32	223.34	9.741E-05	Pulse	0.10	3
Sn			1	0.616	ug/l	3.18	4,247.41	1.847E-03	Pulse	0.10	3
Sb			1	-0.026	ug/l	-26.94	316.68	9.005E-05	Pulse	0.10	3
Ba			1	0.000	ug/l	1129.55	43.33	1.233E-05	Pulse	0.10	3
Tl			1	-0.001	ug/l	-58.55	30.00	1.351E-05	Pulse	0.10	3
Pb			1	0.004	ug/l	53.73	260.01	1.169E-04	Pulse	0.10	3
Pb			1	-0.008	ug/l	-41.76	173.34	7.804E-05	Pulse	0.10	3
Pb			1	0.005	ug/l	69.48	1,036.72	4.657E-04	Pulse	0.10	3
Na			2	10.756	ug/l	13.53	24,059.41	2.472E-01	Pulse	0.30	3
Mg			2	8.561	ug/l	11.37	3,876.06	3.984E-02	Pulse	0.30	3
Al			2	9.801	ug/l	7.66	1,662.32	1.708E-02	Pulse	0.30	3
K			2	3.862	ug/l	22.66	8,686.80	8.924E-02	Pulse	0.30	3
Ca			2	8.697	ug/l	61.16	221.11	2.271E-03	Pulse	0.30	3
Ti			2	0.751	ug/l	19.08	86.67	8.899E-04	Pulse	0.30	3
V			2	-0.110	ug/l	-3.67	101.11	1.038E-03	Pulse	0.30	3
Cr			2	0.008	ug/l	110.92	422.23	4.336E-03	Pulse	0.30	3
Mn			2	0.020	ug/l	60.27	92.22	9.471E-04	Pulse	0.30	3
Fe			2	16.635	ug/l	3.00	70,032.88	7.195E-01	Pulse	0.30	3
Co			2	0.001	ug/l	69.24	24.26	2.495E-04	Pulse	0.30	3
Ni			2	-0.055	ug/l	-13.43	271.12	2.784E-03	Pulse	0.30	3
Cu			2	-0.463	ug/l	-1.87	2,409.10	2.474E-02	Pulse	0.30	3
Zn			2	-0.633	ug/l	-1.14	270.00	2.774E-03	Pulse	0.30	3
As			2	-0.003	ug/l	-78.45	6.00	6.166E-05	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.002	ug/l	134.75	4.78	8.565E-06	Pulse	0.30	3
Sn			2	0.564	ug/l	5.41	1,452.31	2.613E-03	Pulse	0.30	3
Se			3	0.001	ug/l	1192.47	5.40	3.391E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,077,142.91	0.52	85.0	Pulse	0.10	3
1	Sc		1,654,062.89	1.77	86.3	Pulse	0.10	3
1	Ge		319,863.40	1.89	89.7	Pulse	0.10	3
1	Ge		440,044.10	1.06	89.3	Pulse	0.10	3
1	Rh		2,306,013.77	2.40	91.6	Pulse	0.10	3
1	In		2,300,202.90	1.66	93.7	Pulse	0.10	3
1	Tb		3,523,715.26	1.63	96.0	Pulse	0.10	3
1	Ho		353,690.51	2.16	95.9	Pulse	0.10	3
1	Bi		2,226,303.25	2.07	96.1	Pulse	0.10	3
2	Sc		97,349.77	0.67	84.3	Pulse	0.30	3
2	Ge		54,889.75	2.67	89.6	Pulse	0.30	3
2	Ge		83,969.03	1.08	89.7	Pulse	0.30	3
2	Rh		1,551,870.98	0.95	90.9	Pulse	0.30	3
2	In		555,603.10	1.15	91.8	Pulse	0.30	3
2	Tb		2,129,475.68	0.23	93.6	Pulse	0.30	3
2	Ho		212,393.56	0.09	94.0	Pulse	0.30	3
2	Bi		1,477,515.43	0.53	95.3	Pulse	0.30	3
3	Sc		167,061.44	0.57	89.0	Pulse	0.30	3
3	Ge		105,305.31	0.28	89.7	Pulse	0.30	3
3	Ge		159,470.68	0.95	89.6	Pulse	0.30	3
3	Rh		1,814,328.68	1.60	93.6	Pulse	0.30	3
3	Tb		3,170,190.43	1.07	95.5	Pulse	0.30	3

Quantitation Report

File Name 025_CCV.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 11:23
Sample Name CCVA
Sample Type CCV
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	50.385	ug/l	0.17	264,300.54	2.353E-01	Pulse	0.25	3
B			1	97.097	ug/l	0.58	389,453.18	3.467E-01	Pulse	0.15	3
Ca			1	4897.926	ug/l	0.26	2,711,068.61	1.558E+00	Pulse	0.10	3
Sr			1	52.311	ug/l	0.18	1,421,328.47	6.067E-01	Pulse	0.10	3
Mo			1	51.448	ug/l	0.39	281,430.41	1.201E-01	Pulse	0.10	3
Ag			1	50.215	ug/l	0.36	688,574.16	2.925E-01	Pulse	0.10	3
Sn			1	51.045	ug/l	1.61	439,378.25	1.866E-01	Pulse	0.10	3
Sb			1	52.285	ug/l	0.49	530,782.45	1.467E-01	Pulse	0.10	3
Ba			1	51.937	ug/l	1.32	213,112.12	5.891E-02	Pulse	0.10	3
Tl			1	51.836	ug/l	0.29	1,485,610.44	6.544E-01	Pulse	0.10	3
Pb			1	51.471	ug/l	0.55	520,223.72	2.291E-01	Pulse	0.10	3
Pb			1	51.584	ug/l	0.76	459,839.93	2.026E-01	Pulse	0.10	3
Pb			1	51.494	ug/l	0.36	2,095,573.08	9.231E-01	Pulse	0.10	3
Na			2	4857.612	ug/l	1.81	4,869,429.25	4.700E+01	Analog	0.30	3
Mg			2	4823.614	ug/l	1.46	2,250,287.76	2.172E+01	Pulse	0.30	3
Al			2	4967.146	ug/l	1.29	772,182.78	7.453E+00	Pulse	0.30	3
K			2	5041.908	ug/l	0.78	1,468,985.22	1.418E+01	Pulse	0.30	3
Ca			2	5322.985	ug/l	1.43	85,186.88	8.222E-01	Pulse	0.30	3
Ti			2	53.578	ug/l	2.74	6,512.46	6.285E-02	Pulse	0.30	3
V			2	52.837	ug/l	0.66	203,833.28	1.967E+00	Pulse	0.30	3
Cr			2	51.604	ug/l	0.60	265,583.53	2.563E+00	Pulse	0.30	3
Mn			2	52.155	ug/l	0.61	141,531.01	1.366E+00	Pulse	0.30	3
Fe			2	5192.141	ug/l	2.12	20,942,026.95	2.021E+02	Analog	0.30	3
Co			2	51.907	ug/l	1.15	417,212.31	4.027E+00	Pulse	0.30	3
Ni			2	51.211	ug/l	0.79	111,616.43	1.077E+00	Pulse	0.30	3
Cu			2	51.315	ug/l	1.60	308,525.66	2.978E+00	Pulse	0.30	3
Zn			2	51.874	ug/l	1.02	46,290.68	4.468E-01	Pulse	0.30	3
As			2	53.008	ug/l	0.25	22,439.03	2.166E-01	Pulse	1.00	3
Cd			2	50.505	ug/l	0.36	69,483.05	1.207E-01	Pulse	0.30	3
Sn			2	51.760	ug/l	0.22	137,121.60	2.382E-01	Pulse	0.30	3
Se			3	210.384	ug/l	0.72	31,370.17	1.934E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,123,290.58	0.62	88.6	Pulse	0.10	3
1	Sc		1,739,943.67	1.82	90.8	Pulse	0.10	3
1	Ge		335,224.49	3.32	94.0	Pulse	0.10	3

Quantitation Report

1	Ge		463,756.74	2.45	94.2	Pulse	0.10	3
1	Rh		2,342,762.72	2.20	93.1	Pulse	0.10	3
1	In		2,354,301.11	2.30	95.9	Pulse	0.10	3
1	Tb		3,616,950.36	2.09	98.6	Pulse	0.10	3
1	Ho		360,923.51	2.71	97.9	Pulse	0.10	3
1	Bi		2,270,214.86	2.72	98.0	Pulse	0.10	3
2	Sc		103,621.42	1.13	89.8	Pulse	0.30	3
2	Ge		58,294.73	1.73	95.2	Pulse	0.30	3
2	Ge		87,443.80	1.25	93.4	Pulse	0.30	3
2	Rh		1,593,694.28	0.56	93.4	Pulse	0.30	3
2	In		575,581.85	0.60	95.1	Pulse	0.30	3
2	Tb		2,210,783.04	0.87	97.1	Pulse	0.30	3
2	Ho		221,755.42	0.61	98.1	Pulse	0.30	3
2	Bi		1,489,721.02	1.52	96.1	Pulse	0.30	3
3	Sc		173,278.86	0.96	92.3	Pulse	0.30	3
3	Ge		108,351.43	0.42	92.3	Pulse	0.30	3
3	Ge		162,242.44	0.56	91.1	Pulse	0.30	3
3	Rh		1,803,587.57	0.95	93.0	Pulse	0.30	3
3	Tb		3,218,708.21	0.54	97.0	Pulse	0.30	3

Quantitation Report

File Name	026_CCB.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 11:30
Sample Name	CCB
Sample Type	CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.001	ug/l	70.50	9.33	8.119E-06	Pulse	0.25	3
B			1	1.000	ug/l	6.95	13,216.53	1.150E-02	Pulse	0.15	3
Ca			1	-6.219	ug/l	-14.56	11,951.47	6.848E-03	Pulse	0.10	3
Sr			1	0.007	ug/l	35.10	380.02	1.599E-04	Pulse	0.10	3
Mo			1	0.138	ug/l	8.68	823.39	3.452E-04	Pulse	0.10	3
Ag			1	0.011	ug/l	4.98	163.34	6.931E-05	Pulse	0.10	3
Sn			1	0.327	ug/l	5.62	1,860.18	7.887E-04	Pulse	0.10	3
Sb			1	0.048	ug/l	17.34	1,063.40	2.978E-04	Pulse	0.10	3
Ba			1	0.005	ug/l	220.10	60.00	1.695E-05	Pulse	0.10	3
Tl			1	0.003	ug/l	79.22	140.00	6.248E-05	Pulse	0.10	3
Pb			1	0.008	ug/l	35.31	296.68	1.316E-04	Pulse	0.10	3
Pb			1	0.002	ug/l	342.58	266.68	1.179E-04	Pulse	0.10	3
Pb			1	0.007	ug/l	41.33	1,160.07	5.133E-04	Pulse	0.10	3
Na			2	0.728	ug/l	13.15	15,897.59	1.505E-01	Pulse	0.30	3
Mg			2	0.054	ug/l	141.05	162.23	1.536E-03	Pulse	0.30	3
Al			2	-0.310	ug/l	-18.65	202.23	1.914E-03	Pulse	0.30	3
K			2	-2.498	ug/l	-26.61	7,549.57	7.146E-02	Pulse	0.30	3
Ca			2	-0.841	ug/l	-72.74	84.44	7.996E-04	Pulse	0.30	3
Ti			2	0.055	ug/l	75.48	7.78	7.372E-05	Pulse	0.30	3
V			2	-0.107	ug/l	-5.30	122.22	1.156E-03	Pulse	0.30	3
Cr			2	0.007	ug/l	124.43	454.46	4.302E-03	Pulse	0.30	3
Mn			2	0.024	ug/l	50.73	112.22	1.063E-03	Pulse	0.30	3
Fe			2	0.815	ug/l	20.87	10,967.10	1.038E-01	Pulse	0.30	3
Co			2	0.000	ug/l	6278.05	15.53	1.472E-04	Pulse	0.30	3
Ni			2	-0.059	ug/l	-19.93	284.45	2.693E-03	Pulse	0.30	3
Cu			2	-0.478	ug/l	-2.79	2,519.12	2.385E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Zn			2	-0.639	ug/l	-3.40	287.78	2.724E-03	Pulse	0.30	3
As			2	0.000	ug/l	4912.05	8.00	7.580E-05	Pulse	1.00	3
Cd			2	0.000	ug/l	4782.67	2.13	3.641E-06	Pulse	0.30	3
Sn			2	0.283	ug/l	13.92	767.80	1.318E-03	Pulse	0.30	3
Se			3	0.019	ug/l	76.02	8.40	5.067E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,149,620.00	0.63	90.7	Pulse	0.10	3
1	Sc		1,746,107.47	1.90	91.1	Pulse	0.10	3
1	Ge		335,781.56	1.67	94.2	Pulse	0.10	3
1	Ge		460,803.28	2.20	93.6	Pulse	0.10	3
1	Rh		2,383,653.35	2.94	94.7	Pulse	0.10	3
1	In		2,355,127.60	2.86	95.9	Pulse	0.10	3
1	Tb		3,565,507.76	2.65	97.2	Pulse	0.10	3
1	Ho		357,525.79	1.91	96.9	Pulse	0.10	3
1	Bi		2,258,095.64	2.78	97.5	Pulse	0.10	3
2	Sc		105,649.27	0.43	91.5	Pulse	0.30	3
2	Ge		57,459.94	1.06	93.8	Pulse	0.30	3
2	Ge		88,067.10	0.71	94.1	Pulse	0.30	3
2	Rh		1,625,204.76	0.73	95.2	Pulse	0.30	3
2	In		581,696.22	1.21	96.1	Pulse	0.30	3
2	Tb		2,191,146.86	1.02	96.3	Pulse	0.30	3
2	Ho		220,436.30	1.11	97.5	Pulse	0.30	3
2	Bi		1,515,714.98	0.83	97.8	Pulse	0.30	3
3	Sc		175,030.18	1.02	93.2	Pulse	0.30	3
3	Ge		110,158.82	1.11	93.9	Pulse	0.30	3
3	Ge		166,093.77	1.14	93.3	Pulse	0.30	3
3	Rh		1,877,288.61	1.24	96.8	Pulse	0.30	3
3	Tb		3,230,834.59	0.52	97.3	Pulse	0.30	3

Quantitation Report

File Name 027SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 11:35
Sample Name jc99565-4 4
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.095	ug/l	11.33	264.01	2.274E-04	Pulse	0.25	3
B			1	2.182	ug/l	4.19	13,719.10	1.181E-02	Pulse	0.15	3
Ca			1	54.083	ug/l	4.90	30,104.97	1.737E-02	Pulse	0.10	3
Sr			1	0.893	ug/l	6.18	12,518.61	5.263E-03	Pulse	0.10	3
Mo			1	0.266	ug/l	27.90	793.38	3.332E-04	Pulse	0.10	3
Ag			1	0.040	ug/l	20.80	280.01	1.196E-04	Pulse	0.10	3
Sn			1	1.382	ug/l	2.80	4,967.65	2.121E-03	Pulse	0.10	3
Sb			1	0.178	ug/l	12.91	1,486.79	4.133E-04	Pulse	0.10	3
Ba			1	1.586	ug/l	2.57	3,277.12	9.114E-04	Pulse	0.10	3
Tl			1	0.123	ug/l	8.30	1,816.85	8.007E-04	Pulse	0.10	3
Pb			1	0.044	ug/l	30.41	446.69	1.965E-04	Pulse	0.10	3
Pb			1	0.042	ug/l	68.03	433.35	1.916E-04	Pulse	0.10	3
Pb			1	0.048	ug/l	9.30	1,853.45	8.173E-04	Pulse	0.10	3
Na			2	30.744	ug/l	2.83	29,709.51	2.917E-01	Pulse	0.30	3
Mg			2	4.248	ug/l	4.20	1,105.61	1.085E-02	Pulse	0.30	3
Al			2	13.297	ug/l	4.15	1,257.84	1.235E-02	Pulse	0.30	3
K			2	18.973	ug/l	3.26	10,691.29	1.050E-01	Pulse	0.30	3
Ca			2	68.450	ug/l	14.08	632.24	6.210E-03	Pulse	0.30	3
Ti			2	0.652	ug/l	58.45	40.00	3.918E-04	Pulse	0.30	3
V			2	-0.043	ug/l	-17.61	442.23	4.342E-03	Pulse	0.30	3
Cr			2	0.460	ug/l	3.69	1,564.54	1.536E-02	Pulse	0.30	3
Mn			2	0.437	ug/l	0.71	626.69	6.153E-03	Pulse	0.30	3
Fe			2	5.527	ug/l	2.20	18,296.94	1.796E-01	Pulse	0.30	3
Co			2	0.033	ug/l	18.23	144.40	1.418E-03	Pulse	0.30	3
Ni			2	0.402	ug/l	4.98	828.92	8.138E-03	Pulse	0.30	3
Cu			2	48.427	ug/l	0.95	145,848.11	1.432E+00	Pulse	0.30	3
Zn			2	14.649	ug/l	2.37	7,134.96	7.006E-02	Pulse	0.30	3
As			2	0.092	ug/l	43.11	26.67	2.620E-04	Pulse	1.00	3
Cd			2	0.005	ug/l	109.44	5.46	9.678E-06	Pulse	0.30	3
Sn			2	1.294	ug/l	1.26	1,685.67	2.994E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	0.073	ug/l	42.08	12.40	6.673E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,161,343.78	0.46	91.6	Pulse	0.10	3
1	Sc		1,733,488.83	1.63	90.4	Pulse	0.10	3
1	Ge		342,648.84	3.12	96.1	Pulse	0.10	3
1	Ge		477,336.67	2.70	96.9	Pulse	0.10	3
1	Rh		2,377,118.72	1.49	94.5	Pulse	0.10	3
1	In		2,342,747.31	1.72	95.4	Pulse	0.10	3
1	Tb		3,596,213.90	0.87	98.0	Pulse	0.10	3
1	Ho		360,708.89	1.76	97.8	Pulse	0.10	3
1	Bi		2,269,083.51	1.85	98.0	Pulse	0.10	3
2	Sc		101,846.97	0.66	88.2	Pulse	0.30	3
2	Ge		60,019.82	0.93	98.0	Pulse	0.30	3
2	Ge		89,440.11	2.31	95.6	Pulse	0.30	3
2	Rh		1,595,780.28	0.10	93.5	Pulse	0.30	3
2	In		563,079.22	0.45	93.0	Pulse	0.30	3
2	Tb		2,178,181.51	0.70	95.7	Pulse	0.30	3
2	Ho		217,085.07	0.56	96.0	Pulse	0.30	3
2	Bi		1,506,825.29	0.42	97.2	Pulse	0.30	3
3	Sc		177,049.17	0.42	94.3	Pulse	0.30	3
3	Ge		123,412.20	3.18	105.1	Pulse	0.30	3
3	Ge		186,104.00	1.74	104.5	Pulse	0.30	3
3	Rh		1,887,810.07	0.69	97.4	Pulse	0.30	3
3	Tb		3,279,530.49	0.40	98.8	Pulse	0.30	3

Quantitation Report

File Name 028SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 11:40
Sample Name mp18775a-mb1
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.014	ug/l	39.22	45.33	3.755E-05	Pulse	0.25	3
B			1	2.790	ug/l	13.11	15,549.62	1.287E-02	Pulse	0.15	3
Ca			1	1115.972	ug/l	0.80	338,011.79	1.853E-01	Pulse	0.10	3
Sr			1	6.973	ug/l	0.81	99,591.03	4.051E-02	Pulse	0.10	3
Mo			1	0.197	ug/l	16.04	623.37	2.533E-04	Pulse	0.10	3
Ag			1	0.040	ug/l	6.85	296.68	1.219E-04	Pulse	0.10	3
Sn			1	0.964	ug/l	3.57	3,297.13	1.357E-03	Pulse	0.10	3
Sb			1	0.067	ug/l	22.31	956.73	2.588E-04	Pulse	0.10	3
Ba			1	1.754	ug/l	3.71	3,720.58	1.007E-03	Pulse	0.10	3
Tl			1	0.024	ug/l	19.85	403.35	1.743E-04	Pulse	0.10	3
Pb			1	0.165	ug/l	11.97	1,076.75	4.657E-04	Pulse	0.10	3
Pb			1	0.151	ug/l	5.50	936.73	4.055E-04	Pulse	0.10	3
Pb			1	0.170	ug/l	5.30	4,400.42	1.904E-03	Pulse	0.10	3
Na			2	751.827	ug/l	0.62	399,830.08	3.769E+00	Pulse	0.30	3
Mg			2	243.916	ug/l	1.10	58,381.37	5.504E-01	Pulse	0.30	3
Al			2	2.290	ug/l	40.32	434.46	4.097E-03	Pulse	0.30	3
K			2	86.302	ug/l	2.10	21,120.09	1.991E-01	Pulse	0.30	3
Ca			2	1169.112	ug/l	1.08	9,666.23	9.112E-02	Pulse	0.30	3
Ti			2	0.360	ug/l	46.04	23.33	2.208E-04	Pulse	0.30	3
V			2	-0.046	ug/l	-48.04	454.45	4.280E-03	Pulse	0.30	3
Cr			2	0.763	ug/l	3.42	2,425.76	2.286E-02	Pulse	0.30	3
Mn			2	11.886	ug/l	2.22	16,548.41	1.560E-01	Pulse	0.30	3
Fe			2	53.873	ug/l	0.51	118,855.36	1.120E+00	Pulse	0.30	3
Co			2	0.123	ug/l	9.71	521.91	4.922E-03	Pulse	0.30	3
Ni			2	0.159	ug/l	48.24	593.35	5.598E-03	Pulse	0.30	3
Cu			2	2.091	ug/l	3.27	11,748.75	1.108E-01	Pulse	0.30	3
Zn			2	1.012	ug/l	10.92	1,315.63	1.241E-02	Pulse	0.30	3
As			2	0.193	ug/l	2.14	49.67	4.682E-04	Pulse	1.00	3
Cd			2	0.020	ug/l	76.38	15.51	2.685E-05	Pulse	0.30	3
Sn			2	0.771	ug/l	5.53	1,036.71	1.789E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	0.106	ug/l	22.95	15.13	8.204E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,208,131.73	0.84	95.3	Pulse	0.10	3
1	Sc		1,823,823.93	1.75	95.1	Pulse	0.10	3
1	Ge		354,662.14	2.18	99.5	Pulse	0.10	3
1	Ge		486,287.63	2.53	98.7	Pulse	0.10	3
1	Rh		2,458,438.56	1.87	97.7	Pulse	0.10	3
1	In		2,431,483.81	2.11	99.0	Pulse	0.10	3
1	Tb		3,694,876.82	1.59	100.7	Pulse	0.10	3
1	Ho		369,928.16	2.42	100.3	Pulse	0.10	3
1	Bi		2,310,099.71	1.96	99.8	Pulse	0.10	3
2	Sc		106,082.37	1.35	91.9	Pulse	0.30	3
2	Ge		59,943.76	0.84	97.8	Pulse	0.30	3
2	Ge		91,377.26	1.08	97.6	Pulse	0.30	3
2	Rh		1,633,574.31	0.34	95.7	Pulse	0.30	3
2	In		579,493.07	0.76	95.7	Pulse	0.30	3
2	Tb		2,235,635.33	1.13	98.2	Pulse	0.30	3
2	Ho		223,444.45	0.70	98.8	Pulse	0.30	3
2	Bi		1,521,190.98	0.68	98.1	Pulse	0.30	3
3	Sc		184,503.19	1.14	98.3	Pulse	0.30	3
3	Ge		122,514.74	1.66	104.4	Pulse	0.30	3
3	Ge		184,501.27	1.14	103.6	Pulse	0.30	3
3	Rh		1,936,919.86	0.98	99.9	Pulse	0.30	3
3	Tb		3,359,552.92	0.53	101.2	Pulse	0.30	3

Quantitation Report

File Name 029SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 11:45
Sample Name mp18775a-b2
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	63.671	ug/l	1.66	183,608.73	1.487E-01	Pulse	0.25	3
B			1	78.619	ug/l	1.89	179,246.32	1.451E-01	Pulse	0.15	3
Ca			1	11191.558	ug/l	0.55	3,290,237.76	1.779E+00	Pulse	0.10	3
Sr			1	117.998	ug/l	0.63	1,667,534.40	6.843E-01	Pulse	0.10	3
Mo			1	70.603	ug/l	0.61	200,936.87	8.243E-02	Pulse	0.10	3
Ag			1	68.682	ug/l	0.55	487,393.51	2.000E-01	Pulse	0.10	3
Sn			1	69.410	ug/l	0.03	308,867.67	1.268E-01	Pulse	0.10	3
Sb			1	69.345	ug/l	0.71	367,782.92	9.737E-02	Pulse	0.10	3
Ba			1	77.678	ug/l	0.09	166,439.85	4.406E-02	Pulse	0.10	3
Tl			1	68.996	ug/l	1.27	1,003,221.39	4.355E-01	Pulse	0.10	3
Pb			1	71.618	ug/l	1.09	367,283.33	1.594E-01	Pulse	0.10	3
Pb			1	71.114	ug/l	0.43	321,740.80	1.397E-01	Pulse	0.10	3
Pb			1	71.474	ug/l	0.53	1,475,919.69	6.407E-01	Pulse	0.10	3
Na			2	9536.314	ug/l	1.20	4,908,714.53	4.613E+01	Analog	0.30	3
Mg			2	5136.274	ug/l	0.76	1,230,376.55	1.156E+01	Pulse	0.30	3
Al			2	3430.933	ug/l	0.47	274,017.01	2.575E+00	Pulse	0.30	3
K			2	4211.781	ug/l	1.18	634,900.17	5.967E+00	Pulse	0.30	3
Ca			2	11870.992	ug/l	0.38	97,537.42	9.167E-01	Pulse	0.30	3
Ti			2	67.718	ug/l	5.32	4,227.25	3.972E-02	Pulse	0.30	3
V			2	69.508	ug/l	0.92	137,864.97	1.296E+00	Pulse	0.30	3
Cr			2	68.442	ug/l	1.48	180,982.04	1.701E+00	Pulse	0.30	3
Mn			2	146.156	ug/l	1.65	203,605.25	1.914E+00	Pulse	0.30	3
Fe			2	3985.904	ug/l	1.13	8,259,657.73	7.763E+01	Analog	0.30	3
Co			2	68.526	ug/l	1.34	282,793.48	2.658E+00	Pulse	0.30	3
Ni			2	68.670	ug/l	0.74	76,985.26	7.235E-01	Pulse	0.30	3
Cu			2	71.314	ug/l	0.73	221,807.97	2.085E+00	Pulse	0.30	3
Zn			2	68.816	ug/l	0.55	31,820.97	2.991E-01	Pulse	0.30	3
As			2	67.337	ug/l	1.18	14,637.22	1.376E-01	Pulse	1.00	3
Cd			2	64.879	ug/l	0.89	44,146.55	7.754E-02	Pulse	0.30	3
Sn			2	70.737	ug/l	0.55	92,688.82	1.628E-01	Pulse	0.30	3
Se			3	276.884	ug/l	2.46	24,491.97	1.272E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,234,961.86	1.26	97.4	Pulse	0.10	3
1	Sc		1,849,808.36	2.59	96.5	Pulse	0.10	3
1	Ge		371,291.61	4.00	104.1	Pulse	0.10	3

Quantitation Report

1	Ge		515,726.28	3.86	104.7	Pulse	0.10	3
1	Rh		2,437,315.69	3.04	96.9	Pulse	0.10	3
1	In		2,436,545.93	3.18	99.3	Pulse	0.10	3
1	Tb		3,777,524.22	2.80	102.9	Pulse	0.10	3
1	Ho		377,232.19	3.62	102.3	Pulse	0.10	3
1	Bi		2,303,737.98	3.73	99.5	Pulse	0.10	3
2	Sc		106,400.80	0.68	92.2	Pulse	0.30	3
2	Ge		62,880.48	1.47	102.6	Pulse	0.30	3
2	Ge		95,094.01	0.82	101.6	Pulse	0.30	3
2	Rh		1,620,675.35	1.05	95.0	Pulse	0.30	3
2	In		569,353.95	0.42	94.0	Pulse	0.30	3
2	Tb		2,233,602.27	0.98	98.1	Pulse	0.30	3
2	Ho		223,312.95	1.57	98.8	Pulse	0.30	3
2	Bi		1,489,442.79	0.66	96.1	Pulse	0.30	3
3	Sc		186,878.91	0.47	99.6	Pulse	0.30	3
3	Ge		126,389.49	2.50	107.7	Pulse	0.30	3
3	Ge		192,532.43	2.06	108.1	Pulse	0.30	3
3	Rh		1,904,341.59	1.24	98.2	Pulse	0.30	3
3	Tb		3,390,150.35	0.65	102.1	Pulse	0.30	3

Quantitation Report

File Name 030SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 11:50
Sample Name mp18781-mb1 5
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.004	ug/l	94.42	17.33	1.348E-05	Pulse	0.25	3
B			1	2.242	ug/l	5.03	15,291.65	1.192E-02	Pulse	0.15	3
Ca			1	477.637	ug/l	0.77	159,927.82	8.436E-02	Pulse	0.10	3
Sr			1	2.709	ug/l	0.51	39,496.10	1.579E-02	Pulse	0.10	3
Mo			1	0.175	ug/l	28.37	570.03	2.270E-04	Pulse	0.10	3
Ag			1	0.040	ug/l	15.55	306.68	1.214E-04	Pulse	0.10	3
Sn			1	1.067	ug/l	7.30	3,897.30	1.544E-03	Pulse	0.10	3
Sb			1	0.097	ug/l	15.50	1,146.76	3.001E-04	Pulse	0.10	3
Ba			1	0.348	ug/l	4.41	796.72	2.089E-04	Pulse	0.10	3
Tl			1	0.024	ug/l	18.21	410.03	1.738E-04	Pulse	0.10	3
Pb			1	0.072	ug/l	26.83	610.03	2.582E-04	Pulse	0.10	3
Pb			1	0.063	ug/l	14.46	546.70	2.318E-04	Pulse	0.10	3
Pb			1	0.072	ug/l	4.08	2,433.50	1.031E-03	Pulse	0.10	3
Na			2	278.906	ug/l	1.28	160,127.67	1.489E+00	Pulse	0.30	3
Mg			2	119.212	ug/l	1.22	29,008.26	2.697E-01	Pulse	0.30	3
Al			2	8.063	ug/l	8.60	906.70	8.427E-03	Pulse	0.30	3
K			2	48.107	ug/l	2.68	15,674.15	1.457E-01	Pulse	0.30	3
Ca			2	482.458	ug/l	2.75	4,103.89	3.815E-02	Pulse	0.30	3
Ti			2	0.424	ug/l	18.47	27.78	2.580E-04	Pulse	0.30	3
V			2	-0.044	ug/l	-15.46	464.46	4.317E-03	Pulse	0.30	3
Cr			2	0.572	ug/l	4.59	1,951.25	1.814E-02	Pulse	0.30	3
Mn			2	5.661	ug/l	1.64	8,018.69	7.453E-02	Pulse	0.30	3
Fe			2	26.562	ug/l	1.19	63,356.48	5.889E-01	Pulse	0.30	3
Co			2	0.031	ug/l	31.25	144.28	1.341E-03	Pulse	0.30	3
Ni			2	0.300	ug/l	11.13	761.14	7.076E-03	Pulse	0.30	3
Cu			2	1.382	ug/l	5.56	9,742.96	9.056E-02	Pulse	0.30	3
Zn			2	0.416	ug/l	19.16	1,063.38	9.886E-03	Pulse	0.30	3
As			2	0.375	ug/l	8.43	90.33	8.399E-04	Pulse	1.00	3
Cd			2	0.007	ug/l	1.60	6.61	1.144E-05	Pulse	0.30	3
Sn			2	0.916	ug/l	6.23	1,226.73	2.123E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	0.138	ug/l	24.64	18.80	9.682E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,283,109.30	0.66	101.2	Pulse	0.10	3
1	Sc		1,895,722.99	1.45	98.9	Pulse	0.10	3
1	Ge		379,763.09	2.18	106.5	Pulse	0.10	3
1	Ge		528,312.47	2.01	107.3	Pulse	0.10	3
1	Rh		2,501,704.03	2.42	99.4	Pulse	0.10	3
1	In		2,519,463.13	3.09	102.6	Pulse	0.10	3
1	Tb		3,817,450.57	2.71	104.0	Pulse	0.10	3
1	Ho		383,999.51	3.37	104.1	Pulse	0.10	3
1	Bi		2,362,479.44	3.11	102.0	Pulse	0.10	3
2	Sc		107,579.84	0.59	93.2	Pulse	0.30	3
2	Ge		63,822.94	1.83	104.2	Pulse	0.30	3
2	Ge		96,169.69	1.35	102.8	Pulse	0.30	3
2	Rh		1,674,410.18	0.65	98.1	Pulse	0.30	3
2	In		577,507.23	0.98	95.4	Pulse	0.30	3
2	Tb		2,235,563.31	0.27	98.2	Pulse	0.30	3
2	Ho		224,051.03	0.50	99.1	Pulse	0.30	3
2	Bi		1,516,105.11	0.52	97.8	Pulse	0.30	3
3	Sc		193,989.37	0.85	103.3	Pulse	0.30	3
3	Ge		129,429.48	1.06	110.3	Pulse	0.30	3
3	Ge		194,179.02	0.91	109.1	Pulse	0.30	3
3	Rh		2,008,385.27	0.78	103.6	Pulse	0.30	3
3	Tb		3,461,652.43	0.73	104.3	Pulse	0.30	3

Quantitation Report

File Name 031SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 11:55
Sample Name mp18781-b2
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	69.497	ug/l	1.74	215,502.13	1.623E-01	Pulse	0.25	3
B			1	75.901	ug/l	2.27	186,449.17	1.404E-01	Pulse	0.15	3
Ca			1	4704.330	ug/l	0.85	1,495,145.71	7.528E-01	Pulse	0.10	3
Sr			1	82.467	ug/l	0.35	1,229,902.25	4.782E-01	Pulse	0.10	3
Mo			1	76.877	ug/l	1.19	230,805.57	8.976E-02	Pulse	0.10	3
Ag			1	76.665	ug/l	1.52	570,353.92	2.233E-01	Pulse	0.10	3
Sn			1	75.865	ug/l	1.32	354,138.22	1.386E-01	Pulse	0.10	3
Sb			1	76.367	ug/l	0.78	420,258.34	1.072E-01	Pulse	0.10	3
Ba			1	74.986	ug/l	0.39	166,764.60	4.253E-02	Pulse	0.10	3
Tl			1	76.915	ug/l	0.75	1,151,187.80	4.855E-01	Pulse	0.10	3
Pb			1	79.552	ug/l	0.66	419,912.77	1.771E-01	Pulse	0.10	3
Pb			1	78.657	ug/l	1.18	366,290.53	1.545E-01	Pulse	0.10	3
Pb			1	78.935	ug/l	0.73	1,677,822.08	7.076E-01	Pulse	0.10	3
Na			2	4317.309	ug/l	0.76	2,339,061.92	2.096E+01	Pulse	0.30	3
Mg			2	4247.023	ug/l	0.70	1,066,875.44	9.562E+00	Pulse	0.30	3
Al			2	3836.233	ug/l	0.63	321,258.14	2.879E+00	Pulse	0.30	3
K			2	4085.021	ug/l	0.56	646,014.63	5.790E+00	Pulse	0.30	3
Ca			2	5198.321	ug/l	0.78	44,845.80	4.019E-01	Pulse	0.30	3
Ti			2	74.683	ug/l	2.97	4,887.45	4.381E-02	Pulse	0.30	3
V			2	78.843	ug/l	1.03	163,899.00	1.469E+00	Pulse	0.30	3
Cr			2	77.254	ug/l	0.28	214,179.85	1.920E+00	Pulse	0.30	3
Mn			2	96.739	ug/l	0.54	141,340.72	1.267E+00	Pulse	0.30	3
Fe			2	4249.224	ug/l	1.22	9,232,971.02	8.275E+01	Analog	0.30	3
Co			2	77.022	ug/l	0.35	333,334.69	2.988E+00	Pulse	0.30	3
Ni			2	76.442	ug/l	0.98	89,818.25	8.050E-01	Pulse	0.30	3
Cu			2	78.201	ug/l	0.24	254,516.70	2.281E+00	Pulse	0.30	3
Zn			2	70.772	ug/l	0.78	34,291.36	3.073E-01	Pulse	0.30	3
As			2	72.598	ug/l	1.50	16,550.39	1.483E-01	Pulse	1.00	3
Cd			2	72.242	ug/l	0.09	50,956.28	8.634E-02	Pulse	0.30	3
Sn			2	77.972	ug/l	0.96	105,911.11	1.794E-01	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	310.450	ug/l	2.44	29,081.25	1.427E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,328,159.54	1.03	104.8	Pulse	0.10	3
1	Sc		1,986,212.26	1.97	103.6	Pulse	0.10	3
1	Ge		390,963.90	2.69	109.7	Pulse	0.10	3
1	Ge		543,114.65	2.33	110.3	Pulse	0.10	3
1	Rh		2,571,841.06	2.55	102.2	Pulse	0.10	3
1	In		2,555,332.23	2.78	104.1	Pulse	0.10	3
1	Tb		3,920,469.21	3.04	106.8	Pulse	0.10	3
1	Ho		393,620.51	3.72	106.7	Pulse	0.10	3
1	Bi		2,370,866.32	2.92	102.4	Pulse	0.10	3
2	Sc		111,578.73	1.02	96.7	Pulse	0.30	3
2	Ge		66,335.19	1.00	108.3	Pulse	0.30	3
2	Ge		99,678.54	1.10	106.5	Pulse	0.30	3
2	Rh		1,707,311.84	0.99	100.0	Pulse	0.30	3
2	In		590,200.70	1.64	97.5	Pulse	0.30	3
2	Tb		2,292,775.88	1.26	100.7	Pulse	0.30	3
2	Ho		229,748.27	1.35	101.6	Pulse	0.30	3
2	Bi		1,537,684.80	0.33	99.2	Pulse	0.30	3
3	Sc		203,132.86	0.77	108.2	Pulse	0.30	3
3	Ge		134,678.06	2.19	114.7	Pulse	0.30	3
3	Ge		203,894.76	1.86	114.5	Pulse	0.30	3
3	Rh		2,026,436.17	0.19	104.5	Pulse	0.30	3
3	Tb		3,516,445.41	0.43	105.9	Pulse	0.30	3

Quantitation Report

File Name 032SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 12:00
Sample Name jc99694-1 4
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.048	ug/l	32.34	149.33	1.178E-04	Pulse	0.25	3
B			1	196.492	ug/l	1.16	444,330.70	3.507E-01	Pulse	0.15	3
Ca			1	129202.872	ug/l	0.74	40,173,568.57	2.044E+01	Analog	0.10	3
Sr			1	622.101	ug/l	2.19	8,701,241.12	3.607E+00	Analog	0.10	3
Mo			1	27.316	ug/l	0.84	76,988.73	3.191E-02	Pulse	0.10	3
Ag			1	0.067	ug/l	12.42	496.69	2.002E-04	Pulse	0.10	3
Sn			1	1.406	ug/l	3.23	5,374.45	2.165E-03	Pulse	0.10	3
Sb			1	0.808	ug/l	1.15	5,007.64	1.297E-03	Pulse	0.10	3
Ba			1	116.861	ug/l	1.18	255,912.68	6.628E-02	Pulse	0.10	3
Tl			1	0.098	ug/l	8.99	1,453.46	6.430E-04	Pulse	0.10	3
Pb			1	1.947	ug/l	3.76	9,993.68	4.430E-03	Pulse	0.10	3
Pb			1	1.808	ug/l	6.84	8,249.24	3.657E-03	Pulse	0.10	3
Pb			1	1.883	ug/l	2.91	38,927.99	1.725E-02	Pulse	0.10	3
Na			2	53846.285	ug/l	0.82	28,432,648.87	2.598E+02	Analog	0.30	3
Mg			2	24005.300	ug/l	0.68	5,913,834.07	5.404E+01	Analog	0.30	3
Al			2	1625.517	ug/l	0.95	133,664.46	1.221E+00	Pulse	0.30	3
K			2	4737.380	ug/l	1.00	733,399.12	6.702E+00	Pulse	0.30	3
Ca			2	128492.454	ug/l	0.47	1,084,847.25	9.913E+00	Pulse	0.30	3
Ti			2	26.056	ug/l	11.57	1,672.34	1.529E-02	Pulse	0.30	3
V			2	1.840	ug/l	5.10	4,301.72	3.930E-02	Pulse	0.30	3
Cr			2	2.373	ug/l	2.63	6,870.39	6.278E-02	Pulse	0.30	3
Mn			2	922.639	ug/l	0.76	1,321,758.28	1.208E+01	Pulse	0.30	3
Fe			2	16696.749	ug/l	1.35	35,560,047.47	3.250E+02	Analog	0.30	3
Co			2	2.526	ug/l	2.74	10,736.55	9.810E-02	Pulse	0.30	3
Ni			2	10.670	ug/l	4.07	12,663.87	1.157E-01	Pulse	0.30	3
Cu			2	13.088	ug/l	3.27	46,434.35	4.243E-01	Pulse	0.30	3
Zn			2	62.339	ug/l	1.77	29,729.32	2.717E-01	Pulse	0.30	3
As			2	5.562	ug/l	3.98	1,251.05	1.143E-02	Pulse	1.00	3
Cd			2	0.032	ug/l	32.40	23.78	4.167E-05	Pulse	0.30	3
Sn			2	1.172	ug/l	6.42	1,551.21	2.712E-03	Pulse	0.30	3
Se			3	0.481	ug/l	5.09	49.07	2.544E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,266,896.04	1.69	100.0	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,965,269.14	1.92	102.5	Pulse	0.10	3
1	Ge		388,457.70	2.25	109.0	Pulse	0.10	3
1	Ge		531,633.27	1.81	107.9	Pulse	0.10	3
1	Rh		2,413,000.95	2.31	95.9	Pulse	0.10	3
1	In		2,482,397.70	1.79	101.1	Pulse	0.10	3
1	Tb		3,861,927.13	3.13	105.2	Pulse	0.10	3
1	Ho		382,493.35	3.68	103.7	Pulse	0.10	3
1	Bi		2,257,712.63	3.66	97.5	Pulse	0.10	3
2	Sc		109,435.92	0.96	94.8	Pulse	0.30	3
2	Ge		64,418.56	1.14	105.1	Pulse	0.30	3
2	Ge		95,901.74	0.14	102.5	Pulse	0.30	3
2	Rh		1,613,586.01	0.53	94.5	Pulse	0.30	3
2	In		572,227.79	1.53	94.5	Pulse	0.30	3
2	Tb		2,244,596.86	1.04	98.6	Pulse	0.30	3
2	Ho		226,984.43	1.09	100.4	Pulse	0.30	3
2	Bi		1,446,419.14	1.09	93.3	Pulse	0.30	3
3	Sc		196,663.27	0.56	104.8	Pulse	0.30	3
3	Ge		128,184.21	0.94	109.2	Pulse	0.30	3
3	Ge		192,920.89	1.23	108.3	Pulse	0.30	3
3	Rh		1,917,068.47	0.43	98.9	Pulse	0.30	3
3	Tb		3,428,723.40	0.73	103.3	Pulse	0.30	3

Quantitation Report

File Name 033SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 12:05
Sample Name jc99694-2
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.048	ug/l	0.71	153.33	1.171E-04	Pulse	0.25	3
B			1	153.023	ug/l	0.35	359,853.19	2.749E-01	Pulse	0.15	3
Ca			1	178320.975	ug/l	1.61	56,783,230.82	2.821E+01	Analog	0.10	3
Sr			1	1255.760	ug/l	1.44	18,117,298.48	7.281E+00	Analog	0.10	3
Mo			1	18.784	ug/l	1.35	54,620.55	2.195E-02	Pulse	0.10	3
Ag			1	0.027	ug/l	11.32	210.01	8.316E-05	Pulse	0.10	3
Sn			1	1.038	ug/l	4.31	3,773.92	1.492E-03	Pulse	0.10	3
Sb			1	1.093	ug/l	0.62	6,665.00	1.696E-03	Pulse	0.10	3
Ba			1	132.301	ug/l	0.35	294,905.71	7.504E-02	Pulse	0.10	3
Tl			1	0.036	ug/l	8.66	576.70	2.508E-04	Pulse	0.10	3
Pb			1	1.993	ug/l	3.07	10,400.72	4.532E-03	Pulse	0.10	3
Pb			1	1.966	ug/l	3.22	9,106.46	3.968E-03	Pulse	0.10	3
Pb			1	1.987	ug/l	1.90	41,758.12	1.819E-02	Pulse	0.10	3
Na			2	27723.220	ug/l	2.65	14,873,436.07	1.338E+02	Analog	0.30	3
Mg			2	14067.903	ug/l	0.95	3,520,189.65	3.167E+01	Pulse	0.30	3
Al			2	927.599	ug/l	1.09	77,592.11	6.980E-01	Pulse	0.30	3
K			2	10761.074	ug/l	1.50	1,680,916.18	1.512E+01	Pulse	0.30	3
Ca			2	177673.573	ug/l	2.07	1,523,302.79	1.371E+01	Pulse	0.30	3
Ti			2	15.406	ug/l	1.94	1,005.62	9.045E-03	Pulse	0.30	3
V			2	1.644	ug/l	4.30	3,966.08	3.566E-02	Pulse	0.30	3
Cr			2	2.484	ug/l	2.48	7,283.92	6.554E-02	Pulse	0.30	3
Mn			2	1092.729	ug/l	1.13	1,589,917.23	1.430E+01	Pulse	0.30	3
Fe			2	1689.896	ug/l	1.84	3,662,434.02	3.295E+01	Pulse	0.30	3
Co			2	4.806	ug/l	0.92	20,733.30	1.865E-01	Pulse	0.30	3
Ni			2	305.911	ug/l	1.47	356,711.57	3.210E+00	Pulse	0.30	3
Cu			2	13.958	ug/l	1.34	49,922.23	4.491E-01	Pulse	0.30	3
Zn			2	287.188	ug/l	1.33	135,857.55	1.222E+00	Pulse	0.30	3
As			2	1.727	ug/l	0.71	400.34	3.601E-03	Pulse	1.00	3
Cd			2	0.269	ug/l	15.33	189.14	3.251E-04	Pulse	0.30	3
Sn			2	0.878	ug/l	4.84	1,184.51	2.035E-03	Pulse	0.30	3
Se			3	0.448	ug/l	7.49	45.27	2.393E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,308,996.87	1.01	103.3	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		2,013,035.13	1.51	105.0	Pulse	0.10	3
1	Ge		387,099.12	2.78	108.6	Pulse	0.10	3
1	Ge		532,675.36	2.32	108.2	Pulse	0.10	3
1	Rh		2,488,749.86	2.18	98.9	Pulse	0.10	3
1	In		2,529,876.25	2.55	103.1	Pulse	0.10	3
1	Tb		3,930,347.65	2.17	107.1	Pulse	0.10	3
1	Ho		397,450.23	2.81	107.8	Pulse	0.10	3
1	Bi		2,296,340.64	2.84	99.2	Pulse	0.10	3
2	Sc		111,164.25	2.07	96.3	Pulse	0.30	3
2	Ge		64,998.64	1.77	106.1	Pulse	0.30	3
2	Ge		98,903.01	0.91	105.7	Pulse	0.30	3
2	Rh		1,653,741.36	0.86	96.9	Pulse	0.30	3
2	In		582,196.52	1.17	96.2	Pulse	0.30	3
2	Tb		2,299,027.06	1.56	101.0	Pulse	0.30	3
2	Ho		232,689.23	1.53	102.9	Pulse	0.30	3
2	Bi		1,496,654.07	1.15	96.6	Pulse	0.30	3
3	Sc		197,543.84	0.71	105.2	Pulse	0.30	3
3	Ge		127,096.66	1.52	108.3	Pulse	0.30	3
3	Ge		189,174.41	1.73	106.2	Pulse	0.30	3
3	Rh		1,915,607.77	0.58	98.8	Pulse	0.30	3
3	Tb		3,445,763.47	0.66	103.8	Pulse	0.30	3

Quantitation Report

File Name 034SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 12:10
Sample Name jc99694-3
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.013	ug/l	41.92	45.33	3.512E-05	Pulse	0.25	3
B			1	83.157	ug/l	1.78	197,549.92	1.530E-01	Pulse	0.15	3
Ca			1	119626.697	ug/l	1.43	37,708,634.44	1.893E+01	Analog	0.10	3
Sr			1	536.223	ug/l	1.19	7,698,643.64	3.109E+00	Analog	0.10	3
Mo			1	74.812	ug/l	0.35	216,306.80	8.734E-02	Pulse	0.10	3
Ag			1	0.025	ug/l	16.30	193.34	7.669E-05	Pulse	0.10	3
Sn			1	0.912	ug/l	8.62	3,180.43	1.261E-03	Pulse	0.10	3
Sb			1	1.655	ug/l	4.94	9,746.75	2.484E-03	Pulse	0.10	3
Ba			1	182.749	ug/l	0.30	406,345.35	1.036E-01	Pulse	0.10	3
Tl			1	0.006	ug/l	50.39	133.34	5.729E-05	Pulse	0.10	3
Pb			1	2.003	ug/l	2.91	10,617.54	4.555E-03	Pulse	0.10	3
Pb			1	1.869	ug/l	0.88	8,802.90	3.777E-03	Pulse	0.10	3
Pb			1	1.930	ug/l	2.94	41,193.78	1.768E-02	Pulse	0.10	3
Na			2	3253.244	ug/l	0.62	1,745,352.36	1.583E+01	Pulse	0.30	3
Mg			2	11137.956	ug/l	0.35	2,764,239.20	2.507E+01	Pulse	0.30	3
Al			2	13.185	ug/l	6.85	1,353.41	1.227E-02	Pulse	0.30	3
K			2	3325.855	ug/l	1.28	521,215.90	4.729E+00	Pulse	0.30	3
Ca			2	117811.479	ug/l	1.32	1,001,880.06	9.089E+00	Pulse	0.30	3
Ti			2	0.259	ug/l	45.91	17.78	1.612E-04	Pulse	0.30	3
V			2	0.135	ug/l	18.84	844.48	7.654E-03	Pulse	0.30	3
Cr			2	0.531	ug/l	7.47	1,887.91	1.711E-02	Pulse	0.30	3
Mn			2	624.488	ug/l	1.26	901,138.92	8.175E+00	Pulse	0.30	3
Fe			2	13609.813	ug/l	2.56	29,193,908.84	2.649E+02	Analog	0.30	3
Co			2	2.379	ug/l	1.24	10,191.14	9.243E-02	Pulse	0.30	3
Ni			2	637.362	ug/l	0.80	736,711.24	6.683E+00	Pulse	0.30	3
Cu			2	11.102	ug/l	1.48	40,534.30	3.677E-01	Pulse	0.30	3
Zn			2	2732.174	ug/l	0.81	1,274,249.88	1.156E+01	Pulse	0.30	3
As			2	2.711	ug/l	4.00	618.34	5.611E-03	Pulse	1.00	3
Cd			2	2.356	ug/l	0.54	1,636.11	2.820E-03	Pulse	0.30	3
Sn			2	0.689	ug/l	6.30	928.93	1.600E-03	Pulse	0.30	3
Se			3	0.846	ug/l	3.15	82.80	4.221E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,290,721.38	0.48	101.8	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,992,431.01	1.63	103.9	Pulse	0.10	3
1	Ge		390,788.18	1.84	109.6	Pulse	0.10	3
1	Ge		538,292.74	2.26	109.3	Pulse	0.10	3
1	Rh		2,476,473.14	1.98	98.4	Pulse	0.10	3
1	In		2,527,361.24	2.37	103.0	Pulse	0.10	3
1	Tb		3,920,763.28	2.23	106.8	Pulse	0.10	3
1	Ho		391,210.81	2.65	106.1	Pulse	0.10	3
1	Bi		2,330,751.63	2.74	100.7	Pulse	0.10	3
2	Sc		110,245.99	1.95	95.5	Pulse	0.30	3
2	Ge		65,672.40	1.32	107.2	Pulse	0.30	3
2	Ge		98,496.90	1.23	105.2	Pulse	0.30	3
2	Rh		1,677,682.85	1.13	98.3	Pulse	0.30	3
2	In		580,272.90	1.15	95.8	Pulse	0.30	3
2	Tb		2,283,435.12	1.74	100.3	Pulse	0.30	3
2	Ho		230,323.12	1.17	101.9	Pulse	0.30	3
2	Bi		1,512,776.92	1.33	97.6	Pulse	0.30	3
3	Sc		199,868.42	0.50	106.5	Pulse	0.30	3
3	Ge		130,587.75	1.24	111.3	Pulse	0.30	3
3	Ge		196,172.75	1.38	110.2	Pulse	0.30	3
3	Rh		1,979,914.78	0.23	102.1	Pulse	0.30	3
3	Tb		3,493,346.39	0.27	105.2	Pulse	0.30	3

Quantitation Report

File Name	035SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 12:15
Sample Name	jc99694-4
Sample Type	Sample
Comment	
Prep Dilution	2.000
Auto Dilution	N/A
Total Dilution	2.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.073	ug/l	20.26	241.34	1.765E-04	Pulse	0.25	3
B			1	4.047	ug/l	4.63	20,612.82	1.507E-02	Pulse	0.15	3
Ca			1	211.342	ug/l	3.24	88,002.74	4.224E-02	Pulse	0.10	3
Sr			1	3.911	ug/l	0.72	60,923.03	2.276E-02	Pulse	0.10	3
Mo			1	0.124	ug/l	24.77	450.02	1.678E-04	Pulse	0.10	3
Ag			1	0.014	ug/l	12.54	123.34	4.609E-05	Pulse	0.10	3
Sn			1	0.831	ug/l	1.37	2,977.05	1.113E-03	Pulse	0.10	3
Sb			1	0.006	ug/l	146.00	696.71	1.729E-04	Pulse	0.10	3
Ba			1	3.768	ug/l	2.95	8,662.77	2.148E-03	Pulse	0.10	3
Tl			1	0.004	ug/l	48.30	106.67	4.377E-05	Pulse	0.10	3
Pb			1	0.012	ug/l	70.60	306.68	1.252E-04	Pulse	0.10	3
Pb			1	-0.010	ug/l	-55.00	216.68	8.861E-05	Pulse	0.10	3
Pb			1	0.011	ug/l	26.55	1,183.40	4.840E-04	Pulse	0.10	3
Na			2	93.087	ug/l	1.32	67,130.76	5.924E-01	Pulse	0.30	3
Mg			2	11.759	ug/l	5.32	3,145.89	2.776E-02	Pulse	0.30	3
Al			2	11.223	ug/l	5.56	1,223.40	1.080E-02	Pulse	0.30	3
K			2	43.512	ug/l	2.27	15,784.25	1.393E-01	Pulse	0.30	3
Ca			2	232.231	ug/l	4.32	2,135.72	1.884E-02	Pulse	0.30	3
Ti			2	0.485	ug/l	30.72	33.33	2.940E-04	Pulse	0.30	3
V			2	-0.086	ug/l	-31.97	401.12	3.541E-03	Pulse	0.30	3
Cr			2	0.668	ug/l	3.06	2,325.75	2.052E-02	Pulse	0.30	3
Mn			2	0.603	ug/l	10.59	943.37	8.323E-03	Pulse	0.30	3
Fe			2	8.302	ug/l	0.48	26,477.98	2.336E-01	Pulse	0.30	3
Co			2	0.160	ug/l	2.16	718.85	6.343E-03	Pulse	0.30	3
Ni			2	2.897	ug/l	5.38	3,886.06	3.429E-02	Pulse	0.30	3
Cu			2	15.276	ug/l	1.14	55,158.60	4.867E-01	Pulse	0.30	3
Zn			2	60.813	ug/l	0.82	30,058.77	2.652E-01	Pulse	0.30	3
As			2	0.034	ug/l	51.61	16.33	1.441E-04	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.005	ug/l	113.08	5.51	9.261E-06	Pulse	0.30	3
Sn			2	0.620	ug/l	9.06	858.92	1.441E-03	Pulse	0.30	3
Se			3	0.025	ug/l	64.53	9.13	4.460E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,368,209.49	0.48	107.9	Pulse	0.10	3
1	Sc		2,084,311.69	2.70	108.7	Pulse	0.10	3
1	Ge		416,086.22	2.42	116.7	Pulse	0.10	3
1	Ge		571,734.69	3.07	116.1	Pulse	0.10	3
1	Rh		2,676,741.06	2.12	106.4	Pulse	0.10	3
1	In		2,674,194.90	2.26	108.9	Pulse	0.10	3
1	Tb		4,032,790.36	2.37	109.9	Pulse	0.10	3
1	Ho		402,188.00	2.90	109.1	Pulse	0.10	3
1	Bi		2,443,122.62	2.52	105.5	Pulse	0.10	3
2	Sc		113,326.13	0.44	98.2	Pulse	0.30	3
2	Ge		67,128.16	0.34	109.6	Pulse	0.30	3
2	Ge		102,169.64	1.94	109.2	Pulse	0.30	3
2	Rh		1,771,055.20	0.19	103.8	Pulse	0.30	3
2	In		596,331.92	0.64	98.5	Pulse	0.30	3
2	Tb		2,299,840.95	0.88	101.1	Pulse	0.30	3
2	Ho		229,846.63	0.81	101.7	Pulse	0.30	3
2	Bi		1,554,456.12	0.68	100.3	Pulse	0.30	3
3	Sc		205,571.50	0.58	109.5	Pulse	0.30	3
3	Ge		135,604.30	0.82	115.5	Pulse	0.30	3
3	Ge		204,725.60	1.02	115.0	Pulse	0.30	3
3	Rh		2,121,442.76	1.24	109.4	Pulse	0.30	3
3	Tb		3,580,942.36	1.64	107.9	Pulse	0.30	3

Quantitation Report

File Name 036_CCV.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 12:20
Sample Name CCVA 5
Sample Type CCV
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	48.938	ug/l	0.79	325,812.57	2.285E-01	Pulse	0.25	3
B			1	100.101	ug/l	1.05	509,226.89	3.572E-01	Pulse	0.15	3
Ca			1	4947.542	ug/l	0.15	3,518,086.72	1.574E+00	Pulse	0.10	3
Sr			1	54.633	ug/l	0.64	1,752,644.14	6.336E-01	Pulse	0.10	3
Mo			1	52.220	ug/l	1.09	337,193.65	1.219E-01	Pulse	0.10	3
Ag			1	50.586	ug/l	0.37	816,589.36	2.946E-01	Pulse	0.10	3
Sn			1	51.256	ug/l	0.63	519,363.57	1.874E-01	Pulse	0.10	3
Sb			1	54.476	ug/l	0.66	635,412.31	1.529E-01	Pulse	0.10	3
Ba			1	53.281	ug/l	0.76	251,239.16	6.044E-02	Pulse	0.10	3
Tl			1	52.348	ug/l	0.71	1,657,671.49	6.608E-01	Pulse	0.10	3
Pb			1	52.319	ug/l	0.86	584,376.35	2.329E-01	Pulse	0.10	3
Pb			1	52.090	ug/l	0.39	513,157.01	2.045E-01	Pulse	0.10	3
Pb			1	51.874	ug/l	0.66	2,333,082.61	9.299E-01	Pulse	0.10	3
Na			2	5002.649	ug/l	0.77	5,871,819.49	4.840E+01	Analog	0.30	3
Mg			2	4808.064	ug/l	0.45	2,626,670.94	2.165E+01	Pulse	0.30	3
Al			2	4757.908	ug/l	0.26	866,146.27	7.139E+00	Pulse	0.30	3
K			2	5023.641	ug/l	0.41	1,713,939.20	1.413E+01	Pulse	0.30	3
Ca			2	5170.072	ug/l	1.66	96,893.65	7.986E-01	Pulse	0.30	3
Ti			2	51.400	ug/l	0.84	7,316.13	6.030E-02	Pulse	0.30	3
V			2	53.336	ug/l	0.87	240,927.97	1.986E+00	Pulse	0.30	3
Cr			2	52.064	ug/l	0.26	313,759.47	2.586E+00	Pulse	0.30	3
Mn			2	50.780	ug/l	0.47	161,359.91	1.330E+00	Pulse	0.30	3
Fe			2	5134.150	ug/l	1.70	24,250,687.37	1.999E+02	Analog	0.30	3
Co			2	52.077	ug/l	0.43	490,165.74	4.040E+00	Pulse	0.30	3
Ni			2	51.918	ug/l	0.69	132,496.21	1.092E+00	Pulse	0.30	3
Cu			2	51.554	ug/l	0.55	362,947.30	2.991E+00	Pulse	0.30	3
Zn			2	50.650	ug/l	1.44	52,949.65	4.364E-01	Pulse	0.30	3
As			2	52.111	ug/l	0.24	25,830.35	2.129E-01	Pulse	1.00	3
Cd			2	51.933	ug/l	0.64	77,149.55	1.241E-01	Pulse	0.30	3
Sn			2	52.266	ug/l	0.44	149,515.68	2.406E-01	Pulse	0.30	3
Se			3	203.604	ug/l	1.00	35,556.63	1.871E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,425,680.02	1.11	112.5	Pulse	0.10	3
1	Sc		2,235,416.27	2.35	116.6	Pulse	0.10	3
1	Ge		415,753.08	2.14	116.6	Pulse	0.10	3

Quantitation Report

1	Ge		574,505.98	3.21	116.6	Pulse	0.10	3
1	Rh		2,765,807.66	2.32	109.9	Pulse	0.10	3
1	In		2,771,483.01	2.78	112.9	Pulse	0.10	3
1	Tb		4,156,469.52	2.46	113.3	Pulse	0.10	3
1	Ho		416,556.10	2.34	113.0	Pulse	0.10	3
1	Bi		2,508,684.86	2.83	108.3	Pulse	0.10	3
2	Sc		121,331.82	0.24	105.1	Pulse	0.30	3
2	Ge		66,830.57	1.87	109.1	Pulse	0.30	3
2	Ge		100,303.63	0.66	107.2	Pulse	0.30	3
2	Rh		1,811,368.75	0.12	106.1	Pulse	0.30	3
2	In		621,517.05	0.26	102.7	Pulse	0.30	3
2	Tb		2,380,686.02	0.14	104.6	Pulse	0.30	3
2	Ho		239,039.43	0.60	105.7	Pulse	0.30	3
2	Bi		1,591,240.07	0.25	102.7	Pulse	0.30	3
3	Sc		205,172.42	0.96	109.3	Pulse	0.30	3
3	Ge		125,157.55	0.47	106.6	Pulse	0.30	3
3	Ge		190,013.85	0.49	106.7	Pulse	0.30	3
3	Rh		2,056,065.61	0.14	106.0	Pulse	0.30	3
3	Tb		3,516,858.96	1.17	106.0	Pulse	0.30	3

Quantitation Report

File Name	037_CCB.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 12:25
Sample Name	CCB
Sample Type	CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.005	ug/l	37.29	40.00	2.846E-05	Pulse	0.25	3
B			1	2.160	ug/l	0.77	21,865.49	1.554E-02	Pulse	0.15	3
Ca			1	-1.515	ug/l	-46.48	18,123.88	8.336E-03	Pulse	0.10	3
Sr			1	0.013	ug/l	31.39	643.37	2.301E-04	Pulse	0.10	3
Mo			1	0.117	ug/l	2.09	823.38	2.957E-04	Pulse	0.10	3
Ag			1	0.012	ug/l	29.35	203.34	7.366E-05	Pulse	0.10	3
Sn			1	0.404	ug/l	7.29	2,967.07	1.069E-03	Pulse	0.10	3
Sb			1	0.104	ug/l	26.03	1,923.52	4.553E-04	Pulse	0.10	3
Ba			1	0.005	ug/l	159.86	73.33	1.721E-05	Pulse	0.10	3
Tl			1	0.010	ug/l	9.06	376.69	1.508E-04	Pulse	0.10	3
Pb			1	0.010	ug/l	63.26	356.68	1.431E-04	Pulse	0.10	3
Pb			1	0.006	ug/l	192.23	326.68	1.312E-04	Pulse	0.10	3
Pb			1	0.012	ug/l	28.23	1,506.75	6.038E-04	Pulse	0.10	3
Na			2	2.381	ug/l	6.16	20,198.82	1.664E-01	Pulse	0.30	3
Mg			2	0.126	ug/l	35.47	225.56	1.859E-03	Pulse	0.30	3
Al			2	-0.055	ug/l	-233.62	278.89	2.298E-03	Pulse	0.30	3
K			2	-1.254	ug/l	-12.06	9,094.79	7.494E-02	Pulse	0.30	3
Ca			2	-1.213	ug/l	-133.00	90.00	7.421E-04	Pulse	0.30	3
Ti			2	0.039	ug/l	60.12	6.67	5.485E-05	Pulse	0.30	3
V			2	-0.115	ug/l	-3.87	107.78	8.884E-04	Pulse	0.30	3
Cr			2	0.025	ug/l	31.60	630.02	5.190E-03	Pulse	0.30	3
Mn			2	0.016	ug/l	22.89	103.33	8.512E-04	Pulse	0.30	3
Fe			2	1.308	ug/l	1.89	14,926.86	1.230E-01	Pulse	0.30	3
Co			2	0.003	ug/l	16.22	42.18	3.476E-04	Pulse	0.30	3
Ni			2	-0.047	ug/l	-40.68	356.67	2.939E-03	Pulse	0.30	3
Cu			2	-0.363	ug/l	-2.64	3,696.02	3.045E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Zn			2	-0.594	ug/l	-4.69	376.68	3.103E-03	Pulse	0.30	3
As			2	0.003	ug/l	99.26	10.67	8.792E-05	Pulse	1.00	3
Cd			2	0.004	ug/l	70.66	7.67	1.221E-05	Pulse	0.30	3
Sn			2	0.359	ug/l	8.78	1,048.94	1.669E-03	Pulse	0.30	3
Se			3	0.069	ug/l	30.22	18.60	9.666E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,406,730.79	0.45	111.0	Pulse	0.10	3
1	Sc		2,175,038.51	2.79	113.5	Pulse	0.10	3
1	Ge		405,756.90	3.27	113.8	Pulse	0.10	3
1	Ge		561,679.55	2.42	114.0	Pulse	0.10	3
1	Rh		2,785,367.04	2.78	110.7	Pulse	0.10	3
1	In		2,771,934.93	3.15	112.9	Pulse	0.10	3
1	Tb		4,236,068.90	4.57	115.4	Mix	0.10	3
1	Ho		406,074.25	2.62	110.1	Pulse	0.10	3
1	Bi		2,498,885.01	2.17	107.9	Pulse	0.10	3
2	Sc		121,366.04	0.45	105.2	Pulse	0.30	3
2	Ge		66,895.88	0.68	109.2	Pulse	0.30	3
2	Ge		101,754.77	0.56	108.7	Pulse	0.30	3
2	Rh		1,842,953.47	0.38	108.0	Pulse	0.30	3
2	In		628,579.24	1.02	103.8	Pulse	0.30	3
2	Tb		2,335,281.16	0.18	102.6	Pulse	0.30	3
2	Ho		235,882.52	0.20	104.3	Pulse	0.30	3
2	Bi		1,598,970.36	0.47	103.2	Pulse	0.30	3
3	Sc		207,132.54	1.27	110.3	Pulse	0.30	3
3	Ge		127,785.80	0.67	108.9	Pulse	0.30	3
3	Ge		192,675.52	1.00	108.2	Pulse	0.30	3
3	Rh		2,124,052.83	0.67	109.6	Pulse	0.30	3
3	Tb		3,522,977.64	0.55	106.1	Pulse	0.30	3

Quantitation Report

File Name	038SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 12:30
Sample Name	jc99694-5 4
Sample Type	Sample
Comment	
Prep Dilution	2.000
Auto Dilution	N/A
Total Dilution	2.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.026	ug/l	27.43	88.00	6.696E-05	Pulse	0.25	3
B			1	111.128	ug/l	0.96	265,253.51	2.018E-01	Pulse	0.15	3
Ca			1	67284.312	ug/l	1.98	21,237,751.35	1.065E+01	Analog	0.10	3
Sr			1	620.464	ug/l	2.01	8,849,774.87	3.598E+00	Analog	0.10	3
Mo			1	0.603	ug/l	2.57	1,786.84	7.265E-04	Pulse	0.10	3
Ag			1	0.039	ug/l	3.80	293.34	1.174E-04	Pulse	0.10	3
Sn			1	1.541	ug/l	4.04	6,028.03	2.413E-03	Pulse	0.10	3
Sb			1	0.272	ug/l	23.61	2,126.90	5.461E-04	Pulse	0.10	3
Ba			1	278.118	ug/l	1.40	612,746.05	1.577E-01	Pulse	0.10	3
Tl			1	0.017	ug/l	16.76	296.68	1.294E-04	Pulse	0.10	3
Pb			1	0.495	ug/l	11.13	2,757.05	1.200E-03	Pulse	0.10	3
Pb			1	0.474	ug/l	12.63	2,380.29	1.039E-03	Pulse	0.10	3
Pb			1	0.486	ug/l	2.87	10,868.65	4.739E-03	Pulse	0.10	3
Na			2	33947.548	ug/l	2.30	17,856,941.51	1.639E+02	Analog	0.30	3
Mg			2	11963.827	ug/l	1.67	2,935,266.90	2.693E+01	Pulse	0.30	3
Al			2	475.524	ug/l	2.14	39,125.77	3.590E-01	Pulse	0.30	3
K			2	7163.035	ug/l	1.43	1,100,043.25	1.009E+01	Pulse	0.30	3
Ca			2	65819.085	ug/l	1.24	553,473.22	5.078E+00	Pulse	0.30	3
Ti			2	7.167	ug/l	23.67	460.02	4.213E-03	Pulse	0.30	3
V			2	0.407	ug/l	6.49	1,384.52	1.270E-02	Pulse	0.30	3
Cr			2	0.943	ug/l	2.69	2,979.18	2.733E-02	Pulse	0.30	3
Mn			2	1284.347	ug/l	1.19	1,832,434.93	1.681E+01	Pulse	0.30	3
Fe			2	59496.111	ug/l	1.46	126,178,177.21	1.158E+03	Analog	0.30	3
Co			2	44.453	ug/l	0.96	187,931.63	1.724E+00	Pulse	0.30	3
Ni			2	4.917	ug/l	3.08	6,043.40	5.546E-02	Pulse	0.30	3
Cu			2	39.742	ug/l	1.58	129,083.10	1.184E+00	Pulse	0.30	3
Zn			2	57.377	ug/l	1.19	27,325.11	2.507E-01	Pulse	0.30	3
As			2	6.149	ug/l	2.52	1,376.39	1.263E-02	Pulse	1.00	3
Cd			2	0.003	ug/l	86.92	4.28	7.587E-06	Pulse	0.30	3
Sn			2	1.334	ug/l	8.43	1,747.90	3.086E-03	Pulse	0.30	3
Se			3	0.306	ug/l	16.56	33.20	1.739E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,314,229.60	0.09	103.7	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,994,421.53	1.36	104.0	Pulse	0.10	3
1	Ge		396,597.22	0.96	111.2	Pulse	0.10	3
1	Ge		537,083.74	1.13	109.0	Pulse	0.10	3
1	Rh		2,460,124.65	1.09	97.8	Pulse	0.10	3
1	In		2,496,896.74	1.53	101.7	Pulse	0.10	3
1	Tb		3,885,708.38	2.42	105.9	Pulse	0.10	3
1	Ho		392,809.94	2.68	106.5	Pulse	0.10	3
1	Bi		2,294,546.22	2.37	99.1	Pulse	0.10	3
2	Sc		108,999.62	1.47	94.4	Pulse	0.30	3
2	Ge		65,095.90	1.42	106.3	Pulse	0.30	3
2	Ge		97,448.52	1.10	104.1	Pulse	0.30	3
2	Rh		1,639,911.22	1.12	96.1	Pulse	0.30	3
2	In		566,694.27	1.25	93.6	Pulse	0.30	3
2	Tb		2,243,633.31	0.71	98.6	Pulse	0.30	3
2	Ho		224,389.62	0.91	99.3	Pulse	0.30	3
2	Bi		1,465,976.54	0.73	94.6	Pulse	0.30	3
3	Sc		195,774.64	0.54	104.3	Pulse	0.30	3
3	Ge		128,802.33	1.35	109.7	Pulse	0.30	3
3	Ge		190,983.03	1.16	107.3	Pulse	0.30	3
3	Rh		1,919,310.48	0.41	99.0	Pulse	0.30	3
3	Tb		3,420,906.60	0.96	103.1	Pulse	0.30	3

Quantitation Report

File Name 039SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 12:35
Sample Name jc99694-6
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.015	ug/l	11.36	53.33	4.077E-05	Pulse	0.25	3
B			1	176.483	ug/l	1.55	413,497.60	3.158E-01	Pulse	0.15	3
Ca			1	124854.195	ug/l	1.90	40,099,374.40	1.976E+01	Analog	0.10	3
Sr			1	649.696	ug/l	2.65	9,504,566.31	3.767E+00	Analog	0.10	3
Mo			1	14.195	ug/l	1.44	41,879.24	1.659E-02	Pulse	0.10	3
Ag			1	0.140	ug/l	5.98	1,060.08	4.125E-04	Pulse	0.10	3
Sn			1	1.377	ug/l	6.22	5,427.83	2.112E-03	Pulse	0.10	3
Sb			1	5.481	ug/l	1.34	31,185.20	7.847E-03	Pulse	0.10	3
Ba			1	216.619	ug/l	0.61	488,217.28	1.228E-01	Pulse	0.10	3
Tl			1	0.029	ug/l	24.31	473.36	2.043E-04	Pulse	0.10	3
Pb			1	10.173	ug/l	1.14	52,851.85	2.273E-02	Pulse	0.10	3
Pb			1	9.766	ug/l	2.99	44,832.53	1.927E-02	Pulse	0.10	3
Pb			1	9.994	ug/l	0.96	209,106.80	8.992E-02	Pulse	0.10	3
Na			2	20820.825	ug/l	1.34	11,216,755.67	1.006E+02	Analog	0.30	3
Mg			2	13191.712	ug/l	0.69	3,312,813.06	2.970E+01	Pulse	0.30	3
Al			2	69.736	ug/l	1.99	6,100.08	5.468E-02	Pulse	0.30	3
K			2	6170.929	ug/l	1.05	971,227.81	8.706E+00	Pulse	0.30	3
Ca			2	121685.807	ug/l	1.00	1,047,233.88	9.388E+00	Pulse	0.30	3
Ti			2	1.140	ug/l	29.66	75.56	6.782E-04	Pulse	0.30	3
V			2	0.269	ug/l	8.22	1,130.05	1.013E-02	Pulse	0.30	3
Cr			2	1.821	ug/l	2.53	5,476.51	4.910E-02	Pulse	0.30	3
Mn			2	2049.403	ug/l	0.67	2,992,773.14	2.683E+01	Pulse	0.30	3
Fe			2	15001.258	ug/l	0.64	32,569,766.48	2.920E+02	Analog	0.30	3
Co			2	78.446	ug/l	0.52	339,419.93	3.043E+00	Pulse	0.30	3
Ni			2	4875.602	ug/l	0.25	5,699,725.05	5.109E+01	Analog	0.30	3
Cu			2	39.222	ug/l	1.74	130,466.31	1.170E+00	Pulse	0.30	3
Zn			2	21981.144	ug/l	1.19	10,367,299.31	9.294E+01	Analog	0.30	3
As			2	5.416	ug/l	1.48	1,242.05	1.113E-02	Pulse	1.00	3
Cd			2	7.723	ug/l	3.60	5,377.72	9.233E-03	Pulse	0.30	3
Sn			2	1.214	ug/l	1.93	1,635.66	2.808E-03	Pulse	0.30	3
Se			3	1.475	ug/l	2.24	137.53	7.112E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,309,388.16	1.32	103.3	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		2,030,351.01	2.35	105.9	Pulse	0.10	3
1	Ge		399,987.36	2.45	112.2	Pulse	0.10	3
1	Ge		550,096.18	2.84	111.7	Pulse	0.10	3
1	Rh		2,524,365.12	3.01	100.3	Pulse	0.10	3
1	In		2,567,047.25	3.06	104.6	Pulse	0.10	3
1	Tb		3,974,022.13	2.47	108.3	Pulse	0.10	3
1	Ho		397,385.17	3.30	107.8	Pulse	0.10	3
1	Bi		2,325,439.45	2.77	100.4	Pulse	0.10	3
2	Sc		111,554.14	0.90	96.7	Pulse	0.30	3
2	Ge		65,852.05	0.60	107.5	Pulse	0.30	3
2	Ge		100,726.89	0.60	107.6	Pulse	0.30	3
2	Rh		1,693,355.45	0.77	99.2	Pulse	0.30	3
2	In		582,465.99	0.55	96.2	Pulse	0.30	3
2	Tb		2,293,853.17	0.95	100.8	Pulse	0.30	3
2	Ho		232,144.97	1.19	102.7	Pulse	0.30	3
2	Bi		1,501,106.26	1.33	96.8	Pulse	0.30	3
3	Sc		200,850.05	0.51	107.0	Pulse	0.30	3
3	Ge		129,458.39	1.32	110.3	Pulse	0.30	3
3	Ge		193,419.73	1.47	108.6	Pulse	0.30	3
3	Rh		1,986,528.46	0.62	102.5	Pulse	0.30	3
3	Tb		3,520,525.97	0.34	106.1	Pulse	0.30	3

Quantitation Report

File Name 040SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 12:40
Sample Name jc99694-7
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.008	ug/l	20.38	30.67	2.352E-05	Pulse	0.25	3
B			1	194.815	ug/l	1.10	453,742.53	3.478E-01	Pulse	0.15	3
Ca			1	129113.456	ug/l	1.68	41,222,432.72	2.043E+01	Analog	0.10	3
Sr			1	929.608	ug/l	1.80	13,375,046.47	5.390E+00	Analog	0.10	3
Mo			1	1.331	ug/l	3.89	3,913.97	1.576E-03	Pulse	0.10	3
Ag			1	0.023	ug/l	2.36	183.34	7.213E-05	Pulse	0.10	3
Sn			1	0.944	ug/l	4.33	3,357.15	1.320E-03	Pulse	0.10	3
Sb			1	0.160	ug/l	14.02	1,540.14	3.882E-04	Pulse	0.10	3
Ba			1	223.737	ug/l	0.83	503,787.35	1.269E-01	Pulse	0.10	3
Tl			1	0.030	ug/l	4.59	480.03	2.090E-04	Pulse	0.10	3
Pb			1	3.442	ug/l	2.73	17,821.35	7.756E-03	Pulse	0.10	3
Pb			1	3.343	ug/l	2.85	15,321.87	6.669E-03	Pulse	0.10	3
Pb			1	3.422	ug/l	2.24	71,330.10	3.104E-02	Pulse	0.10	3
Na			2	23703.517	ug/l	1.15	12,710,706.44	1.145E+02	Analog	0.30	3
Mg			2	24579.779	ug/l	1.54	6,144,852.81	5.533E+01	Analog	0.30	3
Al			2	49.694	ug/l	5.67	4,402.85	3.965E-02	Pulse	0.30	3
K			2	7641.426	ug/l	0.45	1,195,151.03	1.076E+01	Pulse	0.30	3
Ca			2	126806.320	ug/l	0.92	1,086,429.75	9.783E+00	Pulse	0.30	3
Ti			2	1.281	ug/l	41.78	84.45	7.609E-04	Pulse	0.30	3
V			2	0.066	ug/l	35.75	707.80	6.374E-03	Pulse	0.30	3
Cr			2	0.865	ug/l	3.10	2,819.17	2.538E-02	Pulse	0.30	3
Mn			2	1205.440	ug/l	0.76	1,752,354.83	1.578E+01	Pulse	0.30	3
Fe			2	6432.174	ug/l	0.80	13,906,906.12	1.252E+02	Analog	0.30	3
Co			2	3.614	ug/l	0.82	15,581.07	1.403E-01	Pulse	0.30	3
Ni			2	3.502	ug/l	3.66	4,511.78	4.063E-02	Pulse	0.30	3
Cu			2	8.562	ug/l	0.88	32,792.71	2.953E-01	Pulse	0.30	3
Zn			2	20.741	ug/l	2.80	10,641.34	9.582E-02	Pulse	0.30	3
As			2	2.512	ug/l	1.33	578.01	5.205E-03	Pulse	1.00	3
Cd			2	0.053	ug/l	27.45	38.56	6.723E-05	Pulse	0.30	3
Sn			2	0.761	ug/l	1.75	1,014.49	1.766E-03	Pulse	0.30	3
Se			3	0.217	ug/l	2.16	25.80	1.330E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,304,589.91	0.82	102.9	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		2,018,059.35	1.22	105.3	Pulse	0.10	3
1	Ge		394,682.94	1.82	110.7	Pulse	0.10	3
1	Ge		548,200.36	1.77	111.3	Pulse	0.10	3
1	Rh		2,481,774.75	1.73	98.6	Pulse	0.10	3
1	In		2,541,648.50	1.56	103.5	Pulse	0.10	3
1	Tb		3,970,636.09	2.00	108.2	Pulse	0.10	3
1	Ho		396,128.13	1.74	107.4	Pulse	0.10	3
1	Bi		2,298,433.46	2.32	99.3	Pulse	0.10	3
2	Sc		111,050.24	0.35	96.2	Pulse	0.30	3
2	Ge		65,559.75	1.93	107.0	Pulse	0.30	3
2	Ge		99,466.20	1.93	106.3	Pulse	0.30	3
2	Rh		1,655,870.49	0.56	97.0	Pulse	0.30	3
2	In		574,541.76	1.05	94.9	Pulse	0.30	3
2	Tb		2,254,345.95	1.26	99.1	Pulse	0.30	3
2	Ho		228,421.67	2.07	101.0	Pulse	0.30	3
2	Bi		1,463,295.78	1.48	94.4	Pulse	0.30	3
3	Sc		202,753.31	0.74	108.0	Pulse	0.30	3
3	Ge		128,670.95	0.10	109.6	Pulse	0.30	3
3	Ge		193,994.24	0.28	108.9	Pulse	0.30	3
3	Rh		1,967,650.69	0.65	101.5	Pulse	0.30	3
3	Tb		3,486,531.95	1.00	105.0	Pulse	0.30	3

Quantitation Report

File Name 041SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 12:46
Sample Name SAMPLECONF
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.988	ug/l	3.53	3,098.99	2.312E-03	Pulse	0.25	3
B			1	9.370	ug/l	1.07	32,642.77	2.435E-02	Pulse	0.15	3
Ca			1	987.380	ug/l	1.10	338,840.23	1.650E-01	Pulse	0.10	3
Sr			1	7.704	ug/l	0.70	116,902.63	4.475E-02	Pulse	0.10	3
Mo			1	1.169	ug/l	7.71	3,627.23	1.387E-03	Pulse	0.10	3
Ag			1	1.049	ug/l	4.21	8,002.30	3.059E-03	Pulse	0.10	3
Sn			1	1.851	ug/l	1.26	7,802.20	2.982E-03	Pulse	0.10	3
Sb			1	1.097	ug/l	3.89	6,748.35	1.702E-03	Pulse	0.10	3
Ba			1	3.625	ug/l	3.22	8,189.11	2.068E-03	Pulse	0.10	3
Tl			1	1.043	ug/l	0.39	15,979.17	6.604E-03	Pulse	0.10	3
Pb			1	1.071	ug/l	2.80	6,004.77	2.480E-03	Pulse	0.10	3
Pb			1	1.106	ug/l	5.15	5,521.24	2.279E-03	Pulse	0.10	3
Pb			1	1.094	ug/l	0.85	24,645.55	1.019E-02	Pulse	0.10	3
Na			2	387.638	ug/l	1.51	227,990.87	2.013E+00	Pulse	0.30	3
Mg			2	259.787	ug/l	2.05	66,385.77	5.861E-01	Pulse	0.30	3
Al			2	81.586	ug/l	12.23	7,201.41	6.356E-02	Pulse	0.30	3
K			2	221.209	ug/l	2.36	43,915.30	3.877E-01	Pulse	0.30	3
Ca			2	1044.158	ug/l	2.61	9,228.20	8.148E-02	Pulse	0.30	3
Ti			2	1.505	ug/l	6.41	101.11	8.924E-04	Pulse	0.30	3
V			2	0.981	ug/l	0.66	2,644.69	2.335E-02	Pulse	0.30	3
Cr			2	1.548	ug/l	3.89	4,795.20	4.233E-02	Pulse	0.30	3
Mn			2	28.985	ug/l	2.99	43,021.47	3.799E-01	Pulse	0.30	3
Fe			2	768.931	ug/l	1.40	1,702,848.23	1.503E+01	Pulse	0.30	3
Co			2	1.411	ug/l	2.77	6,214.41	5.486E-02	Pulse	0.30	3
Ni			2	2.186	ug/l	3.04	3,040.31	2.684E-02	Pulse	0.30	3
Cu			2	49.419	ug/l	1.71	165,407.70	1.460E+00	Pulse	0.30	3
Zn			2	22.879	ug/l	1.52	11,876.62	1.049E-01	Pulse	0.30	3
As			2	18.601	ug/l	1.25	4,310.58	3.806E-02	Pulse	1.00	3
Cd			2	0.992	ug/l	3.66	700.86	1.189E-03	Pulse	0.30	3
Sn			2	1.670	ug/l	4.93	2,274.63	3.859E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	4.410	ug/l	3.59	413.28	2.059E-03	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,340,576.82	0.35	105.8	Pulse	0.10	3
1	Sc		2,054,224.87	2.80	107.2	Pulse	0.10	3
1	Ge		401,008.08	2.11	112.5	Pulse	0.10	3
1	Ge		555,181.57	2.43	112.7	Pulse	0.10	3
1	Rh		2,612,003.45	2.23	103.8	Pulse	0.10	3
1	In		2,615,861.57	2.45	106.6	Pulse	0.10	3
1	Tb		3,963,288.17	3.37	108.0	Pulse	0.10	3
1	Ho		398,104.21	2.92	107.9	Pulse	0.10	3
1	Bi		2,419,912.73	2.84	104.5	Pulse	0.10	3
2	Sc		113,271.35	0.59	98.1	Pulse	0.30	3
2	Ge		67,107.06	1.21	109.5	Pulse	0.30	3
2	Ge		101,547.77	1.41	108.5	Pulse	0.30	3
2	Rh		1,740,497.26	0.69	102.0	Pulse	0.30	3
2	In		589,570.56	0.77	97.4	Pulse	0.30	3
2	Tb		2,288,211.99	0.85	100.5	Pulse	0.30	3
2	Ho		229,941.35	0.24	101.7	Pulse	0.30	3
2	Bi		1,544,225.15	0.53	99.6	Pulse	0.30	3
3	Sc		205,841.93	0.55	109.7	Pulse	0.30	3
3	Ge		133,794.06	1.26	114.0	Pulse	0.30	3
3	Ge		200,731.91	1.25	112.7	Pulse	0.30	3
3	Rh		2,103,722.41	0.27	108.5	Pulse	0.30	3
3	Tb		3,565,461.25	0.53	107.4	Pulse	0.30	3

Quantitation Report

File Name 042SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 12:50
Sample Name SAMPLECONF
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.108	ug/l	15.06	309.34	2.563E-04	Pulse	0.25	3
B			1	487.404	ug/l	1.70	1,035,204.99	8.581E-01	Pulse	0.15	3
Ca			1	40180.327	ug/l	0.50	12,134,850.65	6.364E+00	Analog	0.10	3
Sr			1	171.784	ug/l	0.90	2,265,554.18	9.961E-01	Pulse	0.10	3
Mo			1	0.512	ug/l	4.01	1,410.12	6.202E-04	Pulse	0.10	3
Ag			1	0.108	ug/l	15.25	753.38	3.179E-04	Pulse	0.10	3
Sn			1	1.042	ug/l	3.67	3,560.53	1.500E-03	Pulse	0.10	3
Sb			1	0.694	ug/l	2.49	4,210.71	1.137E-03	Pulse	0.10	3
Ba			1	125.866	ug/l	0.99	264,430.62	7.139E-02	Pulse	0.10	3
Tl			1	0.106	ug/l	11.62	1,420.12	6.930E-04	Pulse	0.10	3
Pb			1	1.001	ug/l	11.67	4,770.93	2.324E-03	Pulse	0.10	3
Pb			1	0.921	ug/l	5.69	3,937.34	1.917E-03	Pulse	0.10	3
Pb			1	0.984	ug/l	1.30	18,892.13	9.202E-03	Pulse	0.10	3
Na			2	586733.688	ug/l	1.38	295,054,619.39	2.830E+03	Analog	0.30	3
Mg			2	7661.737	ug/l	0.45	1,798,539.45	1.725E+01	Pulse	0.30	3
Al			2	69.278	ug/l	2.72	5,665.48	5.433E-02	Pulse	0.30	3
K			2	2490.880	ug/l	0.37	371,314.95	3.561E+00	Pulse	0.30	3
Ca			2	38617.673	ug/l	0.58	310,719.64	2.980E+00	Pulse	0.30	3
Ti			2	2.746	ug/l	6.32	168.89	1.620E-03	Pulse	0.30	3
V			2	1.361	ug/l	5.69	3,169.22	3.040E-02	Pulse	0.30	3
Cr			2	1.596	ug/l	3.87	4,536.23	4.351E-02	Pulse	0.30	3
Mn			2	1308.683	ug/l	0.44	1,786,315.63	1.713E+01	Pulse	0.30	3
Fe			2	195.364	ug/l	0.68	403,890.08	3.874E+00	Pulse	0.30	3
Co			2	0.748	ug/l	2.94	3,038.11	2.914E-02	Pulse	0.30	3
Ni			2	5.708	ug/l	3.40	6,646.96	6.374E-02	Pulse	0.30	3
Cu			2	10.368	ug/l	1.43	36,158.65	3.468E-01	Pulse	0.30	3
Zn			2	15.591	ug/l	2.04	7,720.79	7.404E-02	Pulse	0.30	3
As			2	2.211	ug/l	3.38	478.68	4.591E-03	Pulse	1.00	3
Cd			2	2.400	ug/l	2.01	1,533.31	2.872E-03	Pulse	0.30	3
Sn			2	0.887	ug/l	5.04	1,097.83	2.056E-03	Pulse	0.30	3
Se			3	0.524	ug/l	9.18	45.40	2.739E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,206,322.32	0.56	95.2	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,906,974.71	1.30	99.5	Pulse	0.10	3
1	Ge		365,432.72	1.23	102.5	Pulse	0.10	3
1	Ge		510,254.80	1.82	103.6	Pulse	0.10	3
1	Rh		2,274,700.54	2.61	90.4	Pulse	0.10	3
1	In		2,375,777.50	2.44	96.8	Pulse	0.10	3
1	Tb		3,704,762.13	2.73	100.9	Pulse	0.10	3
1	Ho		370,162.10	3.55	100.4	Pulse	0.10	3
1	Bi		2,052,608.46	2.39	88.6	Pulse	0.10	3
2	Sc		104,272.10	0.83	90.3	Pulse	0.30	3
2	Ge		60,497.17	1.65	98.7	Pulse	0.30	3
2	Ge		91,353.60	1.00	97.6	Pulse	0.30	3
2	Rh		1,486,924.24	0.39	87.1	Pulse	0.30	3
2	In		533,900.82	0.46	88.2	Pulse	0.30	3
2	Tb		2,116,402.77	0.42	93.0	Pulse	0.30	3
2	Ho		212,884.20	1.57	94.2	Pulse	0.30	3
2	Bi		1,311,422.31	0.43	84.6	Pulse	0.30	3
3	Sc		178,768.40	0.27	95.2	Pulse	0.30	3
3	Ge		110,674.37	1.11	94.3	Pulse	0.30	3
3	Ge		165,649.15	0.98	93.0	Pulse	0.30	3
3	Rh		1,682,557.53	0.59	86.8	Pulse	0.30	3
3	Tb		3,118,599.18	0.32	94.0	Pulse	0.30	3

Quantitation Report

File Name 043SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 12:56
Sample Name SAMPLECONF
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.025	ug/l	33.41	73.33	6.439E-05	Pulse	0.25	3
B			1	490.981	ug/l	0.85	985,350.31	8.643E-01	Pulse	0.15	3
Ca			1	42454.937	ug/l	2.36	12,130,226.07	6.723E+00	Analog	0.10	3
Sr			1	187.155	ug/l	0.49	2,353,607.36	1.085E+00	Pulse	0.10	3
Mo			1	0.541	ug/l	17.50	1,423.45	6.552E-04	Pulse	0.10	3
Ag			1	0.035	ug/l	16.58	240.01	1.061E-04	Pulse	0.10	3
Sn			1	0.935	ug/l	7.02	2,940.38	1.304E-03	Pulse	0.10	3
Sb			1	0.572	ug/l	9.03	3,425.50	9.656E-04	Pulse	0.10	3
Ba			1	133.964	ug/l	1.88	269,240.24	7.598E-02	Pulse	0.10	3
Tl			1	0.019	ug/l	48.36	273.35	1.393E-04	Pulse	0.10	3
Pb			1	0.910	ug/l	9.24	4,190.76	2.122E-03	Pulse	0.10	3
Pb			1	0.858	ug/l	6.22	3,550.58	1.792E-03	Pulse	0.10	3
Pb			1	0.903	ug/l	3.82	16,764.46	8.475E-03	Pulse	0.10	3
Na			2	693219.168	ug/l	0.56	335,109,817.80	3.343E+03	Analog	0.30	3
Mg			2	8129.001	ug/l	0.62	1,834,375.69	1.830E+01	Pulse	0.30	3
Al			2	17.362	ug/l	7.15	1,543.46	1.540E-02	Pulse	0.30	3
K			2	2548.471	ug/l	0.71	365,008.49	3.642E+00	Pulse	0.30	3
Ca			2	41281.043	ug/l	0.53	319,287.62	3.185E+00	Pulse	0.30	3
Ti			2	0.664	ug/l	29.51	40.00	3.990E-04	Pulse	0.30	3
V			2	0.980	ug/l	9.15	2,337.97	2.333E-02	Pulse	0.30	3
Cr			2	1.201	ug/l	8.13	3,380.39	3.373E-02	Pulse	0.30	3
Mn			2	1443.617	ug/l	1.08	1,894,175.76	1.890E+01	Pulse	0.30	3
Fe			2	46.788	ug/l	1.83	98,478.69	9.825E-01	Pulse	0.30	3
Co			2	0.521	ug/l	5.91	2,041.00	2.036E-02	Pulse	0.30	3
Ni			2	4.785	ug/l	0.72	5,419.84	5.407E-02	Pulse	0.30	3
Cu			2	11.275	ug/l	0.82	37,352.36	3.727E-01	Pulse	0.30	3
Zn			2	12.220	ug/l	3.16	5,993.38	5.979E-02	Pulse	0.30	3
As			2	0.504	ug/l	6.92	110.67	1.104E-03	Pulse	1.00	3
Cd			2	2.575	ug/l	2.34	1,584.44	3.081E-03	Pulse	0.30	3
Sn			2	0.729	ug/l	3.46	871.15	1.694E-03	Pulse	0.30	3
Se			3	0.179	ug/l	12.99	18.40	1.158E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,139,990.58	1.11	89.9	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,804,605.03	1.58	94.1	Pulse	0.10	3
1	Ge		349,251.43	1.63	98.0	Pulse	0.10	3
1	Ge		482,143.61	2.42	97.9	Pulse	0.10	3
1	Rh		2,168,745.44	1.78	86.2	Pulse	0.10	3
1	In		2,256,014.87	2.48	91.9	Pulse	0.10	3
1	Tb		3,544,640.99	2.66	96.6	Pulse	0.10	3
1	Ho		357,862.83	1.54	97.0	Pulse	0.10	3
1	Bi		1,978,909.50	3.37	85.5	Pulse	0.10	3
2	Sc		100,234.15	0.31	86.8	Pulse	0.30	3
2	Ge		56,983.47	0.92	93.0	Pulse	0.30	3
2	Ge		87,412.14	0.89	93.4	Pulse	0.30	3
2	Rh		1,415,697.76	0.23	82.9	Pulse	0.30	3
2	In		514,240.44	1.45	84.9	Pulse	0.30	3
2	Tb		2,049,213.39	1.28	90.0	Pulse	0.30	3
2	Ho		207,808.56	1.22	91.9	Pulse	0.30	3
2	Bi		1,265,065.23	0.75	81.6	Pulse	0.30	3
3	Sc		168,854.41	0.56	89.9	Pulse	0.30	3
3	Ge		106,109.06	2.62	90.4	Pulse	0.30	3
3	Ge		158,795.61	1.07	89.2	Pulse	0.30	3
3	Rh		1,619,539.90	0.57	83.5	Pulse	0.30	3
3	Tb		3,040,841.62	0.36	91.6	Pulse	0.30	3

Quantitation Report

File Name 044_CCV.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 13:02
Sample Name CCVA 5
Sample Type CCV
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	49.120	ug/l	0.95	281,843.83	2.294E-01	Pulse	0.25	3
B			1	102.349	ug/l	1.03	448,518.24	3.650E-01	Pulse	0.15	3
Ca			1	4938.957	ug/l	0.56	2,970,750.68	1.571E+00	Pulse	0.10	3
Sr			1	53.457	ug/l	0.97	1,530,503.57	6.200E-01	Pulse	0.10	3
Mo			1	51.525	ug/l	0.76	297,017.94	1.203E-01	Pulse	0.10	3
Ag			1	50.023	ug/l	0.86	720,154.55	2.913E-01	Pulse	0.10	3
Sn			1	50.969	ug/l	1.08	460,702.62	1.864E-01	Pulse	0.10	3
Sb			1	53.481	ug/l	1.14	565,982.84	1.501E-01	Pulse	0.10	3
Ba			1	52.258	ug/l	0.47	223,566.43	5.928E-02	Pulse	0.10	3
Tl			1	52.337	ug/l	0.62	1,528,450.65	6.607E-01	Pulse	0.10	3
Pb			1	51.664	ug/l	0.50	532,050.76	2.300E-01	Pulse	0.10	3
Pb			1	51.185	ug/l	0.63	465,031.76	2.010E-01	Pulse	0.10	3
Pb			1	51.470	ug/l	0.27	2,134,739.80	9.226E-01	Pulse	0.10	3
Na			2	5104.670	ug/l	0.89	5,247,705.49	4.938E+01	Analog	0.30	3
Mg			2	4870.048	ug/l	0.97	2,330,328.94	2.193E+01	Pulse	0.30	3
Al			2	4897.695	ug/l	0.83	780,940.72	7.348E+00	Pulse	0.30	3
K			2	5054.694	ug/l	0.57	1,510,482.65	1.421E+01	Pulse	0.30	3
Ca			2	5289.976	ug/l	1.04	86,837.57	8.171E-01	Pulse	0.30	3
Ti			2	50.666	ug/l	0.44	6,316.83	5.944E-02	Pulse	0.30	3
V			2	53.225	ug/l	0.73	210,589.58	1.982E+00	Pulse	0.30	3
Cr			2	52.214	ug/l	0.90	275,607.82	2.593E+00	Pulse	0.30	3
Mn			2	52.089	ug/l	1.21	144,973.18	1.364E+00	Pulse	0.30	3
Fe			2	5288.304	ug/l	0.83	21,879,022.46	2.059E+02	Analog	0.30	3
Co			2	52.056	ug/l	1.20	429,150.74	4.038E+00	Pulse	0.30	3
Ni			2	51.984	ug/l	0.63	116,199.92	1.093E+00	Pulse	0.30	3
Cu			2	51.507	ug/l	0.54	317,615.80	2.989E+00	Pulse	0.30	3
Zn			2	51.723	ug/l	1.55	47,343.70	4.455E-01	Pulse	0.30	3
As			2	52.538	ug/l	0.85	22,809.86	2.146E-01	Pulse	1.00	3
Cd			2	51.797	ug/l	0.59	70,609.72	1.238E-01	Pulse	0.30	3
Sn			2	52.181	ug/l	1.25	136,968.90	2.402E-01	Pulse	0.30	3
Se			3	205.419	ug/l	0.41	32,151.02	1.888E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,228,661.55	0.62	96.9	Pulse	0.10	3
1	Sc		1,890,887.78	2.62	98.6	Pulse	0.10	3
1	Ge		357,184.46	4.17	100.2	Pulse	0.10	3

Quantitation Report

1	Ge		497,290.41	3.19	101.0	Pulse	0.10	3
1	Rh		2,468,898.87	2.82	98.1	Pulse	0.10	3
1	In		2,471,775.45	2.62	100.7	Pulse	0.10	3
1	Tb		3,771,620.15	3.29	102.8	Pulse	0.10	3
1	Ho		378,077.87	2.54	102.5	Pulse	0.10	3
1	Bi		2,313,608.82	3.23	99.9	Pulse	0.10	3
2	Sc		106,274.75	0.25	92.1	Pulse	0.30	3
2	Ge		59,357.37	1.01	96.9	Pulse	0.30	3
2	Ge		90,003.97	0.33	96.2	Pulse	0.30	3
2	Rh		1,618,438.27	0.51	94.8	Pulse	0.30	3
2	In		570,323.68	0.78	94.2	Pulse	0.30	3
2	Tb		2,211,675.40	0.63	97.2	Pulse	0.30	3
2	Ho		223,026.08	0.38	98.7	Pulse	0.30	3
2	Bi		1,483,234.14	0.74	95.7	Pulse	0.30	3
3	Sc		181,281.64	0.52	96.6	Pulse	0.30	3
3	Ge		112,794.79	0.30	96.1	Pulse	0.30	3
3	Ge		170,293.94	0.29	95.6	Pulse	0.30	3
3	Rh		1,867,242.15	0.29	96.3	Pulse	0.30	3
3	Tb		3,306,379.52	0.37	99.6	Pulse	0.30	3

Quantitation Report

File Name 045_CCB.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 13:07
Sample Name CCB
Sample Type CCB
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.005	ug/l	18.26	33.33	2.674E-05	Pulse	0.25	3
B			1	5.006	ug/l	1.16	31,776.71	2.547E-02	Pulse	0.15	3
Ca			1	-3.607	ug/l	-7.20	14,533.46	7.674E-03	Pulse	0.10	3
Sr			1	0.010	ug/l	19.90	500.03	1.994E-04	Pulse	0.10	3
Mo			1	0.149	ug/l	11.33	933.40	3.715E-04	Pulse	0.10	3
Ag			1	0.015	ug/l	32.23	226.68	9.066E-05	Pulse	0.10	3
Sn			1	0.442	ug/l	5.66	3,023.74	1.210E-03	Pulse	0.10	3
Sb			1	0.139	ug/l	15.10	2,066.88	5.529E-04	Pulse	0.10	3
Ba			1	0.012	ug/l	9.35	93.33	2.498E-05	Pulse	0.10	3
Tl			1	0.008	ug/l	24.85	283.35	1.211E-04	Pulse	0.10	3
Pb			1	0.014	ug/l	64.11	373.35	1.600E-04	Pulse	0.10	3
Pb			1	0.002	ug/l	329.18	270.01	1.153E-04	Pulse	0.10	3
Pb			1	0.012	ug/l	1.79	1,400.08	5.986E-04	Pulse	0.10	3
Na			2	19.463	ug/l	5.04	35,259.95	3.312E-01	Pulse	0.30	3
Mg			2	0.265	ug/l	38.24	264.45	2.487E-03	Pulse	0.30	3
Al			2	0.217	ug/l	90.98	287.79	2.705E-03	Pulse	0.30	3
K			2	0.255	ug/l	274.61	8,427.77	7.916E-02	Pulse	0.30	3
Ca			2	0.006	ug/l	23763.64	98.89	9.301E-04	Pulse	0.30	3
Ti			2	0.001	ug/l	2296.53	1.11	1.034E-05	Pulse	0.30	3
V			2	-0.113	ug/l	-2.21	102.22	9.598E-04	Pulse	0.30	3
Cr			2	0.029	ug/l	65.83	572.24	5.379E-03	Pulse	0.30	3
Mn			2	0.018	ug/l	68.40	96.67	9.096E-04	Pulse	0.30	3
Fe			2	1.573	ug/l	5.15	14,195.12	1.333E-01	Pulse	0.30	3
Co			2	0.002	ug/l	82.16	32.18	3.031E-04	Pulse	0.30	3
Ni			2	-0.056	ug/l	-12.69	293.34	2.754E-03	Pulse	0.30	3
Cu			2	-0.408	ug/l	-1.95	2,969.19	2.788E-02	Pulse	0.30	3
Zn			2	-0.617	ug/l	-6.08	310.01	2.909E-03	Pulse	0.30	3
As			2	0.005	ug/l	170.20	10.33	9.692E-05	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.007	ug/l	20.69	11.01	1.904E-05	Pulse	0.30	3
Sn			2	0.402	ug/l	5.48	1,078.94	1.867E-03	Pulse	0.30	3
Se			3	0.081	ug/l	18.22	18.40	1.073E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,247,546.03	0.98	98.4	Pulse	0.10	3
1	Sc		1,893,995.75	1.69	98.8	Pulse	0.10	3
1	Ge		355,286.52	2.27	99.6	Pulse	0.10	3
1	Ge		490,503.51	1.91	99.6	Pulse	0.10	3
1	Rh		2,510,241.42	1.59	99.8	Pulse	0.10	3
1	In		2,499,325.92	2.08	101.8	Pulse	0.10	3
1	Tb		3,735,641.72	1.45	101.8	Pulse	0.10	3
1	Ho		372,879.58	2.00	101.1	Pulse	0.10	3
1	Bi		2,338,934.96	1.76	101.0	Pulse	0.10	3
2	Sc		106,489.09	1.16	92.3	Pulse	0.30	3
2	Ge		60,077.70	0.33	98.1	Pulse	0.30	3
2	Ge		89,428.63	0.60	95.6	Pulse	0.30	3
2	Rh		1,648,234.07	0.37	96.6	Pulse	0.30	3
2	In		577,815.63	0.69	95.4	Pulse	0.30	3
2	Tb		2,195,730.40	0.88	96.5	Pulse	0.30	3
2	Ho		220,422.38	0.51	97.5	Pulse	0.30	3
2	Bi		1,508,752.65	0.50	97.3	Pulse	0.30	3
3	Sc		183,783.56	0.76	97.9	Pulse	0.30	3
3	Ge		113,281.02	1.08	96.5	Pulse	0.30	3
3	Ge		171,411.00	0.09	96.3	Pulse	0.30	3
3	Rh		1,944,800.90	0.54	100.3	Pulse	0.30	3
3	Tb		3,314,911.33	0.54	99.9	Pulse	0.30	3

Quantitation Report

File Name 046SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 13:12
Sample Name jc99501-1 4
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.028	ug/l	38.07	76.00	7.076E-05	Pulse	0.25	3
B			1	1172.979	ug/l	0.64	2,200,293.66	2.054E+00	Pulse	0.15	3
Ca			1	512146.982	ug/l	1.71	138,566,574.60	8.101E+01	Analog	0.10	3
Sr			1	935.189	ug/l	2.22	11,011,609.42	5.422E+00	Analog	0.10	3
Mo			1	15.767	ug/l	1.82	37,434.75	1.843E-02	Pulse	0.10	3
Ag			1	0.059	ug/l	18.09	380.02	1.768E-04	Pulse	0.10	3
Sn			1	1.086	ug/l	0.71	3,387.17	1.580E-03	Pulse	0.10	3
Sb			1	0.267	ug/l	14.38	1,850.18	5.378E-04	Pulse	0.10	3
Ba			1	18.636	ug/l	2.26	36,403.59	1.058E-02	Pulse	0.10	3
Tl			1	0.005	ug/l	71.43	100.00	5.280E-05	Pulse	0.10	3
Pb			1	0.141	ug/l	8.07	776.72	4.112E-04	Pulse	0.10	3
Pb			1	0.098	ug/l	45.22	566.70	3.004E-04	Pulse	0.10	3
Pb			1	0.113	ug/l	12.64	2,646.84	1.402E-03	Pulse	0.10	3
Na			2	691840.768	ug/l	1.02	315,960,991.89	3.337E+03	Analog	0.30	3
Mg			2	41230.787	ug/l	1.87	8,788,711.87	9.282E+01	Analog	0.30	3
Al			2	51.265	ug/l	1.72	3,866.05	4.083E-02	Pulse	0.30	3
K			2	26359.288	ug/l	0.35	3,497,529.37	3.693E+01	Pulse	0.30	3
Ca			2	492187.095	ug/l	0.20	3,595,805.27	3.797E+01	Pulse	0.30	3
Ti			2	3.688	ug/l	11.74	205.56	2.173E-03	Pulse	0.30	3
V			2	0.583	ug/l	4.86	1,511.20	1.596E-02	Pulse	0.30	3
Cr			2	5.949	ug/l	2.80	14,340.77	1.515E-01	Pulse	0.30	3
Mn			2	7636.189	ug/l	3.21	9,463,891.01	9.996E+01	Analog	0.30	3
Fe			2	34853.611	ug/l	1.64	64,223,864.11	6.783E+02	Analog	0.30	3
Co			2	1.325	ug/l	2.16	4,879.65	5.154E-02	Pulse	0.30	3
Ni			2	9.867	ug/l	1.04	10,163.24	1.073E-01	Pulse	0.30	3
Cu			2	0.938	ug/l	11.73	7,375.06	7.790E-02	Pulse	0.30	3
Zn			2	0.493	ug/l	20.27	966.71	1.021E-02	Pulse	0.30	3
As			2	0.723	ug/l	3.86	147.00	1.552E-03	Pulse	1.00	3
Cd			2	0.001	ug/l	633.16	2.55	5.194E-06	Pulse	0.30	3
Sn			2	1.003	ug/l	2.50	1,147.83	2.323E-03	Pulse	0.30	3
Se			3	0.217	ug/l	7.18	19.80	1.331E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,071,346.56	1.13	84.5	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,710,855.70	2.01	89.3	Pulse	0.10	3
1	Ge		333,955.47	2.17	93.7	Pulse	0.10	3
1	Ge		456,604.93	1.55	92.7	Pulse	0.10	3
1	Rh		2,031,262.68	1.81	80.7	Pulse	0.10	3
1	In		2,143,901.05	2.36	87.3	Pulse	0.10	3
1	Tb		3,440,279.43	2.36	93.7	Pulse	0.10	3
1	Ho		348,055.57	1.84	94.4	Pulse	0.10	3
1	Bi		1,887,683.93	1.46	81.5	Pulse	0.10	3
2	Sc		94,702.39	1.31	82.1	Pulse	0.30	3
2	Ge		54,595.39	1.78	89.1	Pulse	0.30	3
2	Ge		82,604.42	2.25	88.3	Pulse	0.30	3
2	Rh		1,332,254.56	1.02	78.1	Pulse	0.30	3
2	In		494,052.23	1.09	81.6	Pulse	0.30	3
2	Tb		1,995,855.75	1.21	87.7	Pulse	0.30	3
2	Ho		201,584.31	0.84	89.2	Pulse	0.30	3
2	Bi		1,211,450.65	1.52	78.2	Pulse	0.30	3
3	Sc		162,144.28	0.72	86.4	Pulse	0.30	3
3	Ge		98,675.15	0.90	84.1	Pulse	0.30	3
3	Ge		148,750.96	0.39	83.5	Pulse	0.30	3
3	Rh		1,531,407.82	0.29	79.0	Pulse	0.30	3
3	Tb		2,945,391.20	0.46	88.7	Pulse	0.30	3

Quantitation Report

File Name 047SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 13:18
Sample Name mp18781-s3 5
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	69.480	ug/l	1.63	177,442.80	1.622E-01	Pulse	0.25	3
B			1	224.343	ug/l	1.94	436,728.89	3.993E-01	Pulse	0.15	3
Ca			1	52563.141	ug/l	3.09	13,864,993.96	8.322E+00	Analog	0.10	3
Sr			1	485.776	ug/l	1.95	6,187,502.82	2.817E+00	Analog	0.10	3
Mo			1	81.837	ug/l	0.56	209,931.37	9.554E-02	Pulse	0.10	3
Ag			1	75.368	ug/l	1.15	494,419.64	2.195E-01	Pulse	0.10	3
Sn			1	79.606	ug/l	1.38	327,600.78	1.454E-01	Pulse	0.10	3
Sb			1	76.771	ug/l	0.36	387,511.43	1.078E-01	Pulse	0.10	3
Ba			1	121.189	ug/l	0.51	247,107.25	6.873E-02	Pulse	0.10	3
Tl			1	77.899	ug/l	1.15	1,063,816.31	4.917E-01	Pulse	0.10	3
Pb			1	79.962	ug/l	0.52	385,125.61	1.780E-01	Pulse	0.10	3
Pb			1	80.092	ug/l	0.67	340,326.57	1.573E-01	Pulse	0.10	3
Pb			1	79.849	ug/l	0.56	1,548,563.26	7.158E-01	Pulse	0.10	3
Na			2	16872.489	ug/l	1.27	7,715,906.08	8.151E+01	Analog	0.30	3
Mg			2	10199.183	ug/l	0.76	2,173,504.70	2.296E+01	Pulse	0.30	3
Al			2	3678.914	ug/l	0.45	261,392.11	2.761E+00	Pulse	0.30	3
K			2	12114.841	ug/l	0.49	1,610,834.38	1.702E+01	Pulse	0.30	3
Ca			2	52027.593	ug/l	0.59	380,010.93	4.014E+00	Pulse	0.30	3
Ti			2	75.308	ug/l	0.61	4,181.69	4.418E-02	Pulse	0.30	3
V			2	80.259	ug/l	0.52	141,546.72	1.495E+00	Pulse	0.30	3
Cr			2	76.667	ug/l	0.51	180,329.30	1.905E+00	Pulse	0.30	3
Mn			2	1987.130	ug/l	1.49	2,462,349.97	2.601E+01	Pulse	0.30	3
Fe			2	69028.574	ug/l	1.07	127,150,003.84	1.343E+03	Analog	0.30	3
Co			2	94.108	ug/l	1.26	345,531.12	3.650E+00	Pulse	0.30	3
Ni			2	81.457	ug/l	0.80	81,171.68	8.575E-01	Pulse	0.30	3
Cu			2	77.440	ug/l	1.05	213,876.91	2.259E+00	Pulse	0.30	3
Zn			2	71.469	ug/l	0.87	29,373.05	3.103E-01	Pulse	0.30	3
As			2	1558.171	ug/l	1.20	301,192.17	3.182E+00	Pulse	1.00	3
Cd			2	73.473	ug/l	0.42	45,797.03	8.781E-02	Pulse	0.30	3
Sn			2	81.561	ug/l	0.24	97,891.16	1.877E-01	Pulse	0.30	3
Se			3	332.311	ug/l	1.19	26,054.98	1.527E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,093,695.93	0.87	86.3	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,666,919.72	2.64	87.0	Pulse	0.10	3
1	Ge		350,122.14	2.70	98.2	Pulse	0.10	3
1	Ge		473,212.57	3.69	96.1	Pulse	0.10	3
1	Rh		2,197,295.96	2.05	87.3	Pulse	0.10	3
1	In		2,252,848.91	2.72	91.8	Pulse	0.10	3
1	Tb		3,595,393.91	2.97	98.0	Pulse	0.10	3
1	Ho		363,245.06	3.16	98.5	Pulse	0.10	3
1	Bi		2,163,636.58	2.55	93.4	Pulse	0.10	3
2	Sc		94,661.12	0.36	82.0	Pulse	0.30	3
2	Ge		58,829.89	1.39	96.0	Pulse	0.30	3
2	Ge		87,859.44	1.10	93.9	Pulse	0.30	3
2	Rh		1,495,702.75	1.70	87.6	Pulse	0.30	3
2	In		521,533.46	1.47	86.1	Pulse	0.30	3
2	Tb		2,113,045.47	1.50	92.8	Pulse	0.30	3
2	Ho		214,047.70	1.19	94.7	Pulse	0.30	3
2	Bi		1,410,441.37	1.16	91.0	Pulse	0.30	3
3	Sc		179,516.00	0.20	95.6	Pulse	0.30	3
3	Ge		115,245.48	0.75	98.2	Pulse	0.30	3
3	Ge		170,623.49	1.04	95.8	Pulse	0.30	3
3	Rh		1,821,444.37	0.89	93.9	Pulse	0.30	3
3	Tb		3,329,792.71	1.38	100.3	Pulse	0.30	3

Quantitation Report

File Name 048SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 13:23
Sample Name mp18781-s4
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	69.799	ug/l	1.06	190,595.01	1.630E-01	Pulse	0.25	3
B			1	224.017	ug/l	1.13	466,302.36	3.987E-01	Pulse	0.15	3
Ca			1	53354.514	ug/l	1.15	15,072,657.27	8.447E+00	Analog	0.10	3
Sr			1	497.186	ug/l	3.33	6,585,011.99	2.883E+00	Analog	0.10	3
Mo			1	83.159	ug/l	0.33	221,884.45	9.709E-02	Pulse	0.10	3
Ag			1	76.664	ug/l	1.26	525,870.06	2.233E-01	Pulse	0.10	3
Sn			1	80.697	ug/l	0.41	347,344.66	1.474E-01	Pulse	0.10	3
Sb			1	78.828	ug/l	0.81	412,744.43	1.107E-01	Pulse	0.10	3
Ba			1	124.400	ug/l	0.75	263,153.95	7.055E-02	Pulse	0.10	3
Tl			1	78.013	ug/l	0.70	1,102,076.00	4.924E-01	Pulse	0.10	3
Pb			1	79.615	ug/l	1.24	396,685.11	1.772E-01	Pulse	0.10	3
Pb			1	79.805	ug/l	0.90	350,792.26	1.567E-01	Pulse	0.10	3
Pb			1	79.777	ug/l	0.30	1,600,543.80	7.151E-01	Pulse	0.10	3
Na			2	17220.977	ug/l	1.58	8,177,951.62	8.319E+01	Analog	0.30	3
Mg			2	10256.030	ug/l	0.36	2,269,621.64	2.309E+01	Pulse	0.30	3
Al			2	3691.300	ug/l	1.09	272,338.13	2.771E+00	Pulse	0.30	3
K			2	12372.693	ug/l	0.59	1,708,164.93	1.738E+01	Pulse	0.30	3
Ca			2	52403.842	ug/l	0.38	397,482.41	4.043E+00	Pulse	0.30	3
Ti			2	78.016	ug/l	3.39	4,499.55	4.576E-02	Pulse	0.30	3
V			2	80.616	ug/l	0.41	147,642.34	1.502E+00	Pulse	0.30	3
Cr			2	77.948	ug/l	0.56	190,383.37	1.937E+00	Pulse	0.30	3
Mn			2	2010.245	ug/l	0.55	2,586,831.56	2.632E+01	Pulse	0.30	3
Fe			2	70487.200	ug/l	1.14	134,822,999.09	1.372E+03	Analog	0.30	3
Co			2	95.425	ug/l	0.49	363,842.24	3.701E+00	Pulse	0.30	3
Ni			2	83.233	ug/l	0.65	86,126.72	8.761E-01	Pulse	0.30	3
Cu			2	77.324	ug/l	0.75	221,781.08	2.256E+00	Pulse	0.30	3
Zn			2	71.026	ug/l	0.74	30,318.08	3.084E-01	Pulse	0.30	3
As			2	1601.811	ug/l	0.06	321,529.87	3.271E+00	Pulse	1.00	3
Cd			2	74.238	ug/l	1.09	47,302.95	8.872E-02	Pulse	0.30	3
Sn			2	82.599	ug/l	1.23	101,340.56	1.901E-01	Pulse	0.30	3
Se			3	329.340	ug/l	0.95	26,784.74	1.514E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,169,431.44	1.19	92.3	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,784,522.32	1.73	93.1	Pulse	0.10	3
1	Ge		367,278.78	2.60	103.0	Pulse	0.10	3
1	Ge		499,149.47	3.37	101.3	Pulse	0.10	3
1	Rh		2,285,533.04	2.65	90.8	Pulse	0.10	3
1	In		2,355,908.53	3.63	96.0	Pulse	0.10	3
1	Tb		3,730,418.59	3.64	101.6	Pulse	0.10	3
1	Ho		375,760.78	2.49	101.9	Pulse	0.10	3
1	Bi		2,238,147.57	2.99	96.7	Pulse	0.10	3
2	Sc		98,300.81	0.95	85.2	Pulse	0.30	3
2	Ge		60,488.10	1.54	98.7	Pulse	0.30	3
2	Ge		90,685.76	1.34	96.9	Pulse	0.30	3
2	Rh		1,540,736.19	1.33	90.3	Pulse	0.30	3
2	In		533,140.35	0.79	88.1	Pulse	0.30	3
2	Tb		2,146,415.75	0.39	94.3	Pulse	0.30	3
2	Ho		216,844.17	1.00	95.9	Pulse	0.30	3
2	Bi		1,430,042.37	0.84	92.3	Pulse	0.30	3
3	Sc		185,617.93	0.51	98.9	Pulse	0.30	3
3	Ge		118,642.96	0.33	101.1	Pulse	0.30	3
3	Ge		176,979.74	0.77	99.4	Pulse	0.30	3
3	Rh		1,880,837.43	0.64	97.0	Pulse	0.30	3
3	Tb		3,378,552.99	0.89	101.8	Pulse	0.30	3

Quantitation Report

File Name 049SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 13:28
Sample Name jc99822-1
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.026	ug/l	36.92	78.67	6.481E-05	Pulse	0.25	3
B			1	144.734	ug/l	1.19	315,492.27	2.604E-01	Pulse	0.15	3
Ca			1	49524.513	ug/l	1.27	14,318,674.79	7.842E+00	Analog	0.10	3
Sr			1	403.809	ug/l	2.22	5,520,307.21	2.341E+00	Analog	0.10	3
Mo			1	2.089	ug/l	5.80	5,807.97	2.462E-03	Pulse	0.10	3
Ag			1	0.029	ug/l	22.74	213.34	8.899E-05	Pulse	0.10	3
Sn			1	0.985	ug/l	11.60	3,363.83	1.394E-03	Pulse	0.10	3
Sb			1	0.276	ug/l	9.93	2,070.22	5.507E-04	Pulse	0.10	3
Ba			1	48.639	ug/l	1.13	103,799.42	2.759E-02	Pulse	0.10	3
Tl			1	0.035	ug/l	13.78	550.03	2.445E-04	Pulse	0.10	3
Pb			1	0.133	ug/l	16.18	886.73	3.925E-04	Pulse	0.10	3
Pb			1	0.118	ug/l	11.21	766.71	3.405E-04	Pulse	0.10	3
Pb			1	0.122	ug/l	6.49	3,340.27	1.482E-03	Pulse	0.10	3
Na			2	13214.283	ug/l	1.26	6,324,953.36	6.387E+01	Analog	0.30	3
Mg			2	6463.811	ug/l	1.32	1,441,072.55	1.455E+01	Pulse	0.30	3
Al			2	8.227	ug/l	9.20	846.70	8.549E-03	Pulse	0.30	3
K			2	8420.721	ug/l	0.91	1,173,675.82	1.185E+01	Pulse	0.30	3
Ca			2	48110.265	ug/l	0.51	367,624.57	3.712E+00	Pulse	0.30	3
Ti			2	0.558	ug/l	41.29	33.33	3.366E-04	Pulse	0.30	3
V			2	0.363	ug/l	1.95	1,176.72	1.188E-02	Pulse	0.30	3
Cr			2	1.567	ug/l	6.08	4,237.26	4.279E-02	Pulse	0.30	3
Mn			2	1927.218	ug/l	0.78	2,498,340.66	2.523E+01	Pulse	0.30	3
Fe			2	66329.265	ug/l	0.81	127,817,461.59	1.291E+03	Analog	0.30	3
Co			2	17.246	ug/l	2.07	66,254.06	6.691E-01	Pulse	0.30	3
Ni			2	5.751	ug/l	1.92	6,356.85	6.419E-02	Pulse	0.30	3
Cu			2	0.722	ug/l	13.42	7,103.83	7.173E-02	Pulse	0.30	3
Zn			2	7.585	ug/l	1.89	3,980.54	4.019E-02	Pulse	0.30	3
As			2	1511.103	ug/l	0.55	305,567.61	3.086E+00	Pulse	1.00	3
Cd			2	0.007	ug/l	78.52	6.24	1.164E-05	Pulse	0.30	3
Sn			2	0.805	ug/l	1.06	1,005.60	1.868E-03	Pulse	0.30	3
Se			3	0.237	ug/l	15.11	24.93	1.420E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,211,328.04	0.90	95.6	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,826,294.50	1.91	95.3	Pulse	0.10	3
1	Ge		375,369.49	3.05	105.3	Pulse	0.10	3
1	Ge		506,030.79	3.07	102.7	Pulse	0.10	3
1	Rh		2,358,300.38	1.91	93.7	Pulse	0.10	3
1	In		2,406,221.46	2.87	98.0	Pulse	0.10	3
1	Tb		3,762,213.38	1.75	102.5	Pulse	0.10	3
1	Ho		379,963.13	2.75	103.0	Pulse	0.10	3
1	Bi		2,254,719.70	2.62	97.4	Pulse	0.10	3
2	Sc		99,029.44	0.31	85.8	Pulse	0.30	3
2	Ge		61,378.14	1.20	100.2	Pulse	0.30	3
2	Ge		90,677.92	0.67	96.9	Pulse	0.30	3
2	Rh		1,559,986.40	0.83	91.4	Pulse	0.30	3
2	In		538,502.39	1.49	88.9	Pulse	0.30	3
2	Tb		2,154,957.55	0.52	94.7	Pulse	0.30	3
2	Ho		219,332.63	0.72	97.0	Pulse	0.30	3
2	Bi		1,434,464.94	1.13	92.5	Pulse	0.30	3
3	Sc		184,874.52	0.61	98.5	Pulse	0.30	3
3	Ge		117,783.65	0.91	100.3	Pulse	0.30	3
3	Ge		175,513.08	0.89	98.6	Pulse	0.30	3
3	Rh		1,894,144.58	0.78	97.7	Pulse	0.30	3
3	Tb		3,406,830.42	0.92	102.6	Pulse	0.30	3

Quantitation Report

File Name 050SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 13:33
Sample Name mp18781-sd1
Sample Type Sample
Comment
Prep Dilution 10.000
Auto Dilution N/A
Total Dilution 10.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.002	ug/l	323.95	8.00	6.219E-06	Pulse	0.25	3
B			1	192.615	ug/l	2.00	96,479.80	7.520E-02	Pulse	0.15	3
Ca			1	49306.173	ug/l	0.19	3,094,672.46	1.568E+00	Pulse	0.10	3
Sr			1	391.075	ug/l	1.24	1,166,356.44	4.536E-01	Pulse	0.10	3
Mo			1	1.606	ug/l	2.59	1,023.40	3.981E-04	Pulse	0.10	3
Ag			1	0.061	ug/l	31.58	103.34	3.972E-05	Pulse	0.10	3
Sn			1	2.152	ug/l	2.66	980.07	3.782E-04	Pulse	0.10	3
Sb			1	0.144	ug/l	20.39	800.05	2.046E-04	Pulse	0.10	3
Ba			1	54.336	ug/l	1.25	24,159.67	6.174E-03	Pulse	0.10	3
Tl			1	0.020	ug/l	38.63	113.33	4.671E-05	Pulse	0.10	3
Pb			1	0.060	ug/l	70.01	300.01	1.243E-04	Pulse	0.10	3
Pb			1	0.014	ug/l	519.77	276.68	1.144E-04	Pulse	0.10	3
Pb			1	0.074	ug/l	37.20	1,253.40	5.181E-04	Pulse	0.10	3
Na			2	15435.806	ug/l	1.23	1,628,775.25	1.503E+01	Pulse	0.30	3
Mg			2	8554.305	ug/l	1.58	417,453.25	3.853E+00	Pulse	0.30	3
Al			2	7.314	ug/l	14.44	376.67	3.477E-03	Pulse	0.30	3
K			2	8853.263	ug/l	1.46	276,750.03	2.554E+00	Pulse	0.30	3
Ca			2	52153.490	ug/l	1.50	87,287.60	8.056E-01	Pulse	0.30	3
Ti			2	1.493	ug/l	17.97	20.00	1.846E-04	Pulse	0.30	3
V			2	-0.730	ug/l	-2.67	263.34	2.430E-03	Pulse	0.30	3
Cr			2	0.600	ug/l	10.36	750.03	6.920E-03	Pulse	0.30	3
Mn			2	2047.593	ug/l	0.67	580,942.39	5.361E+00	Pulse	0.30	3
Fe			2	70386.385	ug/l	1.32	29,688,425.49	2.740E+02	Analog	0.30	3
Co			2	17.602	ug/l	2.02	14,813.36	1.367E-01	Pulse	0.30	3
Ni			2	6.079	ug/l	3.59	1,806.79	1.667E-02	Pulse	0.30	3
Cu			2	-3.726	ug/l	-6.49	3,238.14	2.989E-02	Pulse	0.30	3
Zn			2	10.187	ug/l	6.04	1,814.56	1.674E-02	Pulse	0.30	3
As			2	1666.344	ug/l	0.50	73,749.71	6.806E-01	Pulse	1.00	3
Cd			2	0.024	ug/l	56.42	5.46	9.293E-06	Pulse	0.30	3
Sn			2	1.031	ug/l	10.10	287.78	4.899E-04	Pulse	0.30	3
Se			3	0.029	ug/l	505.01	6.40	3.597E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,283,229.33	1.69	101.2	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,973,024.24	2.04	102.9	Pulse	0.10	3
1	Ge		376,085.70	2.18	105.5	Pulse	0.10	3
1	Ge		517,848.99	1.57	105.1	Pulse	0.10	3
1	Rh		2,571,766.94	2.82	102.2	Pulse	0.10	3
1	In		2,593,324.52	2.48	105.6	Pulse	0.10	3
1	Tb		3,912,371.61	2.33	106.6	Pulse	0.10	3
1	Ho		395,165.99	2.50	107.2	Pulse	0.10	3
1	Bi		2,421,689.60	3.45	104.6	Pulse	0.10	3
2	Sc		108,364.40	0.97	93.9	Pulse	0.30	3
2	Ge		61,614.49	1.19	100.6	Pulse	0.30	3
2	Ge		93,152.92	1.49	99.5	Pulse	0.30	3
2	Rh		1,688,265.52	0.83	98.9	Pulse	0.30	3
2	In		587,444.02	0.74	97.0	Pulse	0.30	3
2	Tb		2,248,988.94	0.90	98.8	Pulse	0.30	3
2	Ho		226,372.14	1.63	100.1	Pulse	0.30	3
2	Bi		1,541,243.72	1.15	99.4	Pulse	0.30	3
3	Sc		189,562.44	0.51	101.0	Pulse	0.30	3
3	Ge		117,877.79	1.02	100.4	Pulse	0.30	3
3	Ge		178,065.12	0.52	100.0	Pulse	0.30	3
3	Rh		1,951,687.84	0.20	100.7	Pulse	0.30	3
3	Tb		3,384,953.75	0.68	102.0	Pulse	0.30	3

Quantitation Report

File Name	051SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 13:38
Sample Name	mp18781-ps1
Sample Type	Sample
Comment	
Prep Dilution	2.000
Auto Dilution	N/A
Total Dilution	2.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	71.662	ug/l	1.03	210,481.07	1.673E-01	Pulse	0.25	3
B			1	206.023	ug/l	0.56	462,065.09	3.673E-01	Pulse	0.15	3
Ca			1	49286.527	ug/l	1.27	14,794,596.03	7.804E+00	Analog	0.10	3
Sr			1	461.070	ug/l	3.52	6,429,143.03	2.673E+00	Analog	0.10	3
Mo			1	84.555	ug/l	0.94	237,556.33	9.872E-02	Pulse	0.10	3
Ag			1	76.152	ug/l	1.03	552,217.51	2.218E-01	Pulse	0.10	3
Sn			1	81.624	ug/l	0.66	371,405.34	1.491E-01	Pulse	0.10	3
Sb			1	82.111	ug/l	0.23	441,478.72	1.153E-01	Pulse	0.10	3
Ba			1	124.438	ug/l	0.70	270,301.79	7.058E-02	Pulse	0.10	3
Tl			1	82.551	ug/l	1.27	1,187,214.77	5.211E-01	Pulse	0.10	3
Pb			1	80.360	ug/l	1.15	407,519.90	1.789E-01	Pulse	0.10	3
Pb			1	80.337	ug/l	0.91	359,465.40	1.578E-01	Pulse	0.10	3
Pb			1	80.161	ug/l	0.71	1,637,203.91	7.186E-01	Pulse	0.10	3
Na			2	16066.175	ug/l	0.15	8,145,091.34	7.762E+01	Analog	0.30	3
Mg			2	9727.339	ug/l	0.51	2,297,774.56	2.190E+01	Pulse	0.30	3
Al			2	3817.419	ug/l	0.41	300,639.56	2.865E+00	Pulse	0.30	3
K			2	11614.781	ug/l	0.47	1,712,201.04	1.632E+01	Pulse	0.30	3
Ca			2	47782.999	ug/l	0.75	386,868.81	3.687E+00	Pulse	0.30	3
Ti			2	81.148	ug/l	2.17	4,994.14	4.760E-02	Pulse	0.30	3
V			2	83.914	ug/l	0.81	164,022.24	1.563E+00	Pulse	0.30	3
Cr			2	81.014	ug/l	0.74	211,196.92	2.013E+00	Pulse	0.30	3
Mn			2	1808.098	ug/l	1.17	2,483,526.22	2.367E+01	Pulse	0.30	3
Fe			2	63425.771	ug/l	0.74	129,504,030.41	1.234E+03	Analog	0.30	3
Co			2	96.533	ug/l	0.92	392,866.82	3.744E+00	Pulse	0.30	3
Ni			2	84.198	ug/l	0.82	92,987.91	8.862E-01	Pulse	0.30	3
Cu			2	80.145	ug/l	1.72	245,163.09	2.337E+00	Pulse	0.30	3
Zn			2	79.302	ug/l	0.35	36,032.93	3.434E-01	Pulse	0.30	3
As			2	1421.155	ug/l	1.02	304,494.57	2.902E+00	Pulse	1.00	3
Cd			2	77.622	ug/l	1.35	51,419.93	9.277E-02	Pulse	0.30	3
Sn			2	84.482	ug/l	0.71	107,754.59	1.944E-01	Pulse	0.30	3
Se			3	365.095	ug/l	0.38	30,187.77	1.678E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,257,827.08	0.93	99.2	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,896,026.48	1.59	98.9	Pulse	0.10	3
1	Ge		381,669.72	2.56	107.0	Pulse	0.10	3
1	Ge		520,914.66	2.74	105.8	Pulse	0.10	3
1	Rh		2,406,352.67	2.76	95.6	Pulse	0.10	3
1	In		2,490,641.71	3.25	101.5	Pulse	0.10	3
1	Tb		3,830,030.47	2.59	104.4	Pulse	0.10	3
1	Ho		388,755.03	2.52	105.4	Pulse	0.10	3
1	Bi		2,278,309.08	2.36	98.4	Pulse	0.10	3
2	Sc		104,928.42	0.74	90.9	Pulse	0.30	3
2	Ge		62,623.86	0.70	102.2	Pulse	0.30	3
2	Ge		93,747.27	0.32	100.2	Pulse	0.30	3
2	Rh		1,611,052.44	0.69	94.4	Pulse	0.30	3
2	In		554,250.67	1.11	91.5	Pulse	0.30	3
2	Tb		2,205,544.84	0.64	96.9	Pulse	0.30	3
2	Ho		223,829.61	1.25	99.0	Pulse	0.30	3
2	Bi		1,463,521.37	0.67	94.4	Pulse	0.30	3
3	Sc		192,983.80	0.87	102.8	Pulse	0.30	3
3	Ge		121,239.60	0.84	103.3	Pulse	0.30	3
3	Ge		179,926.08	0.07	101.0	Pulse	0.30	3
3	Rh		1,911,276.31	0.77	98.6	Pulse	0.30	3
3	Tb		3,405,430.07	0.58	102.6	Pulse	0.30	3

Quantitation Report

File Name 052SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 13:43
Sample Name jc99501-2 4
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.009	ug/l	81.86	28.00	2.619E-05	Pulse	0.25	3
B			1	374.141	ug/l	0.18	706,016.41	6.606E-01	Pulse	0.15	3
Ca			1	538614.154	ug/l	2.17	150,330,201.09	8.520E+01	Analog	0.10	3
Sr			1	3299.277	ug/l	2.18	38,872,293.59	1.913E+01	Analog	0.10	3
Mo			1	68.311	ug/l	0.58	162,081.00	7.976E-02	Pulse	0.10	3
Ag			1	0.051	ug/l	19.98	330.02	1.535E-04	Pulse	0.10	3
Sn			1	0.935	ug/l	6.84	2,807.03	1.304E-03	Pulse	0.10	3
Sb			1	0.253	ug/l	11.79	1,786.83	5.183E-04	Pulse	0.10	3
Ba			1	30.399	ug/l	1.90	59,424.14	1.725E-02	Pulse	0.10	3
Tl			1	0.024	ug/l	13.63	316.68	1.746E-04	Pulse	0.10	3
Pb			1	0.118	ug/l	15.58	653.37	3.606E-04	Pulse	0.10	3
Pb			1	0.111	ug/l	7.45	590.03	3.260E-04	Pulse	0.10	3
Pb			1	0.123	ug/l	7.37	2,690.21	1.485E-03	Pulse	0.10	3
Na			2	1234582.422	ug/l	2.28	595,359,496.34	5.954E+03	Analog	0.30	3
Mg			2	20703.442	ug/l	2.25	4,660,488.43	4.661E+01	Analog	0.30	3
Al			2	13.963	ug/l	7.57	1,284.52	1.285E-02	Pulse	0.30	3
K			2	62549.731	ug/l	2.04	8,752,705.76	8.753E+01	Analog	0.30	3
Ca			2	517249.359	ug/l	0.80	3,990,494.70	3.990E+01	Pulse	0.30	3
Ti			2	2.056	ug/l	46.98	121.12	1.215E-03	Pulse	0.30	3
V			2	0.398	ug/l	5.02	1,252.29	1.252E-02	Pulse	0.30	3
Cr			2	2.260	ug/l	5.29	6,001.16	5.999E-02	Pulse	0.30	3
Mn			2	1055.613	ug/l	0.64	1,381,992.59	1.382E+01	Pulse	0.30	3
Fe			2	607.190	ug/l	0.23	1,188,824.43	1.189E+01	Pulse	0.30	3
Co			2	1.498	ug/l	3.57	5,825.67	5.826E-02	Pulse	0.30	3
Ni			2	3.552	ug/l	0.81	4,116.12	4.116E-02	Pulse	0.30	3
Cu			2	-0.116	ug/l	-74.56	4,784.08	4.783E-02	Pulse	0.30	3
Zn			2	1.300	ug/l	8.01	1,362.30	1.362E-02	Pulse	0.30	3
As			2	11.939	ug/l	1.54	2,445.19	2.445E-02	Pulse	1.00	3
Cd			2	-0.013	ug/l	-40.28	-6.25	-1.230E-05	Pulse	0.30	3
Sn			2	0.700	ug/l	2.79	823.36	1.627E-03	Pulse	0.30	3
Se			3	0.385	ug/l	17.44	30.80	2.101E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,068,810.22	0.09	84.3	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,764,962.32	1.69	92.1	Pulse	0.10	3
1	Ge		332,467.72	1.51	93.2	Pulse	0.10	3
1	Ge		458,455.07	2.19	93.1	Pulse	0.10	3
1	Rh		2,032,154.76	1.13	80.8	Pulse	0.10	3
1	In		2,152,690.07	0.95	87.7	Pulse	0.10	3
1	Tb		3,444,802.56	1.72	93.9	Pulse	0.10	3
1	Ho		343,661.99	1.16	93.2	Pulse	0.10	3
1	Bi		1,810,627.31	2.52	78.2	Pulse	0.10	3
2	Sc		100,009.96	1.31	86.6	Pulse	0.30	3
2	Ge		56,611.99	2.11	92.4	Pulse	0.30	3
2	Ge		84,617.91	2.10	90.4	Pulse	0.30	3
2	Rh		1,331,332.90	1.13	78.0	Pulse	0.30	3
2	In		506,150.97	1.32	83.6	Pulse	0.30	3
2	Tb		1,993,256.93	1.66	87.6	Pulse	0.30	3
2	Ho		202,470.41	1.68	89.6	Pulse	0.30	3
2	Bi		1,170,847.07	1.07	75.5	Pulse	0.30	3
3	Sc		164,709.03	1.13	87.7	Pulse	0.30	3
3	Ge		96,983.16	0.78	82.6	Pulse	0.30	3
3	Ge		146,539.16	0.50	82.3	Pulse	0.30	3
3	Rh		1,460,026.92	0.43	75.3	Pulse	0.30	3
3	Tb		2,822,495.93	1.07	85.0	Pulse	0.30	3

Quantitation Report

File Name 053SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 13:48
Sample Name jc99501-3
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.017	ug/l	21.08	45.33	4.468E-05	Pulse	0.25	3
B			1	969.557	ug/l	1.06	1,724,305.45	1.699E+00	Pulse	0.15	3
Ca			1	212366.461	ug/l	2.05	55,122,814.18	3.360E+01	Analog	0.10	3
Sr			1	1068.299	ug/l	2.43	12,595,128.98	6.194E+00	Analog	0.10	3
Mo			1	72.503	ug/l	0.13	172,208.18	8.465E-02	Pulse	0.10	3
Ag			1	0.034	ug/l	11.52	220.01	1.025E-04	Pulse	0.10	3
Sn			1	0.909	ug/l	6.11	2,693.67	1.256E-03	Pulse	0.10	3
Sb			1	1.072	ug/l	6.03	5,774.60	1.667E-03	Pulse	0.10	3
Ba			1	26.080	ug/l	2.15	51,295.32	1.480E-02	Pulse	0.10	3
Tl			1	0.012	ug/l	23.89	186.67	9.513E-05	Pulse	0.10	3
Pb			1	0.956	ug/l	5.66	4,374.14	2.224E-03	Pulse	0.10	3
Pb			1	0.869	ug/l	8.39	3,567.25	1.815E-03	Pulse	0.10	3
Pb			1	0.926	ug/l	0.68	17,064.54	8.679E-03	Pulse	0.10	3
Na			2	351795.661	ug/l	0.64	160,077,215.86	1.697E+03	Analog	0.30	3
Mg			2	1069.550	ug/l	0.90	227,275.46	2.409E+00	Pulse	0.30	3
Al			2	406.158	ug/l	2.03	28,961.75	3.070E-01	Pulse	0.30	3
K			2	18800.161	ug/l	0.31	2,487,371.08	2.636E+01	Pulse	0.30	3
Ca			2	207061.386	ug/l	0.23	1,507,105.25	1.597E+01	Pulse	0.30	3
Ti			2	32.483	ug/l	5.42	1,797.90	1.906E-02	Pulse	0.30	3
V			2	21.094	ug/l	0.12	37,435.57	3.968E-01	Pulse	0.30	3
Cr			2	1.825	ug/l	1.64	4,641.82	4.920E-02	Pulse	0.30	3
Mn			2	9.885	ug/l	1.02	12,249.09	1.298E-01	Pulse	0.30	3
Fe			2	609.475	ug/l	0.53	1,125,717.94	1.193E+01	Pulse	0.30	3
Co			2	0.702	ug/l	2.53	2,581.64	2.736E-02	Pulse	0.30	3
Ni			2	3.865	ug/l	0.57	4,191.70	4.443E-02	Pulse	0.30	3
Cu			2	2.553	ug/l	4.70	11,693.15	1.239E-01	Pulse	0.30	3
Zn			2	4.852	ug/l	5.86	2,702.47	2.864E-02	Pulse	0.30	3
As			2	33.807	ug/l	0.18	6,519.98	6.911E-02	Pulse	1.00	3
Cd			2	0.002	ug/l	1069.64	2.96	5.696E-06	Pulse	0.30	3
Sn			2	0.679	ug/l	6.41	800.03	1.578E-03	Pulse	0.30	3
Se			3	0.371	ug/l	11.56	32.20	2.036E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,014,829.55	0.55	80.1	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,641,101.12	1.66	85.6	Pulse	0.10	3
1	Ge		321,720.35	2.44	90.2	Pulse	0.10	3
1	Ge		443,835.16	1.80	90.1	Pulse	0.10	3
1	Rh		2,034,322.83	2.96	80.8	Pulse	0.10	3
1	In		2,146,322.37	2.07	87.4	Pulse	0.10	3
1	Tb		3,466,359.43	2.51	94.4	Pulse	0.10	3
1	Ho		346,564.46	1.49	94.0	Pulse	0.10	3
1	Bi		1,966,081.53	2.04	84.9	Pulse	0.10	3
2	Sc		94,347.15	0.58	81.7	Pulse	0.30	3
2	Ge		55,080.33	1.18	89.9	Pulse	0.30	3
2	Ge		83,068.99	0.83	88.8	Pulse	0.30	3
2	Rh		1,370,918.76	0.37	80.3	Pulse	0.30	3
2	In		506,824.92	1.02	83.7	Pulse	0.30	3
2	Tb		2,039,844.50	1.33	89.6	Pulse	0.30	3
2	Ho		207,165.40	1.07	91.6	Pulse	0.30	3
2	Bi		1,286,915.02	0.61	83.0	Pulse	0.30	3
3	Sc		171,817.86	0.67	91.5	Pulse	0.30	3
3	Ge		105,055.77	1.78	89.5	Pulse	0.30	3
3	Ge		158,108.99	0.10	88.8	Pulse	0.30	3
3	Rh		1,630,372.09	0.17	84.1	Pulse	0.30	3
3	Tb		3,106,945.43	0.44	93.6	Pulse	0.30	3

Quantitation Report

File Name 054SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 13:53
Sample Name jc99501-4
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.452	ug/l	6.70	1,137.39	1.060E-03	Pulse	0.25	3
B			1	135.296	ug/l	0.32	261,556.55	2.440E-01	Pulse	0.15	3
Ca			1	64970.874	ug/l	1.86	17,172,455.16	1.028E+01	Analog	0.10	3
Sr			1	122.221	ug/l	0.91	1,556,147.95	7.087E-01	Pulse	0.10	3
Mo			1	0.642	ug/l	17.00	1,693.50	7.720E-04	Pulse	0.10	3
Ag			1	0.049	ug/l	29.62	333.35	1.470E-04	Pulse	0.10	3
Sn			1	1.295	ug/l	4.66	4,437.49	1.962E-03	Pulse	0.10	3
Sb			1	0.178	ug/l	12.51	1,490.13	4.138E-04	Pulse	0.10	3
Ba			1	49.585	ug/l	1.42	101,383.72	2.813E-02	Pulse	0.10	3
Tl			1	0.098	ug/l	21.95	1,396.80	6.427E-04	Pulse	0.10	3
Pb			1	9.745	ug/l	1.43	47,249.84	2.178E-02	Pulse	0.10	3
Pb			1	9.337	ug/l	1.44	39,988.34	1.843E-02	Pulse	0.10	3
Pb			1	9.465	ug/l	0.15	184,799.78	8.519E-02	Pulse	0.10	3
Na			2	13216.871	ug/l	1.61	5,957,677.54	6.388E+01	Analog	0.30	3
Mg			2	16430.251	ug/l	1.31	3,449,531.95	3.699E+01	Pulse	0.30	3
Al			2	6283.725	ug/l	1.60	439,697.59	4.715E+00	Pulse	0.30	3
K			2	2742.535	ug/l	1.12	364,929.71	3.913E+00	Pulse	0.30	3
Ca			2	61739.944	ug/l	1.01	444,291.01	4.764E+00	Pulse	0.30	3
Ti			2	276.447	ug/l	1.62	15,121.44	1.621E-01	Pulse	0.30	3
V			2	12.995	ug/l	2.69	22,978.22	2.464E-01	Pulse	0.30	3
Cr			2	9.843	ug/l	2.35	23,129.58	2.480E-01	Pulse	0.30	3
Mn			2	357.259	ug/l	1.43	436,184.62	4.677E+00	Pulse	0.30	3
Fe			2	9162.251	ug/l	2.04	16,633,549.89	1.784E+02	Analog	0.30	3
Co			2	4.233	ug/l	1.49	15,329.04	1.643E-01	Pulse	0.30	3
Ni			2	8.662	ug/l	4.63	8,830.23	9.470E-02	Pulse	0.30	3
Cu			2	11.043	ug/l	2.01	34,134.23	3.660E-01	Pulse	0.30	3
Zn			2	35.043	ug/l	1.42	14,575.48	1.563E-01	Pulse	0.30	3
As			2	2.419	ug/l	8.95	468.01	5.014E-03	Pulse	1.00	3
Cd			2	0.115	ug/l	16.95	73.18	1.414E-04	Pulse	0.30	3
Sn			2	1.147	ug/l	4.75	1,374.52	2.656E-03	Pulse	0.30	3
Se			3	0.686	ug/l	2.36	58.20	3.485E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,072,000.90	1.13	84.6	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,669,965.71	1.11	87.1	Pulse	0.10	3
1	Ge		331,964.09	1.99	93.1	Pulse	0.10	3
1	Ge		460,971.78	2.53	93.6	Pulse	0.10	3
1	Rh		2,195,838.93	1.94	87.3	Pulse	0.10	3
1	In		2,261,459.11	2.53	92.1	Pulse	0.10	3
1	Tb		3,603,695.47	1.92	98.2	Pulse	0.10	3
1	Ho		368,159.31	2.08	99.8	Pulse	0.10	3
1	Bi		2,169,302.47	1.79	93.7	Pulse	0.10	3
2	Sc		93,270.84	1.27	80.8	Pulse	0.30	3
2	Ge		55,710.22	0.88	90.9	Pulse	0.30	3
2	Ge		84,673.53	0.61	90.5	Pulse	0.30	3
2	Rh		1,463,948.83	0.47	85.8	Pulse	0.30	3
2	In		517,699.66	0.64	85.5	Pulse	0.30	3
2	Tb		2,101,459.43	0.92	92.3	Pulse	0.30	3
2	Ho		216,187.18	0.80	95.6	Pulse	0.30	3
2	Bi		1,408,721.06	1.22	90.9	Pulse	0.30	3
3	Sc		178,858.90	1.01	95.3	Pulse	0.30	3
3	Ge		110,838.95	0.45	94.4	Pulse	0.30	3
3	Ge		167,013.84	1.28	93.8	Pulse	0.30	3
3	Rh		1,799,224.86	1.45	92.8	Pulse	0.30	3
3	Tb		3,312,005.56	1.02	99.8	Pulse	0.30	3

Quantitation Report

File Name	055_CCV.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 13:58
Sample Name	CCVA 5
Sample Type	CCV
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	47.911	ug/l	0.72	258,463.46	2.237E-01	Pulse	0.25	3
B			1	104.388	ug/l	1.02	429,878.27	3.721E-01	Pulse	0.15	3
Ca			1	4885.683	ug/l	0.38	2,792,133.50	1.554E+00	Pulse	0.10	3
Sr			1	52.172	ug/l	0.94	1,464,683.31	6.051E-01	Pulse	0.10	3
Mo			1	50.736	ug/l	0.43	286,729.51	1.185E-01	Pulse	0.10	3
Ag			1	49.535	ug/l	0.21	701,832.41	2.885E-01	Pulse	0.10	3
Sn			1	50.651	ug/l	0.62	450,451.00	1.852E-01	Pulse	0.10	3
Sb			1	52.329	ug/l	0.78	549,980.61	1.469E-01	Pulse	0.10	3
Ba			1	51.219	ug/l	0.72	217,585.38	5.810E-02	Pulse	0.10	3
Tl			1	51.762	ug/l	0.27	1,509,688.00	6.535E-01	Pulse	0.10	3
Pb			1	51.333	ug/l	0.41	528,003.68	2.285E-01	Pulse	0.10	3
Pb			1	51.144	ug/l	0.79	463,936.48	2.008E-01	Pulse	0.10	3
Pb			1	51.354	ug/l	0.08	2,126,753.34	9.206E-01	Pulse	0.10	3
Na			2	4921.377	ug/l	1.33	4,904,993.14	4.761E+01	Analog	0.30	3
Mg			2	4662.320	ug/l	1.05	2,162,713.32	2.099E+01	Pulse	0.30	3
Al			2	4739.897	ug/l	1.93	732,620.09	7.112E+00	Pulse	0.30	3
K			2	4899.544	ug/l	1.13	1,419,570.12	1.378E+01	Pulse	0.30	3
Ca			2	5193.818	ug/l	1.06	82,651.95	8.023E-01	Pulse	0.30	3
Ti			2	51.465	ug/l	1.14	6,220.12	6.038E-02	Pulse	0.30	3
V			2	52.875	ug/l	0.95	202,814.83	1.969E+00	Pulse	0.30	3
Cr			2	51.104	ug/l	1.33	261,507.19	2.538E+00	Pulse	0.30	3
Mn			2	50.889	ug/l	0.50	137,309.23	1.333E+00	Pulse	0.30	3
Fe			2	5244.024	ug/l	1.38	21,031,819.16	2.042E+02	Analog	0.30	3
Co			2	51.464	ug/l	1.12	411,299.52	3.992E+00	Pulse	0.30	3
Ni			2	51.025	ug/l	1.31	110,571.75	1.073E+00	Pulse	0.30	3
Cu			2	50.357	ug/l	0.94	301,150.69	2.923E+00	Pulse	0.30	3
Zn			2	50.437	ug/l	1.10	44,776.53	4.346E-01	Pulse	0.30	3
As			2	52.252	ug/l	1.48	21,991.76	2.135E-01	Pulse	1.00	3
Cd			2	50.468	ug/l	1.42	68,226.75	1.206E-01	Pulse	0.30	3
Sn			2	51.700	ug/l	0.41	134,580.87	2.380E-01	Pulse	0.30	3
Se			3	204.285	ug/l	0.56	31,850.23	1.878E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,155,146.89	1.18	91.1	Pulse	0.10	3
1	Sc		1,796,523.88	2.02	93.7	Pulse	0.10	3
1	Ge		346,623.10	3.36	97.2	Pulse	0.10	3

Quantitation Report

1	Ge		482,179.63	3.08	97.9	Pulse	0.10	3
1	Rh		2,420,565.28	2.50	96.2	Pulse	0.10	3
1	In		2,432,593.68	2.86	99.1	Pulse	0.10	3
1	Tb		3,745,289.84	2.94	102.0	Pulse	0.10	3
1	Ho		378,253.83	3.18	102.6	Pulse	0.10	3
1	Bi		2,310,316.84	3.66	99.8	Pulse	0.10	3
2	Sc		103,031.43	1.12	89.3	Pulse	0.30	3
2	Ge		58,390.53	1.49	95.3	Pulse	0.30	3
2	Ge		88,184.39	1.09	94.2	Pulse	0.30	3
2	Rh		1,587,801.98	0.77	93.0	Pulse	0.30	3
2	In		565,571.81	0.31	93.4	Pulse	0.30	3
2	Tb		2,218,607.06	0.51	97.5	Pulse	0.30	3
2	Ho		224,275.17	0.51	99.2	Pulse	0.30	3
2	Bi		1,499,719.07	0.83	96.8	Pulse	0.30	3
3	Sc		182,352.47	0.86	97.1	Pulse	0.30	3
3	Ge		113,004.60	0.72	96.3	Pulse	0.30	3
3	Ge		169,639.74	0.46	95.3	Pulse	0.30	3
3	Rh		1,888,815.41	0.35	97.4	Pulse	0.30	3
3	Tb		3,334,770.77	0.77	100.5	Pulse	0.30	3

Quantitation Report

File Name 056_CCB.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 14:03
Sample Name CCB
Sample Type CCB
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.004	ug/l	36.52	28.00	2.403E-05	Pulse	0.25	3
B			1	8.480	ug/l	2.11	43,814.29	3.759E-02	Pulse	0.15	3
Ca			1	-5.441	ug/l	-10.89	12,832.05	7.094E-03	Pulse	0.10	3
Sr			1	0.019	ug/l	22.90	736.71	2.998E-04	Pulse	0.10	3
Mo			1	0.130	ug/l	23.07	806.72	3.272E-04	Pulse	0.10	3
Ag			1	0.010	ug/l	24.14	156.68	6.356E-05	Pulse	0.10	3
Sn			1	0.411	ug/l	1.68	2,703.65	1.096E-03	Pulse	0.10	3
Sb			1	0.144	ug/l	34.40	2,116.90	5.676E-04	Pulse	0.10	3
Ba			1	0.019	ug/l	35.72	123.34	3.332E-05	Pulse	0.10	3
Tl			1	0.009	ug/l	20.56	300.01	1.296E-04	Pulse	0.10	3
Pb			1	0.008	ug/l	29.47	306.68	1.322E-04	Pulse	0.10	3
Pb			1	0.005	ug/l	47.54	300.01	1.295E-04	Pulse	0.10	3
Pb			1	0.008	ug/l	31.12	1,233.39	5.320E-04	Pulse	0.10	3
Na			2	24.892	ug/l	2.49	39,649.63	3.835E-01	Pulse	0.30	3
Mg			2	0.275	ug/l	51.02	261.12	2.532E-03	Pulse	0.30	3
Al			2	0.084	ug/l	363.09	258.90	2.506E-03	Pulse	0.30	3
K			2	-0.955	ug/l	-33.30	7,834.14	7.577E-02	Pulse	0.30	3
Ca			2	0.453	ug/l	347.98	103.34	9.991E-04	Pulse	0.30	3
Ti			2	0.020	ug/l	245.12	3.33	3.259E-05	Pulse	0.30	3
V			2	-0.106	ug/l	-0.93	123.34	1.193E-03	Pulse	0.30	3
Cr			2	0.014	ug/l	76.62	477.79	4.617E-03	Pulse	0.30	3
Mn			2	0.016	ug/l	59.80	87.78	8.503E-04	Pulse	0.30	3
Fe			2	1.719	ug/l	1.68	14,373.09	1.390E-01	Pulse	0.30	3
Co			2	0.003	ug/l	36.48	35.52	3.432E-04	Pulse	0.30	3
Ni			2	-0.060	ug/l	-5.84	276.67	2.677E-03	Pulse	0.30	3
Cu			2	-0.533	ug/l	-2.27	2,142.39	2.072E-02	Pulse	0.30	3
Zn			2	-0.538	ug/l	-3.67	370.01	3.579E-03	Pulse	0.30	3
As			2	0.015	ug/l	54.30	14.00	1.353E-04	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.005	ug/l	74.90	8.79	1.532E-05	Pulse	0.30	3
Sn			2	0.392	ug/l	2.83	1,044.49	1.821E-03	Pulse	0.30	3
Se			3	0.053	ug/l	18.61	14.13	8.210E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,165,812.26	1.34	92.0	Pulse	0.10	3
1	Sc		1,809,201.12	1.25	94.4	Pulse	0.10	3
1	Ge		347,722.72	1.65	97.5	Pulse	0.10	3
1	Ge		478,832.23	2.62	97.2	Pulse	0.10	3
1	Rh		2,460,638.71	2.18	97.8	Pulse	0.10	3
1	In		2,466,967.59	1.83	100.5	Pulse	0.10	3
1	Tb		3,717,292.86	2.67	101.3	Pulse	0.10	3
1	Ho		370,694.92	3.41	100.5	Pulse	0.10	3
1	Bi		2,319,203.09	1.85	100.2	Pulse	0.10	3
2	Sc		103,393.48	1.68	89.6	Pulse	0.30	3
2	Ge		57,772.78	0.41	94.3	Pulse	0.30	3
2	Ge		88,985.35	1.50	95.1	Pulse	0.30	3
2	Rh		1,629,520.70	0.76	95.5	Pulse	0.30	3
2	In		573,425.67	0.34	94.7	Pulse	0.30	3
2	Tb		2,171,271.30	0.63	95.4	Pulse	0.30	3
2	Ho		219,206.90	0.23	97.0	Pulse	0.30	3
2	Bi		1,504,498.79	0.57	97.1	Pulse	0.30	3
3	Sc		183,109.72	0.91	97.5	Pulse	0.30	3
3	Ge		114,006.13	0.68	97.1	Pulse	0.30	3
3	Ge		172,196.05	0.64	96.7	Pulse	0.30	3
3	Rh		1,929,060.75	0.69	99.5	Pulse	0.30	3
3	Tb		3,315,813.48	0.45	99.9	Pulse	0.30	3

Quantitation Report

File Name 057SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 14:08
Sample Name jc99501-5 4
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.038	ug/l	26.60	101.33	9.468E-05	Pulse	0.25	3
B			1	330.032	ug/l	0.25	624,206.12	5.836E-01	Pulse	0.15	3
Ca			1	447645.996	ug/l	1.33	122,874,958.17	7.081E+01	Analog	0.10	3
Sr			1	875.824	ug/l	2.11	10,347,534.01	5.078E+00	Analog	0.10	3
Mo			1	7.845	ug/l	1.72	18,704.94	9.179E-03	Pulse	0.10	3
Ag			1	0.049	ug/l	9.29	320.01	1.473E-04	Pulse	0.10	3
Sn			1	2.215	ug/l	4.43	7,915.67	3.648E-03	Pulse	0.10	3
Sb			1	0.457	ug/l	4.07	2,787.02	8.053E-04	Pulse	0.10	3
Ba			1	23.616	ug/l	0.61	46,397.01	1.340E-02	Pulse	0.10	3
Tl			1	0.013	ug/l	32.01	193.34	1.033E-04	Pulse	0.10	3
Pb			1	0.162	ug/l	6.18	860.06	4.585E-04	Pulse	0.10	3
Pb			1	0.121	ug/l	3.13	650.04	3.462E-04	Pulse	0.10	3
Pb			1	0.143	ug/l	8.21	3,116.91	1.662E-03	Pulse	0.10	3
Na			2	822791.859	ug/l	1.73	382,417,193.69	3.968E+03	Analog	0.30	3
Mg			2	40276.686	ug/l	1.56	8,738,585.76	9.067E+01	Analog	0.30	3
Al			2	99.008	ug/l	2.67	7,386.19	7.663E-02	Pulse	0.30	3
K			2	34232.971	ug/l	5.92	4,619,465.23	4.794E+01	Mix	0.30	3
Ca			2	418690.497	ug/l	0.93	3,112,711.34	3.230E+01	Pulse	0.30	3
Ti			2	10.289	ug/l	7.43	582.24	6.044E-03	Pulse	0.30	3
V			2	4.530	ug/l	3.45	8,598.98	8.924E-02	Pulse	0.30	3
Cr			2	9.998	ug/l	0.30	24,273.46	2.519E-01	Pulse	0.30	3
Mn			2	6825.559	ug/l	0.74	8,610,901.05	8.935E+01	Analog	0.30	3
Fe			2	18726.677	ug/l	1.52	35,124,520.82	3.645E+02	Analog	0.30	3
Co			2	0.254	ug/l	8.91	965.21	1.002E-02	Pulse	0.30	3
Ni			2	9.033	ug/l	0.34	9,500.61	9.858E-02	Pulse	0.30	3
Cu			2	1.871	ug/l	2.65	10,068.73	1.045E-01	Pulse	0.30	3
Zn			2	1.592	ug/l	12.70	1,432.30	1.486E-02	Pulse	0.30	3
As			2	0.548	ug/l	4.39	115.00	1.193E-03	Pulse	1.00	3
Cd			2	-0.002	ug/l	-391.17	0.76	1.529E-06	Pulse	0.30	3
Sn			2	2.175	ug/l	1.42	2,494.67	5.020E-03	Pulse	0.30	3
Se			3	0.303	ug/l	4.25	25.80	1.723E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,069,518.40	1.55	84.4	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,735,577.00	1.62	90.5	Pulse	0.10	3
1	Ge		332,079.50	2.24	93.1	Pulse	0.10	3
1	Ge		458,934.39	1.80	93.2	Pulse	0.10	3
1	Rh		2,038,002.94	1.90	81.0	Pulse	0.10	3
1	In		2,170,908.70	2.11	88.4	Pulse	0.10	3
1	Tb		3,461,800.57	2.04	94.3	Pulse	0.10	3
1	Ho		347,792.36	1.34	94.3	Pulse	0.10	3
1	Bi		1,877,201.33	2.53	81.1	Pulse	0.10	3
2	Sc		96,374.21	0.81	83.5	Pulse	0.30	3
2	Ge		55,536.18	0.60	90.6	Pulse	0.30	3
2	Ge		82,851.10	0.26	88.5	Pulse	0.30	3
2	Rh		1,339,101.48	0.84	78.5	Pulse	0.30	3
2	In		496,909.85	0.15	82.1	Pulse	0.30	3
2	Tb		1,996,278.04	0.21	87.7	Pulse	0.30	3
2	Ho		201,553.66	0.59	89.2	Pulse	0.30	3
2	Bi		1,196,843.43	0.22	77.2	Pulse	0.30	3
3	Sc		168,054.71	0.20	89.5	Pulse	0.30	3
3	Ge		100,129.52	0.86	85.3	Pulse	0.30	3
3	Ge		149,756.93	1.29	84.1	Pulse	0.30	3
3	Rh		1,537,941.92	0.57	79.3	Pulse	0.30	3
3	Tb		2,981,668.21	0.67	89.8	Pulse	0.30	3

Quantitation Report

File Name	058SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 14:13
Sample Name	jc99501-6
Sample Type	Sample
Comment	
Prep Dilution	2.000
Auto Dilution	N/A
Total Dilution	2.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.115	ug/l	1.82	281.34	2.727E-04	Pulse	0.25	3
B			1	234.844	ug/l	0.42	430,826.89	4.176E-01	Pulse	0.15	3
Ca			1	249663.076	ug/l	1.50	66,720,845.67	3.950E+01	Analog	0.10	3
Sr			1	1262.695	ug/l	1.96	15,567,862.27	7.321E+00	Analog	0.10	3
Mo			1	39.557	ug/l	1.48	98,234.44	4.620E-02	Pulse	0.10	3
Ag			1	0.028	ug/l	15.57	193.34	8.704E-05	Pulse	0.10	3
Sn			1	1.092	ug/l	5.28	3,530.52	1.591E-03	Pulse	0.10	3
Sb			1	0.325	ug/l	12.88	2,203.56	6.197E-04	Pulse	0.10	3
Ba			1	65.961	ug/l	1.84	132,837.20	3.742E-02	Pulse	0.10	3
Tl			1	0.036	ug/l	28.04	523.36	2.518E-04	Pulse	0.10	3
Pb			1	1.575	ug/l	4.23	7,462.17	3.601E-03	Pulse	0.10	3
Pb			1	1.393	ug/l	6.27	5,884.71	2.843E-03	Pulse	0.10	3
Pb			1	1.534	ug/l	0.33	29,252.60	1.413E-02	Pulse	0.10	3
Na			2	71822.699	ug/l	0.98	32,640,490.93	3.465E+02	Analog	0.30	3
Mg			2	31918.096	ug/l	0.91	6,768,511.40	7.185E+01	Analog	0.30	3
Al			2	2029.647	ug/l	0.72	143,601.15	1.524E+00	Pulse	0.30	3
K			2	39672.885	ug/l	0.30	5,232,383.68	5.555E+01	Analog	0.30	3
Ca			2	241891.539	ug/l	0.70	1,757,774.72	1.866E+01	Pulse	0.30	3
Ti			2	197.890	ug/l	1.26	10,933.69	1.161E-01	Pulse	0.30	3
V			2	6.288	ug/l	2.21	11,481.85	1.219E-01	Pulse	0.30	3
Cr			2	6.950	ug/l	0.25	16,605.13	1.763E-01	Pulse	0.30	3
Mn			2	753.520	ug/l	0.86	929,161.11	9.864E+00	Pulse	0.30	3
Fe			2	6590.075	ug/l	0.72	12,086,075.63	1.283E+02	Analog	0.30	3
Co			2	2.210	ug/l	2.11	8,088.35	8.587E-02	Pulse	0.30	3
Ni			2	18.258	ug/l	1.81	18,391.49	1.953E-01	Pulse	0.30	3
Cu			2	7.038	ug/l	1.51	23,721.65	2.518E-01	Pulse	0.30	3
Zn			2	61.687	ug/l	0.83	25,331.88	2.689E-01	Pulse	0.30	3
As			2	2.972	ug/l	2.70	578.68	6.143E-03	Pulse	1.00	3
Cd			2	0.041	ug/l	101.86	26.79	5.213E-05	Pulse	0.30	3
Sn			2	0.986	ug/l	1.34	1,170.06	2.284E-03	Pulse	0.30	3
Se			3	0.311	ug/l	1.91	28.47	1.760E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,031,619.88	1.18	81.4	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,689,609.97	1.68	88.1	Pulse	0.10	3
1	Ge		330,012.06	2.51	92.6	Pulse	0.10	3
1	Ge		456,942.17	1.74	92.8	Pulse	0.10	3
1	Rh		2,126,979.92	2.29	84.5	Pulse	0.10	3
1	In		2,218,186.33	2.46	90.4	Pulse	0.10	3
1	Tb		3,551,036.20	2.19	96.8	Pulse	0.10	3
1	Ho		366,403.54	2.35	99.4	Pulse	0.10	3
1	Bi		2,070,877.05	2.51	89.4	Pulse	0.10	3
2	Sc		94,197.32	0.53	81.6	Pulse	0.30	3
2	Ge		55,569.68	0.61	90.7	Pulse	0.30	3
2	Ge		83,736.70	0.58	89.5	Pulse	0.30	3
2	Rh		1,407,302.97	0.17	82.5	Pulse	0.30	3
2	In		512,194.06	0.65	84.6	Pulse	0.30	3
2	Tb		2,067,439.50	0.62	90.8	Pulse	0.30	3
2	Ho		211,447.30	1.04	93.5	Pulse	0.30	3
2	Bi		1,333,026.26	0.96	86.0	Pulse	0.30	3
3	Sc		174,346.90	1.15	92.9	Pulse	0.30	3
3	Ge		106,604.63	0.16	90.8	Pulse	0.30	3
3	Ge		161,704.69	0.25	90.8	Pulse	0.30	3
3	Rh		1,679,361.11	0.59	86.6	Pulse	0.30	3
3	Tb		3,165,448.49	0.62	95.4	Pulse	0.30	3

Quantitation Report

File Name	059SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 14:18
Sample Name	jc99501-7
Sample Type	Sample
Comment	
Prep Dilution	2.000
Auto Dilution	N/A
Total Dilution	2.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.062	ug/l	13.00	169.33	1.500E-04	Pulse	0.25	3
B			1	26.223	ug/l	0.45	60,625.65	5.374E-02	Pulse	0.15	3
Ca			1	5494.055	ug/l	0.80	1,524,650.03	8.777E-01	Pulse	0.10	3
Sr			1	37.216	ug/l	0.57	510,413.76	2.159E-01	Pulse	0.10	3
Mo			1	0.114	ug/l	13.48	370.02	1.567E-04	Pulse	0.10	3
Ag			1	0.009	ug/l	53.67	76.67	3.168E-05	Pulse	0.10	3
Sn			1	0.792	ug/l	3.17	2,500.28	1.041E-03	Pulse	0.10	3
Sb			1	0.123	ug/l	12.38	1,246.77	3.360E-04	Pulse	0.10	3
Ba			1	11.106	ug/l	1.63	23,388.35	6.310E-03	Pulse	0.10	3
Tl			1	0.005	ug/l	50.22	116.67	5.064E-05	Pulse	0.10	3
Pb			1	0.243	ug/l	3.42	1,463.47	6.393E-04	Pulse	0.10	3
Pb			1	0.217	ug/l	8.65	1,226.76	5.350E-04	Pulse	0.10	3
Pb			1	0.238	ug/l	0.45	5,767.32	2.519E-03	Pulse	0.10	3
Na			2	1519.196	ug/l	0.67	723,704.97	7.470E+00	Pulse	0.30	3
Mg			2	1053.166	ug/l	0.86	229,811.01	2.372E+00	Pulse	0.30	3
Al			2	13.793	ug/l	10.86	1,232.28	1.272E-02	Pulse	0.30	3
K			2	381.309	ug/l	0.86	59,249.82	6.116E-01	Pulse	0.30	3
Ca			2	5714.006	ug/l	2.23	42,791.57	4.417E-01	Pulse	0.30	3
Ti			2	0.336	ug/l	29.93	20.00	2.064E-04	Pulse	0.30	3
V			2	-0.046	ug/l	-10.37	415.57	4.289E-03	Pulse	0.30	3
Cr			2	0.434	ug/l	7.09	1,424.52	1.470E-02	Pulse	0.30	3
Mn			2	54.769	ug/l	0.46	69,501.80	7.174E-01	Pulse	0.30	3
Fe			2	268.551	ug/l	0.17	513,243.80	5.298E+00	Pulse	0.30	3
Co			2	0.251	ug/l	3.21	957.54	9.883E-03	Pulse	0.30	3
Ni			2	0.851	ug/l	7.50	1,244.51	1.284E-02	Pulse	0.30	3
Cu			2	46.190	ug/l	0.96	132,563.80	1.368E+00	Pulse	0.30	3
Zn			2	21.062	ug/l	3.13	9,415.03	9.717E-02	Pulse	0.30	3
As			2	0.361	ug/l	16.93	78.67	8.122E-04	Pulse	1.00	3
Cd			2	-0.001	ug/l	-239.68	1.07	1.999E-06	Pulse	0.30	3
Sn			2	0.585	ug/l	2.41	737.80	1.361E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	0.037	ug/l	58.88	8.80	5.030E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,128,049.86	1.30	89.0	Pulse	0.10	3
1	Sc		1,736,889.40	2.21	90.6	Pulse	0.10	3
1	Ge		359,314.41	1.77	100.8	Pulse	0.10	3
1	Ge		497,125.29	2.38	100.9	Pulse	0.10	3
1	Rh		2,364,518.87	2.92	94.0	Pulse	0.10	3
1	In		2,404,263.70	2.82	97.9	Pulse	0.10	3
1	Tb		3,707,065.05	2.91	101.0	Pulse	0.10	3
1	Ho		373,425.96	2.94	101.3	Pulse	0.10	3
1	Bi		2,289,448.46	3.56	98.9	Pulse	0.10	3
2	Sc		96,881.70	0.53	83.9	Pulse	0.30	3
2	Ge		59,333.95	2.01	96.8	Pulse	0.30	3
2	Ge		90,227.61	1.87	96.4	Pulse	0.30	3
2	Rh		1,564,780.01	0.83	91.7	Pulse	0.30	3
2	In		542,109.09	1.27	89.5	Pulse	0.30	3
2	Tb		2,138,515.12	0.96	94.0	Pulse	0.30	3
2	Ho		215,155.03	0.97	95.2	Pulse	0.30	3
2	Bi		1,456,578.56	1.09	94.0	Pulse	0.30	3
3	Sc		182,416.10	0.77	97.2	Pulse	0.30	3
3	Ge		115,619.24	0.97	98.5	Pulse	0.30	3
3	Ge		174,901.86	0.87	98.2	Pulse	0.30	3
3	Rh		1,915,989.58	0.65	98.8	Pulse	0.30	3
3	Tb		3,378,654.10	0.60	101.8	Pulse	0.30	3

Quantitation Report

File Name 060SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 14:23
Sample Name jc99565-2
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.539	ug/l	5.46	1,442.75	1.264E-03	Pulse	0.25	3
B			1	54.413	ug/l	0.72	117,480.86	1.029E-01	Pulse	0.15	3
Ca			1	29627.854	ug/l	1.96	8,254,174.88	4.695E+00	Analog	0.10	3
Sr			1	151.114	ug/l	0.34	2,032,360.90	8.763E-01	Pulse	0.10	3
Mo			1	0.263	ug/l	12.47	763.38	3.296E-04	Pulse	0.10	3
Ag			1	0.132	ug/l	22.69	923.39	3.885E-04	Pulse	0.10	3
Sn			1	1.080	ug/l	4.56	3,733.90	1.568E-03	Pulse	0.10	3
Sb			1	0.352	ug/l	13.25	2,440.28	6.570E-04	Pulse	0.10	3
Ba			1	52.257	ug/l	1.56	110,327.31	2.965E-02	Pulse	0.10	3
Tl			1	0.216	ug/l	7.84	3,133.79	1.386E-03	Pulse	0.10	3
Pb			1	0.683	ug/l	4.72	3,650.59	1.618E-03	Pulse	0.10	3
Pb			1	0.691	ug/l	4.39	3,307.18	1.464E-03	Pulse	0.10	3
Pb			1	0.669	ug/l	3.39	14,403.24	6.377E-03	Pulse	0.10	3
Na			2	10552.040	ug/l	1.34	5,022,317.02	5.103E+01	Analog	0.30	3
Mg			2	9091.898	ug/l	0.92	2,014,468.60	2.047E+01	Pulse	0.30	3
Al			2	45.838	ug/l	3.14	3,617.12	3.676E-02	Pulse	0.30	3
K			2	5050.235	ug/l	0.98	702,648.76	7.139E+00	Pulse	0.30	3
Ca			2	28351.149	ug/l	0.64	215,346.34	2.188E+00	Pulse	0.30	3
Ti			2	0.464	ug/l	30.54	27.78	2.818E-04	Pulse	0.30	3
V			2	0.244	ug/l	12.97	951.15	9.666E-03	Pulse	0.30	3
Cr			2	0.891	ug/l	5.34	2,563.56	2.605E-02	Pulse	0.30	3
Mn			2	321.435	ug/l	0.26	414,179.67	4.208E+00	Pulse	0.30	3
Fe			2	357.353	ug/l	0.71	691,468.88	7.026E+00	Pulse	0.30	3
Co			2	30.809	ug/l	0.78	117,620.77	1.195E+00	Pulse	0.30	3
Ni			2	34.304	ug/l	0.86	35,765.52	3.634E-01	Pulse	0.30	3
Cu			2	2.068	ug/l	3.85	10,837.00	1.101E-01	Pulse	0.30	3
Zn			2	194.360	ug/l	0.57	81,676.11	8.299E-01	Pulse	0.30	3
As			2	3.631	ug/l	0.63	737.02	7.489E-03	Pulse	1.00	3
Cd			2	0.726	ug/l	5.41	472.17	8.708E-04	Pulse	0.30	3
Sn			2	0.883	ug/l	0.61	1,110.05	2.047E-03	Pulse	0.30	3
Se			3	0.854	ug/l	7.43	75.60	4.259E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,141,564.81	1.37	90.1	Pulse	0.10	3
1	Sc		1,758,631.38	1.97	91.7	Pulse	0.10	3
1	Ge		358,012.45	2.90	100.4	Pulse	0.10	3

Quantitation Report

1	Ge		495,859.13	2.03	100.7	Pulse	0.10	3
1	Rh		2,319,345.28	2.35	92.2	Pulse	0.10	3
1	In		2,383,202.15	2.06	97.1	Pulse	0.10	3
1	Tb		3,720,567.86	2.64	101.4	Pulse	0.10	3
1	Ho		377,171.97	3.48	102.3	Pulse	0.10	3
1	Bi		2,257,283.14	2.55	97.5	Pulse	0.10	3
2	Sc		98,424.66	1.23	85.3	Pulse	0.30	3
2	Ge		60,131.41	0.44	98.2	Pulse	0.30	3
2	Ge		90,454.37	1.44	96.7	Pulse	0.30	3
2	Rh		1,540,033.62	0.66	90.2	Pulse	0.30	3
2	In		542,395.72	0.86	89.6	Pulse	0.30	3
2	Tb		2,168,494.22	0.95	95.3	Pulse	0.30	3
2	Ho		220,990.16	0.22	97.8	Pulse	0.30	3
2	Bi		1,458,418.24	0.69	94.1	Pulse	0.30	3
3	Sc		187,258.44	0.13	99.8	Pulse	0.30	3
3	Ge		117,662.75	0.92	100.2	Pulse	0.30	3
3	Ge		177,581.81	1.01	99.7	Pulse	0.30	3
3	Rh		1,898,980.20	0.43	97.9	Pulse	0.30	3
3	Tb		3,414,742.43	0.29	102.9	Pulse	0.30	3

Quantitation Report

File Name 061SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 14:28
Sample Name jc99565-3
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.524	ug/l	1.55	1,400.07	1.228E-03	Pulse	0.25	3
B			1	47.921	ug/l	0.79	104,384.04	9.159E-02	Pulse	0.15	3
Ca			1	27430.957	ug/l	2.29	7,727,173.01	4.347E+00	Analog	0.10	3
Sr			1	123.795	ug/l	0.93	1,691,172.53	7.179E-01	Pulse	0.10	3
Mo			1	0.210	ug/l	14.15	633.37	2.685E-04	Pulse	0.10	3
Ag			1	0.011	ug/l	24.10	90.00	3.726E-05	Pulse	0.10	3
Sn			1	1.694	ug/l	8.71	6,491.65	2.693E-03	Pulse	0.10	3
Sb			1	0.189	ug/l	10.81	1,613.49	4.288E-04	Pulse	0.10	3
Ba			1	86.187	ug/l	1.08	183,818.32	4.889E-02	Pulse	0.10	3
Tl			1	0.082	ug/l	7.54	1,236.77	5.406E-04	Pulse	0.10	3
Pb			1	0.090	ug/l	1.64	680.05	2.975E-04	Pulse	0.10	3
Pb			1	0.067	ug/l	7.19	550.03	2.407E-04	Pulse	0.10	3
Pb			1	0.082	ug/l	8.97	2,550.18	1.115E-03	Pulse	0.10	3
Na			2	6227.528	ug/l	0.99	2,980,106.27	3.018E+01	Pulse	0.30	3
Mg			2	7838.486	ug/l	1.09	1,742,707.85	1.765E+01	Pulse	0.30	3
Al			2	69.422	ug/l	5.26	5,374.24	5.444E-02	Pulse	0.30	3
K			2	5132.605	ug/l	1.12	716,430.13	7.255E+00	Pulse	0.30	3
Ca			2	26049.441	ug/l	0.99	198,543.37	2.010E+00	Pulse	0.30	3
Ti			2	0.330	ug/l	53.37	20.00	2.029E-04	Pulse	0.30	3
V			2	0.163	ug/l	21.19	806.70	8.161E-03	Pulse	0.30	3
Cr			2	1.436	ug/l	6.36	3,906.06	3.954E-02	Pulse	0.30	3
Mn			2	591.615	ug/l	1.65	764,808.86	7.745E+00	Pulse	0.30	3
Fe			2	58.007	ug/l	2.06	118,600.01	1.201E+00	Pulse	0.30	3
Co			2	37.202	ug/l	0.89	142,515.86	1.443E+00	Pulse	0.30	3
Ni			2	37.532	ug/l	1.29	39,227.78	3.972E-01	Pulse	0.30	3
Cu			2	0.339	ug/l	10.86	6,004.49	6.081E-02	Pulse	0.30	3
Zn			2	217.775	ug/l	1.35	91,737.57	9.289E-01	Pulse	0.30	3
As			2	0.582	ug/l	17.82	124.67	1.264E-03	Pulse	1.00	3
Cd			2	1.014	ug/l	2.15	672.18	1.215E-03	Pulse	0.30	3
Sn			2	1.378	ug/l	8.26	1,762.34	3.185E-03	Pulse	0.30	3
Se			3	0.362	ug/l	5.52	33.27	1.997E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,139,693.98	0.58	89.9	Pulse	0.10	3
1	Sc		1,777,968.00	1.79	92.8	Pulse	0.10	3
1	Ge		361,635.25	1.95	101.4	Pulse	0.10	3

Quantitation Report

1	Ge		501,906.39	2.16	101.9	Pulse	0.10	3
1	Rh		2,355,832.72	1.62	93.6	Pulse	0.10	3
1	In		2,412,268.58	1.31	98.3	Pulse	0.10	3
1	Tb		3,760,507.86	2.26	102.5	Pulse	0.10	3
1	Ho		383,065.68	2.49	103.9	Pulse	0.10	3
1	Bi		2,286,453.82	2.27	98.7	Pulse	0.10	3
2	Sc		98,765.54	1.53	85.6	Pulse	0.30	3
2	Ge		60,803.79	1.12	99.2	Pulse	0.30	3
2	Ge		91,881.16	0.29	98.2	Pulse	0.30	3
2	Rh		1,570,245.01	1.37	92.0	Pulse	0.30	3
2	In		553,295.14	1.41	91.4	Pulse	0.30	3
2	Tb		2,180,295.75	0.63	95.8	Pulse	0.30	3
2	Ho		222,774.05	0.45	98.5	Pulse	0.30	3
2	Bi		1,482,647.65	0.35	95.7	Pulse	0.30	3
3	Sc		174,287.69	3.31	92.8	Pulse	0.30	3
3	Ge		110,856.99	5.51	94.4	Pulse	0.30	3
3	Ge		166,750.69	4.86	93.6	Pulse	0.30	3
3	Rh		1,815,328.19	3.24	93.6	Pulse	0.30	3
3	Tb		3,241,229.04	3.60	97.7	Pulse	0.30	3

Quantitation Report

File Name 062_CCV.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 14:33
Sample Name CCVA 5
Sample Type CCV
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	48.396	ug/l	2.19	258,860.90	2.260E-01	Pulse	0.25	3
B			1	99.766	ug/l	1.05	407,753.21	3.560E-01	Pulse	0.15	3
Ca			1	4887.579	ug/l	0.66	2,769,598.08	1.555E+00	Pulse	0.10	3
Sr			1	53.060	ug/l	0.38	1,465,976.64	6.154E-01	Pulse	0.10	3
Mo			1	51.025	ug/l	0.68	283,801.70	1.191E-01	Pulse	0.10	3
Ag			1	48.555	ug/l	0.06	685,860.07	2.828E-01	Pulse	0.10	3
Sn			1	50.246	ug/l	0.23	445,561.61	1.837E-01	Pulse	0.10	3
Sb			1	52.707	ug/l	0.82	548,704.91	1.479E-01	Pulse	0.10	3
Ba			1	51.274	ug/l	1.40	215,754.83	5.816E-02	Pulse	0.10	3
Tl			1	51.934	ug/l	0.43	1,485,979.67	6.556E-01	Pulse	0.10	3
Pb			1	51.558	ug/l	0.60	520,303.01	2.295E-01	Pulse	0.10	3
Pb			1	51.315	ug/l	0.96	456,754.83	2.015E-01	Pulse	0.10	3
Pb			1	51.178	ug/l	0.59	2,079,603.89	9.174E-01	Pulse	0.10	3
Na			2	4820.169	ug/l	1.12	4,729,776.76	4.664E+01	Analog	0.30	3
Mg			2	4649.142	ug/l	1.26	2,123,011.79	2.093E+01	Pulse	0.30	3
Al			2	4694.169	ug/l	1.31	714,298.93	7.043E+00	Pulse	0.30	3
K			2	4877.240	ug/l	1.27	1,391,141.61	1.372E+01	Pulse	0.30	3
Ca			2	5145.644	ug/l	1.28	80,612.34	7.948E-01	Pulse	0.30	3
Ti			2	49.803	ug/l	3.99	5,924.46	5.843E-02	Pulse	0.30	3
V			2	52.621	ug/l	1.69	198,688.32	1.959E+00	Pulse	0.30	3
Cr			2	51.202	ug/l	1.48	257,936.33	2.543E+00	Pulse	0.30	3
Mn			2	50.989	ug/l	1.01	135,442.85	1.335E+00	Pulse	0.30	3
Fe			2	5236.431	ug/l	2.16	20,673,723.07	2.039E+02	Analog	0.30	3
Co			2	51.250	ug/l	2.30	403,170.08	3.976E+00	Pulse	0.30	3
Ni			2	50.808	ug/l	2.27	108,386.40	1.069E+00	Pulse	0.30	3
Cu			2	50.210	ug/l	1.65	295,592.36	2.915E+00	Pulse	0.30	3
Zn			2	50.477	ug/l	1.13	44,112.51	4.349E-01	Pulse	0.30	3
As			2	51.843	ug/l	1.02	21,480.42	2.118E-01	Pulse	1.00	3
Cd			2	50.847	ug/l	0.62	67,680.70	1.215E-01	Pulse	0.30	3
Sn			2	51.223	ug/l	1.04	131,292.50	2.358E-01	Pulse	0.30	3
Se			3	204.994	ug/l	0.28	30,802.91	1.884E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,145,336.27	0.88	90.4	Pulse	0.10	3
1	Sc		1,781,178.26	1.44	92.9	Pulse	0.10	3
1	Ge		341,461.56	2.49	95.8	Pulse	0.10	3

Quantitation Report

1	Ge		481,030.47	2.65	97.7	Pulse	0.10	3
1	Rh		2,382,357.72	2.79	94.7	Pulse	0.10	3
1	In		2,425,331.42	2.96	98.8	Pulse	0.10	3
1	Tb		3,708,792.76	2.38	101.1	Pulse	0.10	3
1	Ho		375,530.05	2.07	101.8	Pulse	0.10	3
1	Bi		2,266,678.35	2.77	97.9	Pulse	0.10	3
2	Sc		101,431.70	1.49	87.9	Pulse	0.30	3
2	Ge		57,264.42	0.99	93.5	Pulse	0.30	3
2	Ge		86,847.23	1.01	92.8	Pulse	0.30	3
2	Rh		1,561,732.06	0.66	91.5	Pulse	0.30	3
2	In		556,882.91	0.20	92.0	Pulse	0.30	3
2	Tb		2,178,264.91	1.01	95.7	Pulse	0.30	3
2	Ho		219,202.39	0.94	97.0	Pulse	0.30	3
2	Bi		1,468,340.32	0.42	94.7	Pulse	0.30	3
3	Sc		173,587.67	0.52	92.5	Pulse	0.30	3
3	Ge		107,341.31	0.30	91.5	Pulse	0.30	3
3	Ge		163,493.83	0.50	91.8	Pulse	0.30	3
3	Rh		1,809,629.03	0.51	93.3	Pulse	0.30	3
3	Tb		3,232,423.14	0.92	97.4	Pulse	0.30	3

Quantitation Report

File Name	063_CCB.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 14:38
Sample Name	CCB
Sample Type	CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.004	ug/l	18.70	29.33	2.561E-05	Pulse	0.25	3
B			1	6.092	ug/l	1.51	33,479.91	2.926E-02	Pulse	0.15	3
Ca			1	-5.742	ug/l	-26.52	12,284.94	6.999E-03	Pulse	0.10	3
Sr			1	0.021	ug/l	13.83	773.38	3.243E-04	Pulse	0.10	3
Mo			1	0.124	ug/l	26.80	746.71	3.128E-04	Pulse	0.10	3
Ag			1	0.010	ug/l	37.39	150.01	6.222E-05	Pulse	0.10	3
Sn			1	0.418	ug/l	1.03	2,697.00	1.120E-03	Pulse	0.10	3
Sb			1	0.146	ug/l	11.87	2,086.88	5.723E-04	Pulse	0.10	3
Ba			1	0.020	ug/l	50.23	123.34	3.412E-05	Pulse	0.10	3
Tl			1	0.012	ug/l	13.28	383.36	1.679E-04	Pulse	0.10	3
Pb			1	0.002	ug/l	282.96	240.01	1.050E-04	Pulse	0.10	3
Pb			1	0.005	ug/l	100.55	296.68	1.302E-04	Pulse	0.10	3
Pb			1	0.007	ug/l	20.57	1,170.06	5.135E-04	Pulse	0.10	3
Na			2	15.797	ug/l	1.30	29,458.95	2.958E-01	Pulse	0.30	3
Mg			2	0.278	ug/l	12.89	253.34	2.544E-03	Pulse	0.30	3
Al			2	0.043	ug/l	131.91	243.34	2.444E-03	Pulse	0.30	3
K			2	-1.469	ug/l	-58.63	7,401.72	7.433E-02	Pulse	0.30	3
Ca			2	-1.108	ug/l	-59.74	75.55	7.582E-04	Pulse	0.30	3
Ti			2	0.020	ug/l	141.08	3.33	3.348E-05	Pulse	0.30	3
V			2	-0.110	ug/l	-2.29	103.34	1.038E-03	Pulse	0.30	3
Cr			2	0.021	ug/l	18.39	494.46	4.964E-03	Pulse	0.30	3
Mn			2	0.020	ug/l	24.77	96.67	9.697E-04	Pulse	0.30	3
Fe			2	1.769	ug/l	5.45	14,030.52	1.409E-01	Pulse	0.30	3
Co			2	0.003	ug/l	46.82	37.74	3.793E-04	Pulse	0.30	3
Ni			2	-0.044	ug/l	-93.25	301.12	3.018E-03	Pulse	0.30	3
Cu			2	-0.560	ug/l	-3.68	1,910.13	1.918E-02	Pulse	0.30	3
Zn			2	-0.556	ug/l	-5.02	341.12	3.424E-03	Pulse	0.30	3
As			2	0.011	ug/l	34.71	12.00	1.204E-04	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.002	ug/l	80.47	4.35	7.828E-06	Pulse	0.30	3
Sn			2	0.418	ug/l	10.26	1,078.94	1.940E-03	Pulse	0.30	3
Se			3	0.074	ug/l	18.33	16.47	1.013E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,144,354.14	1.22	90.3	Pulse	0.10	3
1	Sc		1,756,784.76	2.28	91.7	Pulse	0.10	3
1	Ge		335,906.19	1.51	94.2	Pulse	0.10	3
1	Ge		467,695.44	2.21	95.0	Pulse	0.10	3
1	Rh		2,388,538.19	2.57	94.9	Pulse	0.10	3
1	In		2,408,592.18	2.59	98.1	Pulse	0.10	3
1	Tb		3,639,325.99	3.60	99.2	Pulse	0.10	3
1	Ho		365,207.65	3.02	99.0	Pulse	0.10	3
1	Bi		2,280,849.55	3.01	98.5	Pulse	0.10	3
2	Sc		99,580.40	1.26	86.3	Pulse	0.30	3
2	Ge		57,732.69	0.59	94.2	Pulse	0.30	3
2	Ge		85,656.73	1.21	91.5	Pulse	0.30	3
2	Rh		1,582,900.91	0.52	92.7	Pulse	0.30	3
2	In		556,071.93	0.73	91.8	Pulse	0.30	3
2	Tb		2,121,082.00	0.58	93.2	Pulse	0.30	3
2	Ho		212,189.49	0.88	93.9	Pulse	0.30	3
2	Bi		1,460,796.09	0.76	94.2	Pulse	0.30	3
3	Sc		173,010.30	0.43	92.2	Pulse	0.30	3
3	Ge		108,191.58	1.04	92.2	Pulse	0.30	3
3	Ge		162,585.09	0.70	91.3	Pulse	0.30	3
3	Rh		1,852,597.71	0.96	95.6	Pulse	0.30	3
3	Tb		3,184,686.47	1.31	96.0	Pulse	0.30	3

Quantitation Report

File Name 064SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 14:43
Sample Name jc99611-1f 5
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.013	ug/l	56.25	41.33	3.551E-05	Pulse	0.25	3
B			1	51.911	ug/l	1.76	114,785.49	9.855E-02	Pulse	0.15	3
Ca			1	19532.760	ug/l	2.92	5,414,897.63	3.098E+00	Analog	0.10	3
Sr			1	101.986	ug/l	1.54	1,384,063.57	5.914E-01	Pulse	0.10	3
Mo			1	2.640	ug/l	3.43	7,271.89	3.105E-03	Pulse	0.10	3
Ag			1	0.036	ug/l	39.77	260.01	1.089E-04	Pulse	0.10	3
Sn			1	1.320	ug/l	2.72	4,790.91	2.008E-03	Pulse	0.10	3
Sb			1	0.967	ug/l	3.28	5,591.21	1.520E-03	Pulse	0.10	3
Ba			1	20.980	ug/l	2.74	43,816.29	1.191E-02	Pulse	0.10	3
Tl			1	0.087	ug/l	7.02	1,286.78	5.736E-04	Pulse	0.10	3
Pb			1	0.311	ug/l	7.14	1,773.51	7.898E-04	Pulse	0.10	3
Pb			1	0.317	ug/l	1.36	1,640.16	7.307E-04	Pulse	0.10	3
Pb			1	0.306	ug/l	6.37	7,020.90	3.126E-03	Pulse	0.10	3
Na			2	1383.875	ug/l	1.41	668,076.28	6.817E+00	Pulse	0.30	3
Mg			2	2211.323	ug/l	1.41	487,946.54	4.979E+00	Pulse	0.30	3
Al			2	18.479	ug/l	20.21	1,589.05	1.624E-02	Pulse	0.30	3
K			2	5511.076	ug/l	1.46	762,772.56	7.784E+00	Pulse	0.30	3
Ca			2	18687.668	ug/l	1.22	141,364.83	1.443E+00	Pulse	0.30	3
Ti			2	1.767	ug/l	31.45	102.23	1.046E-03	Pulse	0.30	3
V			2	7.555	ug/l	1.28	14,252.93	1.454E-01	Pulse	0.30	3
Cr			2	0.775	ug/l	12.37	2,267.96	2.316E-02	Pulse	0.30	3
Mn			2	472.386	ug/l	0.51	606,084.85	6.184E+00	Pulse	0.30	3
Fe			2	79.845	ug/l	1.18	159,319.29	1.626E+00	Pulse	0.30	3
Co			2	0.403	ug/l	2.26	1,545.22	1.577E-02	Pulse	0.30	3
Ni			2	4.326	ug/l	1.93	4,828.53	4.926E-02	Pulse	0.30	3
Cu			2	6.154	ug/l	1.97	22,208.43	2.266E-01	Pulse	0.30	3
Zn			2	10.468	ug/l	2.56	5,133.08	5.238E-02	Pulse	0.30	3
As			2	1.851	ug/l	5.92	377.68	3.855E-03	Pulse	1.00	3
Cd			2	0.179	ug/l	12.66	117.23	2.178E-04	Pulse	0.30	3
Sn			2	1.240	ug/l	7.95	1,543.43	2.868E-03	Pulse	0.30	3
Se			3	1.118	ug/l	6.06	94.00	5.472E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,164,807.29	0.47	91.9	Pulse	0.10	3
1	Sc		1,748,498.88	2.02	91.2	Pulse	0.10	3
1	Ge		362,038.67	1.94	101.5	Pulse	0.10	3

Quantitation Report

1	Ge		500,507.06	1.75	101.6	Pulse	0.10	3
1	Rh		2,340,942.88	3.06	93.0	Pulse	0.10	3
1	In		2,385,107.39	1.93	97.2	Pulse	0.10	3
1	Tb		3,680,087.13	2.93	100.3	Pulse	0.10	3
1	Ho		371,039.50	1.56	100.6	Pulse	0.10	3
1	Bi		2,244,857.88	1.64	96.9	Pulse	0.10	3
2	Sc		98,008.18	1.42	84.9	Pulse	0.30	3
2	Ge		59,412.15	1.26	97.0	Pulse	0.30	3
2	Ge		89,665.63	0.79	95.8	Pulse	0.30	3
2	Rh		1,545,523.38	1.09	90.6	Pulse	0.30	3
2	In		538,002.75	0.78	88.9	Pulse	0.30	3
2	Tb		2,114,965.89	0.68	92.9	Pulse	0.30	3
2	Ho		215,005.29	0.47	95.1	Pulse	0.30	3
2	Bi		1,440,993.45	0.87	93.0	Pulse	0.30	3
3	Sc		179,331.51	0.18	95.5	Pulse	0.30	3
3	Ge		114,778.19	1.12	97.8	Pulse	0.30	3
3	Ge		171,803.15	1.03	96.5	Pulse	0.30	3
3	Rh		1,873,723.33	0.49	96.6	Pulse	0.30	3
3	Tb		3,316,438.69	0.70	99.9	Pulse	0.30	3

Quantitation Report

File Name 065SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 14:48
Sample Name jc99611-2f
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.004	ug/l	104.60	16.00	1.418E-05	Pulse	0.25	3
B			1	36.156	ug/l	1.46	79,961.92	7.107E-02	Pulse	0.15	3
Ca			1	67259.648	ug/l	1.49	18,481,262.22	1.065E+01	Analog	0.10	3
Sr			1	669.723	ug/l	2.86	8,491,130.91	3.883E+00	Analog	0.10	3
Mo			1	0.902	ug/l	6.29	2,353.60	1.076E-03	Pulse	0.10	3
Ag			1	0.020	ug/l	6.59	143.34	6.353E-05	Pulse	0.10	3
Sn			1	0.846	ug/l	3.66	2,573.62	1.140E-03	Pulse	0.10	3
Sb			1	0.235	ug/l	19.71	1,770.16	4.937E-04	Pulse	0.10	3
Ba			1	69.868	ug/l	1.34	141,916.43	3.963E-02	Pulse	0.10	3
Tl			1	0.060	ug/l	9.36	846.72	3.997E-04	Pulse	0.10	3
Pb			1	0.142	ug/l	15.83	876.73	4.140E-04	Pulse	0.10	3
Pb			1	0.121	ug/l	15.12	733.38	3.459E-04	Pulse	0.10	3
Pb			1	0.137	ug/l	17.15	3,410.28	1.608E-03	Pulse	0.10	3
Na			2	53467.386	ug/l	1.64	24,609,461.80	2.580E+02	Analog	0.30	3
Mg			2	53701.600	ug/l	1.11	11,531,595.93	1.209E+02	Analog	0.30	3
Al			2	14.408	ug/l	4.98	1,257.84	1.319E-02	Pulse	0.30	3
K			2	4282.338	ug/l	0.74	578,635.48	6.066E+00	Pulse	0.30	3
Ca			2	66184.166	ug/l	0.11	487,121.63	5.107E+00	Pulse	0.30	3
Ti			2	0.897	ug/l	47.89	51.11	5.354E-04	Pulse	0.30	3
V			2	0.340	ug/l	10.49	1,092.27	1.145E-02	Pulse	0.30	3
Cr			2	0.570	ug/l	4.74	1,725.67	1.809E-02	Pulse	0.30	3
Mn			2	5083.163	ug/l	0.76	6,347,266.55	6.654E+01	Analog	0.30	3
Fe			2	2145.561	ug/l	0.39	3,989,312.76	4.182E+01	Pulse	0.30	3
Co			2	5.458	ug/l	0.32	20,207.33	2.118E-01	Pulse	0.30	3
Ni			2	8.688	ug/l	2.33	9,060.35	9.497E-02	Pulse	0.30	3
Cu			2	0.396	ug/l	14.15	5,955.58	6.243E-02	Pulse	0.30	3
Zn			2	10.842	ug/l	6.17	5,147.54	5.397E-02	Pulse	0.30	3
As			2	2.638	ug/l	3.21	521.01	5.461E-03	Pulse	1.00	3
Cd			2	0.112	ug/l	28.22	70.92	1.372E-04	Pulse	0.30	3
Sn			2	0.698	ug/l	6.37	840.03	1.622E-03	Pulse	0.30	3
Se			3	0.073	ug/l	22.10	11.07	6.699E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,125,209.11	0.89	88.8	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,736,143.83	1.42	90.6	Pulse	0.10	3
1	Ge		349,655.67	1.28	98.1	Pulse	0.10	3
1	Ge		483,985.57	1.84	98.3	Pulse	0.10	3
1	Rh		2,187,413.41	1.96	86.9	Pulse	0.10	3
1	In		2,258,217.29	2.25	92.0	Pulse	0.10	3
1	Tb		3,580,757.24	1.81	97.6	Pulse	0.10	3
1	Ho		360,800.96	1.19	97.8	Pulse	0.10	3
1	Bi		2,119,370.18	1.86	91.5	Pulse	0.10	3
2	Sc		95,391.47	0.52	82.6	Pulse	0.30	3
2	Ge		57,444.94	1.28	93.8	Pulse	0.30	3
2	Ge		86,352.39	1.35	92.3	Pulse	0.30	3
2	Rh		1,468,576.44	1.47	86.0	Pulse	0.30	3
2	In		517,894.45	1.00	85.5	Pulse	0.30	3
2	Tb		2,084,729.36	1.05	91.6	Pulse	0.30	3
2	Ho		210,691.82	0.52	93.2	Pulse	0.30	3
2	Bi		1,356,771.54	1.23	87.5	Pulse	0.30	3
3	Sc		174,607.51	0.71	93.0	Pulse	0.30	3
3	Ge		109,713.36	1.56	93.5	Pulse	0.30	3
3	Ge		165,198.19	0.10	92.8	Pulse	0.30	3
3	Rh		1,756,151.01	0.58	90.6	Pulse	0.30	3
3	Tb		3,241,668.13	0.33	97.7	Pulse	0.30	3

Quantitation Report

File Name 066SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 14:53
Sample Name 13b14bconf
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	67.957	ug/l	0.68	368,430.37	3.173E-01	Pulse	0.25	3
B			1	71.597	ug/l	1.19	299,249.51	2.578E-01	Pulse	0.15	3
Ca			1	22.602	ug/l	4.92	28,688.84	1.596E-02	Pulse	0.10	3
Sr			1	74.421	ug/l	0.96	2,107,779.71	8.631E-01	Pulse	0.10	3
Mo			1	75.781	ug/l	0.66	432,042.55	1.769E-01	Pulse	0.10	3
Ag			1	0.100	ug/l	5.44	1,436.79	5.888E-04	Pulse	0.10	3
Sn			1	74.080	ug/l	0.83	661,900.44	2.710E-01	Pulse	0.10	3
Sb			1	78.322	ug/l	0.63	815,544.34	2.197E-01	Pulse	0.10	3
Ba			1	74.533	ug/l	0.65	313,766.85	8.454E-02	Pulse	0.10	3
Tl			1	74.185	ug/l	0.38	2,169,745.59	9.365E-01	Pulse	0.10	3
Pb			1	80.253	ug/l	0.97	827,522.23	3.572E-01	Pulse	0.10	3
Pb			1	79.970	ug/l	0.42	727,408.03	3.140E-01	Pulse	0.10	3
Pb			1	79.956	ug/l	0.55	3,320,276.28	1.433E+00	Pulse	0.10	3
Na			2	13.164	ug/l	4.49	27,517.97	2.704E-01	Pulse	0.30	3
Mg			2	2.422	ug/l	2.56	1,241.17	1.220E-02	Pulse	0.30	3
Al			2	0.073	ug/l	430.33	253.34	2.489E-03	Pulse	0.30	3
K			2	-1.806	ug/l	-15.06	7,468.43	7.339E-02	Pulse	0.30	3
Ca			2	317.601	ug/l	1.72	5,080.84	4.993E-02	Pulse	0.30	3
Ti			2	73.976	ug/l	3.11	8,831.31	8.678E-02	Pulse	0.30	3
V			2	75.762	ug/l	0.89	286,809.60	2.818E+00	Pulse	0.30	3
Cr			2	73.958	ug/l	0.47	373,639.96	3.672E+00	Pulse	0.30	3
Mn			2	74.997	ug/l	0.33	199,851.88	1.964E+00	Pulse	0.30	3
Fe			2	-0.733	ug/l	-5.90	4,432.90	4.356E-02	Pulse	0.30	3
Co			2	74.554	ug/l	0.68	588,531.77	5.783E+00	Pulse	0.30	3
Ni			2	74.130	ug/l	1.69	158,498.00	1.558E+00	Pulse	0.30	3
Cu			2	73.102	ug/l	0.96	429,468.63	4.220E+00	Pulse	0.30	3
Zn			2	72.681	ug/l	0.98	63,366.25	6.227E-01	Pulse	0.30	3
As			2	77.397	ug/l	0.64	32,172.86	3.162E-01	Pulse	1.00	3
Cd			2	73.301	ug/l	0.87	98,801.90	1.752E-01	Pulse	0.30	3
Sn			2	75.184	ug/l	0.80	195,123.90	3.460E-01	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	76.699	ug/l	0.36	11,494.09	7.051E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,160,979.98	0.45	91.6	Pulse	0.10	3
1	Sc		1,797,388.99	1.43	93.8	Pulse	0.10	3
1	Ge		344,782.72	1.82	96.7	Pulse	0.10	3
1	Ge		479,531.42	2.27	97.4	Pulse	0.10	3
1	Rh		2,442,044.91	1.54	97.0	Pulse	0.10	3
1	In		2,441,733.28	1.98	99.5	Pulse	0.10	3
1	Tb		3,711,028.90	2.62	101.1	Pulse	0.10	3
1	Ho		370,737.68	2.32	100.5	Pulse	0.10	3
1	Bi		2,316,795.64	2.75	100.1	Pulse	0.10	3
2	Sc		101,762.61	0.35	88.2	Pulse	0.30	3
2	Ge		57,364.71	1.13	93.6	Pulse	0.30	3
2	Ge		87,456.08	0.42	93.4	Pulse	0.30	3
2	Rh		1,596,196.25	0.12	93.5	Pulse	0.30	3
2	In		563,902.11	0.86	93.1	Pulse	0.30	3
2	Tb		2,142,392.90	0.38	94.1	Pulse	0.30	3
2	Ho		215,913.37	0.81	95.5	Pulse	0.30	3
2	Bi		1,489,983.59	0.73	96.1	Pulse	0.30	3
3	Sc		174,405.69	0.49	92.9	Pulse	0.30	3
3	Ge		108,041.73	0.53	92.0	Pulse	0.30	3
3	Ge		163,008.40	0.72	91.5	Pulse	0.30	3
3	Rh		1,839,245.69	1.06	94.9	Pulse	0.30	3
3	Tb		3,203,981.67	0.77	96.5	Pulse	0.30	3

Quantitation Report

File Name 067SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 15:02
Sample Name mp18803a-mb1 1
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.001	ug/l	130.61	10.67	9.386E-06	Pulse	0.25	3
B			1	3.997	ug/l	0.22	25,023.17	2.195E-02	Pulse	0.15	3
Ca			1	10.128	ug/l	10.80	20,770.15	1.202E-02	Pulse	0.10	3
Sr			1	0.037	ug/l	6.72	1,210.09	5.162E-04	Pulse	0.10	3
Mo			1	0.045	ug/l	41.30	303.35	1.285E-04	Pulse	0.10	3
Ag			1	0.013	ug/l	41.18	183.34	7.891E-05	Pulse	0.10	3
Sn			1	0.343	ug/l	5.35	1,983.53	8.480E-04	Pulse	0.10	3
Sb			1	0.093	ug/l	13.97	1,490.13	4.251E-04	Pulse	0.10	3
Ba			1	0.056	ug/l	23.13	263.34	7.539E-05	Pulse	0.10	3
Tl			1	0.142	ug/l	2.85	4,037.38	1.815E-03	Pulse	0.10	3
Pb			1	0.014	ug/l	6.50	356.69	1.603E-04	Pulse	0.10	3
Pb			1	0.005	ug/l	179.13	283.35	1.269E-04	Pulse	0.10	3
Pb			1	0.012	ug/l	31.28	1,330.08	5.969E-04	Pulse	0.10	3
Na			2	14.447	ug/l	4.23	28,647.61	2.828E-01	Pulse	0.30	3
Mg			2	1.255	ug/l	3.49	703.36	6.943E-03	Pulse	0.30	3
Al			2	13.498	ug/l	5.78	2,292.40	2.262E-02	Pulse	0.30	3
K			2	-1.431	ug/l	-57.35	7,540.67	7.444E-02	Pulse	0.30	3
Ca			2	15.806	ug/l	28.01	341.12	3.368E-03	Pulse	0.30	3
Ti			2	0.179	ug/l	32.51	22.22	2.193E-04	Pulse	0.30	3
V			2	-0.098	ug/l	-4.06	151.11	1.492E-03	Pulse	0.30	3
Cr			2	0.162	ug/l	11.82	1,213.39	1.198E-02	Pulse	0.30	3
Mn			2	0.072	ug/l	7.69	234.45	2.315E-03	Pulse	0.30	3
Fe			2	0.710	ug/l	8.61	10,104.29	9.974E-02	Pulse	0.30	3
Co			2	0.005	ug/l	76.42	52.19	5.170E-04	Pulse	0.30	3
Ni			2	-0.044	ug/l	-39.29	304.45	3.006E-03	Pulse	0.30	3
Cu			2	-0.427	ug/l	-7.62	2,714.70	2.681E-02	Pulse	0.30	3
Zn			2	-0.316	ug/l	-5.02	552.24	5.452E-03	Pulse	0.30	3
As			2	0.003	ug/l	384.93	8.67	8.580E-05	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.002	ug/l	208.62	4.41	7.843E-06	Pulse	0.30	3
Sn			2	0.295	ug/l	6.04	771.14	1.375E-03	Pulse	0.30	3
Se			3	0.006	ug/l	180.93	6.20	3.856E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,140,002.86	1.62	89.9	Pulse	0.10	3
1	Sc		1,729,042.79	2.75	90.2	Pulse	0.10	3
1	Ge		331,790.04	2.29	93.1	Pulse	0.10	3
1	Ge		462,260.28	2.58	93.9	Pulse	0.10	3
1	Rh		2,345,514.86	3.02	93.2	Pulse	0.10	3
1	In		2,334,986.15	3.65	95.1	Pulse	0.10	3
1	Tb		3,504,055.68	2.37	95.5	Pulse	0.10	3
1	Ho		351,268.51	2.53	95.2	Pulse	0.10	3
1	Bi		2,225,165.64	2.56	96.1	Pulse	0.10	3
2	Sc		101,310.72	0.95	87.8	Pulse	0.30	3
2	Ge		57,506.33	0.32	93.9	Pulse	0.30	3
2	Ge		86,439.66	0.17	92.4	Pulse	0.30	3
2	Rh		1,574,355.56	0.69	92.2	Pulse	0.30	3
2	In		560,886.61	0.48	92.6	Pulse	0.30	3
2	Tb		2,110,369.64	1.12	92.7	Pulse	0.30	3
2	Ho		211,285.75	0.61	93.5	Pulse	0.30	3
2	Bi		1,465,467.48	0.70	94.5	Pulse	0.30	3
3	Sc		173,675.15	0.48	92.5	Pulse	0.30	3
3	Ge		106,547.47	0.34	90.8	Pulse	0.30	3
3	Ge		160,472.98	1.30	90.1	Pulse	0.30	3
3	Rh		1,811,556.87	0.31	93.4	Pulse	0.30	3
3	Tb		3,121,773.70	1.31	94.1	Pulse	0.30	3

Quantitation Report

File Name 068SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 15:07
Sample Name mp18803a-mb2
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.001	ug/l	48.66	10.67	9.283E-06	Pulse	0.25	3
B			1	3.238	ug/l	5.14	22,159.22	1.930E-02	Pulse	0.15	3
Ca			1	-0.976	ug/l	-58.55	14,927.19	8.507E-03	Pulse	0.10	3
Sr			1	0.021	ug/l	12.91	780.05	3.269E-04	Pulse	0.10	3
Mo			1	0.022	ug/l	30.66	176.67	7.381E-05	Pulse	0.10	3
Ag			1	0.006	ug/l	32.14	96.67	4.043E-05	Pulse	0.10	3
Sn			1	0.306	ug/l	0.90	1,700.15	7.123E-04	Pulse	0.10	3
Sb			1	0.057	ug/l	13.60	1,163.41	3.253E-04	Pulse	0.10	3
Ba			1	0.042	ug/l	29.49	213.35	5.982E-05	Pulse	0.10	3
Tl			1	0.008	ug/l	40.91	273.35	1.222E-04	Pulse	0.10	3
Pb			1	-0.001	ug/l	-404.42	206.68	9.200E-05	Pulse	0.10	3
Pb			1	0.005	ug/l	71.32	293.35	1.306E-04	Pulse	0.10	3
Pb			1	0.004	ug/l	98.18	1,016.72	4.522E-04	Pulse	0.10	3
Na			2	15.363	ug/l	2.61	29,767.28	2.916E-01	Pulse	0.30	3
Mg			2	1.389	ug/l	9.37	770.03	7.547E-03	Pulse	0.30	3
Al			2	5.821	ug/l	12.75	1,133.39	1.111E-02	Pulse	0.30	3
K			2	-2.202	ug/l	-18.39	7,378.37	7.229E-02	Pulse	0.30	3
Ca			2	3.800	ug/l	57.47	154.45	1.515E-03	Pulse	0.30	3
Ti			2	0.038	ug/l	41.36	5.56	5.433E-05	Pulse	0.30	3
V			2	-0.101	ug/l	-6.54	143.33	1.404E-03	Pulse	0.30	3
Cr			2	0.443	ug/l	1.88	2,646.91	2.593E-02	Pulse	0.30	3
Mn			2	0.088	ug/l	10.55	278.90	2.732E-03	Pulse	0.30	3
Fe			2	2.906	ug/l	2.51	18,906.48	1.852E-01	Pulse	0.30	3
Co			2	0.004	ug/l	68.96	47.73	4.675E-04	Pulse	0.30	3
Ni			2	-0.051	ug/l	-48.56	292.23	2.860E-03	Pulse	0.30	3
Cu			2	-0.509	ug/l	-2.67	2,254.63	2.209E-02	Pulse	0.30	3
Zn			2	0.197	ug/l	36.25	1,000.04	9.796E-03	Pulse	0.30	3
As			2	0.006	ug/l	108.62	10.00	9.780E-05	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.002	ug/l	156.23	4.43	7.905E-06	Pulse	0.30	3
Sn			2	0.228	ug/l	6.34	597.80	1.067E-03	Pulse	0.30	3
Se			3	-0.012	ug/l	-34.68	3.60	2.231E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,148,015.68	0.96	90.6	Pulse	0.10	3
1	Sc		1,755,106.49	1.44	91.6	Pulse	0.10	3
1	Ge		333,424.65	1.59	93.5	Pulse	0.10	3
1	Ge		461,777.74	2.48	93.8	Pulse	0.10	3
1	Rh		2,387,817.99	1.82	94.9	Pulse	0.10	3
1	In		2,387,292.16	1.87	97.2	Pulse	0.10	3
1	Tb		3,575,806.82	1.96	97.4	Pulse	0.10	3
1	Ho		360,943.42	2.01	97.9	Pulse	0.10	3
1	Bi		2,249,751.11	2.47	97.2	Pulse	0.10	3
2	Sc		102,081.04	1.13	88.4	Pulse	0.30	3
2	Ge		56,373.58	1.39	92.0	Pulse	0.30	3
2	Ge		85,552.78	0.82	91.4	Pulse	0.30	3
2	Rh		1,571,961.99	0.54	92.1	Pulse	0.30	3
2	In		560,465.53	0.29	92.6	Pulse	0.30	3
2	Tb		2,122,824.92	0.24	93.3	Pulse	0.30	3
2	Ho		213,660.32	0.08	94.5	Pulse	0.30	3
2	Bi		1,467,417.30	0.85	94.7	Pulse	0.30	3
3	Sc		173,312.11	1.09	92.3	Pulse	0.30	3
3	Ge		107,784.29	0.54	91.8	Pulse	0.30	3
3	Ge		161,470.14	0.90	90.7	Pulse	0.30	3
3	Rh		1,824,886.59	0.50	94.1	Pulse	0.30	3
3	Tb		3,175,530.08	0.73	95.7	Pulse	0.30	3

Quantitation Report

File Name 069SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 15:12
Sample Name mp18803a-b2
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	70.285	ug/l	0.64	372,833.28	3.282E-01	Pulse	0.25	3
B			1	72.209	ug/l	0.50	295,236.39	2.599E-01	Pulse	0.15	3
Ca			1	1938.008	ug/l	1.18	1,095,257.40	6.218E-01	Pulse	0.10	3
Sr			1	76.092	ug/l	0.49	2,086,929.65	8.825E-01	Pulse	0.10	3
Mo			1	75.508	ug/l	0.48	416,898.99	1.763E-01	Pulse	0.10	3
Ag			1	74.294	ug/l	0.84	1,033,296.55	4.327E-01	Pulse	0.10	3
Sn			1	74.427	ug/l	1.14	650,238.17	2.723E-01	Pulse	0.10	3
Sb			1	77.864	ug/l	0.38	800,567.90	2.185E-01	Pulse	0.10	3
Ba			1	74.197	ug/l	1.35	308,401.07	8.416E-02	Pulse	0.10	3
Tl			1	74.691	ug/l	0.45	2,127,419.29	9.429E-01	Pulse	0.10	3
Pb			1	76.721	ug/l	0.30	770,538.48	3.415E-01	Pulse	0.10	3
Pb			1	76.392	ug/l	0.67	676,841.83	2.999E-01	Pulse	0.10	3
Pb			1	76.370	ug/l	0.19	3,088,577.16	1.369E+00	Pulse	0.10	3
Na			2	1801.194	ug/l	0.91	1,796,005.97	1.752E+01	Pulse	0.30	3
Mg			2	1851.784	ug/l	1.00	854,965.14	8.339E+00	Pulse	0.30	3
Al			2	1874.313	ug/l	1.55	288,474.47	2.814E+00	Pulse	0.30	3
K			2	1925.217	ug/l	1.15	560,019.58	5.462E+00	Pulse	0.30	3
Ca			2	2274.697	ug/l	0.32	36,081.32	3.519E-01	Pulse	0.30	3
Ti			2	72.531	ug/l	1.91	8,725.72	8.509E-02	Pulse	0.30	3
V			2	75.470	ug/l	1.07	287,872.48	2.808E+00	Pulse	0.30	3
Cr			2	73.463	ug/l	1.63	373,937.93	3.647E+00	Pulse	0.30	3
Mn			2	74.070	ug/l	0.56	198,880.97	1.940E+00	Pulse	0.30	3
Fe			2	2066.768	ug/l	2.44	8,253,283.28	8.050E+01	Analog	0.30	3
Co			2	73.677	ug/l	1.29	585,996.89	5.715E+00	Pulse	0.30	3
Ni			2	72.851	ug/l	1.99	156,939.31	1.531E+00	Pulse	0.30	3
Cu			2	72.209	ug/l	1.05	427,490.88	4.169E+00	Pulse	0.30	3
Zn			2	73.018	ug/l	1.35	64,139.11	6.255E-01	Pulse	0.30	3
As			2	76.563	ug/l	0.67	32,067.66	3.127E-01	Pulse	1.00	3
Cd			2	73.072	ug/l	0.63	97,741.16	1.747E-01	Pulse	0.30	3
Sn			2	75.871	ug/l	1.03	195,409.88	3.492E-01	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	191.264	ug/l	0.90	28,232.64	1.758E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,135,948.33	1.64	89.6	Pulse	0.10	3
1	Sc		1,761,321.17	2.51	91.9	Pulse	0.10	3
1	Ge		337,600.80	3.10	94.7	Pulse	0.10	3
1	Ge		470,287.43	3.21	95.5	Pulse	0.10	3
1	Rh		2,365,001.42	2.63	94.0	Pulse	0.10	3
1	In		2,388,423.04	3.55	97.3	Pulse	0.10	3
1	Tb		3,664,634.11	3.18	99.9	Pulse	0.10	3
1	Ho		365,800.23	3.39	99.2	Pulse	0.10	3
1	Bi		2,256,371.32	3.30	97.4	Pulse	0.10	3
2	Sc		102,539.20	1.10	88.8	Pulse	0.30	3
2	Ge		57,327.80	0.92	93.6	Pulse	0.30	3
2	Ge		86,083.17	1.26	92.0	Pulse	0.30	3
2	Rh		1,561,461.60	0.43	91.5	Pulse	0.30	3
2	In		559,613.28	0.60	92.4	Pulse	0.30	3
2	Tb		2,155,334.77	0.56	94.7	Pulse	0.30	3
2	Ho		216,335.23	0.37	95.7	Pulse	0.30	3
2	Bi		1,469,388.90	0.62	94.8	Pulse	0.30	3
3	Sc		172,256.89	0.61	91.8	Pulse	0.30	3
3	Ge		106,636.94	1.50	90.9	Pulse	0.30	3
3	Ge		160,612.76	0.78	90.2	Pulse	0.30	3
3	Rh		1,786,223.19	0.19	92.1	Pulse	0.30	3
3	Tb		3,163,414.25	0.32	95.3	Pulse	0.30	3

Quantitation Report

File Name 070SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 15:17
Sample Name mp18803a-b3
Sample Type Sample
Comment
Prep Dilution 25.000
Auto Dilution N/A
Total Dilution 25.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	1707.006	ug/l	1.87	363,727.18	3.189E-01	Pulse	0.25	3
B			1	1671.383	ug/l	2.15	275,163.30	2.412E-01	Pulse	0.15	3
Ca			1	24331.407	ug/l	0.27	554,538.17	3.167E-01	Pulse	0.10	3
Sr			1	1845.603	ug/l	0.50	2,011,486.53	8.562E-01	Pulse	0.10	3
Mo			1	1799.315	ug/l	0.59	394,822.00	1.680E-01	Pulse	0.10	3
Ag			1	219.041	ug/l	0.58	121,630.15	5.103E-02	Pulse	0.10	3
Sn			1	1494.506	ug/l	1.98	520,946.90	2.186E-01	Pulse	0.10	3
Sb			1	1967.409	ug/l	0.68	791,658.76	2.208E-01	Pulse	0.10	3
Ba			1	1816.011	ug/l	0.75	295,449.94	8.240E-02	Pulse	0.10	3
Tl			1	1800.536	ug/l	1.63	2,047,644.24	9.092E-01	Pulse	0.10	3
Pb			1	1848.727	ug/l	0.76	741,508.56	3.292E-01	Pulse	0.10	3
Pb			1	1840.415	ug/l	0.80	651,063.28	2.890E-01	Pulse	0.10	3
Pb			1	1838.540	ug/l	0.58	2,969,338.74	1.318E+00	Pulse	0.10	3
Na			2	22681.417	ug/l	0.61	921,595.31	8.894E+00	Pulse	0.30	3
Mg			2	22973.527	ug/l	0.76	428,841.90	4.139E+00	Pulse	0.30	3
Al			2	23537.529	ug/l	0.42	146,571.60	1.415E+00	Pulse	0.30	3
K			2	23945.645	ug/l	0.45	285,655.26	2.757E+00	Pulse	0.30	3
Ca			2	32063.288	ug/l	0.64	20,599.54	1.988E-01	Pulse	0.30	3
Ti			2	1769.686	ug/l	0.27	8,604.54	8.304E-02	Pulse	0.30	3
V			2	1833.421	ug/l	0.59	282,717.44	2.728E+00	Pulse	0.30	3
Cr			2	1776.209	ug/l	0.23	365,510.69	3.527E+00	Pulse	0.30	3
Mn			2	1811.315	ug/l	0.12	196,594.78	1.897E+00	Pulse	0.30	3
Fe			2	22613.456	ug/l	0.61	3,654,942.77	3.527E+01	Pulse	0.30	3
Co			2	1784.414	ug/l	0.71	573,729.14	5.537E+00	Pulse	0.30	3
Ni			2	1766.118	ug/l	1.34	153,814.89	1.484E+00	Pulse	0.30	3
Cu			2	1741.233	ug/l	0.92	416,899.30	4.023E+00	Pulse	0.30	3
Zn			2	1938.916	ug/l	0.74	68,796.72	6.639E-01	Pulse	0.30	3
As			2	1956.567	ug/l	0.47	33,126.08	3.197E-01	Pulse	1.00	3
Cd			2	1825.463	ug/l	0.55	99,564.63	1.745E-01	Pulse	0.30	3
Sn			2	1409.459	ug/l	2.84	148,002.10	2.595E-01	Pulse	0.30	3
Se			3	2154.368	ug/l	2.57	12,288.33	7.922E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,140,746.79	0.36	90.0	Pulse	0.10	3
1	Sc		1,751,131.43	1.76	91.4	Pulse	0.10	3
1	Ge		337,135.23	2.80	94.6	Pulse	0.10	3

Quantitation Report

1	Ge		469,877.57	2.01	95.4	Pulse	0.10	3
1	Rh		2,349,417.20	2.52	93.4	Pulse	0.10	3
1	In		2,383,312.81	2.37	97.1	Pulse	0.10	3
1	Tb		3,586,070.68	3.11	97.7	Pulse	0.10	3
1	Ho		361,143.24	2.93	97.9	Pulse	0.10	3
1	Bi		2,252,925.28	3.70	97.3	Pulse	0.10	3
2	Sc		103,618.86	0.49	89.8	Pulse	0.30	3
2	Ge		58,275.68	0.86	95.1	Pulse	0.30	3
2	Ge		88,188.70	0.10	94.2	Pulse	0.30	3
2	Rh		1,568,079.31	0.42	91.9	Pulse	0.30	3
2	In		570,482.16	1.14	94.2	Pulse	0.30	3
2	Tb		2,148,783.52	0.30	94.4	Pulse	0.30	3
2	Ho		215,943.67	1.38	95.5	Pulse	0.30	3
2	Bi		1,492,347.61	1.34	96.3	Pulse	0.30	3
3	Sc		167,685.65	0.45	89.3	Pulse	0.30	3
3	Ge		103,773.42	0.47	88.4	Pulse	0.30	3
3	Ge		155,151.32	1.36	87.1	Pulse	0.30	3
3	Rh		1,738,350.28	0.41	89.7	Pulse	0.30	3
3	Tb		3,071,541.48	0.74	92.5	Pulse	0.30	3

Quantitation Report

File Name	071SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 15:22
Sample Name	mp18803a-s3
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	72.058	ug/l	0.97	455,082.44	3.365E-01	Pulse	0.25	3
B			1	320.068	ug/l	1.67	1,520,861.15	1.124E+00	Pulse	0.15	3
Ca			1	163399.752	ug/l	2.28	126,325,201.45	5.169E+01	Analog	0.10	3
Sr			1	5140.189	ug/l	2.45	144,419,037.85	5.961E+01	Analog	0.10	3
Mo			1	101.256	ug/l	0.63	572,971.98	2.364E-01	Pulse	0.10	3
Ag			1	65.620	ug/l	0.68	948,608.14	3.822E-01	Pulse	0.10	3
Sn			1	76.368	ug/l	0.53	693,551.27	2.794E-01	Pulse	0.10	3
Sb			1	78.807	ug/l	0.41	804,529.44	2.211E-01	Pulse	0.10	3
Ba			1	306.151	ug/l	1.25	1,263,244.43	3.472E-01	Pulse	0.10	3
Tl			1	77.134	ug/l	0.61	1,789,780.97	9.737E-01	Pulse	0.10	3
Pb			1	79.798	ug/l	0.86	652,713.51	3.552E-01	Pulse	0.10	3
Pb			1	79.658	ug/l	0.64	574,753.57	3.127E-01	Pulse	0.10	3
Pb			1	79.580	ug/l	0.56	2,621,420.55	1.426E+00	Pulse	0.10	3
Na			2	949986.985	ug/l	0.91	1,387,341,384.87	9.163E+03	Analog	0.30	3
Mg			2	22083.201	ug/l	1.50	15,052,952.74	9.943E+01	Analog	0.30	3
Al			2	1976.044	ug/l	1.35	449,115.62	2.966E+00	Pulse	0.30	3
K			2	66026.251	ug/l	0.41	27,968,078.89	1.847E+02	Analog	0.30	3
Ca			2	171308.894	ug/l	0.70	4,002,146.65	2.643E+01	Pulse	0.30	3
Ti			2	74.456	ug/l	2.52	13,223.34	8.734E-02	Pulse	0.30	3
V			2	75.911	ug/l	1.54	427,566.29	2.824E+00	Pulse	0.30	3
Cr			2	79.064	ug/l	1.58	594,248.33	3.925E+00	Pulse	0.30	3
Mn			2	121.273	ug/l	1.19	480,794.58	3.175E+00	Pulse	0.30	3
Fe			2	2046.511	ug/l	2.62	12,068,125.63	7.972E+01	Analog	0.30	3
Co			2	59.391	ug/l	0.96	697,563.90	4.607E+00	Pulse	0.30	3
Ni			2	58.742	ug/l	1.27	186,986.10	1.235E+00	Pulse	0.30	3
Cu			2	68.661	ug/l	1.62	600,600.27	3.967E+00	Pulse	0.30	3
Zn			2	50.686	ug/l	1.20	66,124.72	4.367E-01	Pulse	0.30	3
As			2	62.674	ug/l	2.57	38,761.72	2.560E-01	Pulse	1.00	3
Cd			2	59.244	ug/l	1.14	88,280.17	1.416E-01	Pulse	0.30	3
Sn			2	79.340	ug/l	0.79	227,660.62	3.652E-01	Pulse	0.30	3
Se			3	159.501	ug/l	1.07	24,064.34	1.466E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,352,282.46	1.41	106.7	Pulse	0.10	3
1	Sc		2,444,673.04	2.90	127.5	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Ge		403,165.83	4.05	113.1	Pulse	0.10	3
1	Ge		554,709.91	3.65	112.6	Pulse	0.10	3
1	Rh		2,423,987.41	3.19	96.3	Pulse	0.10	3
1	In		2,481,779.28	3.57	101.1	Pulse	0.10	3
1	Tb		3,639,095.05	3.64	99.2	Pulse	0.10	3
1	Ho		364,094.72	3.63	98.7	Pulse	0.10	3
1	Bi		1,838,025.76	3.66	79.4	Pulse	0.10	3
2	Sc		151,414.15	1.05	131.2	Pulse	0.30	3
2	Ge		71,928.35	0.69	117.4	Pulse	0.30	3
2	Ge		108,016.94	0.99	115.4	Pulse	0.30	3
2	Rh		1,594,599.87	0.95	93.4	Pulse	0.30	3
2	In		623,458.97	1.51	103.0	Pulse	0.30	3
2	Tb		2,207,878.32	0.93	97.0	Pulse	0.30	3
2	Ho		221,012.01	0.46	97.8	Pulse	0.30	3
2	Bi		1,226,337.45	1.36	79.1	Pulse	0.30	3
3	Sc		200,857.61	0.65	107.0	Pulse	0.30	3
3	Ge		108,522.46	0.71	92.5	Pulse	0.30	3
3	Ge		164,159.77	1.12	92.2	Pulse	0.30	3
3	Rh		1,555,934.18	0.56	80.3	Pulse	0.30	3
3	Tb		2,804,713.08	0.48	84.5	Pulse	0.30	3

Quantitation Report

File Name 072SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 15:27
Sample Name mp18803a-s4
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	74.889	ug/l	0.20	453,758.07	3.497E-01	Pulse	0.25	3
B			1	330.634	ug/l	0.13	1,506,896.78	1.161E+00	Pulse	0.15	3
Ca			1	166914.594	ug/l	0.83	125,504,208.13	5.281E+01	Analog	0.10	3
Sr			1	5247.962	ug/l	2.33	144,627,871.18	6.086E+01	Analog	0.10	3
Mo			1	102.896	ug/l	0.21	571,190.19	2.402E-01	Pulse	0.10	3
Ag			1	67.263	ug/l	0.70	950,734.10	3.918E-01	Pulse	0.10	3
Sn			1	74.990	ug/l	0.29	665,866.32	2.744E-01	Pulse	0.10	3
Sb			1	80.494	ug/l	0.52	805,056.76	2.258E-01	Pulse	0.10	3
Ba			1	314.443	ug/l	0.20	1,271,547.69	3.566E-01	Pulse	0.10	3
Tl			1	78.594	ug/l	0.48	1,783,878.47	9.922E-01	Pulse	0.10	3
Pb			1	82.063	ug/l	0.40	656,840.29	3.653E-01	Pulse	0.10	3
Pb			1	81.673	ug/l	0.30	576,619.09	3.206E-01	Pulse	0.10	3
Pb			1	81.713	ug/l	0.27	2,633,570.41	1.465E+00	Pulse	0.10	3
Na			2	967705.834	ug/l	0.55	1,378,217,580.79	9.334E+03	Analog	0.30	3
Mg			2	22656.945	ug/l	1.37	15,062,738.84	1.020E+02	Analog	0.30	3
Al			2	2055.124	ug/l	0.64	455,494.71	3.085E+00	Pulse	0.30	3
K			2	67948.205	ug/l	0.89	28,066,408.89	1.901E+02	Analog	0.30	3
Ca			2	175176.164	ug/l	1.14	3,990,756.92	2.703E+01	Pulse	0.30	3
Ti			2	76.420	ug/l	2.96	13,236.50	8.965E-02	Pulse	0.30	3
V			2	78.551	ug/l	1.12	431,454.91	2.922E+00	Pulse	0.30	3
Cr			2	80.859	ug/l	1.88	592,686.68	4.014E+00	Pulse	0.30	3
Mn			2	125.409	ug/l	1.05	484,855.59	3.284E+00	Pulse	0.30	3
Fe			2	2108.313	ug/l	0.28	12,125,575.35	8.212E+01	Analog	0.30	3
Co			2	61.013	ug/l	0.38	698,860.74	4.733E+00	Pulse	0.30	3
Ni			2	59.592	ug/l	0.99	184,986.25	1.253E+00	Pulse	0.30	3
Cu			2	69.555	ug/l	0.36	593,273.73	4.018E+00	Pulse	0.30	3
Zn			2	52.242	ug/l	1.49	66,426.90	4.499E-01	Pulse	0.30	3
As			2	63.229	ug/l	1.55	38,139.95	2.583E-01	Pulse	1.00	3
Cd			2	61.046	ug/l	0.25	89,478.46	1.459E-01	Pulse	0.30	3
Sn			2	77.197	ug/l	0.83	217,897.98	3.553E-01	Pulse	0.30	3
Se			3	163.914	ug/l	0.58	24,606.42	1.507E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,297,511.47	2.38	102.4	Pulse	0.10	3
1	Sc		2,377,021.21	2.93	124.0	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Ge		388,623.78	2.27	109.0	Pulse	0.10	3
1	Ge		541,056.84	2.56	109.9	Pulse	0.10	3
1	Rh		2,377,826.48	3.62	94.5	Pulse	0.10	3
1	In		2,426,619.99	3.45	98.9	Pulse	0.10	3
1	Tb		3,565,324.95	3.58	97.1	Pulse	0.10	3
1	Ho		354,344.03	3.29	96.1	Pulse	0.10	3
1	Bi		1,798,158.20	3.62	77.7	Pulse	0.10	3
2	Sc		147,656.98	0.49	127.9	Pulse	0.30	3
2	Ge		69,652.06	2.71	113.7	Pulse	0.30	3
2	Ge		105,035.41	1.16	112.2	Pulse	0.30	3
2	Rh		1,564,171.92	0.67	91.6	Pulse	0.30	3
2	In		613,238.76	1.03	101.3	Pulse	0.30	3
2	Tb		2,179,505.47	1.55	95.8	Pulse	0.30	3
2	Ho		218,726.47	1.43	96.8	Pulse	0.30	3
2	Bi		1,209,618.01	1.28	78.0	Pulse	0.30	3
3	Sc		202,998.46	0.55	108.1	Pulse	0.30	3
3	Ge		108,057.09	0.78	92.1	Pulse	0.30	3
3	Ge		163,328.19	0.02	91.7	Pulse	0.30	3
3	Rh		1,541,086.78	0.46	79.5	Pulse	0.30	3
3	Tb		2,780,613.01	0.33	83.8	Pulse	0.30	3

Quantitation Report

File Name 073_CCV.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 15:32
Sample Name CCVA 5
Sample Type CCV
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	50.666	ug/l	0.85	325,162.90	2.366E-01	Pulse	0.25	3
B			1	108.452	ug/l	0.68	530,881.52	3.863E-01	Pulse	0.15	3
Ca			1	4916.430	ug/l	0.24	3,476,570.99	1.564E+00	Pulse	0.10	3
Sr			1	54.307	ug/l	0.51	1,715,651.95	6.298E-01	Pulse	0.10	3
Mo			1	51.409	ug/l	0.77	326,941.07	1.200E-01	Pulse	0.10	3
Ag			1	49.730	ug/l	1.00	778,483.48	2.896E-01	Pulse	0.10	3
Sn			1	50.559	ug/l	0.81	496,757.23	1.849E-01	Pulse	0.10	3
Sb			1	55.081	ug/l	0.32	596,913.11	1.546E-01	Pulse	0.10	3
Ba			1	54.867	ug/l	0.26	240,306.37	6.224E-02	Pulse	0.10	3
Tl			1	52.164	ug/l	0.98	1,492,577.53	6.585E-01	Pulse	0.10	3
Pb			1	51.643	ug/l	0.42	520,998.78	2.299E-01	Pulse	0.10	3
Pb			1	51.453	ug/l	0.48	457,897.10	2.020E-01	Pulse	0.10	3
Pb			1	51.433	ug/l	0.61	2,089,426.00	9.220E-01	Pulse	0.10	3
Na			2	5096.258	ug/l	0.73	6,317,045.86	4.930E+01	Analog	0.30	3
Mg			2	4705.142	ug/l	0.42	2,714,450.93	2.119E+01	Pulse	0.30	3
Al			2	4958.994	ug/l	0.47	953,317.95	7.440E+00	Pulse	0.30	3
K			2	5066.046	ug/l	0.48	1,825,161.66	1.424E+01	Pulse	0.30	3
Ca			2	5290.407	ug/l	0.40	104,702.38	8.172E-01	Pulse	0.30	3
Ti			2	49.349	ug/l	2.38	7,419.53	5.789E-02	Pulse	0.30	3
V			2	51.106	ug/l	0.37	243,831.61	1.903E+00	Pulse	0.30	3
Cr			2	49.115	ug/l	1.06	312,581.85	2.440E+00	Pulse	0.30	3
Mn			2	50.336	ug/l	1.60	168,897.62	1.318E+00	Pulse	0.30	3
Fe			2	5123.960	ug/l	0.92	25,558,620.65	1.995E+02	Analog	0.30	3
Co			2	48.497	ug/l	1.28	482,010.07	3.762E+00	Pulse	0.30	3
Ni			2	47.418	ug/l	1.35	127,827.43	9.977E-01	Pulse	0.30	3
Cu			2	46.584	ug/l	1.00	346,943.91	2.708E+00	Pulse	0.30	3
Zn			2	47.280	ug/l	1.81	52,260.68	4.079E-01	Pulse	0.30	3
As			2	49.806	ug/l	1.04	26,070.04	2.035E-01	Pulse	1.00	3
Cd			2	49.788	ug/l	0.38	76,586.34	1.190E-01	Pulse	0.30	3
Sn			2	51.820	ug/l	0.23	153,490.05	2.385E-01	Pulse	0.30	3
Se			3	205.255	ug/l	0.73	32,829.17	1.886E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,374,213.82	1.27	108.4	Pulse	0.10	3
1	Sc		2,222,872.05	1.86	116.0	Pulse	0.10	3
1	Ge		404,053.81	2.28	113.3	Pulse	0.10	3

Quantitation Report

1	Ge		562,125.03	2.82	114.1	Pulse	0.10	3
1	Rh		2,723,731.32	2.48	108.2	Pulse	0.10	3
1	In		2,687,371.54	2.93	109.5	Pulse	0.10	3
1	Tb		3,861,251.19	2.80	105.2	Pulse	0.10	3
1	Ho		383,292.96	3.56	103.9	Pulse	0.10	3
1	Bi		2,266,414.71	3.15	97.9	Pulse	0.10	3
2	Sc		128,134.03	1.22	111.0	Pulse	0.30	3
2	Ge		69,020.44	0.60	112.7	Pulse	0.30	3
2	Ge		103,887.90	1.03	111.0	Pulse	0.30	3
2	Rh		1,756,115.14	0.34	102.9	Pulse	0.30	3
2	In		643,545.03	0.89	106.3	Pulse	0.30	3
2	Tb		2,341,505.60	0.78	102.9	Pulse	0.30	3
2	Ho		234,729.44	0.91	103.8	Pulse	0.30	3
2	Bi		1,532,083.31	0.29	98.8	Pulse	0.30	3
3	Sc		190,022.16	0.39	101.2	Pulse	0.30	3
3	Ge		114,487.10	0.91	97.5	Pulse	0.30	3
3	Ge		174,025.56	0.31	97.7	Pulse	0.30	3
3	Rh		1,849,000.41	0.63	95.4	Pulse	0.30	3
3	Tb		3,220,462.23	1.43	97.0	Pulse	0.30	3

Quantitation Report

File Name 074_CCB.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 15:38
Sample Name CCB
Sample Type CCB
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.001	ug/l	88.41	10.67	1.028E-05	Pulse	0.25	3
B			1	6.939	ug/l	3.81	33,397.59	3.221E-02	Pulse	0.15	3
Ca			1	-4.574	ug/l	-24.94	11,948.10	7.369E-03	Pulse	0.10	3
Sr			1	0.026	ug/l	14.94	853.39	3.846E-04	Pulse	0.10	3
Mo			1	0.104	ug/l	17.34	590.04	2.662E-04	Pulse	0.10	3
Ag			1	0.012	ug/l	18.03	156.67	7.140E-05	Pulse	0.10	3
Sn			1	0.569	ug/l	4.49	3,683.88	1.676E-03	Pulse	0.10	3
Sb			1	0.116	ug/l	15.91	1,626.81	4.899E-04	Pulse	0.10	3
Ba			1	0.021	ug/l	54.20	116.67	3.521E-05	Pulse	0.10	3
Tl			1	0.009	ug/l	4.65	276.68	1.333E-04	Pulse	0.10	3
Pb			1	0.001	ug/l	709.14	213.34	1.032E-04	Pulse	0.10	3
Pb			1	-0.003	ug/l	-190.17	203.34	9.811E-05	Pulse	0.10	3
Pb			1	0.002	ug/l	187.43	883.38	4.263E-04	Pulse	0.10	3
Na			2	66.239	ug/l	2.77	77,284.55	7.823E-01	Pulse	0.30	3
Mg			2	0.193	ug/l	78.11	213.34	2.163E-03	Pulse	0.30	3
Al			2	-0.042	ug/l	-864.33	228.90	2.317E-03	Pulse	0.30	3
K			2	0.763	ug/l	68.47	7,959.74	8.058E-02	Pulse	0.30	3
Ca			2	0.172	ug/l	278.34	94.45	9.558E-04	Pulse	0.30	3
Ti			2	0.116	ug/l	13.82	14.44	1.461E-04	Pulse	0.30	3
V			2	-0.115	ug/l	-3.81	86.67	8.781E-04	Pulse	0.30	3
Cr			2	0.016	ug/l	85.29	470.01	4.760E-03	Pulse	0.30	3
Mn			2	0.014	ug/l	36.86	78.89	7.977E-04	Pulse	0.30	3
Fe			2	0.896	ug/l	4.80	10,566.82	1.070E-01	Pulse	0.30	3
Co			2	0.001	ug/l	112.37	23.30	2.364E-04	Pulse	0.30	3
Ni			2	-0.054	ug/l	-28.33	275.56	2.790E-03	Pulse	0.30	3
Cu			2	-0.642	ug/l	-0.74	1,435.08	1.453E-02	Pulse	0.30	3
Zn			2	-0.597	ug/l	-4.35	304.45	3.081E-03	Pulse	0.30	3
As			2	0.005	ug/l	104.97	9.33	9.436E-05	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.002	ug/l	208.63	4.37	8.005E-06	Pulse	0.30	3
Sn			2	0.669	ug/l	6.40	1,696.78	3.092E-03	Pulse	0.30	3
Se			3	0.047	ug/l	50.05	11.47	7.676E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,036,856.92	0.79	81.8	Pulse	0.10	3
1	Sc		1,622,329.56	1.63	84.6	Pulse	0.10	3
1	Ge		310,469.44	2.41	87.1	Pulse	0.10	3
1	Ge		430,934.29	1.32	87.5	Pulse	0.10	3
1	Rh		2,219,194.65	1.22	88.2	Pulse	0.10	3
1	In		2,196,705.84	1.01	89.5	Pulse	0.10	3
1	Tb		3,318,499.74	1.11	90.4	Pulse	0.10	3
1	Ho		330,907.20	1.00	89.7	Pulse	0.10	3
1	Bi		2,076,130.18	1.69	89.7	Pulse	0.10	3
2	Sc		98,794.74	0.86	85.6	Pulse	0.30	3
2	Ge		54,764.70	1.10	89.4	Pulse	0.30	3
2	Ge		83,357.04	0.61	89.1	Pulse	0.30	3
2	Rh		1,502,436.75	0.93	88.0	Pulse	0.30	3
2	In		548,766.49	0.96	90.6	Pulse	0.30	3
2	Tb		2,038,852.07	0.89	89.6	Pulse	0.30	3
2	Ho		203,858.49	0.47	90.2	Pulse	0.30	3
2	Bi		1,401,977.24	0.45	90.4	Pulse	0.30	3
3	Sc		162,031.68	0.47	86.3	Pulse	0.30	3
3	Ge		99,189.47	0.75	84.5	Pulse	0.30	3
3	Ge		149,659.75	1.15	84.0	Pulse	0.30	3
3	Rh		1,686,223.27	0.56	87.0	Pulse	0.30	3
3	Tb		2,952,471.06	0.60	89.0	Pulse	0.30	3

Quantitation Report

File Name 075SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 15:43
Sample Name jc99883-1 1
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.007	ug/l	3.85	46.67	3.915E-05	Pulse	0.25	3
B			1	256.991	ug/l	0.30	1,077,853.78	9.045E-01	Pulse	0.15	3
Ca			1	171787.117	ug/l	2.20	117,504,108.25	5.435E+01	Analog	0.10	3
Sr			1	5321.775	ug/l	1.92	136,535,074.63	6.171E+01	Analog	0.10	3
Mo			1	15.374	ug/l	0.59	79,488.13	3.591E-02	Pulse	0.10	3
Ag			1	0.018	ug/l	48.15	256.68	1.112E-04	Pulse	0.10	3
Sn			1	0.588	ug/l	6.00	3,993.98	1.743E-03	Pulse	0.10	3
Sb			1	1.105	ug/l	2.60	11,037.61	3.261E-03	Pulse	0.10	3
Ba			1	239.633	ug/l	0.53	920,301.39	2.718E-01	Pulse	0.10	3
Tl			1	0.041	ug/l	13.09	933.40	5.417E-04	Pulse	0.10	3
Pb			1	2.199	ug/l	1.02	16,983.74	9.883E-03	Pulse	0.10	3
Pb			1	2.054	ug/l	2.84	14,033.76	8.170E-03	Pulse	0.10	3
Pb			1	2.120	ug/l	0.58	65,939.62	3.837E-02	Pulse	0.10	3
Na			2	961844.709	ug/l	1.59	1,342,678,702.20	9.277E+03	Analog	0.30	3
Mg			2	20827.587	ug/l	1.89	13,568,771.13	9.377E+01	Analog	0.30	3
Al			2	209.992	ug/l	1.22	45,926.68	3.173E-01	Pulse	0.30	3
K			2	66303.487	ug/l	1.14	26,841,253.38	1.855E+02	Analog	0.30	3
Ca			2	171485.875	ug/l	1.16	3,829,150.82	2.646E+01	Pulse	0.30	3
Ti			2	2.440	ug/l	18.47	414.46	2.872E-03	Pulse	0.30	3
V			2	5.474	ug/l	1.17	30,159.74	2.084E-01	Pulse	0.30	3
Cr			2	15.967	ug/l	1.04	115,166.27	7.958E-01	Pulse	0.30	3
Mn			2	60.156	ug/l	0.33	228,001.69	1.575E+00	Pulse	0.30	3
Fe			2	363.904	ug/l	1.04	2,059,811.03	1.423E+01	Pulse	0.30	3
Co			2	0.994	ug/l	1.27	11,183.90	7.727E-02	Pulse	0.30	3
Ni			2	3.611	ug/l	1.07	11,523.05	7.961E-02	Pulse	0.30	3
Cu			2	14.757	ug/l	1.40	129,186.42	8.928E-01	Pulse	0.30	3
Zn			2	2.276	ug/l	2.57	3,960.52	2.737E-02	Pulse	0.30	3
As			2	1.416	ug/l	4.65	847.69	5.858E-03	Pulse	1.00	3
Cd			2	0.014	ug/l	57.02	23.28	3.804E-05	Pulse	0.30	3
Sn			2	0.609	ug/l	12.92	1,740.11	2.820E-03	Pulse	0.30	3
Se			3	1.256	ug/l	17.34	169.13	1.188E-03	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,191,678.98	1.73	94.0	Pulse	0.10	3
1	Sc		2,162,832.78	2.42	112.8	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Ge		360,067.29	3.00	101.0	Pulse	0.10	3
1	Ge		497,423.99	3.22	101.0	Pulse	0.10	3
1	Rh		2,213,241.17	2.93	87.9	Pulse	0.10	3
1	In		2,287,678.22	2.87	93.2	Pulse	0.10	3
1	Tb		3,385,960.78	2.79	92.3	Pulse	0.10	3
1	Ho		335,565.83	2.93	91.0	Pulse	0.10	3
1	Bi		1,718,788.21	3.30	74.2	Pulse	0.10	3
2	Sc		144,733.92	2.35	125.4	Pulse	0.30	3
2	Ge		67,966.27	2.66	110.9	Pulse	0.30	3
2	Ge		101,567.81	1.88	108.5	Pulse	0.30	3
2	Rh		1,541,963.34	2.39	90.3	Pulse	0.30	3
2	In		616,909.61	3.10	101.9	Pulse	0.30	3
2	Tb		2,167,908.52	3.11	95.3	Pulse	0.30	3
2	Ho		217,311.58	2.76	96.1	Pulse	0.30	3
2	Bi		1,200,035.02	2.78	77.4	Pulse	0.30	3
3	Sc		175,446.81	13.97	93.5	Pulse	0.30	3
3	Ge		95,950.56	11.95	81.7	Pulse	0.30	3
3	Ge		144,364.65	12.34	81.1	Pulse	0.30	3
3	Rh		1,350,574.15	14.52	69.7	Pulse	0.30	3
3	Tb		2,429,316.64	14.53	73.2	Pulse	0.30	3

Quantitation Report

File Name 076SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 15:53
Sample Name jc99744-4
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.010	ug/l	3.59	49.33	5.021E-05	Pulse	0.25	3
B			1	356.802	ug/l	1.20	1,230,500.58	1.253E+00	Pulse	0.15	3
Ca			1	76882.487	ug/l	2.04	39,406,428.58	2.433E+01	Analog	0.10	3
Sr			1	566.012	ug/l	3.00	13,423,093.13	6.564E+00	Analog	0.10	3
Mo			1	3.728	ug/l	1.93	17,850.53	8.727E-03	Pulse	0.10	3
Ag			1	0.009	ug/l	57.34	123.34	5.863E-05	Pulse	0.10	3
Sn			1	0.340	ug/l	10.50	1,763.49	8.367E-04	Pulse	0.10	3
Sb			1	0.388	ug/l	1.08	4,043.99	1.251E-03	Pulse	0.10	3
Ba			1	81.484	ug/l	0.35	298,746.21	9.242E-02	Pulse	0.10	3
Tl			1	0.005	ug/l	29.77	150.01	7.901E-05	Pulse	0.10	3
Pb			1	0.441	ug/l	3.01	3,900.66	2.061E-03	Pulse	0.10	3
Pb			1	0.403	ug/l	14.42	3,197.12	1.691E-03	Pulse	0.10	3
Pb			1	0.428	ug/l	5.79	15,246.99	8.057E-03	Pulse	0.10	3
Na			2	46324.948	ug/l	1.54	44,490,954.90	4.470E+02	Analog	0.30	3
Mg			2	11362.442	ug/l	1.39	5,092,582.71	5.116E+01	Analog	0.30	3
Al			2	45.175	ug/l	9.91	6,977.79	7.014E-02	Pulse	0.30	3
K			2	4920.559	ug/l	0.12	1,377,449.29	1.384E+01	Pulse	0.30	3
Ca			2	76087.145	ug/l	0.62	1,168,584.74	1.174E+01	Pulse	0.30	3
Ti			2	1.144	ug/l	27.56	134.45	1.351E-03	Pulse	0.30	3
V			2	0.446	ug/l	2.90	2,160.17	2.170E-02	Pulse	0.30	3
Cr			2	0.905	ug/l	1.58	4,859.65	4.882E-02	Pulse	0.30	3
Mn			2	623.394	ug/l	0.46	1,624,640.98	1.632E+01	Pulse	0.30	3
Fe			2	1050.142	ug/l	0.78	4,075,207.89	4.094E+01	Pulse	0.30	3
Co			2	0.742	ug/l	4.05	5,743.39	5.771E-02	Pulse	0.30	3
Ni			2	4.343	ug/l	1.79	9,451.69	9.496E-02	Pulse	0.30	3
Cu			2	20.749	ug/l	0.39	122,881.29	1.234E+00	Pulse	0.30	3
Zn			2	116.368	ug/l	0.18	98,755.62	9.921E-01	Pulse	0.30	3
As			2	0.938	ug/l	4.99	389.01	3.907E-03	Pulse	1.00	3
Cd			2	0.092	ug/l	13.18	121.89	2.238E-04	Pulse	0.30	3
Sn			2	0.300	ug/l	12.98	758.92	1.394E-03	Pulse	0.30	3
Se			3	0.434	ug/l	3.45	63.47	4.322E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		982,399.50	2.05	77.5	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,620,359.82	2.58	84.5	Pulse	0.10	3
1	Ge		299,123.54	2.27	83.9	Pulse	0.10	3
1	Ge		414,556.61	2.89	84.2	Pulse	0.10	3
1	Rh		2,046,045.02	2.52	81.3	Pulse	0.10	3
1	In		2,102,286.73	3.30	85.6	Pulse	0.10	3
1	Tb		3,232,326.20	2.83	88.1	Pulse	0.10	3
1	Ho		321,370.90	3.57	87.1	Pulse	0.10	3
1	Bi		1,893,454.81	3.31	81.8	Pulse	0.10	3
2	Sc		99,542.42	0.93	86.2	Pulse	0.30	3
2	Ge		55,067.96	1.35	89.9	Pulse	0.30	3
2	Ge		82,335.25	1.38	88.0	Pulse	0.30	3
2	Rh		1,409,972.79	1.12	82.6	Pulse	0.30	3
2	In		544,007.19	1.62	89.9	Pulse	0.30	3
2	Tb		2,068,127.28	1.26	90.9	Pulse	0.30	3
2	Ho		207,360.00	1.45	91.7	Pulse	0.30	3
2	Bi		1,332,347.41	1.47	86.0	Pulse	0.30	3
3	Sc		161,480.64	0.14	86.0	Pulse	0.30	3
3	Ge		97,051.41	1.30	82.7	Pulse	0.30	3
3	Ge		146,819.65	0.59	82.5	Pulse	0.30	3
3	Rh		1,551,890.88	0.51	80.0	Pulse	0.30	3
3	Tb		2,893,664.40	0.59	87.2	Pulse	0.30	3

Quantitation Report

File Name 077SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 15:58
Sample Name jc99883-2
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.010	ug/l	38.68	61.33	5.254E-05	Pulse	0.25	3
B			1	621.427	ug/l	1.30	2,546,828.30	2.176E+00	Pulse	0.15	3
Ca			1	135188.106	ug/l	1.76	92,079,355.29	4.277E+01	Analog	0.10	3
Sr			1	1519.400	ug/l	1.12	39,119,001.91	1.762E+01	Analog	0.10	3
Mo			1	0.948	ug/l	4.16	4,967.63	2.237E-03	Pulse	0.10	3
Ag			1	0.011	ug/l	52.55	156.67	6.971E-05	Pulse	0.10	3
Sn			1	0.496	ug/l	3.82	3,190.45	1.409E-03	Pulse	0.10	3
Sb			1	0.224	ug/l	11.32	2,693.67	7.931E-04	Pulse	0.10	3
Ba			1	345.958	ug/l	0.23	1,333,495.19	3.924E-01	Pulse	0.10	3
Tl			1	0.007	ug/l	48.56	190.01	1.092E-04	Pulse	0.10	3
Pb			1	0.999	ug/l	3.69	7,945.78	4.545E-03	Pulse	0.10	3
Pb			1	0.942	ug/l	6.07	6,658.40	3.805E-03	Pulse	0.10	3
Pb			1	0.968	ug/l	0.95	31,013.78	1.772E-02	Pulse	0.10	3
Na			2	774227.331	ug/l	1.02	1,024,051,479.31	7.468E+03	Analog	0.30	3
Mg			2	63717.287	ug/l	2.65	39,345,688.44	2.869E+02	Analog	0.30	3
Al			2	38.638	ug/l	1.57	8,273.58	6.033E-02	Pulse	0.30	3
K			2	31896.113	ug/l	0.80	12,241,816.46	8.927E+01	Analog	0.30	3
Ca			2	135814.879	ug/l	1.23	2,873,654.40	2.096E+01	Pulse	0.30	3
Ti			2	2.370	ug/l	7.38	382.23	2.789E-03	Pulse	0.30	3
V			2	1.061	ug/l	3.04	6,107.95	4.455E-02	Pulse	0.30	3
Cr			2	1.331	ug/l	1.93	9,595.06	6.996E-02	Pulse	0.30	3
Mn			2	831.014	ug/l	1.38	2,983,548.08	2.176E+01	Pulse	0.30	3
Fe			2	3243.912	ug/l	0.90	17,321,846.53	1.263E+02	Analog	0.30	3
Co			2	0.332	ug/l	4.47	3,545.88	2.586E-02	Pulse	0.30	3
Ni			2	1.187	ug/l	2.51	3,949.41	2.880E-02	Pulse	0.30	3
Cu			2	0.027	ug/l	82.02	7,227.22	5.270E-02	Pulse	0.30	3
Zn			2	9.247	ug/l	2.24	11,837.73	8.632E-02	Pulse	0.30	3
As			2	1.432	ug/l	1.04	812.35	5.924E-03	Pulse	1.00	3
Cd			2	0.013	ug/l	54.53	20.71	3.457E-05	Pulse	0.30	3
Sn			2	0.438	ug/l	6.32	1,214.51	2.033E-03	Pulse	0.30	3
Se			3	0.178	ug/l	4.26	31.73	1.973E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,170,427.61	1.67	92.3	Pulse	0.10	3
1	Sc		2,153,633.14	3.42	112.4	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Ge		361,568.46	3.36	101.4	Pulse	0.10	3
1	Ge		495,805.02	3.25	100.7	Pulse	0.10	3
1	Rh		2,220,425.70	2.29	88.2	Pulse	0.10	3
1	In		2,265,766.93	3.16	92.3	Pulse	0.10	3
1	Tb		3,398,624.64	2.91	92.6	Pulse	0.10	3
1	Ho		339,215.70	4.15	92.0	Pulse	0.10	3
1	Bi		1,749,919.24	3.74	75.6	Pulse	0.10	3
2	Sc		137,122.87	1.29	118.8	Pulse	0.30	3
2	Ge		67,310.14	1.67	109.9	Pulse	0.30	3
2	Ge		100,305.90	1.68	107.2	Pulse	0.30	3
2	Rh		1,513,709.56	1.85	88.7	Pulse	0.30	3
2	In		597,078.56	2.26	98.6	Pulse	0.30	3
2	Tb		2,135,962.97	1.59	93.9	Pulse	0.30	3
2	Ho		215,502.03	2.63	95.3	Pulse	0.30	3
2	Bi		1,207,224.46	2.64	77.9	Pulse	0.30	3
3	Sc		194,935.72	1.34	103.8	Pulse	0.30	3
3	Ge		107,409.74	1.56	91.5	Pulse	0.30	3
3	Ge		160,842.06	0.34	90.3	Pulse	0.30	3
3	Rh		1,526,304.07	1.05	78.7	Pulse	0.30	3
3	Tb		2,754,513.15	0.74	83.0	Pulse	0.30	3

Quantitation Report

File Name 078SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 16:03
Sample Name jc99883-3
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.039	ug/l	7.64	232.01	1.854E-04	Pulse	0.25	3
B			1	597.593	ug/l	0.61	2,618,754.83	2.093E+00	Pulse	0.15	3
Ca			1	156734.960	ug/l	2.12	115,691,804.94	4.959E+01	Analog	0.10	3
Sr			1	1366.320	ug/l	2.84	37,435,318.61	1.584E+01	Analog	0.10	3
Mo			1	0.884	ug/l	8.16	4,930.93	2.086E-03	Pulse	0.10	3
Ag			1	0.013	ug/l	15.35	186.68	7.718E-05	Pulse	0.10	3
Sn			1	0.872	ug/l	2.69	6,755.02	2.785E-03	Pulse	0.10	3
Sb			1	0.869	ug/l	2.04	9,236.41	2.600E-03	Pulse	0.10	3
Ba			1	254.878	ug/l	1.30	1,027,249.86	2.891E-01	Pulse	0.10	3
Tl			1	0.024	ug/l	16.23	596.70	3.243E-04	Pulse	0.10	3
Pb			1	5.655	ug/l	3.42	46,434.00	2.526E-02	Pulse	0.10	3
Pb			1	5.329	ug/l	1.48	38,631.42	2.102E-02	Pulse	0.10	3
Pb			1	5.419	ug/l	1.54	179,125.02	9.748E-02	Pulse	0.10	3
Na			2	574268.262	ug/l	1.44	778,020,466.86	5.539E+03	Analog	0.30	3
Mg			2	47120.145	ug/l	0.62	29,800,104.37	2.121E+02	Analog	0.30	3
Al			2	703.680	ug/l	3.38	148,594.58	1.058E+00	Pulse	0.30	3
K			2	28999.535	ug/l	2.04	11,400,471.77	8.117E+01	Analog	0.30	3
Ca			2	158106.238	ug/l	0.58	3,426,647.36	2.439E+01	Pulse	0.30	3
Ti			2	35.691	ug/l	49.32	5,873.33	4.187E-02	Pulse	0.30	3
V			2	2.662	ug/l	0.38	14,608.87	1.040E-01	Pulse	0.30	3
Cr			2	2.148	ug/l	2.20	15,513.53	1.105E-01	Pulse	0.30	3
Mn			2	1809.621	ug/l	0.36	6,655,166.96	4.738E+01	Analog	0.30	3
Fe			2	10990.391	ug/l	1.04	60,087,210.94	4.278E+02	Analog	0.30	3
Co			2	0.651	ug/l	1.92	7,116.12	5.066E-02	Pulse	0.30	3
Ni			2	1.684	ug/l	1.56	5,510.99	3.923E-02	Pulse	0.30	3
Cu			2	1.901	ug/l	2.71	22,412.09	1.596E-01	Pulse	0.30	3
Zn			2	25.441	ug/l	0.38	31,360.10	2.233E-01	Pulse	0.30	3
As			2	1.725	ug/l	5.81	1,000.37	7.120E-03	Pulse	1.00	3
Cd			2	0.042	ug/l	20.76	65.16	1.051E-04	Pulse	0.30	3
Sn			2	0.796	ug/l	2.26	2,279.08	3.678E-03	Pulse	0.30	3
Se			3	0.171	ug/l	15.92	31.07	1.903E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,251,426.65	0.63	98.7	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		2,333,915.38	2.71	121.8	Pulse	0.10	3
1	Ge		382,449.05	2.34	107.3	Pulse	0.10	3
1	Ge		522,171.30	2.69	106.0	Pulse	0.10	3
1	Rh		2,363,888.61	2.72	93.9	Pulse	0.10	3
1	In		2,426,258.74	3.22	98.8	Pulse	0.10	3
1	Tb		3,553,015.78	2.73	96.8	Pulse	0.10	3
1	Ho		354,283.99	2.51	96.1	Pulse	0.10	3
1	Bi		1,837,244.77	2.59	79.3	Pulse	0.10	3
2	Sc		140,473.90	1.19	121.7	Pulse	0.30	3
2	Ge		68,974.87	1.79	112.6	Pulse	0.30	3
2	Ge		103,313.30	1.61	110.4	Pulse	0.30	3
2	Rh		1,562,460.22	0.81	91.5	Pulse	0.30	3
2	In		619,679.26	0.63	102.4	Pulse	0.30	3
2	Tb		2,212,187.90	0.85	97.2	Pulse	0.30	3
2	Ho		223,545.49	0.29	98.9	Pulse	0.30	3
2	Bi		1,253,904.08	0.74	80.9	Pulse	0.30	3
3	Sc		197,510.34	1.21	105.2	Pulse	0.30	3
3	Ge		109,634.33	1.08	93.4	Pulse	0.30	3
3	Ge		163,231.53	0.78	91.7	Pulse	0.30	3
3	Rh		1,563,270.46	0.87	80.6	Pulse	0.30	3
3	Tb		2,852,391.69	0.79	85.9	Pulse	0.30	3

Quantitation Report

File Name 079SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 16:13
Sample Name jc99883-4
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.251	ug/l	5.61	1,274.73	1.178E-03	Pulse	0.25	3
B			1	241.493	ug/l	0.82	919,815.17	8.504E-01	Pulse	0.15	3
Ca			1	130398.420	ug/l	0.93	81,518,002.12	4.126E+01	Analog	0.10	3
Sr			1	1450.587	ug/l	3.60	36,057,321.96	1.682E+01	Analog	0.10	3
Mo			1	1.962	ug/l	4.23	9,866.72	4.602E-03	Pulse	0.10	3
Ag			1	0.065	ug/l	7.58	850.05	3.822E-04	Pulse	0.10	3
Sn			1	2.122	ug/l	2.31	16,405.65	7.366E-03	Pulse	0.10	3
Sb			1	0.779	ug/l	2.35	7,982.30	2.347E-03	Pulse	0.10	3
Ba			1	289.968	ug/l	0.18	1,117,971.26	3.289E-01	Pulse	0.10	3
Tl			1	0.060	ug/l	14.17	1,433.47	7.845E-04	Pulse	0.10	3
Pb			1	46.724	ug/l	0.91	380,683.07	2.080E-01	Pulse	0.10	3
Pb			1	44.194	ug/l	0.95	317,632.49	1.736E-01	Pulse	0.10	3
Pb			1	45.284	ug/l	0.46	1,485,809.89	8.118E-01	Pulse	0.10	3
Na			2	237218.815	ug/l	1.65	284,939,739.79	2.288E+03	Analog	0.30	3
Mg			2	25503.358	ug/l	0.93	14,299,621.65	1.148E+02	Analog	0.30	3
Al			2	4759.329	ug/l	1.03	889,276.35	7.141E+00	Pulse	0.30	3
K			2	16373.160	ug/l	1.34	5,711,407.13	4.586E+01	Analog	0.30	3
Ca			2	129283.238	ug/l	0.58	2,484,212.75	1.995E+01	Pulse	0.30	3
Ti			2	211.806	ug/l	3.81	30,943.98	2.484E-01	Pulse	0.30	3
V			2	14.061	ug/l	0.31	65,666.35	5.273E-01	Pulse	0.30	3
Cr			2	17.055	ug/l	0.61	105,825.81	8.497E-01	Pulse	0.30	3
Mn			2	1724.063	ug/l	1.49	5,621,126.72	4.514E+01	Analog	0.30	3
Fe			2	29262.593	ug/l	0.55	141,833,714.37	1.139E+03	Analog	0.30	3
Co			2	6.589	ug/l	0.14	63,678.32	5.113E-01	Pulse	0.30	3
Ni			2	8.564	ug/l	1.06	22,840.39	1.834E-01	Pulse	0.30	3
Cu			2	33.741	ug/l	0.80	246,016.61	1.975E+00	Pulse	0.30	3
Zn			2	892.000	ug/l	0.53	940,375.06	7.551E+00	Pulse	0.30	3
As			2	16.040	ug/l	0.85	8,167.06	6.558E-02	Pulse	1.00	3
Cd			2	0.173	ug/l	4.49	244.79	4.176E-04	Pulse	0.30	3
Sn			2	2.107	ug/l	2.66	5,693.31	9.711E-03	Pulse	0.30	3
Se			3	0.637	ug/l	3.90	97.20	6.189E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,081,509.28	1.90	85.3	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,976,126.90	2.28	103.1	Pulse	0.10	3
1	Ge		346,312.95	2.88	97.1	Pulse	0.10	3
1	Ge		459,827.27	2.09	93.4	Pulse	0.10	3
1	Rh		2,145,026.17	2.99	85.2	Pulse	0.10	3
1	In		2,227,786.46	3.38	90.8	Pulse	0.10	3
1	Tb		3,399,316.10	2.95	92.6	Pulse	0.10	3
1	Ho		359,900.12	2.73	97.6	Pulse	0.10	3
1	Bi		1,830,467.79	3.38	79.1	Pulse	0.10	3
2	Sc		124,544.83	1.34	107.9	Pulse	0.30	3
2	Ge		64,529.14	0.92	105.3	Pulse	0.30	3
2	Ge		93,705.89	1.85	100.1	Pulse	0.30	3
2	Rh		1,491,700.15	1.14	87.4	Pulse	0.30	3
2	In		586,220.54	0.93	96.8	Pulse	0.30	3
2	Tb		2,172,940.95	1.07	95.5	Pulse	0.30	3
2	Ho		231,515.46	1.49	102.4	Pulse	0.30	3
2	Bi		1,284,246.79	1.20	82.9	Pulse	0.30	3
3	Sc		187,602.46	0.86	99.9	Pulse	0.30	3
3	Ge		108,503.26	0.10	92.4	Pulse	0.30	3
3	Ge		157,054.51	0.40	88.2	Pulse	0.30	3
3	Rh		1,559,685.60	0.62	80.4	Pulse	0.30	3
3	Tb		2,899,030.93	0.66	87.3	Pulse	0.30	3

Quantitation Report

File Name 080SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 16:18
Sample Name jc99883-1f
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.001	ug/l	188.19	12.00	9.875E-06	Pulse	0.25	3
B			1	220.996	ug/l	1.16	951,016.28	7.789E-01	Pulse	0.15	3
Ca			1	122762.678	ug/l	1.67	86,711,728.71	3.884E+01	Analog	0.10	3
Sr			1	4772.149	ug/l	2.75	127,823,078.09	5.534E+01	Analog	0.10	3
Mo			1	14.282	ug/l	1.17	77,092.67	3.336E-02	Pulse	0.10	3
Ag			1	0.009	ug/l	28.49	126.67	5.412E-05	Pulse	0.10	3
Sn			1	0.344	ug/l	0.97	1,993.53	8.502E-04	Pulse	0.10	3
Sb			1	0.998	ug/l	1.40	10,183.65	2.962E-03	Pulse	0.10	3
Ba			1	186.294	ug/l	0.54	726,659.00	2.113E-01	Pulse	0.10	3
Tl			1	0.007	ug/l	51.67	196.68	1.109E-04	Pulse	0.10	3
Pb			1	0.034	ug/l	53.49	433.36	2.470E-04	Pulse	0.10	3
Pb			1	0.036	ug/l	19.27	443.36	2.515E-04	Pulse	0.10	3
Pb			1	0.037	ug/l	18.32	1,853.46	1.052E-03	Pulse	0.10	3
Na			2	952961.491	ug/l	2.44	1,340,914,364.49	9.192E+03	Analog	0.30	3
Mg			2	1696.955	ug/l	1.90	1,114,898.25	7.641E+00	Pulse	0.30	3
Al			2	3.445	ug/l	6.37	1,101.17	7.547E-03	Pulse	0.30	3
K			2	66735.626	ug/l	2.59	27,234,163.92	1.867E+02	Analog	0.30	3
Ca			2	129980.642	ug/l	1.76	2,926,299.05	2.005E+01	Pulse	0.30	3
Ti			2	0.258	ug/l	30.48	45.56	3.117E-04	Pulse	0.30	3
V			2	3.236	ug/l	4.15	18,272.48	1.253E-01	Pulse	0.30	3
Cr			2	14.214	ug/l	2.30	103,408.60	7.088E-01	Pulse	0.30	3
Mn			2	0.410	ug/l	4.62	1,627.88	1.116E-02	Pulse	0.30	3
Fe			2	19.636	ug/l	5.53	121,925.11	8.363E-01	Pulse	0.30	3
Co			2	0.902	ug/l	4.84	10,224.08	7.012E-02	Pulse	0.30	3
Ni			2	3.210	ug/l	1.36	10,391.15	7.120E-02	Pulse	0.30	3
Cu			2	12.863	ug/l	2.42	114,482.68	7.847E-01	Pulse	0.30	3
Zn			2	0.327	ug/l	15.46	1,591.20	1.089E-02	Pulse	0.30	3
As			2	0.541	ug/l	5.56	333.67	2.286E-03	Pulse	1.00	3
Cd			2	-0.002	ug/l	-166.47	-0.81	-1.379E-06	Pulse	0.30	3
Sn			2	0.268	ug/l	12.44	784.47	1.249E-03	Pulse	0.30	3
Se			3	1.175	ug/l	5.69	183.67	1.113E-03	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,220,983.45	1.54	96.3	Pulse	0.10	3
1	Sc		2,233,138.51	2.68	116.5	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Ge		372,385.45	2.69	104.4	Pulse	0.10	3
1	Ge		515,978.91	3.56	104.8	Pulse	0.10	3
1	Rh		2,311,188.98	3.35	91.8	Pulse	0.10	3
1	In		2,344,988.24	2.54	95.5	Pulse	0.10	3
1	Tb		3,438,951.62	2.52	93.7	Pulse	0.10	3
1	Ho		342,531.90	3.11	92.9	Pulse	0.10	3
1	Bi		1,765,018.62	3.00	76.2	Pulse	0.10	3
2	Sc		145,958.34	3.27	126.5	Pulse	0.30	3
2	Ge		70,077.15	1.64	114.4	Pulse	0.30	3
2	Ge		104,930.16	1.78	112.1	Pulse	0.30	3
2	Rh		1,568,307.34	1.70	91.9	Pulse	0.30	3
2	In		628,451.31	1.64	103.8	Pulse	0.30	3
2	Tb		2,164,700.05	1.79	95.1	Pulse	0.30	3
2	Ho		217,264.81	2.31	96.1	Pulse	0.30	3
2	Bi		1,209,313.01	1.57	78.0	Pulse	0.30	3
3	Sc		204,518.81	1.03	108.9	Pulse	0.30	3
3	Ge		110,323.39	0.23	94.0	Pulse	0.30	3
3	Ge		165,029.90	0.94	92.7	Pulse	0.30	3
3	Rh		1,541,323.03	0.28	79.5	Pulse	0.30	3
3	Tb		2,763,416.90	0.23	83.3	Pulse	0.30	3

Quantitation Report

File Name 081SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 16:23
Sample Name jc99883-2f
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.002	ug/l	13.37	21.33	1.681E-05	Pulse	0.25	3
B			1	641.376	ug/l	0.45	2,847,148.22	2.245E+00	Pulse	0.15	3
Ca			1	137428.955	ug/l	2.08	104,276,581.78	4.348E+01	Analog	0.10	3
Sr			1	1524.640	ug/l	1.84	41,927,859.37	1.768E+01	Analog	0.10	3
Mo			1	0.964	ug/l	4.29	5,397.79	2.275E-03	Pulse	0.10	3
Ag			1	0.004	ug/l	19.66	63.33	2.609E-05	Pulse	0.10	3
Sn			1	0.318	ug/l	6.61	1,823.50	7.534E-04	Pulse	0.10	3
Sb			1	0.125	ug/l	3.42	1,816.84	5.144E-04	Pulse	0.10	3
Ba			1	315.301	ug/l	0.95	1,262,656.93	3.576E-01	Pulse	0.10	3
Tl			1	0.002	ug/l	76.44	80.00	4.481E-05	Pulse	0.10	3
Pb			1	0.046	ug/l	2.52	540.03	3.004E-04	Pulse	0.10	3
Pb			1	0.040	ug/l	31.36	476.69	2.660E-04	Pulse	0.10	3
Pb			1	0.049	ug/l	8.48	2,276.83	1.268E-03	Pulse	0.10	3
Na			2	774248.195	ug/l	1.41	1,116,890,871.18	7.468E+03	Analog	0.30	3
Mg			2	64053.917	ug/l	1.19	43,128,886.07	2.884E+02	Analog	0.30	3
Al			2	3.492	ug/l	19.56	1,137.86	7.617E-03	Pulse	0.30	3
K			2	31983.302	ug/l	1.19	13,386,874.47	8.951E+01	Analog	0.30	3
Ca			2	136306.595	ug/l	0.51	3,145,483.90	2.103E+01	Pulse	0.30	3
Ti			2	0.246	ug/l	47.78	44.44	2.977E-04	Pulse	0.30	3
V			2	0.350	ug/l	7.26	2,712.48	1.814E-02	Pulse	0.30	3
Cr			2	0.718	ug/l	1.09	5,913.34	3.953E-02	Pulse	0.30	3
Mn			2	816.582	ug/l	0.82	3,197,571.96	2.138E+01	Pulse	0.30	3
Fe			2	181.541	ug/l	1.11	1,067,378.15	7.137E+00	Pulse	0.30	3
Co			2	0.309	ug/l	2.04	3,606.44	2.412E-02	Pulse	0.30	3
Ni			2	1.111	ug/l	6.16	4,066.10	2.721E-02	Pulse	0.30	3
Cu			2	-0.362	ug/l	-5.87	4,560.68	3.048E-02	Pulse	0.30	3
Zn			2	5.174	ug/l	2.95	7,761.93	5.188E-02	Pulse	0.30	3
As			2	1.001	ug/l	2.66	622.34	4.162E-03	Pulse	1.00	3
Cd			2	0.008	ug/l	51.85	15.11	2.365E-05	Pulse	0.30	3
Sn			2	0.246	ug/l	10.77	730.03	1.149E-03	Pulse	0.30	3
Se			3	0.178	ug/l	10.41	34.73	1.967E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,268,066.30	1.57	100.0	Pulse	0.10	3
1	Sc		2,398,964.70	2.10	125.2	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Ge		391,681.69	1.91	109.9	Pulse	0.10	3
1	Ge		543,141.00	2.59	110.3	Pulse	0.10	3
1	Rh		2,372,054.39	2.14	94.3	Pulse	0.10	3
1	In		2,422,617.06	2.10	98.7	Pulse	0.10	3
1	Tb		3,530,499.74	2.15	96.2	Pulse	0.10	3
1	Ho		351,057.68	2.09	95.2	Pulse	0.10	3
1	Bi		1,797,462.99	2.50	77.6	Pulse	0.10	3
2	Sc		149,573.52	2.26	129.6	Pulse	0.30	3
2	Ge		73,054.59	2.01	119.2	Pulse	0.30	3
2	Ge		108,423.99	1.91	115.9	Pulse	0.30	3
2	Rh		1,597,916.08	1.35	93.6	Pulse	0.30	3
2	In		635,724.12	1.59	105.0	Pulse	0.30	3
2	Tb		2,224,126.79	0.97	97.7	Pulse	0.30	3
2	Ho		222,706.36	2.43	98.5	Pulse	0.30	3
2	Bi		1,236,419.26	2.10	79.8	Pulse	0.30	3
3	Sc		217,348.39	2.37	115.8	Pulse	0.30	3
3	Ge		116,749.69	1.83	99.5	Pulse	0.30	3
3	Ge		176,559.02	1.61	99.2	Pulse	0.30	3
3	Rh		1,668,187.50	1.50	86.0	Pulse	0.30	3
3	Tb		2,965,616.27	1.79	89.3	Pulse	0.30	3

Quantitation Report

File Name 082SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 16:30
Sample Name jc99883-3f
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.001	ug/l	134.09	12.00	9.323E-06	Pulse	0.25	3
B			1	602.423	ug/l	1.85	2,730,602.74	2.109E+00	Pulse	0.15	3
Ca			1	159594.026	ug/l	2.62	119,265,701.56	5.049E+01	Analog	0.10	3
Sr			1	1361.549	ug/l	3.81	37,744,624.44	1.579E+01	Analog	0.10	3
Mo			1	0.517	ug/l	9.31	2,940.39	1.231E-03	Pulse	0.10	3
Ag			1	0.003	ug/l	34.96	53.33	2.175E-05	Pulse	0.10	3
Sn			1	0.274	ug/l	2.65	1,456.79	5.941E-04	Pulse	0.10	3
Sb			1	0.405	ug/l	11.38	4,654.18	1.299E-03	Pulse	0.10	3
Ba			1	201.292	ug/l	1.72	817,600.56	2.283E-01	Pulse	0.10	3
Tl			1	0.146	ug/l	0.99	3,440.51	1.859E-03	Pulse	0.10	3
Pb			1	0.146	ug/l	3.95	1,380.12	7.458E-04	Pulse	0.10	3
Pb			1	0.119	ug/l	8.66	1,066.74	5.761E-04	Pulse	0.10	3
Pb			1	0.132	ug/l	3.53	5,080.53	2.746E-03	Pulse	0.10	3
Na			2	581388.805	ug/l	0.43	802,866,883.65	5.608E+03	Analog	0.30	3
Mg			2	47409.956	ug/l	0.79	30,558,355.45	2.135E+02	Analog	0.30	3
Al			2	2.071	ug/l	20.32	785.59	5.486E-03	Pulse	0.30	3
K			2	29621.303	ug/l	0.36	11,869,662.86	8.291E+01	Analog	0.30	3
Ca			2	159192.028	ug/l	0.47	3,516,515.90	2.456E+01	Pulse	0.30	3
Ti			2	0.157	ug/l	50.56	27.78	1.936E-04	Pulse	0.30	3
V			2	-0.009	ug/l	-34.62	688.92	4.812E-03	Pulse	0.30	3
Cr			2	0.243	ug/l	5.59	2,289.07	1.599E-02	Pulse	0.30	3
Mn			2	1772.870	ug/l	1.51	6,644,706.12	4.642E+01	Analog	0.30	3
Fe			2	649.663	ug/l	1.12	3,630,146.52	2.535E+01	Pulse	0.30	3
Co			2	0.387	ug/l	1.79	4,321.93	3.019E-02	Pulse	0.30	3
Ni			2	0.825	ug/l	2.97	3,039.20	2.123E-02	Pulse	0.30	3
Cu			2	-0.241	ug/l	-10.73	5,355.37	3.741E-02	Pulse	0.30	3
Zn			2	12.957	ug/l	0.33	16,849.89	1.177E-01	Pulse	0.30	3
As			2	0.439	ug/l	4.63	267.33	1.868E-03	Pulse	1.00	3
Cd			2	0.013	ug/l	10.00	21.96	3.490E-05	Pulse	0.30	3
Sn			2	0.185	ug/l	4.13	546.69	8.686E-04	Pulse	0.30	3
Se			3	0.127	ug/l	16.83	25.87	1.504E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,294,638.28	1.62	102.1	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		2,363,348.09	3.07	123.3	Pulse	0.10	3
1	Ge		388,592.70	3.33	109.0	Pulse	0.10	3
1	Ge		531,523.56	3.22	107.9	Pulse	0.10	3
1	Rh		2,392,818.56	3.73	95.1	Pulse	0.10	3
1	In		2,450,248.02	3.36	99.8	Pulse	0.10	3
1	Tb		3,581,629.01	2.74	97.6	Pulse	0.10	3
1	Ho		357,635.02	4.05	97.0	Pulse	0.10	3
1	Bi		1,850,662.83	3.00	79.9	Pulse	0.10	3
2	Sc		143,166.81	0.82	124.0	Pulse	0.30	3
2	Ge		70,277.91	1.12	114.7	Pulse	0.30	3
2	Ge		104,829.68	1.62	112.0	Pulse	0.30	3
2	Rh		1,589,078.20	1.25	93.1	Pulse	0.30	3
2	In		629,204.61	1.19	103.9	Pulse	0.30	3
2	Tb		2,233,170.74	0.95	98.1	Pulse	0.30	3
2	Ho		223,122.84	1.37	98.7	Pulse	0.30	3
2	Bi		1,271,834.88	1.39	82.1	Pulse	0.30	3
3	Sc		213,924.32	5.53	114.0	Pulse	0.30	3
3	Ge		114,531.38	4.03	97.6	Pulse	0.30	3
3	Ge		172,059.92	3.62	96.6	Pulse	0.30	3
3	Rh		1,657,407.96	4.81	85.5	Pulse	0.30	3
3	Tb		2,973,407.94	4.53	89.6	Pulse	0.30	3

Quantitation Report

File Name 083SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 16:36
Sample Name jc99883-4f
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.002	ug/l	21.05	17.33	1.397E-05	Pulse	0.25	3
B			1	211.385	ug/l	1.38	924,531.01	7.454E-01	Pulse	0.15	3
Ca			1	95565.229	ug/l	0.83	64,657,697.37	3.024E+01	Analog	0.10	3
Sr			1	1067.147	ug/l	2.84	29,198,148.73	1.238E+01	Analog	0.10	3
Mo			1	1.176	ug/l	4.08	6,528.24	2.768E-03	Pulse	0.10	3
Ag			1	0.003	ug/l	55.40	53.33	2.181E-05	Pulse	0.10	3
Sn			1	0.256	ug/l	5.32	1,290.10	5.289E-04	Pulse	0.10	3
Sb			1	0.240	ug/l	9.89	3,020.40	8.362E-04	Pulse	0.10	3
Ba			1	170.774	ug/l	0.11	700,483.32	1.937E-01	Pulse	0.10	3
Tl			1	0.050	ug/l	4.64	1,270.10	6.471E-04	Pulse	0.10	3
Pb			1	0.104	ug/l	16.79	1,096.75	5.597E-04	Pulse	0.10	3
Pb			1	0.100	ug/l	11.16	986.74	5.016E-04	Pulse	0.10	3
Pb			1	0.103	ug/l	5.08	4,360.43	2.222E-03	Pulse	0.10	3
Na			2	218118.965	ug/l	1.58	280,268,868.86	2.104E+03	Analog	0.30	3
Mg			2	18705.352	ug/l	0.93	11,219,245.39	8.422E+01	Analog	0.30	3
Al			2	2.425	ug/l	61.10	801.36	6.018E-03	Pulse	0.30	3
K			2	14273.549	ug/l	0.46	5,328,258.54	3.999E+01	Analog	0.30	3
Ca			2	94418.745	ug/l	0.32	1,940,954.30	1.457E+01	Pulse	0.30	3
Ti			2	0.120	ug/l	20.01	20.00	1.505E-04	Pulse	0.30	3
V			2	-0.036	ug/l	-26.99	505.57	3.797E-03	Pulse	0.30	3
Cr			2	0.387	ug/l	7.19	3,082.55	2.312E-02	Pulse	0.30	3
Mn			2	1160.632	ug/l	0.15	4,048,414.70	3.039E+01	Pulse	0.30	3
Fe			2	4539.264	ug/l	1.19	23,540,760.73	1.767E+02	Analog	0.30	3
Co			2	2.577	ug/l	0.56	26,650.39	2.000E-01	Pulse	0.30	3
Ni			2	1.802	ug/l	2.33	5,556.55	4.170E-02	Pulse	0.30	3
Cu			2	-0.401	ug/l	-4.00	3,766.03	2.828E-02	Pulse	0.30	3
Zn			2	314.237	ug/l	0.97	355,075.20	2.665E+00	Pulse	0.30	3
As			2	3.283	ug/l	1.13	1,796.44	1.348E-02	Pulse	1.00	3
Cd			2	0.017	ug/l	29.67	28.33	4.478E-05	Pulse	0.30	3
Sn			2	0.168	ug/l	3.00	502.23	7.901E-04	Pulse	0.30	3
Se			3	0.076	ug/l	11.98	17.67	1.028E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,240,336.98	0.36	97.9	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		2,138,526.06	1.99	111.6	Pulse	0.10	3
1	Ge		370,864.87	3.05	104.0	Pulse	0.10	3
1	Ge		511,313.43	1.97	103.8	Pulse	0.10	3
1	Rh		2,360,688.61	2.85	93.8	Pulse	0.10	3
1	In		2,435,387.32	3.10	99.2	Pulse	0.10	3
1	Tb		3,616,521.09	2.53	98.5	Pulse	0.10	3
1	Ho		359,234.11	1.80	97.4	Pulse	0.10	3
1	Bi		1,963,943.82	2.97	84.8	Pulse	0.10	3
2	Sc		133,228.93	2.17	115.4	Pulse	0.30	3
2	Ge		68,371.46	3.64	111.6	Pulse	0.30	3
2	Ge		102,805.92	2.30	109.8	Pulse	0.30	3
2	Rh		1,620,898.65	2.58	95.0	Pulse	0.30	3
2	In		635,731.03	2.74	105.0	Pulse	0.30	3
2	Tb		2,282,601.23	2.84	100.3	Pulse	0.30	3
2	Ho		228,089.55	2.74	100.9	Pulse	0.30	3
2	Bi		1,362,345.92	2.59	87.9	Pulse	0.30	3
3	Sc		199,730.52	0.31	106.4	Pulse	0.30	3
3	Ge		114,499.84	0.23	97.6	Pulse	0.30	3
3	Ge		171,866.60	0.40	96.5	Pulse	0.30	3
3	Rh		1,687,738.72	0.59	87.1	Pulse	0.30	3
3	Tb		3,049,121.48	0.57	91.9	Pulse	0.30	3

Quantitation Report

File Name 084SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 16:43
Sample Name mp18786-mb1conf
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.000	ug/l	-189.72	4.00	3.450E-06	Pulse	0.25	3
B			1	13.643	ug/l	1.45	64,278.68	5.560E-02	Pulse	0.15	3
Ca			1	6.172	ug/l	23.17	19,769.11	1.077E-02	Pulse	0.10	3
Sr			1	0.070	ug/l	16.37	2,193.57	8.903E-04	Pulse	0.10	3
Mo			1	0.054	ug/l	17.51	370.02	1.502E-04	Pulse	0.10	3
Ag			1	0.005	ug/l	58.92	76.67	3.120E-05	Pulse	0.10	3
Sn			1	0.245	ug/l	3.80	1,193.42	4.874E-04	Pulse	0.10	3
Sb			1	0.011	ug/l	103.15	696.71	1.947E-04	Pulse	0.10	3
Ba			1	0.019	ug/l	49.21	120.00	3.346E-05	Pulse	0.10	3
Tl			1	0.014	ug/l	16.49	446.69	1.997E-04	Pulse	0.10	3
Pb			1	0.006	ug/l	102.48	280.01	1.250E-04	Pulse	0.10	3
Pb			1	-0.004	ug/l	-105.12	203.34	9.141E-05	Pulse	0.10	3
Pb			1	0.004	ug/l	47.53	1,030.06	4.620E-04	Pulse	0.10	3
Na			2	85.104	ug/l	2.52	104,881.68	9.643E-01	Pulse	0.30	3
Mg			2	1.179	ug/l	14.05	717.80	6.601E-03	Pulse	0.30	3
Al			2	-0.041	ug/l	-273.27	252.23	2.319E-03	Pulse	0.30	3
K			2	0.915	ug/l	76.23	8,810.18	8.100E-02	Pulse	0.30	3
Ca			2	8.946	ug/l	31.86	251.12	2.310E-03	Pulse	0.30	3
Ti			2	0.061	ug/l	88.04	8.89	8.154E-05	Pulse	0.30	3
V			2	-0.106	ug/l	-5.60	130.00	1.196E-03	Pulse	0.30	3
Cr			2	0.035	ug/l	34.25	616.69	5.668E-03	Pulse	0.30	3
Mn			2	0.077	ug/l	4.93	267.78	2.462E-03	Pulse	0.30	3
Fe			2	0.752	ug/l	5.26	11,028.22	1.014E-01	Pulse	0.30	3
Co			2	0.000	ug/l	-4856.20	15.53	1.429E-04	Pulse	0.30	3
Ni			2	0.030	ug/l	49.86	495.57	4.555E-03	Pulse	0.30	3
Cu			2	-0.713	ug/l	-0.54	1,137.83	1.046E-02	Pulse	0.30	3
Zn			2	-0.375	ug/l	-18.64	538.90	4.956E-03	Pulse	0.30	3
As			2	0.013	ug/l	91.54	14.00	1.289E-04	Pulse	1.00	3
Cd			2	-0.001	ug/l	-0.47	-0.04	-6.688E-08	Pulse	0.30	3
Sn			2	0.138	ug/l	2.90	388.90	6.503E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	0.001	ug/l	646.95	5.47	3.389E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,156,057.65	0.51	91.2	Pulse	0.10	3
1	Sc		1,837,073.15	2.20	95.8	Pulse	0.10	3
1	Ge		349,379.27	2.45	98.0	Pulse	0.10	3
1	Ge		485,266.68	2.84	98.5	Pulse	0.10	3
1	Rh		2,469,061.84	2.37	98.1	Pulse	0.10	3
1	In		2,449,828.74	2.20	99.8	Pulse	0.10	3
1	Tb		3,571,320.99	3.56	97.3	Pulse	0.10	3
1	Ho		357,251.15	3.03	96.9	Pulse	0.10	3
1	Bi		2,230,821.16	2.90	96.3	Pulse	0.10	3
2	Sc		108,768.08	0.51	94.2	Pulse	0.30	3
2	Ge		60,832.73	0.38	99.3	Pulse	0.30	3
2	Ge		91,673.46	0.48	98.0	Pulse	0.30	3
2	Rh		1,623,946.95	0.32	95.1	Pulse	0.30	3
2	In		598,013.25	0.41	98.8	Pulse	0.30	3
2	Tb		2,185,760.95	0.64	96.0	Pulse	0.30	3
2	Ho		219,593.13	0.63	97.1	Pulse	0.30	3
2	Bi		1,489,371.16	0.66	96.1	Pulse	0.30	3
3	Sc		176,012.09	0.27	93.8	Pulse	0.30	3
3	Ge		107,141.70	1.60	91.3	Pulse	0.30	3
3	Ge		161,267.23	0.57	90.6	Pulse	0.30	3
3	Rh		1,792,125.76	0.59	92.4	Pulse	0.30	3
3	Tb		3,087,674.95	1.30	93.0	Pulse	0.30	3

Quantitation Report

File Name	085_CCV.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 16:48
Sample Name	CCVA
Sample Type	CCV
Comment	here
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	49.222	ug/l	0.36	243,019.55	2.299E-01	Pulse	0.25	3
B			1	107.677	ug/l	0.96	405,562.91	3.836E-01	Pulse	0.15	3
Ca			1	4851.078	ug/l	0.59	2,634,779.65	1.543E+00	Pulse	0.10	3
Sr			1	52.829	ug/l	1.31	1,401,410.81	6.127E-01	Pulse	0.10	3
Mo			1	50.865	ug/l	0.31	271,578.31	1.188E-01	Pulse	0.10	3
Ag			1	49.317	ug/l	0.53	659,571.96	2.872E-01	Pulse	0.10	3
Sn			1	50.372	ug/l	0.45	422,861.57	1.842E-01	Pulse	0.10	3
Sb			1	52.530	ug/l	0.93	517,220.72	1.474E-01	Pulse	0.10	3
Ba			1	52.707	ug/l	0.83	209,794.61	5.979E-02	Pulse	0.10	3
Tl			1	51.257	ug/l	1.45	1,385,476.34	6.471E-01	Pulse	0.10	3
Pb			1	50.752	ug/l	1.11	483,805.85	2.259E-01	Pulse	0.10	3
Pb			1	50.474	ug/l	1.17	424,415.36	1.982E-01	Pulse	0.10	3
Pb			1	50.641	ug/l	1.01	1,943,971.40	9.078E-01	Pulse	0.10	3
Na			2	4839.240	ug/l	0.91	4,807,405.50	4.682E+01	Analog	0.30	3
Mg			2	4582.945	ug/l	0.38	2,118,752.69	2.064E+01	Pulse	0.30	3
Al			2	4798.933	ug/l	0.79	739,289.14	7.200E+00	Pulse	0.30	3
K			2	4946.309	ug/l	0.92	1,428,196.61	1.391E+01	Pulse	0.30	3
Ca			2	5192.520	ug/l	0.49	82,356.35	8.021E-01	Pulse	0.30	3
Ti			2	50.040	ug/l	2.33	6,027.83	5.870E-02	Pulse	0.30	3
V			2	51.335	ug/l	0.78	196,257.59	1.911E+00	Pulse	0.30	3
Cr			2	49.627	ug/l	0.46	253,114.30	2.465E+00	Pulse	0.30	3
Mn			2	50.839	ug/l	0.03	136,711.19	1.331E+00	Pulse	0.30	3
Fe			2	5253.126	ug/l	0.83	20,999,231.94	2.045E+02	Analog	0.30	3
Co			2	49.213	ug/l	0.47	391,983.57	3.818E+00	Pulse	0.30	3
Ni			2	48.702	ug/l	0.64	105,203.05	1.025E+00	Pulse	0.30	3
Cu			2	47.743	ug/l	0.32	284,830.69	2.774E+00	Pulse	0.30	3
Zn			2	49.716	ug/l	0.96	43,999.86	4.285E-01	Pulse	0.30	3
As			2	51.930	ug/l	1.85	21,783.83	2.122E-01	Pulse	1.00	3
Cd			2	49.119	ug/l	1.04	66,454.79	1.174E-01	Pulse	0.30	3
Sn			2	51.374	ug/l	0.33	133,836.00	2.365E-01	Pulse	0.30	3
Se			3	207.011	ug/l	0.66	29,589.01	1.903E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,057,279.89	1.19	83.4	Pulse	0.10	3
1	Sc		1,707,327.27	1.63	89.1	Pulse	0.10	3
1	Ge		327,770.62	2.59	91.9	Pulse	0.10	3

Quantitation Report

1	Ge		453,278.10	2.41	92.0	Pulse	0.10	3
1	Rh		2,286,827.21	2.39	90.9	Pulse	0.10	3
1	In		2,296,099.56	2.36	93.5	Pulse	0.10	3
1	Tb		3,508,592.24	2.73	95.6	Pulse	0.10	3
1	Ho		348,624.43	3.04	94.5	Pulse	0.10	3
1	Bi		2,141,981.32	4.17	92.5	Pulse	0.10	3
2	Sc		102,679.29	0.71	89.0	Pulse	0.30	3
2	Ge		57,627.92	0.95	94.1	Pulse	0.30	3
2	Ge		86,174.86	1.56	92.1	Pulse	0.30	3
2	Rh		1,535,802.40	0.31	90.0	Pulse	0.30	3
2	In		566,010.91	0.66	93.5	Pulse	0.30	3
2	Tb		2,144,674.01	1.59	94.2	Pulse	0.30	3
2	Ho		217,145.98	1.31	96.1	Pulse	0.30	3
2	Bi		1,436,524.00	0.89	92.7	Pulse	0.30	3
3	Sc		169,914.92	0.39	90.5	Pulse	0.30	3
3	Ge		102,959.04	0.46	87.7	Pulse	0.30	3
3	Ge		155,520.21	0.71	87.3	Pulse	0.30	3
3	Rh		1,690,443.54	1.16	87.2	Pulse	0.30	3
3	Tb		3,029,894.95	1.43	91.3	Pulse	0.30	3

Quantitation Report

File Name	086_CCB.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 16:53
Sample Name	CCB
Sample Type	CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.005	ug/l	29.60	32.00	2.989E-05	Pulse	0.25	3
B			1	11.566	ug/l	1.27	51,713.91	4.835E-02	Pulse	0.15	3
Ca			1	-6.227	ug/l	-10.00	11,697.79	6.846E-03	Pulse	0.10	3
Sr			1	0.023	ug/l	3.83	803.38	3.471E-04	Pulse	0.10	3
Mo			1	0.137	ug/l	8.02	796.72	3.441E-04	Pulse	0.10	3
Ag			1	0.009	ug/l	3.05	126.67	5.472E-05	Pulse	0.10	3
Sn			1	0.440	ug/l	3.62	2,780.36	1.201E-03	Pulse	0.10	3
Sb			1	0.143	ug/l	18.87	1,940.20	5.650E-04	Pulse	0.10	3
Ba			1	0.020	ug/l	108.30	116.67	3.430E-05	Pulse	0.10	3
Tl			1	0.011	ug/l	11.07	353.35	1.637E-04	Pulse	0.10	3
Pb			1	-0.003	ug/l	-247.99	186.68	8.617E-05	Pulse	0.10	3
Pb			1	-0.004	ug/l	-57.19	200.01	9.265E-05	Pulse	0.10	3
Pb			1	-0.001	ug/l	-160.63	786.71	3.644E-04	Pulse	0.10	3
Na			2	45.997	ug/l	1.50	60,066.82	5.871E-01	Pulse	0.30	3
Mg			2	0.280	ug/l	26.02	261.12	2.552E-03	Pulse	0.30	3
Al			2	0.203	ug/l	131.95	274.45	2.685E-03	Pulse	0.30	3
K			2	-1.967	ug/l	-8.84	7,462.85	7.294E-02	Pulse	0.30	3
Ca			2	0.101	ug/l	53.90	96.67	9.449E-04	Pulse	0.30	3
Ti			2	0.011	ug/l	307.03	2.22	2.194E-05	Pulse	0.30	3
V			2	-0.108	ug/l	-8.42	114.44	1.121E-03	Pulse	0.30	3
Cr			2	0.009	ug/l	205.59	448.90	4.382E-03	Pulse	0.30	3
Mn			2	0.032	ug/l	12.68	128.89	1.260E-03	Pulse	0.30	3
Fe			2	1.853	ug/l	4.04	14,754.48	1.442E-01	Pulse	0.30	3
Co			2	0.001	ug/l	50.70	26.62	2.605E-04	Pulse	0.30	3
Ni			2	-0.056	ug/l	-27.05	282.23	2.760E-03	Pulse	0.30	3
Cu			2	-0.681	ug/l	-2.04	1,256.73	1.229E-02	Pulse	0.30	3
Zn			2	-0.539	ug/l	-3.45	365.57	3.574E-03	Pulse	0.30	3
As			2	0.005	ug/l	101.36	9.67	9.441E-05	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.002	ug/l	215.83	4.36	7.593E-06	Pulse	0.30	3
Sn			2	0.392	ug/l	11.40	1,036.71	1.820E-03	Pulse	0.30	3
Se			3	0.068	ug/l	20.21	15.13	9.602E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,069,523.97	0.76	84.4	Pulse	0.10	3
1	Sc		1,709,590.29	2.34	89.2	Pulse	0.10	3
1	Ge		327,676.49	2.05	91.9	Pulse	0.10	3
1	Ge		453,421.83	2.32	92.1	Pulse	0.10	3
1	Rh		2,313,648.35	2.36	91.9	Pulse	0.10	3
1	In		2,314,108.81	2.09	94.3	Pulse	0.10	3
1	Tb		3,428,349.33	1.89	93.4	Pulse	0.10	3
1	Ho		345,868.13	1.66	93.8	Pulse	0.10	3
1	Bi		2,161,024.14	1.92	93.3	Pulse	0.10	3
2	Sc		102,313.64	0.89	88.6	Pulse	0.30	3
2	Ge		57,594.43	1.09	94.0	Pulse	0.30	3
2	Ge		87,192.23	0.96	93.2	Pulse	0.30	3
2	Rh		1,559,771.50	0.69	91.4	Pulse	0.30	3
2	In		570,006.49	1.29	94.2	Pulse	0.30	3
2	Tb		2,104,053.94	1.40	92.5	Pulse	0.30	3
2	Ho		212,754.39	0.68	94.1	Pulse	0.30	3
2	Bi		1,446,524.87	0.92	93.3	Pulse	0.30	3
3	Sc		171,239.33	1.00	91.2	Pulse	0.30	3
3	Ge		105,615.95	0.68	90.0	Pulse	0.30	3
3	Ge		157,627.81	0.37	88.5	Pulse	0.30	3
3	Rh		1,766,747.29	1.52	91.1	Pulse	0.30	3
3	Tb		3,049,823.84	1.66	91.9	Pulse	0.30	3

Quantitation Report

File Name 087SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 16:58
Sample Name mp18786-mb1conf
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.001	ug/l	172.38	12.00	1.071E-05	Pulse	0.25	3
B			1	9.913	ug/l	2.31	47,548.55	4.259E-02	Pulse	0.15	3
Ca			1	1.137	ug/l	47.55	16,345.25	9.175E-03	Pulse	0.10	3
Sr			1	0.035	ug/l	12.19	1,186.75	4.937E-04	Pulse	0.10	3
Mo			1	0.090	ug/l	23.62	563.37	2.339E-04	Pulse	0.10	3
Ag			1	0.006	ug/l	24.43	100.00	4.170E-05	Pulse	0.10	3
Sn			1	0.292	ug/l	2.13	1,590.14	6.609E-04	Pulse	0.10	3
Sb			1	0.044	ug/l	28.50	1,016.74	2.869E-04	Pulse	0.10	3
Ba			1	0.012	ug/l	58.68	90.00	2.551E-05	Pulse	0.10	3
Tl			1	0.018	ug/l	5.15	540.03	2.443E-04	Pulse	0.10	3
Pb			1	-0.001	ug/l	-230.82	203.34	9.190E-05	Pulse	0.10	3
Pb			1	-0.003	ug/l	-203.40	216.68	9.799E-05	Pulse	0.10	3
Pb			1	0.004	ug/l	12.88	1,000.05	4.521E-04	Pulse	0.10	3
Na			2	46.392	ug/l	0.22	62,931.47	5.909E-01	Pulse	0.30	3
Mg			2	1.018	ug/l	6.16	625.57	5.874E-03	Pulse	0.30	3
Al			2	0.333	ug/l	134.81	306.67	2.880E-03	Pulse	0.30	3
K			2	-1.712	ug/l	-46.18	7,844.14	7.366E-02	Pulse	0.30	3
Ca			2	9.936	ug/l	18.95	262.23	2.462E-03	Pulse	0.30	3
Ti			2	0.125	ug/l	36.83	16.66	1.564E-04	Pulse	0.30	3
V			2	-0.104	ug/l	-0.47	134.45	1.262E-03	Pulse	0.30	3
Cr			2	0.049	ug/l	1.99	677.80	6.365E-03	Pulse	0.30	3
Mn			2	0.061	ug/l	29.71	215.56	2.024E-03	Pulse	0.30	3
Fe			2	0.818	ug/l	4.41	11,068.25	1.039E-01	Pulse	0.30	3
Co			2	0.002	ug/l	22.73	29.97	2.814E-04	Pulse	0.30	3
Ni			2	0.049	ug/l	17.56	528.90	4.966E-03	Pulse	0.30	3
Cu			2	-0.690	ug/l	-0.54	1,253.39	1.177E-02	Pulse	0.30	3
Zn			2	-0.337	ug/l	-28.99	562.24	5.280E-03	Pulse	0.30	3
As			2	0.014	ug/l	43.91	14.00	1.315E-04	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.002	ug/l	217.46	4.40	7.475E-06	Pulse	0.30	3
Sn			2	0.230	ug/l	11.19	631.13	1.072E-03	Pulse	0.30	3
Se			3	0.039	ug/l	14.89	11.07	6.886E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,116,794.04	2.01	88.1	Pulse	0.10	3
1	Sc		1,781,805.23	2.03	93.0	Pulse	0.10	3
1	Ge		343,563.05	2.56	96.4	Pulse	0.10	3
1	Ge		472,356.14	1.60	95.9	Pulse	0.10	3
1	Rh		2,405,637.57	1.81	95.6	Pulse	0.10	3
1	In		2,405,500.52	2.09	98.0	Pulse	0.10	3
1	Tb		3,547,405.57	2.72	96.7	Pulse	0.10	3
1	Ho		356,125.49	3.61	96.6	Pulse	0.10	3
1	Bi		2,212,305.28	3.14	95.5	Pulse	0.10	3
2	Sc		106,496.93	0.06	92.3	Pulse	0.30	3
2	Ge		59,778.88	1.26	97.6	Pulse	0.30	3
2	Ge		89,748.18	0.43	95.9	Pulse	0.30	3
2	Rh		1,611,664.56	0.66	94.4	Pulse	0.30	3
2	In		588,638.93	0.20	97.2	Pulse	0.30	3
2	Tb		2,159,924.77	0.37	94.9	Pulse	0.30	3
2	Ho		217,287.19	0.30	96.1	Pulse	0.30	3
2	Bi		1,485,342.89	0.70	95.8	Pulse	0.30	3
3	Sc		176,109.75	0.81	93.8	Pulse	0.30	3
3	Ge		106,366.07	0.84	90.6	Pulse	0.30	3
3	Ge		160,730.63	0.28	90.3	Pulse	0.30	3
3	Rh		1,792,628.47	0.57	92.5	Pulse	0.30	3
3	Tb		3,057,865.85	0.46	92.1	Pulse	0.30	3

Quantitation Report

File Name 088SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 17:03
Sample Name mp18786-b1conf
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	71.971	ug/l	0.35	373,133.23	3.361E-01	Pulse	0.25	3
B			1	79.729	ug/l	1.15	317,680.06	2.861E-01	Pulse	0.15	3
Ca			1	1975.839	ug/l	0.48	1,133,744.23	6.338E-01	Pulse	0.10	3
Sr			1	77.366	ug/l	0.50	2,161,877.78	8.972E-01	Pulse	0.10	3
Mo			1	77.274	ug/l	0.70	434,712.70	1.804E-01	Pulse	0.10	3
Ag			1	75.990	ug/l	0.61	1,061,536.68	4.426E-01	Pulse	0.10	3
Sn			1	75.265	ug/l	0.46	660,554.72	2.754E-01	Pulse	0.10	3
Sb			1	80.786	ug/l	0.20	820,547.70	2.266E-01	Pulse	0.10	3
Ba			1	77.539	ug/l	0.72	318,450.93	8.795E-02	Pulse	0.10	3
Tl			1	75.662	ug/l	1.54	2,121,429.34	9.552E-01	Pulse	0.10	3
Pb			1	77.772	ug/l	1.31	768,813.37	3.462E-01	Pulse	0.10	3
Pb			1	77.072	ug/l	0.43	671,921.93	3.026E-01	Pulse	0.10	3
Pb			1	77.161	ug/l	0.81	3,071,268.50	1.383E+00	Pulse	0.10	3
Na			2	1802.755	ug/l	1.50	1,876,153.74	1.753E+01	Pulse	0.30	3
Mg			2	1833.534	ug/l	1.06	883,583.44	8.256E+00	Pulse	0.30	3
Al			2	1887.634	ug/l	0.73	303,265.35	2.834E+00	Pulse	0.30	3
K			2	1958.929	ug/l	0.86	594,627.43	5.556E+00	Pulse	0.30	3
Ca			2	2322.206	ug/l	0.37	38,444.36	3.592E-01	Pulse	0.30	3
Ti			2	73.977	ug/l	1.65	9,287.13	8.678E-02	Pulse	0.30	3
V			2	76.269	ug/l	0.54	303,652.56	2.837E+00	Pulse	0.30	3
Cr			2	73.039	ug/l	1.07	388,064.85	3.626E+00	Pulse	0.30	3
Mn			2	74.856	ug/l	0.68	209,783.78	1.960E+00	Pulse	0.30	3
Fe			2	2099.970	ug/l	0.29	8,753,982.43	8.180E+01	Analog	0.30	3
Co			2	73.414	ug/l	0.39	609,486.22	5.695E+00	Pulse	0.30	3
Ni			2	72.369	ug/l	0.47	162,740.81	1.521E+00	Pulse	0.30	3
Cu			2	71.151	ug/l	1.13	439,737.19	4.109E+00	Pulse	0.30	3
Zn			2	73.240	ug/l	2.29	67,145.48	6.274E-01	Pulse	0.30	3
As			2	76.772	ug/l	0.85	33,561.64	3.136E-01	Pulse	1.00	3
Cd			2	72.809	ug/l	0.75	101,480.94	1.740E-01	Pulse	0.30	3
Sn			2	76.564	ug/l	0.45	205,480.40	3.524E-01	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	194.256	ug/l	1.12	28,804.55	1.785E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,110,210.70	0.84	87.6	Pulse	0.10	3
1	Sc		1,788,869.09	2.26	93.3	Pulse	0.10	3
1	Ge		343,519.47	2.69	96.3	Pulse	0.10	3
1	Ge		481,757.84	2.39	97.8	Pulse	0.10	3
1	Rh		2,409,666.53	2.72	95.8	Pulse	0.10	3
1	In		2,398,841.26	3.33	97.7	Pulse	0.10	3
1	Tb		3,620,294.74	3.00	98.6	Pulse	0.10	3
1	Ho		361,448.56	4.09	98.0	Pulse	0.10	3
1	Bi		2,220,433.46	2.81	95.9	Pulse	0.10	3
2	Sc		107,023.83	0.74	92.7	Pulse	0.30	3
2	Ge		59,529.03	0.68	97.2	Pulse	0.30	3
2	Ge		90,591.69	1.12	96.8	Pulse	0.30	3
2	Rh		1,592,587.79	0.53	93.3	Pulse	0.30	3
2	In		583,114.90	0.58	96.3	Pulse	0.30	3
2	Tb		2,186,744.98	0.21	96.1	Pulse	0.30	3
2	Ho		220,255.64	0.11	97.4	Pulse	0.30	3
2	Bi		1,477,252.09	0.36	95.3	Pulse	0.30	3
3	Sc		172,823.12	1.05	92.1	Pulse	0.30	3
3	Ge		105,936.05	0.35	90.3	Pulse	0.30	3
3	Ge		161,340.86	0.48	90.6	Pulse	0.30	3
3	Rh		1,754,246.14	0.55	90.5	Pulse	0.30	3
3	Tb		3,111,802.03	0.85	93.8	Pulse	0.30	3

Quantitation Report

File Name 089SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 17:08
Sample Name mp18786-s1 1
Sample Type Sample
Comment
Prep Dilution 20.000
Auto Dilution N/A
Total Dilution 20.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	75.286	ug/l	0.63	19,519.27	1.758E-02	Pulse	0.25	3
B			1	262.587	ug/l	1.84	59,731.25	5.381E-02	Pulse	0.15	3
Ca			1	95788.095	ug/l	0.98	2,756,126.00	1.524E+00	Pulse	0.10	3
Sr			1	635.109	ug/l	0.79	881,199.44	3.683E-01	Pulse	0.10	3
Mo			1	75.761	ug/l	1.39	21,208.07	8.866E-03	Pulse	0.10	3
Ag			1	75.429	ug/l	0.82	53,216.72	2.197E-02	Pulse	0.10	3
Sn			1	55.626	ug/l	1.99	23,685.13	9.782E-03	Pulse	0.10	3
Sb			1	85.612	ug/l	0.98	43,013.05	1.216E-02	Pulse	0.10	3
Ba			1	99.604	ug/l	2.67	20,003.51	5.660E-03	Pulse	0.10	3
Tl			1	76.332	ug/l	1.75	105,099.50	4.820E-02	Pulse	0.10	3
Pb			1	75.825	ug/l	2.28	37,007.27	1.697E-02	Pulse	0.10	3
Pb			1	76.281	ug/l	1.99	32,877.58	1.508E-02	Pulse	0.10	3
Pb			1	76.936	ug/l	0.83	151,118.75	6.931E-02	Pulse	0.10	3
Na			2	32465.087	ug/l	0.32	1,719,631.88	1.580E+01	Pulse	0.30	3
Mg			2	14500.885	ug/l	0.85	355,433.70	3.266E+00	Pulse	0.30	3
Al			2	1934.446	ug/l	1.05	16,048.90	1.475E-01	Pulse	0.30	3
K			2	9010.297	ug/l	0.82	145,645.16	1.338E+00	Pulse	0.30	3
Ca			2	103237.658	ug/l	0.77	86,777.63	7.973E-01	Pulse	0.30	3
Ti			2	72.245	ug/l	6.42	462.24	4.247E-03	Pulse	0.30	3
V			2	75.306	ug/l	1.67	15,777.61	1.450E-01	Pulse	0.30	3
Cr			2	73.827	ug/l	1.44	20,354.85	1.870E-01	Pulse	0.30	3
Mn			2	709.205	ug/l	1.58	101,087.45	9.288E-01	Pulse	0.30	3
Fe			2	1638.670	ug/l	1.33	354,873.44	3.261E+00	Pulse	0.30	3
Co			2	74.051	ug/l	0.88	31,274.35	2.874E-01	Pulse	0.30	3
Ni			2	73.906	ug/l	3.17	8,856.88	8.138E-02	Pulse	0.30	3
Cu			2	57.755	ug/l	1.18	23,490.26	2.158E-01	Pulse	0.30	3
Zn			2	91.216	ug/l	0.58	5,081.97	4.669E-02	Pulse	0.30	3
As			2	83.239	ug/l	1.71	1,858.11	1.707E-02	Pulse	1.00	3
Cd			2	74.167	ug/l	3.93	5,351.46	8.867E-03	Pulse	0.30	3
Sn			2	46.703	ug/l	3.30	6,495.85	1.076E-02	Pulse	0.30	3
Se			3	226.009	ug/l	2.91	1,648.15	1.042E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,110,068.10	0.34	87.6	Pulse	0.10	3
1	Sc		1,808,813.51	1.58	94.4	Pulse	0.10	3
1	Ge		346,303.47	2.18	97.1	Pulse	0.10	3

Quantitation Report

1	Ge		480,126.99	1.80	97.5	Pulse	0.10	3
1	Rh		2,392,377.98	2.00	95.1	Pulse	0.10	3
1	In		2,422,031.24	2.44	98.7	Pulse	0.10	3
1	Tb		3,535,586.82	2.31	96.3	Pulse	0.10	3
1	Ho		352,547.04	2.40	95.6	Pulse	0.10	3
1	Bi		2,180,214.86	2.48	94.2	Pulse	0.10	3
2	Sc		108,837.47	0.55	94.3	Pulse	0.30	3
2	Ge		62,414.09	0.77	101.9	Pulse	0.30	3
2	Ge		93,607.53	0.97	100.0	Pulse	0.30	3
2	Rh		1,594,031.67	1.23	93.4	Pulse	0.30	3
2	In		603,569.46	0.29	99.7	Pulse	0.30	3
2	Tb		2,163,262.90	0.66	95.1	Pulse	0.30	3
2	Ho		218,477.87	1.02	96.6	Pulse	0.30	3
2	Bi		1,471,898.83	0.56	95.0	Pulse	0.30	3
3	Sc		170,135.17	1.26	90.6	Pulse	0.30	3
3	Ge		105,482.90	0.17	89.9	Pulse	0.30	3
3	Ge		158,214.73	0.46	88.9	Pulse	0.30	3
3	Rh		1,710,291.05	0.26	88.2	Pulse	0.30	3
3	Tb		2,992,569.33	0.69	90.2	Pulse	0.30	3

Quantitation Report

File Name 090SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 17:13
Sample Name mp18786-s2
Sample Type Sample
Comment
Prep Dilution 20.000
Auto Dilution N/A
Total Dilution 20.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	76.439	ug/l	0.43	19,812.98	1.785E-02	Pulse	0.25	3
B			1	235.290	ug/l	2.07	54,433.67	4.905E-02	Pulse	0.15	3
Ca			1	96763.458	ug/l	0.84	2,775,789.13	1.539E+00	Pulse	0.10	3
Sr			1	641.327	ug/l	0.15	881,565.35	3.719E-01	Pulse	0.10	3
Mo			1	75.607	ug/l	1.65	20,974.34	8.848E-03	Pulse	0.10	3
Ag			1	76.327	ug/l	1.61	53,193.58	2.223E-02	Pulse	0.10	3
Sn			1	57.965	ug/l	1.08	24,426.47	1.021E-02	Pulse	0.10	3
Sb			1	85.367	ug/l	2.23	42,324.55	1.213E-02	Pulse	0.10	3
Ba			1	99.807	ug/l	1.46	19,789.93	5.672E-03	Pulse	0.10	3
Tl			1	76.765	ug/l	0.76	105,007.93	4.847E-02	Pulse	0.10	3
Pb			1	78.294	ug/l	0.62	37,952.87	1.752E-02	Pulse	0.10	3
Pb			1	75.777	ug/l	1.69	32,443.25	1.498E-02	Pulse	0.10	3
Pb			1	76.874	ug/l	0.57	150,044.34	6.926E-02	Pulse	0.10	3
Na			2	32476.001	ug/l	0.49	1,728,088.16	1.581E+01	Pulse	0.30	3
Mg			2	14639.231	ug/l	0.40	360,456.57	3.297E+00	Pulse	0.30	3
Al			2	1991.084	ug/l	1.11	16,586.08	1.517E-01	Pulse	0.30	3
K			2	9181.025	ug/l	1.36	148,915.26	1.362E+00	Pulse	0.30	3
Ca			2	104898.668	ug/l	1.02	88,580.21	8.101E-01	Pulse	0.30	3
Ti			2	80.776	ug/l	3.90	518.90	4.747E-03	Pulse	0.30	3
V			2	76.727	ug/l	0.73	16,137.96	1.476E-01	Pulse	0.30	3
Cr			2	73.841	ug/l	1.21	20,449.41	1.870E-01	Pulse	0.30	3
Mn			2	716.617	ug/l	0.60	102,616.63	9.385E-01	Pulse	0.30	3
Fe			2	1746.177	ug/l	1.08	379,358.74	3.470E+00	Pulse	0.30	3
Co			2	75.452	ug/l	0.58	32,013.45	2.928E-01	Pulse	0.30	3
Ni			2	73.266	ug/l	2.89	8,824.67	8.070E-02	Pulse	0.30	3
Cu			2	57.645	ug/l	0.97	23,564.77	2.155E-01	Pulse	0.30	3
Zn			2	92.699	ug/l	5.68	5,171.98	4.732E-02	Pulse	0.30	3
As			2	84.232	ug/l	2.95	1,889.11	1.727E-02	Pulse	1.00	3
Cd			2	76.432	ug/l	1.45	5,519.33	9.138E-03	Pulse	0.30	3
Sn			2	50.345	ug/l	3.72	7,006.07	1.160E-02	Pulse	0.30	3
Se			3	232.543	ug/l	0.51	1,681.42	1.072E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,109,779.35	0.59	87.6	Pulse	0.10	3
1	Sc		1,803,381.85	1.36	94.1	Pulse	0.10	3
1	Ge		347,434.06	1.50	97.4	Pulse	0.10	3

Quantitation Report

1	Ge		476,159.73	1.79	96.7	Pulse	0.10	3
1	Rh		2,370,202.99	1.64	94.2	Pulse	0.10	3
1	In		2,392,760.39	2.32	97.5	Pulse	0.10	3
1	Tb		3,488,702.76	2.27	95.1	Pulse	0.10	3
1	Ho		346,687.95	3.23	94.0	Pulse	0.10	3
1	Bi		2,166,449.19	2.38	93.6	Pulse	0.10	3
2	Sc		109,338.54	1.16	94.7	Pulse	0.30	3
2	Ge		61,490.62	0.22	100.4	Pulse	0.30	3
2	Ge		93,368.31	0.57	99.8	Pulse	0.30	3
2	Rh		1,600,423.86	0.47	93.8	Pulse	0.30	3
2	In		604,064.31	0.80	99.8	Pulse	0.30	3
2	Tb		2,179,837.41	1.24	95.8	Pulse	0.30	3
2	Ho		218,166.81	1.50	96.5	Pulse	0.30	3
2	Bi		1,466,255.43	1.37	94.6	Pulse	0.30	3
3	Sc		168,090.28	0.48	89.5	Pulse	0.30	3
3	Ge		104,443.06	0.41	89.0	Pulse	0.30	3
3	Ge		156,880.58	0.58	88.1	Pulse	0.30	3
3	Rh		1,694,092.61	0.50	87.4	Pulse	0.30	3
3	Tb		2,961,885.16	0.37	89.2	Pulse	0.30	3

Quantitation Report

File Name 091SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 17:18
Sample Name jc99833-1
Sample Type Sample
Comment
Prep Dilution 20.000
Auto Dilution N/A
Total Dilution 20.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.019	ug/l	171.00	10.67	9.615E-06	Pulse	0.25	3
B			1	149.800	ug/l	2.00	37,753.28	3.414E-02	Pulse	0.15	3
Ca			1	95738.886	ug/l	0.60	2,747,477.15	1.523E+00	Pulse	0.10	3
Sr			1	570.085	ug/l	0.42	787,419.65	3.306E-01	Pulse	0.10	3
Mo			1	2.018	ug/l	23.67	616.70	2.588E-04	Pulse	0.10	3
Ag			1	0.028	ug/l	178.22	30.00	1.220E-05	Pulse	0.10	3
Sn			1	5.782	ug/l	5.39	1,570.15	6.491E-04	Pulse	0.10	3
Sb			1	-0.492	ug/l	-28.19	336.68	9.524E-05	Pulse	0.10	3
Ba			1	21.178	ug/l	4.04	4,284.08	1.213E-03	Pulse	0.10	3
Tl			1	0.088	ug/l	34.73	166.67	7.689E-05	Pulse	0.10	3
Pb			1	-0.183	ug/l	-35.79	123.34	5.694E-05	Pulse	0.10	3
Pb			1	-0.274	ug/l	-9.49	120.01	5.532E-05	Pulse	0.10	3
Pb			1	-0.156	ug/l	-29.21	530.03	2.448E-04	Pulse	0.10	3
Na			2	30810.999	ug/l	1.12	1,653,260.94	1.500E+01	Pulse	0.30	3
Mg			2	12799.390	ug/l	0.77	317,672.73	2.883E+00	Pulse	0.30	3
Al			2	18.271	ug/l	112.99	414.51	3.750E-03	Pulse	0.30	3
K			2	7231.437	ug/l	0.85	120,068.66	1.090E+00	Pulse	0.30	3
Ca			2	102504.596	ug/l	1.23	87,246.65	7.917E-01	Pulse	0.30	3
Ti			2	0.880	ug/l	205.29	6.67	6.118E-05	Pulse	0.30	3
V			2	-2.535	ug/l	-2.30	47.78	4.340E-04	Pulse	0.30	3
Cr			2	0.189	ug/l	56.80	486.68	4.415E-03	Pulse	0.30	3
Mn			2	708.797	ug/l	1.14	102,296.63	9.283E-01	Pulse	0.30	3
Fe			2	-6.015	ug/l	-20.18	6,658.23	6.040E-02	Pulse	0.30	3
Co			2	0.040	ug/l	82.75	33.31	3.015E-04	Pulse	0.30	3
Ni			2	0.398	ug/l	59.34	478.90	4.347E-03	Pulse	0.30	3
Cu			2	-14.881	ug/l	-0.41	958.93	8.701E-03	Pulse	0.30	3
Zn			2	10.471	ug/l	5.06	1,383.41	1.255E-02	Pulse	0.30	3
As			2	0.241	ug/l	57.32	13.67	1.241E-04	Pulse	1.00	3
Cd			2	-0.015	ug/l	-177.40	1.04	1.719E-06	Pulse	0.30	3
Sn			2	4.067	ug/l	6.50	573.35	9.512E-04	Pulse	0.30	3
Se			3	0.468	ug/l	36.67	8.60	5.482E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,105,974.97	0.70	87.3	Pulse	0.10	3
1	Sc		1,804,054.77	2.36	94.1	Pulse	0.10	3
1	Ge		347,320.40	2.09	97.4	Pulse	0.10	3

Quantitation Report

1	Ge		482,495.77	2.15	98.0	Pulse	0.10	3
1	Rh		2,381,576.99	2.24	94.6	Pulse	0.10	3
1	In		2,415,905.24	2.22	98.4	Pulse	0.10	3
1	Tb		3,531,240.67	1.42	96.2	Pulse	0.10	3
1	Ho		352,518.37	1.80	95.6	Pulse	0.10	3
1	Bi		2,171,137.94	2.61	93.8	Pulse	0.10	3
2	Sc		110,208.82	1.17	95.5	Pulse	0.30	3
2	Ge		61,902.39	1.08	101.0	Pulse	0.30	3
2	Ge		92,823.13	1.54	99.2	Pulse	0.30	3
2	Rh		1,599,709.45	1.06	93.7	Pulse	0.30	3
2	In		602,553.48	0.97	99.5	Pulse	0.30	3
2	Tb		2,161,897.21	0.54	95.0	Pulse	0.30	3
2	Ho		217,018.69	1.44	96.0	Pulse	0.30	3
2	Bi		1,469,045.63	0.29	94.8	Pulse	0.30	3
3	Sc		167,114.45	0.47	89.0	Pulse	0.30	3
3	Ge		103,643.47	0.84	88.3	Pulse	0.30	3
3	Ge		156,865.33	0.30	88.1	Pulse	0.30	3
3	Rh		1,690,963.58	0.49	87.2	Pulse	0.30	3
3	Tb		2,961,526.06	1.02	89.2	Pulse	0.30	3

Quantitation Report

File Name	092SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 17:23
Sample Name	jc99834-1
Sample Type	Sample
Comment	
Prep Dilution	20.000
Auto Dilution	N/A
Total Dilution	20.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	-0.002	ug/l	-1015.44	5.33	4.850E-06	Pulse	0.25	3
B			1	145.354	ug/l	2.34	36,786.69	3.336E-02	Pulse	0.15	3
Ca			1	93681.604	ug/l	0.64	2,692,384.65	1.490E+00	Pulse	0.10	3
Sr			1	547.493	ug/l	0.42	755,435.64	3.175E-01	Pulse	0.10	3
Mo			1	1.173	ug/l	23.56	380.02	1.601E-04	Pulse	0.10	3
Ag			1	0.048	ug/l	37.54	43.33	1.804E-05	Pulse	0.10	3
Sn			1	4.255	ug/l	7.01	893.39	3.694E-04	Pulse	0.10	3
Sb			1	-0.491	ug/l	-22.79	336.68	9.532E-05	Pulse	0.10	3
Ba			1	21.026	ug/l	6.19	4,260.74	1.204E-03	Pulse	0.10	3
Tl			1	0.141	ug/l	29.51	240.01	1.105E-04	Pulse	0.10	3
Pb			1	-0.190	ug/l	-31.08	120.01	5.529E-05	Pulse	0.10	3
Pb			1	-0.288	ug/l	-20.84	113.34	5.248E-05	Pulse	0.10	3
Pb			1	-0.148	ug/l	-13.64	546.69	2.523E-04	Pulse	0.10	3
Na			2	29833.407	ug/l	0.75	1,602,007.37	1.453E+01	Pulse	0.30	3
Mg			2	12442.247	ug/l	0.77	308,934.06	2.802E+00	Pulse	0.30	3
Al			2	-13.846	ug/l	-24.19	147.78	1.341E-03	Pulse	0.30	3
K			2	6906.810	ug/l	0.83	115,114.05	1.044E+00	Pulse	0.30	3
Ca			2	99659.192	ug/l	2.06	84,855.41	7.697E-01	Pulse	0.30	3
Ti			2	0.009	ug/l	3243.64	1.11	1.010E-05	Pulse	0.30	3
V			2	-2.595	ug/l	-2.40	35.56	3.228E-04	Pulse	0.30	3
Cr			2	0.013	ug/l	1024.49	438.90	3.980E-03	Pulse	0.30	3
Mn			2	621.042	ug/l	0.44	89,675.59	8.134E-01	Pulse	0.30	3
Fe			2	-14.548	ug/l	-1.21	4,828.55	4.380E-02	Pulse	0.30	3
Co			2	0.051	ug/l	57.68	37.77	3.424E-04	Pulse	0.30	3
Ni			2	-0.010	ug/l	-1029.80	432.23	3.920E-03	Pulse	0.30	3
Cu			2	-14.862	ug/l	-2.18	965.60	8.754E-03	Pulse	0.30	3
Zn			2	10.152	ug/l	14.88	1,368.97	1.242E-02	Pulse	0.30	3
As			2	0.033	ug/l	142.04	9.00	8.167E-05	Pulse	1.00	3
Cd			2	0.016	ug/l	285.08	3.30	5.456E-06	Pulse	0.30	3
Sn			2	2.257	ug/l	17.70	324.45	5.348E-04	Pulse	0.30	3
Se			3	0.365	ug/l	123.81	7.80	5.010E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,102,724.38	0.51	87.0	Pulse	0.10	3
1	Sc		1,806,544.04	2.12	94.2	Pulse	0.10	3
1	Ge		347,317.50	1.26	97.4	Pulse	0.10	3

Quantitation Report

1	Ge		478,196.36	2.72	97.1	Pulse	0.10	3
1	Rh		2,379,033.56	2.11	94.5	Pulse	0.10	3
1	In		2,417,188.76	3.45	98.5	Pulse	0.10	3
1	Tb		3,541,410.99	2.62	96.5	Pulse	0.10	3
1	Ho		353,091.13	2.58	95.7	Pulse	0.10	3
1	Bi		2,165,617.93	1.91	93.5	Pulse	0.10	3
2	Sc		110,249.97	0.77	95.5	Pulse	0.30	3
2	Ge		61,946.95	1.16	101.1	Pulse	0.30	3
2	Ge		93,493.52	0.64	99.9	Pulse	0.30	3
2	Rh		1,600,451.26	0.64	93.8	Pulse	0.30	3
2	In		606,418.96	0.87	100.2	Pulse	0.30	3
2	Tb		2,170,606.23	1.22	95.4	Pulse	0.30	3
2	Ho		218,699.35	2.00	96.7	Pulse	0.30	3
2	Bi		1,473,703.00	0.86	95.1	Pulse	0.30	3
3	Sc		167,095.96	1.17	89.0	Pulse	0.30	3
3	Ge		103,614.49	1.30	88.3	Pulse	0.30	3
3	Ge		155,772.09	0.31	87.5	Pulse	0.30	3
3	Rh		1,699,483.61	0.81	87.7	Pulse	0.30	3
3	Tb		2,950,098.43	0.60	88.9	Pulse	0.30	3

Quantitation Report

File Name	093SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 17:28
Sample Name	EMPTYCONF
Sample Type	Sample
Comment	
Prep Dilution	2.000
Auto Dilution	N/A
Total Dilution	2.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	-0.002	ug/l	-14.55	1.33	4.078E-07	Pulse	0.25	3
B			1	0.957	ug/l	51.58	26,645.79	9.677E-03	Pulse	0.15	3
Ca			1	-39.384	ug/l	-6.30	11,617.83	2.586E-03	Pulse	0.10	3
Sr			1	0.002	ug/l	167.56	566.70	9.396E-05	Pulse	0.10	3
Mo			1	-0.015	ug/l	-7.18	33.33	5.323E-06	Pulse	0.10	3
Ag			1	0.002	ug/l	113.06	60.00	9.735E-06	Pulse	0.10	3
Sn			1	0.349	ug/l	4.65	1,463.46	2.288E-04	Pulse	0.10	3
Sb			1	-0.028	ug/l	-63.27	1,203.43	1.246E-04	Pulse	0.10	3
Ba			1	0.023	ug/l	178.56	246.84	2.482E-05	Pulse	0.10	3
Tl			1	-0.002	ug/l	-20.21	36.67	6.288E-06	Pulse	0.10	3
Pb			1	-0.024	ug/l	-30.77	263.34	4.428E-05	Pulse	0.10	3
Pb			1	-0.042	ug/l	-5.19	166.68	2.749E-05	Pulse	0.10	3
Pb			1	-0.025	ug/l	-11.25	986.73	1.617E-04	Pulse	0.10	3
Na			2	-5.963	ug/l	-25.45	36,067.28	1.147E-01	Pulse	0.30	3
Mg			2	-0.066	ug/l	-123.81	360.03	1.145E-03	Pulse	0.30	3
Al			2	-0.643	ug/l	-131.99	605.62	1.897E-03	Pulse	0.30	3
K			2	-49.276	ug/l	-1.21	2,998.11	9.546E-03	Pulse	0.30	3
Ca			2	-7.858	ug/l	-17.82	102.22	3.231E-04	Pulse	0.30	3
Ti			2	0.015	ug/l	188.92	5.56	1.825E-05	Pulse	0.30	3
V			2	-0.272	ug/l	-0.52	26.67	8.546E-05	Pulse	0.30	3
Cr			2	-0.126	ug/l	-4.85	263.34	8.314E-04	Pulse	0.30	3
Mn			2	-0.007	ug/l	-39.10	107.78	3.425E-04	Pulse	0.30	3
Fe			2	-2.879	ug/l	-1.84	5,071.99	1.609E-02	Pulse	0.30	3
Co			2	0.000	ug/l	-298.92	42.21	1.332E-04	Pulse	0.30	3
Ni			2	-0.170	ug/l	-13.34	680.02	2.153E-03	Pulse	0.30	3
Cu			2	-1.590	ug/l	-0.56	1,830.12	5.788E-03	Pulse	0.30	3
Zn			2	-1.545	ug/l	-3.19	502.24	1.596E-03	Pulse	0.30	3
As			2	-0.029	ug/l	-1.79	4.67	1.477E-05	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	-0.001	ug/l	-10.14	3.33	1.977E-06	Pulse	0.30	3
Sn			2	0.105	ug/l	14.48	431.12	2.561E-04	Pulse	0.30	3
Se			3	-0.048	ug/l	-12.87	5.27	1.104E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		2,781,509.24	17.29	219.4	Mix	0.10	3
1	Sc		4,573,819.62	18.76	238.6	Analog	0.10	3
1	Ge		752,334.82	18.16	211.0	Pulse	0.10	3
1	Ge		1,041,805.66	17.93	211.5	Pulse	0.10	3
1	Rh		6,155,097.62	17.96	244.6	Analog	0.10	3
1	In		6,487,371.38	18.30	264.3	Analog	0.10	3
1	Tb		9,890,797.56	17.64	269.5	Analog	0.10	3
1	Ho		835,329.13	17.57	226.5	Pulse	0.10	3
1	Bi		6,155,421.26	19.06	265.8	Analog	0.10	3
2	Sc		315,526.16	8.06	273.4	Pulse	0.30	3
2	Ge		168,781.95	7.93	275.5	Pulse	0.30	3
2	Ge		255,741.55	8.52	273.3	Pulse	0.30	3
2	Rh		5,206,839.93	8.67	305.1	Analog	0.30	3
2	In		1,690,974.69	7.77	279.3	Pulse	0.30	3
2	Tb		7,578,376.92	8.78	333.0	Analog	0.30	3
2	Ho		643,550.65	8.38	284.7	Pulse	0.30	3
2	Bi		5,312,284.65	9.25	342.7	Analog	0.30	3
3	Sc		557,372.61	38.00	296.9	Pulse	0.30	3
3	Ge		336,873.98	39.23	287.0	Pulse	0.30	3
3	Ge		508,446.79	38.74	285.5	Pulse	0.30	3
3	Rh		5,979,681.43	42.24	308.4	Mix	0.30	3
3	Tb		11,433,936.49	37.55	344.5	Analog	0.30	3

Quantitation Report

File Name 094SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 17:33
Sample Name mp18774-b1conf
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	69.816	ug/l	0.74	179,176.51	1.630E-01	Pulse	0.25	3
B			1	92.333	ug/l	1.26	185,800.90	1.690E-01	Pulse	0.15	3
Ca			1	3949.680	ug/l	0.82	1,090,650.32	6.335E-01	Pulse	0.10	3
Sr			1	79.197	ug/l	0.53	1,060,710.79	4.593E-01	Pulse	0.10	3
Mo			1	79.153	ug/l	0.15	213,418.55	9.241E-02	Pulse	0.10	3
Ag			1	76.948	ug/l	0.80	518,505.21	2.241E-01	Pulse	0.10	3
Sn			1	80.317	ug/l	0.92	339,583.95	1.467E-01	Pulse	0.10	3
Sb			1	79.749	ug/l	0.24	399,023.32	1.120E-01	Pulse	0.10	3
Ba			1	77.577	ug/l	0.45	156,819.05	4.400E-02	Pulse	0.10	3
Tl			1	77.292	ug/l	0.63	1,058,682.28	4.879E-01	Pulse	0.10	3
Pb			1	79.108	ug/l	0.25	382,166.70	1.761E-01	Pulse	0.10	3
Pb			1	79.514	ug/l	1.17	338,766.49	1.561E-01	Pulse	0.10	3
Pb			1	79.222	ug/l	0.21	1,541,068.55	7.101E-01	Pulse	0.10	3
Na			2	3749.213	ug/l	1.18	1,811,320.21	1.822E+01	Pulse	0.30	3
Mg			2	3735.514	ug/l	1.63	835,866.31	8.410E+00	Pulse	0.30	3
Al			2	3763.923	ug/l	1.67	280,770.21	2.825E+00	Pulse	0.30	3
K			2	3985.180	ug/l	1.46	561,570.72	5.650E+00	Pulse	0.30	3
Ca			2	4333.334	ug/l	0.27	33,318.85	3.352E-01	Pulse	0.30	3
Ti			2	76.436	ug/l	1.79	4,456.21	4.484E-02	Pulse	0.30	3
V			2	78.896	ug/l	0.87	146,101.46	1.470E+00	Pulse	0.30	3
Cr			2	77.054	ug/l	1.32	190,287.75	1.915E+00	Pulse	0.30	3
Mn			2	77.479	ug/l	1.41	100,842.35	1.015E+00	Pulse	0.30	3
Fe			2	4369.764	ug/l	1.55	8,458,242.44	8.510E+01	Analog	0.30	3
Co			2	76.163	ug/l	1.20	293,608.42	2.954E+00	Pulse	0.30	3
Ni			2	75.433	ug/l	0.48	78,955.39	7.944E-01	Pulse	0.30	3
Cu			2	74.692	ug/l	1.18	216,771.41	2.181E+00	Pulse	0.30	3
Zn			2	68.529	ug/l	3.33	29,600.14	2.979E-01	Pulse	0.30	3
As			2	74.937	ug/l	0.99	15,215.75	1.531E-01	Pulse	1.00	3
Cd			2	72.831	ug/l	1.18	47,853.78	8.704E-02	Pulse	0.30	3
Sn			2	81.909	ug/l	0.89	103,640.76	1.885E-01	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	328.224	ug/l	3.92	25,864.94	1.508E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,099,068.34	1.23	86.7	Pulse	0.10	3
1	Sc		1,721,771.38	1.90	89.8	Pulse	0.10	3
1	Ge		358,548.94	1.20	100.6	Pulse	0.10	3
1	Ge		497,627.90	2.35	101.0	Pulse	0.10	3
1	Rh		2,309,426.48	2.02	91.8	Pulse	0.10	3
1	In		2,313,717.66	2.52	94.3	Pulse	0.10	3
1	Tb		3,564,204.01	3.73	97.1	Pulse	0.10	3
1	Ho		358,542.89	3.18	97.2	Pulse	0.10	3
1	Bi		2,170,099.81	3.28	93.7	Pulse	0.10	3
2	Sc		99,394.87	1.00	86.1	Pulse	0.30	3
2	Ge		62,018.28	0.33	101.2	Pulse	0.30	3
2	Ge		94,435.83	0.22	100.9	Pulse	0.30	3
2	Rh		1,540,627.92	1.58	90.3	Pulse	0.30	3
2	In		549,814.31	0.84	90.8	Pulse	0.30	3
2	Tb		2,124,705.75	0.73	93.4	Pulse	0.30	3
2	Ho		212,969.32	0.53	94.2	Pulse	0.30	3
2	Bi		1,431,420.57	0.75	92.3	Pulse	0.30	3
3	Sc		174,262.84	0.20	92.8	Pulse	0.30	3
3	Ge		113,979.89	4.16	97.1	Pulse	0.30	3
3	Ge		171,644.78	3.80	96.4	Pulse	0.30	3
3	Rh		1,760,696.53	0.66	90.8	Pulse	0.30	3
3	Tb		3,124,959.25	0.38	94.2	Pulse	0.30	3

Quantitation Report

File Name	095_CCV.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 17:38
Sample Name	CCVA
Sample Type	CCV
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	49.343	ug/l	0.99	259,124.81	2.304E-01	Pulse	0.25	3
B			1	104.715	ug/l	0.34	419,785.24	3.733E-01	Pulse	0.15	3
Ca			1	4831.939	ug/l	0.52	2,818,087.35	1.537E+00	Pulse	0.10	3
Sr			1	53.203	ug/l	0.58	1,485,699.93	6.170E-01	Pulse	0.10	3
Mo			1	50.814	ug/l	0.37	285,666.87	1.186E-01	Pulse	0.10	3
Ag			1	48.813	ug/l	0.51	690,726.45	2.843E-01	Pulse	0.10	3
Sn			1	50.210	ug/l	0.79	446,030.93	1.836E-01	Pulse	0.10	3
Sb			1	53.589	ug/l	1.41	544,308.49	1.504E-01	Pulse	0.10	3
Ba			1	52.992	ug/l	0.06	217,617.40	6.011E-02	Pulse	0.10	3
Tl			1	51.503	ug/l	0.39	1,420,063.62	6.502E-01	Pulse	0.10	3
Pb			1	51.176	ug/l	0.54	497,685.49	2.278E-01	Pulse	0.10	3
Pb			1	51.086	ug/l	0.27	438,156.02	2.006E-01	Pulse	0.10	3
Pb			1	51.054	ug/l	0.23	1,999,115.90	9.152E-01	Pulse	0.10	3
Na			2	4854.146	ug/l	0.22	5,141,886.74	4.696E+01	Analog	0.30	3
Mg			2	4541.615	ug/l	0.72	2,238,863.38	2.045E+01	Pulse	0.30	3
Al			2	4736.037	ug/l	0.61	777,991.06	7.106E+00	Pulse	0.30	3
K			2	4937.571	ug/l	0.89	1,520,247.92	1.389E+01	Pulse	0.30	3
Ca			2	5135.300	ug/l	0.79	86,846.75	7.932E-01	Pulse	0.30	3
Ti			2	48.667	ug/l	4.85	6,250.14	5.709E-02	Pulse	0.30	3
V			2	50.737	ug/l	1.48	206,836.58	1.889E+00	Pulse	0.30	3
Cr			2	48.876	ug/l	0.80	265,816.66	2.428E+00	Pulse	0.30	3
Mn			2	49.879	ug/l	1.29	143,019.46	1.306E+00	Pulse	0.30	3
Fe			2	5134.181	ug/l	0.13	21,883,894.69	1.999E+02	Analog	0.30	3
Co			2	48.615	ug/l	1.14	412,890.99	3.771E+00	Pulse	0.30	3
Ni			2	48.084	ug/l	0.84	110,762.04	1.012E+00	Pulse	0.30	3
Cu			2	47.281	ug/l	0.54	300,828.44	2.748E+00	Pulse	0.30	3
Zn			2	48.416	ug/l	0.50	45,713.52	4.175E-01	Pulse	0.30	3
As			2	50.970	ug/l	0.79	22,797.87	2.082E-01	Pulse	1.00	3
Cd			2	49.028	ug/l	0.58	69,147.49	1.172E-01	Pulse	0.30	3
Sn			2	51.096	ug/l	0.63	138,762.22	2.352E-01	Pulse	0.30	3
Se			3	204.572	ug/l	0.73	30,120.45	1.880E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,124,560.57	0.71	88.7	Pulse	0.10	3
1	Sc		1,833,175.70	1.96	95.6	Pulse	0.10	3
1	Ge		350,898.99	2.34	98.4	Pulse	0.10	3

Quantitation Report

1	Ge		484,230.49	2.16	98.3	Pulse	0.10	3
1	Rh		2,407,777.72	2.56	95.7	Pulse	0.10	3
1	In		2,429,410.04	3.03	99.0	Pulse	0.10	3
1	Tb		3,620,196.09	3.67	98.6	Pulse	0.10	3
1	Ho		362,066.53	2.55	98.2	Pulse	0.10	3
1	Bi		2,184,299.03	3.39	94.3	Pulse	0.10	3
2	Sc		109,487.48	0.44	94.9	Pulse	0.30	3
2	Ge		60,964.31	1.28	99.5	Pulse	0.30	3
2	Ge		91,681.14	1.32	98.0	Pulse	0.30	3
2	Rh		1,596,477.89	0.45	93.5	Pulse	0.30	3
2	In		590,044.16	0.56	97.5	Pulse	0.30	3
2	Tb		2,199,882.97	0.07	96.7	Pulse	0.30	3
2	Ho		221,619.36	0.63	98.0	Pulse	0.30	3
2	Bi		1,471,189.77	0.76	94.9	Pulse	0.30	3
3	Sc		173,526.11	0.48	92.4	Pulse	0.30	3
3	Ge		105,848.80	1.35	90.2	Pulse	0.30	3
3	Ge		160,204.95	0.65	90.0	Pulse	0.30	3
3	Rh		1,724,545.07	0.22	88.9	Pulse	0.30	3
3	Tb		3,030,957.38	0.66	91.3	Pulse	0.30	3

Quantitation Report

File Name	096_CCB.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 17:43
Sample Name	CCB
Sample Type	CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.007	ug/l	79.70	42.67	3.789E-05	Pulse	0.25	3
B			1	7.751	ug/l	1.60	39,597.41	3.505E-02	Pulse	0.15	3
Ca			1	-4.153	ug/l	-24.70	13,532.65	7.502E-03	Pulse	0.10	3
Sr			1	0.022	ug/l	18.93	810.05	3.340E-04	Pulse	0.10	3
Mo			1	0.145	ug/l	5.43	880.06	3.626E-04	Pulse	0.10	3
Ag			1	0.010	ug/l	32.54	153.34	6.289E-05	Pulse	0.10	3
Sn			1	0.430	ug/l	1.58	2,830.37	1.167E-03	Pulse	0.10	3
Sb			1	0.160	ug/l	6.84	2,186.91	6.125E-04	Pulse	0.10	3
Ba			1	0.022	ug/l	48.26	130.01	3.658E-05	Pulse	0.10	3
Tl			1	0.012	ug/l	10.65	390.02	1.777E-04	Pulse	0.10	3
Pb			1	0.006	ug/l	178.85	273.35	1.243E-04	Pulse	0.10	3
Pb			1	0.000	ug/l	-4795.02	236.68	1.083E-04	Pulse	0.10	3
Pb			1	0.009	ug/l	57.32	1,203.40	5.492E-04	Pulse	0.10	3
Na			2	20.074	ug/l	2.01	36,360.08	3.371E-01	Pulse	0.30	3
Mg			2	0.393	ug/l	29.32	330.01	3.061E-03	Pulse	0.30	3
Al			2	0.625	ug/l	16.55	357.78	3.317E-03	Pulse	0.30	3
K			2	-1.671	ug/l	-28.38	7,956.42	7.377E-02	Pulse	0.30	3
Ca			2	0.390	ug/l	279.08	106.67	9.895E-04	Pulse	0.30	3
Ti			2	0.027	ug/l	112.70	4.45	4.130E-05	Pulse	0.30	3
V			2	-0.113	ug/l	-1.73	101.11	9.371E-04	Pulse	0.30	3
Cr			2	0.012	ug/l	34.46	487.79	4.523E-03	Pulse	0.30	3
Mn			2	0.017	ug/l	22.41	94.44	8.759E-04	Pulse	0.30	3
Fe			2	1.809	ug/l	1.32	15,370.62	1.425E-01	Pulse	0.30	3
Co			2	0.004	ug/l	25.94	49.96	4.633E-04	Pulse	0.30	3
Ni			2	-0.043	ug/l	-69.41	326.67	3.031E-03	Pulse	0.30	3
Cu			2	-0.642	ug/l	-2.23	1,568.99	1.454E-02	Pulse	0.30	3
Zn			2	-0.530	ug/l	-14.46	393.34	3.647E-03	Pulse	0.30	3
As			2	0.018	ug/l	24.12	16.00	1.483E-04	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.001	ug/l	286.84	3.23	5.493E-06	Pulse	0.30	3
Sn			2	0.479	ug/l	17.09	1,310.07	2.219E-03	Pulse	0.30	3
Se			3	0.110	ug/l	14.24	21.73	1.340E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,129,953.08	0.76	89.1	Pulse	0.10	3
1	Sc		1,805,099.66	2.20	94.2	Pulse	0.10	3
1	Ge		341,791.79	2.25	95.9	Pulse	0.10	3
1	Ge		479,797.85	1.33	97.4	Pulse	0.10	3
1	Rh		2,426,085.43	2.21	96.4	Pulse	0.10	3
1	In		2,425,419.85	2.72	98.8	Pulse	0.10	3
1	Tb		3,569,770.99	2.04	97.3	Pulse	0.10	3
1	Ho		352,651.76	3.24	95.6	Pulse	0.10	3
1	Bi		2,193,024.97	2.18	94.7	Pulse	0.10	3
2	Sc		107,863.56	0.69	93.5	Pulse	0.30	3
2	Ge		60,239.41	1.16	98.3	Pulse	0.30	3
2	Ge		89,963.77	1.36	96.1	Pulse	0.30	3
2	Rh		1,609,004.76	1.05	94.3	Pulse	0.30	3
2	In		589,891.68	0.69	97.4	Pulse	0.30	3
2	Tb		2,153,021.86	0.39	94.6	Pulse	0.30	3
2	Ho		217,146.88	0.89	96.1	Pulse	0.30	3
2	Bi		1,478,256.68	0.72	95.4	Pulse	0.30	3
3	Sc		176,053.00	0.48	93.8	Pulse	0.30	3
3	Ge		108,117.68	1.20	92.1	Pulse	0.30	3
3	Ge		162,206.55	0.33	91.1	Pulse	0.30	3
3	Rh		1,785,163.54	0.51	92.1	Pulse	0.30	3
3	Tb		3,047,011.34	0.76	91.8	Pulse	0.30	3

Quantitation Report

File Name 097SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 17:50
Sample Name mp18774-mb1conf
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	-0.001	ug/l	-203.98	4.00	3.521E-06	Pulse	0.25	3
B			1	14.028	ug/l	2.15	36,991.57	3.247E-02	Pulse	0.15	3
Ca			1	1.874	ug/l	37.68	16,105.17	9.112E-03	Pulse	0.10	3
Sr			1	0.063	ug/l	1.31	1,063.41	4.470E-04	Pulse	0.10	3
Mo			1	0.143	ug/l	14.58	453.36	1.903E-04	Pulse	0.10	3
Ag			1	0.033	ug/l	33.40	240.01	1.008E-04	Pulse	0.10	3
Sn			1	1.250	ug/l	4.45	4,464.12	1.881E-03	Pulse	0.10	3
Sb			1	0.225	ug/l	9.07	1,706.82	4.800E-04	Pulse	0.10	3
Ba			1	0.165	ug/l	47.26	376.72	1.052E-04	Pulse	0.10	3
Tl			1	0.201	ug/l	3.32	2,800.36	1.288E-03	Pulse	0.10	3
Pb			1	0.070	ug/l	33.18	550.03	2.529E-04	Pulse	0.10	3
Pb			1	0.038	ug/l	38.38	400.02	1.845E-04	Pulse	0.10	3
Pb			1	0.061	ug/l	15.36	2,016.79	9.277E-04	Pulse	0.10	3
Na			2	82.656	ug/l	0.85	55,179.15	5.421E-01	Pulse	0.30	3
Mg			2	1.841	ug/l	14.44	553.35	5.436E-03	Pulse	0.30	3
Al			2	-0.305	ug/l	-98.50	218.89	2.151E-03	Pulse	0.30	3
K			2	-2.765	ug/l	-33.97	7,590.70	7.458E-02	Pulse	0.30	3
Ca			2	8.624	ug/l	25.91	162.23	1.595E-03	Pulse	0.30	3
Ti			2	0.450	ug/l	64.30	27.78	2.732E-04	Pulse	0.30	3
V			2	-0.073	ug/l	-12.50	384.45	3.777E-03	Pulse	0.30	3
Cr			2	0.313	ug/l	10.70	1,192.28	1.171E-02	Pulse	0.30	3
Mn			2	0.334	ug/l	11.59	488.90	4.805E-03	Pulse	0.30	3
Fe			2	11.904	ug/l	2.91	30,917.87	3.037E-01	Pulse	0.30	3
Co			2	0.008	ug/l	32.15	44.36	4.357E-04	Pulse	0.30	3
Ni			2	-0.036	ug/l	-75.02	362.23	3.557E-03	Pulse	0.30	3
Cu			2	-0.086	ug/l	-74.59	4,955.24	4.868E-02	Pulse	0.30	3
Zn			2	0.200	ug/l	66.04	913.37	8.973E-03	Pulse	0.30	3
As			2	0.127	ug/l	7.46	34.00	3.341E-04	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.009	ug/l	33.60	7.73	1.381E-05	Pulse	0.30	3
Sn			2	1.185	ug/l	7.41	1,535.65	2.742E-03	Pulse	0.30	3
Se			3	0.133	ug/l	9.98	16.40	9.431E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,139,263.39	1.44	89.9	Pulse	0.10	3
1	Sc		1,767,197.11	2.25	92.2	Pulse	0.10	3
1	Ge		383,958.17	2.16	107.7	Pulse	0.10	3
1	Ge		531,724.97	1.91	108.0	Pulse	0.10	3
1	Rh		2,378,805.75	2.31	94.5	Pulse	0.10	3
1	In		2,372,532.76	2.78	96.6	Pulse	0.10	3
1	Tb		3,557,625.36	2.36	96.9	Pulse	0.10	3
1	Ho		357,267.09	2.10	96.9	Pulse	0.10	3
1	Bi		2,175,094.34	3.12	93.9	Pulse	0.10	3
2	Sc		101,792.75	0.72	88.2	Pulse	0.30	3
2	Ge		65,391.39	1.98	106.7	Pulse	0.30	3
2	Ge		99,021.34	1.06	105.8	Pulse	0.30	3
2	Rh		1,576,874.90	0.43	92.4	Pulse	0.30	3
2	In		559,924.33	0.22	92.5	Pulse	0.30	3
2	Tb		2,131,582.28	0.97	93.7	Pulse	0.30	3
2	Ho		214,866.27	0.44	95.1	Pulse	0.30	3
2	Bi		1,447,424.77	0.89	93.4	Pulse	0.30	3
3	Sc		179,299.44	1.25	95.5	Pulse	0.30	3
3	Ge		116,148.80	1.84	99.0	Pulse	0.30	3
3	Ge		173,925.89	1.95	97.7	Pulse	0.30	3
3	Rh		1,833,595.27	0.82	94.6	Pulse	0.30	3
3	Tb		3,161,769.80	0.80	95.3	Pulse	0.30	3

Quantitation Report

File Name 098SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 17:55
Sample Name mp18774-s1 4
Sample Type Sample
Comment
Prep Dilution 20.000
Auto Dilution N/A
Total Dilution 20.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	80.267	ug/l	1.60	21,985.00	1.875E-02	Pulse	0.25	3
B			1	289.991	ug/l	0.44	68,700.75	5.859E-02	Pulse	0.15	3
Ca			1	11598.331	ug/l	0.62	365,145.12	1.923E-01	Pulse	0.10	3
Sr			1	225.580	ug/l	0.89	325,565.62	1.309E-01	Pulse	0.10	3
Mo			1	98.136	ug/l	1.75	28,562.95	1.148E-02	Pulse	0.10	3
Ag			1	83.067	ug/l	2.17	60,154.53	2.419E-02	Pulse	0.10	3
Sn			1	80.211	ug/l	1.15	35,527.82	1.429E-02	Pulse	0.10	3
Sb			1	93.952	ug/l	0.84	48,703.16	1.333E-02	Pulse	0.10	3
Ba			1	94.482	ug/l	3.83	19,616.31	5.370E-03	Pulse	0.10	3
Tl			1	83.952	ug/l	1.27	118,734.64	5.301E-02	Pulse	0.10	3
Pb			1	86.222	ug/l	1.74	43,184.13	1.928E-02	Pulse	0.10	3
Pb			1	87.180	ug/l	1.24	38,581.11	1.722E-02	Pulse	0.10	3
Pb			1	86.063	ug/l	0.22	173,614.92	7.749E-02	Pulse	0.10	3
Na			2	112067.392	ug/l	1.23	6,077,588.93	5.419E+01	Analog	0.30	3
Mg			2	4488.978	ug/l	2.08	113,479.66	1.012E+00	Pulse	0.30	3
Al			2	4738.765	ug/l	1.40	40,124.32	3.578E-01	Pulse	0.30	3
K			2	32144.300	ug/l	1.36	512,851.23	4.573E+00	Pulse	0.30	3
Ca			2	13006.167	ug/l	3.60	11,356.18	1.013E-01	Pulse	0.30	3
Ti			2	86.870	ug/l	14.36	572.24	5.104E-03	Pulse	0.30	3
V			2	92.718	ug/l	2.34	19,883.17	1.773E-01	Pulse	0.30	3
Cr			2	84.129	ug/l	1.21	23,839.48	2.126E-01	Pulse	0.30	3
Mn			2	88.336	ug/l	2.26	13,017.46	1.161E-01	Pulse	0.30	3
Fe			2	4511.767	ug/l	1.06	992,710.79	8.851E+00	Pulse	0.30	3
Co			2	83.844	ug/l	1.73	36,488.76	3.253E-01	Pulse	0.30	3
Ni			2	84.458	ug/l	1.55	10,366.71	9.243E-02	Pulse	0.30	3
Cu			2	69.345	ug/l	1.07	27,914.92	2.489E-01	Pulse	0.30	3
Zn			2	100.959	ug/l	1.94	5,698.83	5.081E-02	Pulse	0.30	3
As			2	124.405	ug/l	3.38	2,857.26	2.548E-02	Pulse	1.00	3
Cd			2	85.393	ug/l	2.91	6,201.24	1.021E-02	Pulse	0.30	3
Sn			2	78.427	ug/l	0.97	10,973.90	1.806E-02	Pulse	0.30	3
Se			3	476.166	ug/l	1.34	3,564.86	2.191E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,172,664.32	0.86	92.5	Pulse	0.10	3
1	Sc		1,899,336.38	1.59	99.1	Pulse	0.10	3
1	Ge		361,386.23	1.53	101.4	Pulse	0.10	3

Quantitation Report

1	Ge		499,996.45	2.25	101.5	Pulse	0.10	3
1	Rh		2,487,866.94	2.40	98.9	Pulse	0.10	3
1	In		2,487,131.31	2.51	101.3	Pulse	0.10	3
1	Tb		3,652,095.26	2.39	99.5	Pulse	0.10	3
1	Ho		362,587.69	3.23	98.3	Pulse	0.10	3
1	Bi		2,240,364.76	3.15	96.8	Pulse	0.10	3
2	Sc		112,160.67	0.67	97.2	Pulse	0.30	3
2	Ge		62,513.57	1.41	102.0	Pulse	0.30	3
2	Ge		94,374.00	0.20	100.8	Pulse	0.30	3
2	Rh		1,639,107.99	0.29	96.0	Pulse	0.30	3
2	In		607,505.22	1.15	100.3	Pulse	0.30	3
2	Tb		2,204,473.66	0.72	96.9	Pulse	0.30	3
2	Ho		221,225.40	0.74	97.9	Pulse	0.30	3
2	Bi		1,503,314.59	1.00	97.0	Pulse	0.30	3
3	Sc		175,768.80	0.39	93.6	Pulse	0.30	3
3	Ge		108,502.80	0.12	92.4	Pulse	0.30	3
3	Ge		162,713.40	1.18	91.4	Pulse	0.30	3
3	Rh		1,772,392.29	0.42	91.4	Pulse	0.30	3
3	Tb		3,053,285.78	1.29	92.0	Pulse	0.30	3

Quantitation Report

File Name	099SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 18:01
Sample Name	mp18774-s2
Sample Type	Sample
Comment	
Prep Dilution	20.000
Auto Dilution	N/A
Total Dilution	20.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	75.046	ug/l	1.58	20,225.45	1.753E-02	Pulse	0.25	3
B			1	275.277	ug/l	2.41	64,651.54	5.602E-02	Pulse	0.15	3
Ca			1	10519.312	ug/l	0.91	325,184.60	1.752E-01	Pulse	0.10	3
Sr			1	209.032	ug/l	1.76	296,233.22	1.213E-01	Pulse	0.10	3
Mo			1	90.385	ug/l	2.47	25,818.39	1.057E-02	Pulse	0.10	3
Ag			1	76.875	ug/l	0.59	54,949.38	2.239E-02	Pulse	0.10	3
Sn			1	76.944	ug/l	0.56	33,593.37	1.369E-02	Pulse	0.10	3
Sb			1	87.748	ug/l	2.06	44,794.88	1.246E-02	Pulse	0.10	3
Ba			1	84.984	ug/l	2.21	17,370.26	4.831E-03	Pulse	0.10	3
Tl			1	78.258	ug/l	1.71	108,922.28	4.942E-02	Pulse	0.10	3
Pb			1	80.561	ug/l	2.34	39,731.11	1.802E-02	Pulse	0.10	3
Pb			1	80.706	ug/l	1.10	35,165.92	1.595E-02	Pulse	0.10	3
Pb			1	80.132	ug/l	1.47	159,134.17	7.218E-02	Pulse	0.10	3
Na			2	104466.969	ug/l	1.93	5,561,726.86	5.052E+01	Analog	0.30	3
Mg			2	4106.894	ug/l	0.86	101,925.02	9.258E-01	Pulse	0.30	3
Al			2	4327.932	ug/l	0.53	35,994.00	3.269E-01	Pulse	0.30	3
K			2	29509.280	ug/l	0.55	462,849.82	4.204E+00	Pulse	0.30	3
Ca			2	11567.610	ug/l	0.79	9,926.38	9.016E-02	Pulse	0.30	3
Ti			2	89.651	ug/l	6.66	580.02	5.267E-03	Pulse	0.30	3
V			2	85.218	ug/l	2.01	17,983.21	1.634E-01	Pulse	0.30	3
Cr			2	77.338	ug/l	1.32	21,546.37	1.957E-01	Pulse	0.30	3
Mn			2	82.258	ug/l	1.44	11,902.16	1.081E-01	Pulse	0.30	3
Fe			2	4142.679	ug/l	0.87	895,331.74	8.133E+00	Pulse	0.30	3
Co			2	76.437	ug/l	0.91	32,654.43	2.966E-01	Pulse	0.30	3
Ni			2	75.572	ug/l	3.04	9,150.40	8.312E-02	Pulse	0.30	3
Cu			2	63.495	ug/l	2.79	25,559.95	2.322E-01	Pulse	0.30	3
Zn			2	101.606	ug/l	3.12	5,624.36	5.109E-02	Pulse	0.30	3
As			2	119.838	ug/l	1.54	2,702.23	2.455E-02	Pulse	1.00	3
Cd			2	76.369	ug/l	1.41	5,484.43	9.130E-03	Pulse	0.30	3
Sn			2	74.579	ug/l	2.90	10,317.91	1.718E-02	Pulse	0.30	3
Se			3	440.878	ug/l	0.45	3,242.79	2.029E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,153,863.82	1.81	91.0	Pulse	0.10	3
1	Sc		1,856,109.09	0.96	96.8	Pulse	0.10	3
1	Ge		356,549.45	1.74	100.0	Pulse	0.10	3

Quantitation Report

1	Ge		491,305.49	2.24	99.8	Pulse	0.10	3
1	Rh		2,442,412.05	1.37	97.1	Pulse	0.10	3
1	In		2,454,096.87	2.83	100.0	Pulse	0.10	3
1	Tb		3,594,531.30	2.41	97.9	Pulse	0.10	3
1	Ho		354,821.70	1.09	96.2	Pulse	0.10	3
1	Bi		2,204,814.61	2.76	95.2	Pulse	0.10	3
2	Sc		110,088.97	0.60	95.4	Pulse	0.30	3
2	Ge		62,207.81	2.30	101.5	Pulse	0.30	3
2	Ge		93,474.74	0.44	99.9	Pulse	0.30	3
2	Rh		1,620,466.60	0.46	94.9	Pulse	0.30	3
2	In		600,675.87	0.45	99.2	Pulse	0.30	3
2	Tb		2,180,677.83	0.91	95.8	Pulse	0.30	3
2	Ho		219,427.85	0.77	97.1	Pulse	0.30	3
2	Bi		1,489,991.74	0.28	96.1	Pulse	0.30	3
3	Sc		173,262.90	0.79	92.3	Pulse	0.30	3
3	Ge		105,906.88	0.71	90.2	Pulse	0.30	3
3	Ge		159,822.57	0.29	89.8	Pulse	0.30	3
3	Rh		1,738,134.72	0.49	89.7	Pulse	0.30	3
3	Tb		3,034,182.94	0.19	91.4	Pulse	0.30	3

Quantitation Report

File Name 100SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 18:06
Sample Name jc99601-1
Sample Type Sample
Comment
Prep Dilution 20.000
Auto Dilution N/A
Total Dilution 20.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.002	ug/l	767.86	6.67	5.785E-06	Pulse	0.25	3
B			1	193.460	ug/l	0.88	48,108.10	4.175E-02	Pulse	0.15	3
Ca			1	6632.627	ug/l	1.42	209,698.86	1.137E-01	Pulse	0.10	3
Sr			1	128.328	ug/l	0.33	179,878.04	7.449E-02	Pulse	0.10	3
Mo			1	15.060	ug/l	3.14	4,300.76	1.781E-03	Pulse	0.10	3
Ag			1	0.099	ug/l	110.37	80.00	3.276E-05	Pulse	0.10	3
Sn			1	5.943	ug/l	2.62	1,650.16	6.787E-04	Pulse	0.10	3
Sb			1	0.927	ug/l	14.01	1,043.41	2.942E-04	Pulse	0.10	3
Ba			1	5.828	ug/l	7.53	1,213.44	3.423E-04	Pulse	0.10	3
Tl			1	0.525	ug/l	8.51	776.72	3.526E-04	Pulse	0.10	3
Pb			1	0.948	ug/l	18.60	680.04	3.086E-04	Pulse	0.10	3
Pb			1	0.774	ug/l	14.24	573.37	2.608E-04	Pulse	0.10	3
Pb			1	0.923	ug/l	8.78	2,666.87	1.212E-03	Pulse	0.10	3
Na			2	100329.496	ug/l	1.04	5,328,866.18	4.853E+01	Analog	0.30	3
Mg			2	294.701	ug/l	1.19	7,427.27	6.763E-02	Pulse	0.30	3
Al			2	396.515	ug/l	4.36	3,526.00	3.212E-02	Pulse	0.30	3
K			2	25567.150	ug/l	2.04	401,143.14	3.653E+00	Pulse	0.30	3
Ca			2	7208.433	ug/l	2.43	6,207.88	5.654E-02	Pulse	0.30	3
Ti			2	8.114	ug/l	12.01	53.33	4.854E-04	Pulse	0.30	3
V			2	4.322	ug/l	5.79	1,445.64	1.317E-02	Pulse	0.30	3
Cr			2	0.648	ug/l	44.40	610.02	5.555E-03	Pulse	0.30	3
Mn			2	3.411	ug/l	2.86	537.80	4.898E-03	Pulse	0.30	3
Fe			2	224.981	ug/l	1.87	55,988.69	5.099E-01	Pulse	0.30	3
Co			2	0.150	ug/l	35.68	79.85	7.265E-04	Pulse	0.30	3
Ni			2	-0.188	ug/l	-35.57	410.01	3.734E-03	Pulse	0.30	3
Cu			2	-13.367	ug/l	-2.79	1,428.96	1.302E-02	Pulse	0.30	3
Zn			2	3.680	ug/l	22.14	1,063.38	9.684E-03	Pulse	0.30	3
As			2	35.346	ug/l	2.74	800.69	7.292E-03	Pulse	1.00	3
Cd			2	-0.003	ug/l	-822.82	1.86	3.113E-06	Pulse	0.30	3
Sn			2	5.233	ug/l	5.83	722.25	1.219E-03	Pulse	0.30	3
Se			3	0.388	ug/l	35.63	8.13	5.115E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,152,280.63	0.43	90.9	Pulse	0.10	3
1	Sc		1,843,964.14	0.88	96.2	Pulse	0.10	3
1	Ge		348,911.05	0.90	97.9	Pulse	0.10	3

Quantitation Report

1	Ge		485,538.17	1.84	98.6	Pulse	0.10	3
1	Rh		2,414,722.98	1.76	96.0	Pulse	0.10	3
1	In		2,430,136.63	1.87	99.0	Pulse	0.10	3
1	Tb		3,548,350.05	2.88	96.7	Pulse	0.10	3
1	Ho		350,168.51	1.05	94.9	Pulse	0.10	3
1	Bi		2,200,514.97	1.94	95.0	Pulse	0.10	3
2	Sc		109,811.70	0.80	95.1	Pulse	0.30	3
2	Ge		60,856.25	0.50	99.3	Pulse	0.30	3
2	Ge		92,011.90	1.31	98.3	Pulse	0.30	3
2	Rh		1,597,617.96	0.76	93.6	Pulse	0.30	3
2	In		592,075.03	1.09	97.8	Pulse	0.30	3
2	Tb		2,156,616.23	0.79	94.8	Pulse	0.30	3
2	Ho		215,577.62	1.36	95.4	Pulse	0.30	3
2	Bi		1,471,920.88	1.11	95.0	Pulse	0.30	3
3	Sc		171,431.19	1.01	91.3	Pulse	0.30	3
3	Ge		107,293.36	0.96	91.4	Pulse	0.30	3
3	Ge		159,106.78	0.80	89.4	Pulse	0.30	3
3	Rh		1,744,437.61	0.69	90.0	Pulse	0.30	3
3	Tb		2,995,213.49	0.72	90.2	Pulse	0.30	3

Quantitation Report

File Name 101SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 18:11
Sample Name mp18774-sd1
Sample Type Sample
Comment
Prep Dilution 100.000
Auto Dilution N/A
Total Dilution 100.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.087	ug/l	101.56	10.67	9.317E-06	Pulse	0.25	3
B			1	471.353	ug/l	0.58	28,056.75	2.445E-02	Pulse	0.15	3
Ca			1	7207.655	ug/l	1.80	57,707.61	3.161E-02	Pulse	0.10	3
Sr			1	123.212	ug/l	2.91	34,581.52	1.437E-02	Pulse	0.10	3
Mo			1	15.250	ug/l	22.12	910.06	3.792E-04	Pulse	0.10	3
Ag			1	0.216	ug/l	68.16	40.00	1.660E-05	Pulse	0.10	3
Sn			1	19.778	ug/l	2.85	760.05	3.145E-04	Pulse	0.10	3
Sb			1	0.616	ug/l	50.12	630.05	1.815E-04	Pulse	0.10	3
Ba			1	17.507	ug/l	8.11	730.05	2.103E-04	Pulse	0.10	3
Tl			1	7.105	ug/l	4.23	2,000.20	9.184E-04	Pulse	0.10	3
Pb			1	3.449	ug/l	17.12	546.70	2.511E-04	Pulse	0.10	3
Pb			1	2.020	ug/l	12.04	410.02	1.883E-04	Pulse	0.10	3
Pb			1	2.934	ug/l	3.76	1,983.47	9.106E-04	Pulse	0.10	3
Na			2	87674.057	ug/l	1.12	960,231.91	8.600E+00	Pulse	0.30	3
Mg			2	940.218	ug/l	1.80	4,870.76	4.362E-02	Pulse	0.30	3
Al			2	1689.780	ug/l	0.99	3,095.90	2.772E-02	Pulse	0.30	3
K			2	24141.740	ug/l	0.68	84,138.36	7.535E-01	Pulse	0.30	3
Ca			2	8417.298	ug/l	5.55	1,553.42	1.392E-02	Pulse	0.30	3
Ti			2	35.760	ug/l	44.61	47.78	4.290E-04	Pulse	0.30	3
V			2	-3.277	ug/l	-44.79	437.79	3.924E-03	Pulse	0.30	3
Cr			2	0.046	ug/l	1388.52	443.34	3.969E-03	Pulse	0.30	3
Mn			2	69.826	ug/l	5.38	2,089.05	1.871E-02	Pulse	0.30	3
Fe			2	2098.723	ug/l	3.02	99,250.28	8.889E-01	Pulse	0.30	3
Co			2	1.402	ug/l	16.44	137.51	1.232E-03	Pulse	0.30	3
Ni			2	-3.609	ug/l	-27.20	354.45	3.174E-03	Pulse	0.30	3
Cu			2	-71.192	ug/l	-1.73	1,175.61	1.053E-02	Pulse	0.30	3
Zn			2	26.956	ug/l	22.65	1,162.28	1.041E-02	Pulse	0.30	3
As			2	36.521	ug/l	8.41	175.00	1.566E-03	Pulse	1.00	3
Cd			2	0.157	ug/l	87.10	4.37	7.264E-06	Pulse	0.30	3
Sn			2	9.050	ug/l	18.26	260.01	4.318E-04	Pulse	0.30	3
Se			3	5.568	ug/l	27.29	13.33	8.449E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,147,540.25	0.87	90.5	Pulse	0.10	3
1	Sc		1,825,619.35	1.66	95.2	Pulse	0.10	3
1	Ge		348,238.00	2.19	97.7	Pulse	0.10	3

Quantitation Report

1	Ge		485,281.35	1.91	98.5	Pulse	0.10	3
1	Rh		2,405,487.88	1.65	95.6	Pulse	0.10	3
1	In		2,418,783.28	2.28	98.5	Pulse	0.10	3
1	Tb		3,474,477.24	2.97	94.7	Pulse	0.10	3
1	Ho		348,060.35	3.11	94.4	Pulse	0.10	3
1	Bi		2,177,909.76	1.89	94.1	Pulse	0.10	3
2	Sc		111,663.90	0.95	96.7	Pulse	0.30	3
2	Ge		61,672.42	1.08	100.7	Pulse	0.30	3
2	Ge		92,713.60	0.38	99.1	Pulse	0.30	3
2	Rh		1,611,506.84	0.38	94.4	Pulse	0.30	3
2	In		602,779.89	1.05	99.6	Pulse	0.30	3
2	Tb		2,151,777.83	0.74	94.5	Pulse	0.30	3
2	Ho		214,633.51	0.82	94.9	Pulse	0.30	3
2	Bi		1,474,701.30	1.29	95.1	Pulse	0.30	3
3	Sc		170,458.58	0.11	90.8	Pulse	0.30	3
3	Ge		105,373.22	1.14	89.8	Pulse	0.30	3
3	Ge		157,701.71	0.89	88.6	Pulse	0.30	3
3	Rh		1,715,932.47	0.33	88.5	Pulse	0.30	3
3	Tb		2,935,904.19	0.17	88.5	Pulse	0.30	3

Quantitation Report

File Name 102SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 18:16
Sample Name jc99695-2f
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.026	ug/l	32.11	73.33	6.712E-05	Pulse	0.25	3
B			1	24.203	ug/l	0.95	55,140.26	5.022E-02	Pulse	0.15	3
Ca			1	2647.655	ug/l	3.27	713,134.52	4.276E-01	Pulse	0.10	3
Sr			1	23.383	ug/l	3.13	301,902.31	1.357E-01	Pulse	0.10	3
Mo			1	1.522	ug/l	6.79	4,000.66	1.800E-03	Pulse	0.10	3
Ag			1	0.021	ug/l	44.79	143.34	6.422E-05	Pulse	0.10	3
Sn			1	1.568	ug/l	1.28	5,524.49	2.463E-03	Pulse	0.10	3
Sb			1	0.513	ug/l	3.59	3,185.43	8.831E-04	Pulse	0.10	3
Ba			1	14.151	ug/l	8.99	28,874.23	8.037E-03	Pulse	0.10	3
Tl			1	0.029	ug/l	8.28	430.02	2.064E-04	Pulse	0.10	3
Pb			1	0.316	ug/l	13.74	1,680.16	8.013E-04	Pulse	0.10	3
Pb			1	0.250	ug/l	6.81	1,250.10	5.996E-04	Pulse	0.10	3
Pb			1	0.303	ug/l	2.68	6,464.12	3.095E-03	Pulse	0.10	3
Na			2	3177.528	ug/l	0.54	1,533,800.84	1.547E+01	Pulse	0.30	3
Mg			2	2107.494	ug/l	0.43	470,590.38	4.746E+00	Pulse	0.30	3
Al			2	7.017	ug/l	1.97	757.81	7.642E-03	Pulse	0.30	3
K			2	625.430	ug/l	1.47	94,486.56	9.529E-01	Pulse	0.30	3
Ca			2	2653.476	ug/l	0.65	20,391.50	2.056E-01	Pulse	0.30	3
Ti			2	1.628	ug/l	25.25	95.55	9.642E-04	Pulse	0.30	3
V			2	0.185	ug/l	15.52	850.03	8.574E-03	Pulse	0.30	3
Cr			2	3.570	ug/l	0.44	9,170.41	9.247E-02	Pulse	0.30	3
Mn			2	2.301	ug/l	4.92	3,029.20	3.056E-02	Pulse	0.30	3
Fe			2	25.963	ug/l	2.49	57,250.02	5.773E-01	Pulse	0.30	3
Co			2	0.040	ug/l	8.72	169.85	1.714E-03	Pulse	0.30	3
Ni			2	0.769	ug/l	5.22	1,188.94	1.199E-02	Pulse	0.30	3
Cu			2	20.944	ug/l	1.22	64,296.95	6.484E-01	Pulse	0.30	3
Zn			2	9.250	ug/l	0.40	4,684.06	4.723E-02	Pulse	0.30	3
As			2	1.142	ug/l	4.89	238.67	2.407E-03	Pulse	1.00	3
Cd			2	0.012	ug/l	112.95	9.67	1.759E-05	Pulse	0.30	3
Sn			2	1.457	ug/l	5.75	1,841.24	3.367E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	0.897	ug/l	10.46	76.87	4.456E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,097,974.44	2.68	86.6	Pulse	0.10	3
1	Sc		1,669,433.26	4.33	87.1	Pulse	0.10	3
1	Ge		362,379.20	3.27	101.6	Pulse	0.10	3
1	Ge		499,046.75	4.64	101.3	Pulse	0.10	3
1	Rh		2,227,659.18	4.90	88.5	Pulse	0.10	3
1	In		2,243,793.19	4.99	91.4	Pulse	0.10	3
1	Tb		3,607,657.96	6.86	98.3	Mix	0.10	3
1	Ho		339,717.59	5.20	92.1	Pulse	0.10	3
1	Bi		2,088,837.05	5.15	90.2	Pulse	0.10	3
2	Sc		99,165.97	1.01	85.9	Pulse	0.30	3
2	Ge		62,571.49	1.24	102.1	Pulse	0.30	3
2	Ge		95,010.08	0.71	101.5	Pulse	0.30	3
2	Rh		1,530,382.23	0.95	89.7	Pulse	0.30	3
2	In		546,630.10	0.92	90.3	Pulse	0.30	3
2	Tb		2,096,691.10	0.64	92.1	Pulse	0.30	3
2	Ho		209,678.49	0.66	92.8	Pulse	0.30	3
2	Bi		1,415,733.07	1.28	91.3	Pulse	0.30	3
3	Sc		175,760.25	1.26	93.6	Pulse	0.30	3
3	Ge		115,307.72	3.24	98.2	Pulse	0.30	3
3	Ge		172,861.68	3.93	97.1	Pulse	0.30	3
3	Rh		1,797,432.98	1.18	92.7	Pulse	0.30	3
3	Tb		3,147,234.39	0.53	94.8	Pulse	0.30	3

Quantitation Report

File Name 103SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 18:21
Sample Name jc99696-2f
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.004	ug/l	73.70	17.33	1.526E-05	Pulse	0.25	3
B			1	10.703	ug/l	2.51	30,349.84	2.668E-02	Pulse	0.15	3
Ca			1	3584.299	ug/l	0.32	1,014,263.06	5.757E-01	Pulse	0.10	3
Sr			1	29.471	ug/l	0.28	398,631.21	1.710E-01	Pulse	0.10	3
Mo			1	0.077	ug/l	27.47	263.34	1.132E-04	Pulse	0.10	3
Ag			1	0.012	ug/l	44.89	93.33	3.945E-05	Pulse	0.10	3
Sn			1	0.915	ug/l	0.57	2,993.72	1.266E-03	Pulse	0.10	3
Sb			1	0.060	ug/l	20.54	896.73	2.484E-04	Pulse	0.10	3
Ba			1	9.394	ug/l	0.92	19,282.64	5.339E-03	Pulse	0.10	3
Tl			1	0.014	ug/l	10.69	250.01	1.128E-04	Pulse	0.10	3
Pb			1	0.282	ug/l	12.50	1,606.81	7.245E-04	Pulse	0.10	3
Pb			1	0.246	ug/l	17.61	1,306.77	5.909E-04	Pulse	0.10	3
Pb			1	0.280	ug/l	6.59	6,397.46	2.889E-03	Pulse	0.10	3
Na			2	3880.584	ug/l	0.85	1,876,122.98	1.886E+01	Pulse	0.30	3
Mg			2	1502.523	ug/l	0.20	336,644.91	3.384E+00	Pulse	0.30	3
Al			2	2.800	ug/l	27.05	445.57	4.480E-03	Pulse	0.30	3
K			2	456.388	ug/l	1.06	71,291.93	7.165E-01	Pulse	0.30	3
Ca			2	3716.991	ug/l	1.34	28,619.02	2.877E-01	Pulse	0.30	3
Ti			2	0.288	ug/l	49.38	17.78	1.784E-04	Pulse	0.30	3
V			2	0.631	ug/l	6.76	1,677.88	1.686E-02	Pulse	0.30	3
Cr			2	2.773	ug/l	2.34	7,232.76	7.270E-02	Pulse	0.30	3
Mn			2	1.351	ug/l	4.45	1,802.35	1.812E-02	Pulse	0.30	3
Fe			2	14.449	ug/l	2.24	35,147.49	3.533E-01	Pulse	0.30	3
Co			2	0.018	ug/l	27.84	82.13	8.262E-04	Pulse	0.30	3
Ni			2	0.748	ug/l	13.83	1,170.06	1.177E-02	Pulse	0.30	3
Cu			2	22.349	ug/l	0.90	68,496.27	6.884E-01	Pulse	0.30	3
Zn			2	12.860	ug/l	2.00	6,217.91	6.250E-02	Pulse	0.30	3
As			2	0.111	ug/l	19.91	30.00	3.017E-04	Pulse	1.00	3
Cd			2	0.011	ug/l	54.29	8.87	1.619E-05	Pulse	0.30	3
Sn			2	0.783	ug/l	9.13	993.38	1.816E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	0.041	ug/l	33.79	9.00	5.210E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,137,688.43	0.58	89.8	Pulse	0.10	3
1	Sc		1,761,837.73	1.85	91.9	Pulse	0.10	3
1	Ge		365,459.50	3.50	102.5	Pulse	0.10	3
1	Ge		503,274.55	3.00	102.2	Pulse	0.10	3
1	Rh		2,331,807.05	2.62	92.7	Pulse	0.10	3
1	In		2,364,623.76	1.95	96.3	Pulse	0.10	3
1	Tb		3,611,640.68	2.26	98.4	Pulse	0.10	3
1	Ho		360,909.63	2.14	97.9	Pulse	0.10	3
1	Bi		2,214,153.51	2.25	95.6	Pulse	0.10	3
2	Sc		99,490.00	0.68	86.2	Pulse	0.30	3
2	Ge		61,447.16	1.80	100.3	Pulse	0.30	3
2	Ge		93,122.46	1.83	99.5	Pulse	0.30	3
2	Rh		1,533,856.26	0.78	89.9	Pulse	0.30	3
2	In		546,611.47	0.94	90.3	Pulse	0.30	3
2	Tb		2,127,972.21	1.45	93.5	Pulse	0.30	3
2	Ho		214,040.42	1.30	94.7	Pulse	0.30	3
2	Bi		1,440,242.51	1.27	92.9	Pulse	0.30	3
3	Sc		177,784.69	0.26	94.7	Pulse	0.30	3
3	Ge		115,065.86	3.03	98.0	Pulse	0.30	3
3	Ge		173,130.69	2.72	97.2	Pulse	0.30	3
3	Rh		1,807,876.73	1.09	93.2	Pulse	0.30	3
3	Tb		3,189,035.36	1.04	96.1	Pulse	0.30	3

Quantitation Report

File Name 104SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 18:26
Sample Name jc99696-4f
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.003	ug/l	25.61	14.67	1.273E-05	Pulse	0.25	3
B			1	9.594	ug/l	1.36	28,475.15	2.474E-02	Pulse	0.15	3
Ca			1	3576.644	ug/l	0.61	1,009,635.24	5.745E-01	Pulse	0.10	3
Sr			1	29.025	ug/l	0.65	391,982.61	1.684E-01	Pulse	0.10	3
Mo			1	0.082	ug/l	28.45	276.68	1.192E-04	Pulse	0.10	3
Ag			1	0.018	ug/l	11.79	133.34	5.639E-05	Pulse	0.10	3
Sn			1	0.963	ug/l	2.02	3,200.44	1.354E-03	Pulse	0.10	3
Sb			1	0.080	ug/l	25.61	996.74	2.762E-04	Pulse	0.10	3
Ba			1	9.297	ug/l	4.31	19,055.55	5.284E-03	Pulse	0.10	3
Tl			1	1.081	ug/l	4.02	15,171.61	6.842E-03	Pulse	0.10	3
Pb			1	0.345	ug/l	6.54	1,920.20	8.662E-04	Pulse	0.10	3
Pb			1	0.300	ug/l	4.55	1,546.80	6.974E-04	Pulse	0.10	3
Pb			1	0.335	ug/l	7.02	7,497.70	3.382E-03	Pulse	0.10	3
Na			2	3913.147	ug/l	0.28	1,861,375.90	1.902E+01	Pulse	0.30	3
Mg			2	1497.313	ug/l	0.14	330,078.18	3.372E+00	Pulse	0.30	3
Al			2	3.002	ug/l	20.30	453.34	4.631E-03	Pulse	0.30	3
K			2	453.756	ug/l	1.85	69,782.38	7.129E-01	Pulse	0.30	3
Ca			2	3739.531	ug/l	1.57	28,329.75	2.894E-01	Pulse	0.30	3
Ti			2	0.274	ug/l	73.27	16.67	1.702E-04	Pulse	0.30	3
V			2	0.670	ug/l	2.76	1,720.11	1.757E-02	Pulse	0.30	3
Cr			2	2.601	ug/l	1.20	6,700.32	6.845E-02	Pulse	0.30	3
Mn			2	1.443	ug/l	3.30	1,891.24	1.932E-02	Pulse	0.30	3
Fe			2	14.148	ug/l	1.55	34,007.39	3.474E-01	Pulse	0.30	3
Co			2	0.024	ug/l	23.53	105.47	1.077E-03	Pulse	0.30	3
Ni			2	0.867	ug/l	10.38	1,274.51	1.302E-02	Pulse	0.30	3
Cu			2	23.042	ug/l	1.29	69,325.20	7.082E-01	Pulse	0.30	3
Zn			2	13.309	ug/l	2.53	6,303.51	6.439E-02	Pulse	0.30	3
As			2	0.143	ug/l	22.75	36.00	3.677E-04	Pulse	1.00	3
Cd			2	0.007	ug/l	140.86	6.64	1.239E-05	Pulse	0.30	3
Sn			2	0.779	ug/l	4.41	975.60	1.808E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	0.073	ug/l	6.82	11.53	6.691E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,151,003.45	0.84	90.8	Pulse	0.10	3
1	Sc		1,757,366.38	1.57	91.7	Pulse	0.10	3
1	Ge		358,789.03	2.85	100.6	Pulse	0.10	3
1	Ge		494,731.99	3.05	100.5	Pulse	0.10	3
1	Rh		2,328,279.34	2.57	92.5	Pulse	0.10	3
1	In		2,364,434.03	2.59	96.3	Pulse	0.10	3
1	Tb		3,604,138.07	2.15	98.2	Pulse	0.10	3
1	Ho		360,574.68	2.13	97.8	Pulse	0.10	3
1	Bi		2,219,011.74	2.84	95.8	Pulse	0.10	3
2	Sc		97,889.26	0.12	84.8	Pulse	0.30	3
2	Ge		59,901.46	1.06	97.8	Pulse	0.30	3
2	Ge		90,685.80	1.28	96.9	Pulse	0.30	3
2	Rh		1,535,236.22	0.78	89.9	Pulse	0.30	3
2	In		539,808.86	1.09	89.2	Pulse	0.30	3
2	Tb		2,099,584.85	0.88	92.3	Pulse	0.30	3
2	Ho		212,264.93	0.90	93.9	Pulse	0.30	3
2	Bi		1,433,330.12	0.95	92.5	Pulse	0.30	3
3	Sc		178,736.26	1.02	95.2	Pulse	0.30	3
3	Ge		115,005.59	2.36	98.0	Pulse	0.30	3
3	Ge		172,358.17	1.84	96.8	Pulse	0.30	3
3	Rh		1,816,830.62	1.76	93.7	Pulse	0.30	3
3	Tb		3,202,184.80	1.76	96.5	Pulse	0.30	3

Quantitation Report

File Name 105SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 18:31
Sample Name jc99740-11
Sample Type Sample
Comment
Prep Dilution 20.000
Auto Dilution N/A
Total Dilution 20.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.031	ug/l	144.85	14.67	1.243E-05	Pulse	0.25	3
B			1	91.845	ug/l	3.43	28,446.30	2.403E-02	Pulse	0.15	3
Ca			1	20229.684	ug/l	1.07	616,091.49	3.288E-01	Pulse	0.10	3
Sr			1	83.761	ug/l	1.53	120,351.00	4.865E-02	Pulse	0.10	3
Mo			1	1.516	ug/l	32.31	496.70	2.002E-04	Pulse	0.10	3
Ag			1	0.046	ug/l	15.35	43.33	1.731E-05	Pulse	0.10	3
Sn			1	3.993	ug/l	5.35	803.39	3.213E-04	Pulse	0.10	3
Sb			1	0.199	ug/l	12.37	703.37	1.920E-04	Pulse	0.10	3
Ba			1	52.454	ug/l	3.54	10,937.60	2.986E-03	Pulse	0.10	3
Tl			1	0.485	ug/l	13.82	733.38	3.274E-04	Pulse	0.10	3
Pb			1	0.110	ug/l	99.28	273.35	1.222E-04	Pulse	0.10	3
Pb			1	-0.017	ug/l	-591.47	236.68	1.056E-04	Pulse	0.10	3
Pb			1	0.100	ug/l	51.24	1,063.39	4.748E-04	Pulse	0.10	3
Na			2	8430.596	ug/l	0.93	465,455.85	4.209E+00	Pulse	0.30	3
Mg			2	1640.784	ug/l	2.22	40,982.87	3.707E-01	Pulse	0.30	3
Al			2	61.798	ug/l	5.00	775.58	7.014E-03	Pulse	0.30	3
K			2	1012.445	ug/l	1.35	24,327.74	2.200E-01	Pulse	0.30	3
Ca			2	21464.478	ug/l	1.94	18,411.40	1.665E-01	Pulse	0.30	3
Ti			2	3.602	ug/l	21.06	24.44	2.208E-04	Pulse	0.30	3
V			2	-0.517	ug/l	-42.58	462.24	4.180E-03	Pulse	0.30	3
Cr			2	0.082	ug/l	164.72	458.90	4.151E-03	Pulse	0.30	3
Mn			2	1242.331	ug/l	0.71	179,879.99	1.627E+00	Pulse	0.30	3
Fe			2	7111.738	ug/l	0.45	1,538,239.70	1.391E+01	Pulse	0.30	3
Co			2	0.766	ug/l	8.26	344.74	3.116E-03	Pulse	0.30	3
Ni			2	-0.595	ug/l	-24.87	365.56	3.307E-03	Pulse	0.30	3
Cu			2	-12.624	ug/l	-1.47	1,673.44	1.514E-02	Pulse	0.30	3
Zn			2	-3.080	ug/l	-36.22	754.47	6.825E-03	Pulse	0.30	3
As			2	9.697	ug/l	5.39	227.33	2.055E-03	Pulse	1.00	3
Cd			2	0.032	ug/l	166.71	4.41	7.345E-06	Pulse	0.30	3
Sn			2	1.828	ug/l	6.00	262.23	4.359E-04	Pulse	0.30	3
Se			3	0.364	ug/l	33.32	8.20	5.007E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,183,872.67	0.99	93.4	Pulse	0.10	3
1	Sc		1,873,985.13	2.09	97.8	Pulse	0.10	3
1	Ge		356,273.30	2.43	99.9	Pulse	0.10	3

Quantitation Report

1	Ge		493,685.57	1.59	100.2	Pulse	0.10	3
1	Rh		2,473,944.28	2.28	98.3	Pulse	0.10	3
1	In		2,500,269.23	1.70	101.9	Pulse	0.10	3
1	Tb		3,662,064.01	1.70	99.8	Pulse	0.10	3
1	Ho		363,762.69	2.13	98.6	Pulse	0.10	3
1	Bi		2,236,321.11	2.78	96.6	Pulse	0.10	3
2	Sc		110,585.94	1.08	95.8	Pulse	0.30	3
2	Ge		61,864.47	1.84	101.0	Pulse	0.30	3
2	Ge		94,107.89	0.58	100.6	Pulse	0.30	3
2	Rh		1,627,311.67	0.39	95.3	Pulse	0.30	3
2	In		601,734.90	0.73	99.4	Pulse	0.30	3
2	Tb		2,181,017.76	1.13	95.8	Pulse	0.30	3
2	Ho		219,183.06	0.96	97.0	Pulse	0.30	3
2	Bi		1,500,340.39	0.79	96.8	Pulse	0.30	3
3	Sc		175,938.68	0.91	93.7	Pulse	0.30	3
3	Ge		108,324.53	0.26	92.3	Pulse	0.30	3
3	Ge		163,778.70	0.53	92.0	Pulse	0.30	3
3	Rh		1,792,615.69	0.54	92.5	Pulse	0.30	3
3	Tb		3,093,150.29	0.47	93.2	Pulse	0.30	3

Quantitation Report

File Name 106_CCV.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 18:36
Sample Name CCVA 5
Sample Type CCV
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	48.349	ug/l	1.56	255,906.50	2.258E-01	Pulse	0.25	3
B			1	98.471	ug/l	2.67	398,392.51	3.515E-01	Pulse	0.15	3
Ca			1	4859.991	ug/l	0.61	2,786,943.61	1.546E+00	Pulse	0.10	3
Sr			1	53.276	ug/l	1.36	1,459,382.95	6.179E-01	Pulse	0.10	3
Mo			1	51.028	ug/l	0.67	281,379.27	1.191E-01	Pulse	0.10	3
Ag			1	48.363	ug/l	0.61	672,534.26	2.817E-01	Pulse	0.10	3
Sn			1	50.086	ug/l	0.59	437,257.09	1.831E-01	Pulse	0.10	3
Sb			1	53.218	ug/l	0.58	537,483.57	1.494E-01	Pulse	0.10	3
Ba			1	52.616	ug/l	0.65	214,777.32	5.969E-02	Pulse	0.10	3
Tl			1	51.108	ug/l	1.04	1,400,070.29	6.452E-01	Pulse	0.10	3
Pb			1	50.562	ug/l	0.78	488,440.49	2.251E-01	Pulse	0.10	3
Pb			1	50.609	ug/l	1.21	431,090.01	1.987E-01	Pulse	0.10	3
Pb			1	50.345	ug/l	0.51	1,958,177.30	9.025E-01	Pulse	0.10	3
Na			2	4903.632	ug/l	1.46	5,019,195.50	4.744E+01	Analog	0.30	3
Mg			2	4584.644	ug/l	0.36	2,184,014.29	2.064E+01	Pulse	0.30	3
Al			2	4732.715	ug/l	0.47	751,282.99	7.101E+00	Pulse	0.30	3
K			2	4967.112	ug/l	0.60	1,477,829.87	1.397E+01	Pulse	0.30	3
Ca			2	5162.020	ug/l	0.95	84,359.48	7.974E-01	Pulse	0.30	3
Ti			2	48.403	ug/l	4.74	6,007.81	5.678E-02	Pulse	0.30	3
V			2	50.755	ug/l	0.74	199,947.61	1.890E+00	Pulse	0.30	3
Cr			2	49.131	ug/l	0.59	258,202.41	2.440E+00	Pulse	0.30	3
Mn			2	50.174	ug/l	1.02	139,025.50	1.314E+00	Pulse	0.30	3
Fe			2	5196.249	ug/l	0.82	21,402,950.82	2.023E+02	Analog	0.30	3
Co			2	48.894	ug/l	0.74	401,288.03	3.793E+00	Pulse	0.30	3
Ni			2	48.412	ug/l	1.06	107,761.33	1.019E+00	Pulse	0.30	3
Cu			2	47.265	ug/l	0.62	290,606.39	2.747E+00	Pulse	0.30	3
Zn			2	48.401	ug/l	1.25	44,160.46	4.174E-01	Pulse	0.30	3
As			2	51.024	ug/l	1.65	22,053.50	2.084E-01	Pulse	1.00	3
Cd			2	48.743	ug/l	0.86	66,513.55	1.165E-01	Pulse	0.30	3
Sn			2	50.644	ug/l	0.95	133,075.55	2.331E-01	Pulse	0.30	3
Se			3	203.811	ug/l	1.27	29,838.07	1.873E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,133,419.01	0.70	89.4	Pulse	0.10	3
1	Sc		1,802,507.16	2.12	94.0	Pulse	0.10	3
1	Ge		340,209.98	2.48	95.4	Pulse	0.10	3

Quantitation Report

1	Ge		476,955.53	2.61	96.8	Pulse	0.10	3
1	Rh		2,361,595.59	1.99	93.8	Pulse	0.10	3
1	In		2,387,708.67	2.33	97.3	Pulse	0.10	3
1	Tb		3,598,974.32	3.30	98.1	Pulse	0.10	3
1	Ho		359,561.13	3.27	97.5	Pulse	0.10	3
1	Bi		2,169,657.62	3.18	93.7	Pulse	0.10	3
2	Sc		105,801.47	0.26	91.7	Pulse	0.30	3
2	Ge		58,144.13	0.67	94.9	Pulse	0.30	3
2	Ge		88,722.86	0.74	94.8	Pulse	0.30	3
2	Rh		1,559,671.26	0.27	91.4	Pulse	0.30	3
2	In		570,907.11	0.40	94.3	Pulse	0.30	3
2	Tb		2,143,497.56	0.43	94.2	Pulse	0.30	3
2	Ho		215,491.14	1.08	95.3	Pulse	0.30	3
2	Bi		1,431,913.03	0.73	92.4	Pulse	0.30	3
3	Sc		172,527.10	2.05	91.9	Pulse	0.30	3
3	Ge		104,474.41	1.54	89.0	Pulse	0.30	3
3	Ge		159,309.89	1.45	89.5	Pulse	0.30	3
3	Rh		1,734,440.14	1.42	89.5	Pulse	0.30	3
3	Tb		3,059,887.93	1.24	92.2	Pulse	0.30	3

Quantitation Report

File Name	107_CCB.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 18:41
Sample Name	CCB
Sample Type	CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.005	ug/l	25.57	29.33	2.631E-05	Pulse	0.25	3
B			1	4.197	ug/l	4.92	25,223.48	2.265E-02	Pulse	0.15	3
Ca			1	-2.380	ug/l	-34.61	13,776.20	8.063E-03	Pulse	0.10	3
Sr			1	0.025	ug/l	13.18	850.06	3.696E-04	Pulse	0.10	3
Mo			1	0.136	ug/l	15.58	783.38	3.407E-04	Pulse	0.10	3
Ag			1	0.009	ug/l	46.16	130.01	5.701E-05	Pulse	0.10	3
Sn			1	0.397	ug/l	4.47	2,400.27	1.044E-03	Pulse	0.10	3
Sb			1	0.131	ug/l	2.39	1,810.17	5.324E-04	Pulse	0.10	3
Ba			1	0.015	ug/l	53.55	96.67	2.853E-05	Pulse	0.10	3
Tl			1	0.011	ug/l	11.36	340.02	1.611E-04	Pulse	0.10	3
Pb			1	0.002	ug/l	148.08	226.68	1.072E-04	Pulse	0.10	3
Pb			1	-0.003	ug/l	-217.15	210.01	9.898E-05	Pulse	0.10	3
Pb			1	0.000	ug/l	1754.91	820.04	3.877E-04	Pulse	0.10	3
Na			2	14.546	ug/l	6.64	29,708.83	2.838E-01	Pulse	0.30	3
Mg			2	0.354	ug/l	16.20	302.23	2.886E-03	Pulse	0.30	3
Al			2	0.242	ug/l	111.97	286.67	2.742E-03	Pulse	0.30	3
K			2	-2.128	ug/l	-42.00	7,589.57	7.249E-02	Pulse	0.30	3
Ca			2	-0.174	ug/l	-290.99	94.45	9.024E-04	Pulse	0.30	3
Ti			2	0.001	ug/l	2075.39	1.11	1.043E-05	Pulse	0.30	3
V			2	-0.110	ug/l	-1.44	112.22	1.071E-03	Pulse	0.30	3
Cr			2	0.019	ug/l	54.46	512.24	4.890E-03	Pulse	0.30	3
Mn			2	0.018	ug/l	66.05	93.33	8.918E-04	Pulse	0.30	3
Fe			2	1.689	ug/l	0.94	14,437.55	1.378E-01	Pulse	0.30	3
Co			2	0.002	ug/l	108.44	28.85	2.739E-04	Pulse	0.30	3
Ni			2	-0.059	ug/l	-30.82	283.34	2.700E-03	Pulse	0.30	3
Cu			2	-0.627	ug/l	-2.05	1,611.21	1.538E-02	Pulse	0.30	3
Zn			2	-0.513	ug/l	-1.47	396.68	3.787E-03	Pulse	0.30	3
As			2	-0.004	ug/l	-200.03	6.33	6.016E-05	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.003	ug/l	73.85	6.58	1.149E-05	Pulse	0.30	3
Sn			2	0.400	ug/l	4.78	1,066.72	1.858E-03	Pulse	0.30	3
Se			3	0.086	ug/l	18.57	17.80	1.126E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,114,108.34	2.03	87.9	Pulse	0.10	3
1	Sc		1,709,337.16	3.03	89.2	Pulse	0.10	3
1	Ge		329,091.06	3.43	92.3	Pulse	0.10	3
1	Ge		457,250.57	3.11	92.8	Pulse	0.10	3
1	Rh		2,303,299.24	2.91	91.5	Pulse	0.10	3
1	In		2,300,118.38	3.11	93.7	Pulse	0.10	3
1	Tb		3,400,047.45	4.03	92.6	Pulse	0.10	3
1	Ho		338,944.38	4.18	91.9	Pulse	0.10	3
1	Bi		2,113,848.98	2.56	91.3	Pulse	0.10	3
2	Sc		104,742.85	2.03	90.7	Pulse	0.30	3
2	Ge		57,530.87	0.50	93.9	Pulse	0.30	3
2	Ge		87,315.19	0.78	93.3	Pulse	0.30	3
2	Rh		1,577,976.91	1.37	92.5	Pulse	0.30	3
2	In		574,270.79	0.88	94.9	Pulse	0.30	3
2	Tb		2,116,354.01	1.52	93.0	Pulse	0.30	3
2	Ho		211,596.89	1.26	93.6	Pulse	0.30	3
2	Bi		1,447,656.40	1.18	93.4	Pulse	0.30	3
3	Sc		171,526.47	0.94	91.4	Pulse	0.30	3
3	Ge		105,689.65	1.51	90.0	Pulse	0.30	3
3	Ge		158,215.80	1.30	88.9	Pulse	0.30	3
3	Rh		1,759,081.63	0.84	90.7	Pulse	0.30	3
3	Tb		2,999,003.35	0.86	90.4	Pulse	0.30	3

Quantitation Report

File Name	108SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 18:46
Sample Name	mp18781-s3
Sample Type	Sample
Comment	
Prep Dilution	20.000
Auto Dilution	N/A
Total Dilution	20.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	73.843	ug/l	1.25	19,782.25	1.725E-02	Pulse	0.25	3
B			1	247.321	ug/l	0.83	58,658.81	5.114E-02	Pulse	0.15	3
Ca			1	50128.339	ug/l	1.04	1,455,431.75	8.016E-01	Pulse	0.10	3
Sr			1	453.326	ug/l	0.25	621,876.62	2.629E-01	Pulse	0.10	3
Mo			1	79.256	ug/l	1.68	21,932.42	9.274E-03	Pulse	0.10	3
Ag			1	75.224	ug/l	1.72	52,487.51	2.191E-02	Pulse	0.10	3
Sn			1	78.930	ug/l	1.21	33,656.86	1.405E-02	Pulse	0.10	3
Sb			1	84.930	ug/l	1.84	42,705.68	1.207E-02	Pulse	0.10	3
Ba			1	131.662	ug/l	1.05	26,456.59	7.478E-03	Pulse	0.10	3
Tl			1	76.808	ug/l	1.69	106,459.45	4.850E-02	Pulse	0.10	3
Pb			1	79.100	ug/l	2.87	38,872.12	1.770E-02	Pulse	0.10	3
Pb			1	76.350	ug/l	1.43	33,121.27	1.509E-02	Pulse	0.10	3
Pb			1	77.997	ug/l	0.33	154,246.11	7.026E-02	Pulse	0.10	3
Na			2	16033.784	ug/l	1.46	845,844.69	7.876E+00	Pulse	0.30	3
Mg			2	10230.860	ug/l	2.19	247,472.38	2.304E+00	Pulse	0.30	3
Al			2	3915.575	ug/l	1.79	31,791.09	2.960E-01	Pulse	0.30	3
K			2	12797.408	ug/l	1.96	200,580.33	1.868E+00	Pulse	0.30	3
Ca			2	53879.424	ug/l	1.84	44,736.55	4.166E-01	Pulse	0.30	3
Ti			2	73.176	ug/l	10.05	462.23	4.301E-03	Pulse	0.30	3
V			2	76.747	ug/l	2.54	15,854.36	1.476E-01	Pulse	0.30	3
Cr			2	75.532	ug/l	0.67	20,539.52	1.912E-01	Pulse	0.30	3
Mn			2	2035.787	ug/l	2.10	286,232.97	2.665E+00	Pulse	0.30	3
Fe			2	73039.203	ug/l	1.66	15,271,620.50	1.422E+02	Analog	0.30	3
Co			2	91.103	ug/l	1.09	37,964.74	3.535E-01	Pulse	0.30	3
Ni			2	79.021	ug/l	1.96	9,316.05	8.674E-02	Pulse	0.30	3
Cu			2	62.961	ug/l	2.67	24,773.24	2.307E-01	Pulse	0.30	3
Zn			2	82.204	ug/l	6.94	4,604.02	4.288E-02	Pulse	0.30	3
As			2	1688.658	ug/l	2.22	37,037.44	3.449E-01	Pulse	1.00	3
Cd			2	78.100	ug/l	4.83	5,452.63	9.337E-03	Pulse	0.30	3
Sn			2	77.071	ug/l	1.71	10,365.72	1.775E-02	Pulse	0.30	3
Se			3	418.332	ug/l	5.09	3,156.04	1.925E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,146,902.12	1.22	90.5	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,815,580.39	2.22	94.7	Pulse	0.10	3
1	Ge		345,040.06	2.17	96.8	Pulse	0.10	3
1	Ge		479,987.58	2.10	97.5	Pulse	0.10	3
1	Rh		2,365,183.25	1.69	94.0	Pulse	0.10	3
1	In		2,395,216.18	1.83	97.6	Pulse	0.10	3
1	Tb		3,538,110.47	2.04	96.4	Pulse	0.10	3
1	Ho		351,969.54	2.94	95.4	Pulse	0.10	3
1	Bi		2,195,333.51	3.09	94.8	Pulse	0.10	3
2	Sc		107,406.37	1.07	93.1	Pulse	0.30	3
2	Ge		60,399.08	0.82	98.6	Pulse	0.30	3
2	Ge		90,434.11	0.90	96.6	Pulse	0.30	3
2	Rh		1,571,561.39	0.45	92.1	Pulse	0.30	3
2	In		583,945.15	1.31	96.5	Pulse	0.30	3
2	Tb		2,137,935.26	1.34	93.9	Pulse	0.30	3
2	Ho		214,485.15	1.91	94.9	Pulse	0.30	3
2	Bi		1,461,314.14	0.93	94.3	Pulse	0.30	3
3	Sc		178,096.91	6.77	94.9	Pulse	0.30	3
3	Ge		108,963.08	6.12	92.8	Pulse	0.30	3
3	Ge		164,214.31	5.34	92.2	Pulse	0.30	3
3	Rh		1,800,631.87	7.01	92.9	Pulse	0.30	3
3	Tb		3,265,539.03	14.82	98.4	Mix	0.30	3

Quantitation Report

File Name 109SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 18:51
Sample Name mp18781-s4
Sample Type Sample
Comment
Prep Dilution 20.000
Auto Dilution N/A
Total Dilution 20.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	74.187	ug/l	3.95	19,723.52	1.733E-02	Pulse	0.25	3
B			1	252.045	ug/l	1.44	59,177.99	5.197E-02	Pulse	0.15	3
Ca			1	51324.909	ug/l	0.93	1,470,047.48	8.206E-01	Pulse	0.10	3
Sr			1	453.053	ug/l	0.69	624,072.99	2.628E-01	Pulse	0.10	3
Mo			1	79.081	ug/l	2.48	21,975.80	9.254E-03	Pulse	0.10	3
Ag			1	77.081	ug/l	0.14	53,624.75	2.245E-02	Pulse	0.10	3
Sn			1	78.205	ug/l	0.81	33,249.37	1.392E-02	Pulse	0.10	3
Sb			1	83.765	ug/l	2.82	42,314.77	1.191E-02	Pulse	0.10	3
Ba			1	134.685	ug/l	1.20	27,171.08	7.649E-03	Pulse	0.10	3
Tl			1	76.116	ug/l	1.51	104,886.95	4.806E-02	Pulse	0.10	3
Pb			1	77.898	ug/l	1.05	38,029.92	1.743E-02	Pulse	0.10	3
Pb			1	75.819	ug/l	3.05	32,700.71	1.499E-02	Pulse	0.10	3
Pb			1	76.872	ug/l	0.76	151,116.24	6.926E-02	Pulse	0.10	3
Na			2	16021.214	ug/l	0.37	844,925.85	7.870E+00	Pulse	0.30	3
Mg			2	10271.178	ug/l	1.25	248,374.25	2.313E+00	Pulse	0.30	3
Al			2	3889.408	ug/l	2.03	31,568.50	2.941E-01	Pulse	0.30	3
K			2	12837.976	ug/l	0.98	201,124.53	1.873E+00	Pulse	0.30	3
Ca			2	54542.208	ug/l	1.24	45,270.18	4.217E-01	Pulse	0.30	3
Ti			2	79.249	ug/l	0.90	500.01	4.657E-03	Pulse	0.30	3
V			2	75.035	ug/l	3.08	15,509.61	1.445E-01	Pulse	0.30	3
Cr			2	75.109	ug/l	2.38	20,421.64	1.902E-01	Pulse	0.30	3
Mn			2	2063.937	ug/l	0.38	290,119.60	2.702E+00	Pulse	0.30	3
Fe			2	73305.319	ug/l	0.31	15,321,930.50	1.427E+02	Analog	0.30	3
Co			2	91.323	ug/l	1.13	38,045.96	3.543E-01	Pulse	0.30	3
Ni			2	79.046	ug/l	1.12	9,314.95	8.676E-02	Pulse	0.30	3
Cu			2	62.204	ug/l	1.99	24,536.20	2.285E-01	Pulse	0.30	3
Zn			2	83.267	ug/l	2.71	4,651.82	4.333E-02	Pulse	0.30	3
As			2	1721.884	ug/l	0.76	37,756.06	3.517E-01	Pulse	1.00	3
Cd			2	77.975	ug/l	0.98	5,458.17	9.322E-03	Pulse	0.30	3
Sn			2	75.294	ug/l	0.75	10,152.25	1.734E-02	Pulse	0.30	3
Se			3	437.274	ug/l	1.12	3,225.85	2.012E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,138,659.07	1.18	89.8	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,791,765.18	2.68	93.5	Pulse	0.10	3
1	Ge		344,551.09	2.10	96.6	Pulse	0.10	3
1	Ge		473,819.48	2.13	96.2	Pulse	0.10	3
1	Rh		2,375,094.44	2.22	94.4	Pulse	0.10	3
1	In		2,388,504.14	2.71	97.3	Pulse	0.10	3
1	Tb		3,552,736.93	2.26	96.8	Pulse	0.10	3
1	Ho		352,851.18	1.94	95.7	Pulse	0.10	3
1	Bi		2,181,891.89	1.45	94.2	Pulse	0.10	3
2	Sc		107,363.65	0.81	93.0	Pulse	0.30	3
2	Ge		60,717.78	1.63	99.1	Pulse	0.30	3
2	Ge		91,132.58	1.20	97.4	Pulse	0.30	3
2	Rh		1,581,427.92	0.99	92.7	Pulse	0.30	3
2	In		585,453.03	1.64	96.7	Pulse	0.30	3
2	Tb		2,134,120.75	1.22	93.8	Pulse	0.30	3
2	Ho		214,555.02	1.89	94.9	Pulse	0.30	3
2	Bi		1,463,922.72	0.98	94.4	Pulse	0.30	3
3	Sc		172,923.67	0.60	92.1	Pulse	0.30	3
3	Ge		106,700.90	1.14	90.9	Pulse	0.30	3
3	Ge		160,302.05	0.78	90.0	Pulse	0.30	3
3	Rh		1,735,568.54	0.98	89.5	Pulse	0.30	3
3	Tb		3,002,434.39	1.03	90.5	Pulse	0.30	3

Quantitation Report

File Name 110SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 18:56
Sample Name jc99822-1
Sample Type Sample
Comment
Prep Dilution 20.000
Auto Dilution N/A
Total Dilution 20.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.058	ug/l	92.10	21.33	1.876E-05	Pulse	0.25	3
B			1	173.469	ug/l	2.17	43,540.33	3.826E-02	Pulse	0.15	3
Ca			1	48448.733	ug/l	0.76	1,409,851.39	7.751E-01	Pulse	0.10	3
Sr			1	373.912	ug/l	1.01	519,651.71	2.169E-01	Pulse	0.10	3
Mo			1	3.025	ug/l	20.59	900.08	3.763E-04	Pulse	0.10	3
Ag			1	0.116	ug/l	46.39	90.00	3.769E-05	Pulse	0.10	3
Sn			1	5.246	ug/l	5.06	1,323.44	5.508E-04	Pulse	0.10	3
Sb			1	0.607	ug/l	32.89	880.06	2.493E-04	Pulse	0.10	3
Ba			1	52.594	ug/l	2.87	10,550.57	2.994E-03	Pulse	0.10	3
Tl			1	0.080	ug/l	39.29	156.67	7.178E-05	Pulse	0.10	3
Pb			1	0.460	ug/l	19.59	436.69	1.999E-04	Pulse	0.10	3
Pb			1	0.371	ug/l	68.25	396.69	1.819E-04	Pulse	0.10	3
Pb			1	1.188	ug/l	93.98	3,156.14	1.449E-03	Pulse	0.10	3
Na			2	12451.790	ug/l	0.42	661,224.26	6.148E+00	Pulse	0.30	3
Mg			2	6494.199	ug/l	1.29	157,360.69	1.463E+00	Pulse	0.30	3
Al			2	66.917	ug/l	36.92	795.69	7.398E-03	Pulse	0.30	3
K			2	8838.339	ug/l	0.32	141,330.03	1.314E+00	Pulse	0.30	3
Ca			2	51423.088	ug/l	1.77	42,760.35	3.976E-01	Pulse	0.30	3
Ti			2	4.067	ug/l	39.13	26.67	2.481E-04	Pulse	0.30	3
V			2	-1.689	ug/l	-3.65	215.56	2.004E-03	Pulse	0.30	3
Cr			2	0.325	ug/l	66.31	511.13	4.753E-03	Pulse	0.30	3
Mn			2	1971.160	ug/l	0.71	277,539.93	2.581E+00	Pulse	0.30	3
Fe			2	68699.347	ug/l	0.58	14,383,614.98	1.337E+02	Analog	0.30	3
Co			2	16.231	ug/l	3.23	6,785.99	6.310E-02	Pulse	0.30	3
Ni			2	5.172	ug/l	10.56	1,005.60	9.350E-03	Pulse	0.30	3
Cu			2	4.620	ug/l	7.06	6,915.97	6.431E-02	Pulse	0.30	3
Zn			2	19.365	ug/l	5.36	1,754.56	1.631E-02	Pulse	0.30	3
As			2	1638.084	ug/l	1.48	35,979.76	3.346E-01	Pulse	1.00	3
Cd			2	0.129	ug/l	22.33	11.03	1.888E-05	Pulse	0.30	3
Sn			2	3.732	ug/l	3.27	511.12	8.741E-04	Pulse	0.30	3
Se			3	0.325	ug/l	53.49	7.73	4.825E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,137,831.72	0.79	89.8	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,818,972.84	1.61	94.9	Pulse	0.10	3
1	Ge		346,696.15	1.93	97.2	Pulse	0.10	3
1	Ge		477,052.77	2.98	96.9	Pulse	0.10	3
1	Rh		2,395,672.36	2.73	95.2	Pulse	0.10	3
1	In		2,404,984.20	2.72	98.0	Pulse	0.10	3
1	Tb		3,523,123.91	2.52	96.0	Pulse	0.10	3
1	Ho		351,061.92	1.87	95.2	Pulse	0.10	3
1	Bi		2,188,504.50	3.03	94.5	Pulse	0.10	3
2	Sc		107,542.43	0.15	93.2	Pulse	0.30	3
2	Ge		59,922.65	1.08	97.8	Pulse	0.30	3
2	Ge		91,162.51	1.07	97.4	Pulse	0.30	3
2	Rh		1,585,101.32	0.93	92.9	Pulse	0.30	3
2	In		584,657.28	0.74	96.6	Pulse	0.30	3
2	Tb		2,138,542.76	0.35	94.0	Pulse	0.30	3
2	Ho		213,777.25	0.54	94.6	Pulse	0.30	3
2	Bi		1,463,937.55	0.43	94.4	Pulse	0.30	3
3	Sc		173,852.00	0.61	92.6	Pulse	0.30	3
3	Ge		106,247.99	0.41	90.5	Pulse	0.30	3
3	Ge		160,275.74	0.98	90.0	Pulse	0.30	3
3	Rh		1,733,827.74	0.44	89.4	Pulse	0.30	3
3	Tb		2,988,062.45	0.62	90.0	Pulse	0.30	3

Quantitation Report

File Name 111SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 19:01
Sample Name mp18781-sd1
Sample Type Sample
Comment
Prep Dilution 100.000
Auto Dilution N/A
Total Dilution 100.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.113	ug/l	114.26	12.00	1.055E-05	Pulse	0.25	3
B			1	334.455	ug/l	6.07	22,283.83	1.967E-02	Pulse	0.15	3
Ca			1	48025.816	ug/l	0.73	289,088.22	1.607E-01	Pulse	0.10	3
Sr			1	366.231	ug/l	0.94	100,526.54	4.255E-02	Pulse	0.10	3
Mo			1	3.713	ug/l	19.28	260.01	1.099E-04	Pulse	0.10	3
Ag			1	0.101	ug/l	151.25	23.33	9.945E-06	Pulse	0.10	3
Sn			1	17.892	ug/l	3.83	583.37	2.454E-04	Pulse	0.10	3
Sb			1	-1.731	ug/l	-30.32	400.02	1.157E-04	Pulse	0.10	3
Ba			1	52.644	ug/l	10.18	2,110.24	6.089E-04	Pulse	0.10	3
Tl			1	0.199	ug/l	54.47	100.00	4.661E-05	Pulse	0.10	3
Pb			1	0.022	ug/l	2068.54	213.34	9.864E-05	Pulse	0.10	3
Pb			1	-0.537	ug/l	-95.51	190.01	8.792E-05	Pulse	0.10	3
Pb			1	-0.005	ug/l	-6213.81	830.05	3.839E-04	Pulse	0.10	3
Na			2	13303.422	ug/l	1.44	156,169.99	1.427E+00	Pulse	0.30	3
Mg			2	6463.400	ug/l	1.90	31,996.90	2.923E-01	Pulse	0.30	3
Al			2	16.735	ug/l	234.52	287.78	2.631E-03	Pulse	0.30	3
K			2	8531.284	ug/l	4.06	34,706.00	3.170E-01	Pulse	0.30	3
Ca			2	50608.537	ug/l	1.89	8,648.99	7.901E-02	Pulse	0.30	3
Ti			2	2.651	ug/l	57.56	4.44	4.065E-05	Pulse	0.30	3
V			2	-12.178	ug/l	-2.63	67.78	6.186E-04	Pulse	0.30	3
Cr			2	-3.842	ug/l	-12.13	223.34	2.041E-03	Pulse	0.30	3
Mn			2	1919.777	ug/l	1.62	55,069.20	5.030E-01	Pulse	0.30	3
Fe			2	57696.858	ug/l	0.94	2,465,926.98	2.253E+01	Pulse	0.30	3
Co			2	15.461	ug/l	5.47	1,328.97	1.214E-02	Pulse	0.30	3
Ni			2	2.700	ug/l	95.58	492.23	4.496E-03	Pulse	0.30	3
Cu			2	-62.033	ug/l	-2.39	1,724.55	1.576E-02	Pulse	0.30	3
Zn			2	-4.533	ug/l	-5.86	847.81	7.744E-03	Pulse	0.30	3
As			2	1597.083	ug/l	1.86	7,148.24	6.530E-02	Pulse	1.00	3
Cd			2	-0.069	ug/l	-197.03	1.09	1.848E-06	Pulse	0.30	3
Sn			2	7.198	ug/l	4.20	204.45	3.466E-04	Pulse	0.30	3
Se			3	-1.298	ug/l	-33.42	3.33	2.140E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,132,572.98	1.01	89.4	Pulse	0.10	3
1	Sc		1,798,715.49	2.34	93.8	Pulse	0.10	3
1	Ge		341,155.38	3.68	95.7	Pulse	0.10	3

Quantitation Report

1	Ge		475,112.83	2.67	96.5	Pulse	0.10	3
1	Rh		2,362,376.63	2.43	93.9	Pulse	0.10	3
1	In		2,381,442.16	2.53	97.0	Pulse	0.10	3
1	Tb		3,463,784.22	1.73	94.4	Pulse	0.10	3
1	Ho		340,357.68	0.80	92.3	Pulse	0.10	3
1	Bi		2,156,944.71	2.66	93.2	Pulse	0.10	3
2	Sc		109,477.29	0.93	94.9	Pulse	0.30	3
2	Ge		61,579.87	1.44	100.5	Pulse	0.30	3
2	Ge		91,436.51	0.80	97.7	Pulse	0.30	3
2	Rh		1,588,473.93	1.22	93.1	Pulse	0.30	3
2	In		589,937.47	0.09	97.4	Pulse	0.30	3
2	Tb		2,121,997.76	0.78	93.2	Pulse	0.30	3
2	Ho		213,763.62	0.64	94.6	Pulse	0.30	3
2	Bi		1,456,432.16	0.86	94.0	Pulse	0.30	3
3	Sc		168,308.64	0.74	89.7	Pulse	0.30	3
3	Ge		104,391.46	0.45	88.9	Pulse	0.30	3
3	Ge		155,642.56	0.76	87.4	Pulse	0.30	3
3	Rh		1,701,354.20	0.51	87.8	Pulse	0.30	3
3	Tb		2,910,947.32	0.42	87.7	Pulse	0.30	3

Quantitation Report

File Name	112SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 19:06
Sample Name	mp18781-ps1
Sample Type	Sample
Comment	
Prep Dilution	20.000
Auto Dilution	N/A
Total Dilution	20.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	78.319	ug/l	1.14	20,794.12	1.829E-02	Pulse	0.25	3
B			1	224.799	ug/l	1.41	53,678.11	4.722E-02	Pulse	0.15	3
Ca			1	46814.338	ug/l	0.67	1,361,141.13	7.492E-01	Pulse	0.10	3
Sr			1	424.482	ug/l	0.72	586,434.00	2.462E-01	Pulse	0.10	3
Mo			1	80.686	ug/l	1.41	22,486.56	9.441E-03	Pulse	0.10	3
Ag			1	77.021	ug/l	1.44	53,705.04	2.243E-02	Pulse	0.10	3
Sn			1	79.686	ug/l	1.02	33,967.61	1.419E-02	Pulse	0.10	3
Sb			1	87.564	ug/l	1.38	43,474.32	1.244E-02	Pulse	0.10	3
Ba			1	134.069	ug/l	2.16	26,613.38	7.614E-03	Pulse	0.10	3
Tl			1	81.482	ug/l	0.75	111,529.45	5.145E-02	Pulse	0.10	3
Pb			1	77.939	ug/l	0.90	37,796.02	1.744E-02	Pulse	0.10	3
Pb			1	77.462	ug/l	2.73	33,178.17	1.531E-02	Pulse	0.10	3
Pb			1	77.761	ug/l	0.77	151,829.02	7.005E-02	Pulse	0.10	3
Na			2	14962.292	ug/l	1.61	796,301.06	7.359E+00	Pulse	0.30	3
Mg			2	9735.984	ug/l	1.77	237,287.96	2.193E+00	Pulse	0.30	3
Al			2	4055.428	ug/l	1.98	33,164.84	3.065E-01	Pulse	0.30	3
K			2	12104.612	ug/l	0.05	191,639.41	1.771E+00	Pulse	0.30	3
Ca			2	49642.914	ug/l	0.78	41,541.71	3.839E-01	Pulse	0.30	3
Ti			2	74.728	ug/l	6.55	475.57	4.392E-03	Pulse	0.30	3
V			2	79.495	ug/l	3.95	16,523.94	1.527E-01	Pulse	0.30	3
Cr			2	77.406	ug/l	1.39	21,195.90	1.959E-01	Pulse	0.30	3
Mn			2	1851.100	ug/l	0.97	262,266.55	2.424E+00	Pulse	0.30	3
Fe			2	66406.790	ug/l	2.78	13,988,083.61	1.293E+02	Analog	0.30	3
Co			2	93.306	ug/l	0.51	39,177.69	3.620E-01	Pulse	0.30	3
Ni			2	82.098	ug/l	2.05	9,734.05	8.996E-02	Pulse	0.30	3
Cu			2	64.480	ug/l	1.08	25,430.89	2.350E-01	Pulse	0.30	3
Zn			2	92.230	ug/l	2.04	5,098.63	4.712E-02	Pulse	0.30	3
As			2	1549.549	ug/l	1.94	34,243.71	3.165E-01	Pulse	1.00	3
Cd			2	78.368	ug/l	3.63	5,490.36	9.369E-03	Pulse	0.30	3
Sn			2	82.818	ug/l	5.07	11,177.07	1.907E-02	Pulse	0.30	3
Se			3	467.854	ug/l	1.29	3,429.49	2.153E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,136,838.53	0.36	89.7	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,816,716.07	0.79	94.8	Pulse	0.10	3
1	Ge		347,868.86	1.36	97.6	Pulse	0.10	3
1	Ge		478,844.63	1.84	97.2	Pulse	0.10	3
1	Rh		2,381,955.23	1.73	94.7	Pulse	0.10	3
1	In		2,394,034.01	1.90	97.5	Pulse	0.10	3
1	Tb		3,495,254.22	1.05	95.2	Pulse	0.10	3
1	Ho		347,643.71	1.41	94.3	Pulse	0.10	3
1	Bi		2,167,550.38	1.75	93.6	Pulse	0.10	3
2	Sc		108,217.99	1.24	93.8	Pulse	0.30	3
2	Ge		60,334.23	1.22	98.5	Pulse	0.30	3
2	Ge		90,742.71	0.85	97.0	Pulse	0.30	3
2	Rh		1,577,056.46	0.85	92.4	Pulse	0.30	3
2	In		586,020.82	0.08	96.8	Pulse	0.30	3
2	Tb		2,133,753.60	1.14	93.8	Pulse	0.30	3
2	Ho		214,419.57	0.75	94.9	Pulse	0.30	3
2	Bi		1,464,781.82	1.19	94.5	Pulse	0.30	3
3	Sc		170,674.20	0.39	90.9	Pulse	0.30	3
3	Ge		105,354.36	0.35	89.8	Pulse	0.30	3
3	Ge		159,314.61	1.45	89.5	Pulse	0.30	3
3	Rh		1,722,271.08	0.29	88.8	Pulse	0.30	3
3	Tb		2,976,794.81	0.07	89.7	Pulse	0.30	3

Quantitation Report

File Name 113_CCV.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 19:11
Sample Name CCVA 5
Sample Type CCV
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	48.054	ug/l	1.25	257,265.99	2.244E-01	Pulse	0.25	3
B			1	97.143	ug/l	0.86	397,653.55	3.469E-01	Pulse	0.15	3
Ca			1	4843.265	ug/l	0.41	2,799,344.33	1.541E+00	Pulse	0.10	3
Sr			1	53.643	ug/l	0.44	1,472,376.49	6.221E-01	Pulse	0.10	3
Mo			1	51.209	ug/l	0.78	282,929.08	1.196E-01	Pulse	0.10	3
Ag			1	48.900	ug/l	0.86	675,342.37	2.848E-01	Pulse	0.10	3
Sn			1	50.732	ug/l	1.42	439,787.27	1.855E-01	Pulse	0.10	3
Sb			1	53.512	ug/l	0.74	536,533.38	1.502E-01	Pulse	0.10	3
Ba			1	52.312	ug/l	0.12	212,028.64	5.934E-02	Pulse	0.10	3
Tl			1	51.371	ug/l	0.72	1,395,214.04	6.485E-01	Pulse	0.10	3
Pb			1	50.939	ug/l	0.59	487,836.76	2.268E-01	Pulse	0.10	3
Pb			1	50.476	ug/l	1.03	426,290.95	1.982E-01	Pulse	0.10	3
Pb			1	50.606	ug/l	0.21	1,951,497.12	9.072E-01	Pulse	0.10	3
Na			2	4967.371	ug/l	1.10	5,088,740.63	4.806E+01	Analog	0.30	3
Mg			2	4627.657	ug/l	0.55	2,206,464.49	2.084E+01	Pulse	0.30	3
Al			2	4784.084	ug/l	0.08	760,113.16	7.178E+00	Pulse	0.30	3
K			2	5003.702	ug/l	0.36	1,489,987.65	1.407E+01	Pulse	0.30	3
Ca			2	5196.578	ug/l	0.82	85,000.50	8.027E-01	Pulse	0.30	3
Ti			2	48.988	ug/l	2.42	6,085.61	5.747E-02	Pulse	0.30	3
V			2	51.868	ug/l	1.27	204,501.02	1.931E+00	Pulse	0.30	3
Cr			2	50.083	ug/l	0.50	263,435.29	2.488E+00	Pulse	0.30	3
Mn			2	50.838	ug/l	0.53	140,988.10	1.331E+00	Pulse	0.30	3
Fe			2	5303.449	ug/l	0.71	21,863,523.57	2.065E+02	Analog	0.30	3
Co			2	49.490	ug/l	0.38	406,551.81	3.839E+00	Pulse	0.30	3
Ni			2	48.765	ug/l	1.15	108,639.17	1.026E+00	Pulse	0.30	3
Cu			2	47.734	ug/l	0.64	293,695.73	2.773E+00	Pulse	0.30	3
Zn			2	48.517	ug/l	0.72	44,304.19	4.184E-01	Pulse	0.30	3
As			2	51.489	ug/l	0.83	22,275.17	2.104E-01	Pulse	1.00	3
Cd			2	49.470	ug/l	0.16	67,422.54	1.182E-01	Pulse	0.30	3
Sn			2	51.619	ug/l	1.04	135,462.87	2.376E-01	Pulse	0.30	3
Se			3	204.511	ug/l	1.53	29,803.64	1.880E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,146,435.68	0.86	90.4	Pulse	0.10	3
1	Sc		1,816,739.24	1.67	94.8	Pulse	0.10	3
1	Ge		348,278.54	2.19	97.7	Pulse	0.10	3

Quantitation Report

1	Ge		481,094.89	3.54	97.7	Pulse	0.10	3
1	Rh		2,366,494.03	2.37	94.0	Pulse	0.10	3
1	In		2,371,491.55	3.13	96.6	Pulse	0.10	3
1	Tb		3,573,080.47	3.42	97.4	Pulse	0.10	3
1	Ho		355,461.45	3.64	96.4	Pulse	0.10	3
1	Bi		2,151,111.79	2.90	92.9	Pulse	0.10	3
2	Sc		105,895.71	0.24	91.7	Pulse	0.30	3
2	Ge		59,649.64	0.58	97.4	Pulse	0.30	3
2	Ge		89,054.53	0.59	95.2	Pulse	0.30	3
2	Rh		1,566,306.19	0.16	91.8	Pulse	0.30	3
2	In		570,195.86	0.86	94.2	Pulse	0.30	3
2	Tb		2,146,284.91	0.39	94.3	Pulse	0.30	3
2	Ho		214,812.45	0.89	95.0	Pulse	0.30	3
2	Bi		1,429,466.16	1.14	92.2	Pulse	0.30	3
3	Sc		174,630.68	0.82	93.0	Pulse	0.30	3
3	Ge		106,043.28	0.73	90.3	Pulse	0.30	3
3	Ge		158,573.37	0.69	89.1	Pulse	0.30	3
3	Rh		1,726,914.76	0.28	89.1	Pulse	0.30	3
3	Tb		3,007,147.45	0.51	90.6	Pulse	0.30	3

Quantitation Report

File Name	114_CCB.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 19:16
Sample Name	CCB
Sample Type	CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.005	ug/l	57.22	34.67	3.021E-05	Pulse	0.25	3
B			1	3.322	ug/l	6.65	22,437.35	1.960E-02	Pulse	0.15	3
Ca			1	-4.611	ug/l	-31.09	13,325.76	7.357E-03	Pulse	0.10	3
Sr			1	0.022	ug/l	15.27	813.38	3.392E-04	Pulse	0.10	3
Mo			1	0.128	ug/l	26.19	763.38	3.220E-04	Pulse	0.10	3
Ag			1	0.013	ug/l	15.67	190.01	7.886E-05	Pulse	0.10	3
Sn			1	0.422	ug/l	14.41	2,697.03	1.136E-03	Pulse	0.10	3
Sb			1	0.115	ug/l	29.40	1,793.49	4.860E-04	Pulse	0.10	3
Ba			1	0.021	ug/l	17.34	133.34	3.583E-05	Pulse	0.10	3
Tl			1	0.011	ug/l	3.35	350.02	1.621E-04	Pulse	0.10	3
Pb			1	0.005	ug/l	120.72	260.01	1.196E-04	Pulse	0.10	3
Pb			1	-0.003	ug/l	-130.71	213.34	9.918E-05	Pulse	0.10	3
Pb			1	0.003	ug/l	47.84	943.38	4.359E-04	Pulse	0.10	3
Na			2	11.562	ug/l	2.33	26,549.73	2.550E-01	Pulse	0.30	3
Mg			2	0.400	ug/l	3.91	322.23	3.094E-03	Pulse	0.30	3
Al			2	0.406	ug/l	69.14	311.12	2.989E-03	Pulse	0.30	3
K			2	-2.608	ug/l	-29.40	7,409.49	7.115E-02	Pulse	0.30	3
Ca			2	0.139	ug/l	940.58	98.89	9.507E-04	Pulse	0.30	3
Ti			2	0.010	ug/l	157.48	2.22	2.125E-05	Pulse	0.30	3
V			2	-0.104	ug/l	-0.76	132.23	1.270E-03	Pulse	0.30	3
Cr			2	0.010	ug/l	33.08	462.23	4.438E-03	Pulse	0.30	3
Mn			2	0.021	ug/l	39.81	101.11	9.711E-04	Pulse	0.30	3
Fe			2	2.893	ug/l	3.46	19,231.29	1.847E-01	Pulse	0.30	3
Co			2	0.005	ug/l	50.14	58.84	5.660E-04	Pulse	0.30	3
Ni			2	-0.059	ug/l	-25.89	280.01	2.690E-03	Pulse	0.30	3
Cu			2	-0.614	ug/l	-0.35	1,679.00	1.612E-02	Pulse	0.30	3
Zn			2	-0.536	ug/l	-4.66	374.46	3.597E-03	Pulse	0.30	3
As			2	0.022	ug/l	41.99	17.00	1.630E-04	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.003	ug/l	109.47	5.48	9.597E-06	Pulse	0.30	3
Sn			2	0.362	ug/l	14.95	957.82	1.681E-03	Pulse	0.30	3
Se			3	0.092	ug/l	14.28	18.73	1.179E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,146,556.37	5.19	90.5	Pulse	0.10	3
1	Sc		1,816,979.56	7.65	94.8	Pulse	0.10	3
1	Ge		343,152.98	5.70	96.2	Pulse	0.10	3
1	Ge		474,422.77	5.09	96.3	Pulse	0.10	3
1	Rh		2,393,114.45	5.88	95.1	Pulse	0.10	3
1	In		2,394,327.97	6.35	97.5	Pulse	0.10	3
1	Tb		3,769,219.53	16.64	102.7	Mix	0.10	3
1	Ho		348,390.33	6.64	94.5	Pulse	0.10	3
1	Bi		2,161,489.86	5.58	93.3	Pulse	0.10	3
2	Sc		104,131.15	0.89	90.2	Pulse	0.30	3
2	Ge		58,737.32	1.59	95.9	Pulse	0.30	3
2	Ge		88,416.47	0.90	94.5	Pulse	0.30	3
2	Rh		1,568,040.94	0.85	91.9	Pulse	0.30	3
2	In		569,183.28	0.88	94.0	Pulse	0.30	3
2	Tb		2,090,680.61	1.09	91.9	Pulse	0.30	3
2	Ho		208,712.82	1.15	92.3	Pulse	0.30	3
2	Bi		1,419,738.03	0.60	91.6	Pulse	0.30	3
3	Sc		173,550.51	0.86	92.5	Pulse	0.30	3
3	Ge		105,826.25	1.24	90.2	Pulse	0.30	3
3	Ge		158,942.20	1.26	89.3	Pulse	0.30	3
3	Rh		1,768,552.01	1.16	91.2	Pulse	0.30	3
3	Tb		2,990,986.90	1.08	90.1	Pulse	0.30	3

Quantitation Report

File Name 115SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 19:21
Sample Name jc99611-3f 5
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.012	ug/l	47.98	36.00	3.349E-05	Pulse	0.25	3
B			1	144.278	ug/l	1.34	280,436.55	2.596E-01	Pulse	0.15	3
Ca			1	102477.330	ug/l	0.27	27,893,913.75	1.622E+01	Analog	0.10	3
Sr			1	596.874	ug/l	3.41	7,463,037.39	3.461E+00	Analog	0.10	3
Mo			1	0.574	ug/l	13.99	1,496.80	6.932E-04	Pulse	0.10	3
Ag			1	0.034	ug/l	5.03	226.68	1.017E-04	Pulse	0.10	3
Sn			1	2.052	ug/l	6.10	7,468.67	3.349E-03	Pulse	0.10	3
Sb			1	0.563	ug/l	7.02	3,280.47	9.533E-04	Pulse	0.10	3
Ba			1	202.217	ug/l	0.74	394,324.54	1.147E-01	Pulse	0.10	3
Tl			1	0.016	ug/l	20.93	236.68	1.196E-04	Pulse	0.10	3
Pb			1	0.201	ug/l	8.60	1,076.75	5.455E-04	Pulse	0.10	3
Pb			1	0.170	ug/l	11.76	873.39	4.423E-04	Pulse	0.10	3
Pb			1	0.191	ug/l	5.48	4,143.74	2.099E-03	Pulse	0.10	3
Na			2	128592.171	ug/l	2.84	60,559,124.26	6.203E+02	Analog	0.30	3
Mg			2	28602.723	ug/l	2.09	6,286,970.72	6.439E+01	Analog	0.30	3
Al			2	9.240	ug/l	10.85	910.03	9.309E-03	Pulse	0.30	3
K			2	8658.842	ug/l	1.59	1,189,822.70	1.218E+01	Pulse	0.30	3
Ca			2	95878.534	ug/l	1.19	722,407.30	7.397E+00	Pulse	0.30	3
Ti			2	0.625	ug/l	41.51	36.67	3.761E-04	Pulse	0.30	3
V			2	0.330	ug/l	6.71	1,100.05	1.127E-02	Pulse	0.30	3
Cr			2	4.398	ug/l	1.77	11,036.01	1.130E-01	Pulse	0.30	3
Mn			2	794.916	ug/l	1.16	1,016,208.29	1.041E+01	Pulse	0.30	3
Fe			2	18649.043	ug/l	2.20	35,437,459.70	3.629E+02	Analog	0.30	3
Co			2	0.547	ug/l	2.39	2,084.49	2.135E-02	Pulse	0.30	3
Ni			2	2.001	ug/l	7.83	2,430.21	2.490E-02	Pulse	0.30	3
Cu			2	0.789	ug/l	7.95	7,193.87	7.363E-02	Pulse	0.30	3
Zn			2	4.483	ug/l	3.29	2,644.70	2.708E-02	Pulse	0.30	3
As			2	3.455	ug/l	2.60	696.35	7.130E-03	Pulse	1.00	3
Cd			2	0.006	ug/l	106.81	5.41	1.034E-05	Pulse	0.30	3
Sn			2	2.004	ug/l	2.47	2,410.21	4.626E-03	Pulse	0.30	3
Se			3	0.252	ug/l	14.32	25.07	1.492E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,080,128.39	1.74	85.2	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,720,130.18	1.77	89.7	Pulse	0.10	3
1	Ge		364,475.01	2.71	102.2	Pulse	0.10	3
1	Ge		502,404.26	2.70	102.0	Pulse	0.10	3
1	Rh		2,157,650.59	2.55	85.7	Pulse	0.10	3
1	In		2,227,740.72	2.18	90.7	Pulse	0.10	3
1	Tb		3,438,068.28	2.47	93.7	Pulse	0.10	3
1	Ho		343,529.01	2.67	93.1	Pulse	0.10	3
1	Bi		1,974,106.01	2.24	85.3	Pulse	0.10	3
2	Sc		97,671.58	2.41	84.6	Pulse	0.30	3
2	Ge		61,422.57	0.67	100.3	Pulse	0.30	3
2	Ge		92,400.89	0.89	98.7	Pulse	0.30	3
2	Rh		1,433,422.03	1.48	84.0	Pulse	0.30	3
2	In		521,041.35	1.72	86.1	Pulse	0.30	3
2	Tb		2,032,107.42	1.51	89.3	Pulse	0.30	3
2	Ho		205,261.75	1.64	90.8	Pulse	0.30	3
2	Bi		1,287,033.94	1.65	83.0	Pulse	0.30	3
3	Sc		173,456.66	0.89	92.4	Pulse	0.30	3
3	Ge		113,571.55	4.29	96.8	Pulse	0.30	3
3	Ge		167,724.75	3.86	94.2	Pulse	0.30	3
3	Rh		1,658,764.69	0.69	85.6	Pulse	0.30	3
3	Tb		3,024,258.35	0.85	91.1	Pulse	0.30	3

Quantitation Report

File Name 116SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 19:26
Sample Name jc99611-4f
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.009	ug/l	72.11	26.67	2.523E-05	Pulse	0.25	3
B			1	273.730	ug/l	1.03	513,342.58	4.854E-01	Pulse	0.15	3
Ca			1	145475.883	ug/l	1.79	40,783,442.73	2.302E+01	Analog	0.10	3
Sr			1	1055.568	ug/l	2.78	13,328,421.05	6.120E+00	Analog	0.10	3
Mo			1	0.297	ug/l	14.33	806.72	3.693E-04	Pulse	0.10	3
Ag			1	0.032	ug/l	14.58	220.01	9.641E-05	Pulse	0.10	3
Sn			1	1.272	ug/l	8.40	4,377.43	1.920E-03	Pulse	0.10	3
Sb			1	0.479	ug/l	2.72	2,923.72	8.355E-04	Pulse	0.10	3
Ba			1	697.337	ug/l	1.04	1,382,887.22	3.954E-01	Pulse	0.10	3
Tl			1	0.112	ug/l	4.19	1,453.46	7.288E-04	Pulse	0.10	3
Pb			1	0.068	ug/l	34.93	496.69	2.498E-04	Pulse	0.10	3
Pb			1	0.047	ug/l	20.96	403.35	2.021E-04	Pulse	0.10	3
Pb			1	0.077	ug/l	3.23	2,133.48	1.070E-03	Pulse	0.10	3
Na			2	118782.491	ug/l	1.78	56,887,259.96	5.730E+02	Analog	0.30	3
Mg			2	26817.294	ug/l	0.58	5,993,950.60	6.037E+01	Analog	0.30	3
Al			2	7.840	ug/l	7.27	820.03	8.259E-03	Pulse	0.30	3
K			2	15604.094	ug/l	1.39	2,173,846.72	2.190E+01	Pulse	0.30	3
Ca			2	137887.928	ug/l	0.50	1,056,203.22	1.064E+01	Pulse	0.30	3
Ti			2	1.168	ug/l	31.71	68.89	6.946E-04	Pulse	0.30	3
V			2	0.606	ug/l	7.93	1,627.87	1.640E-02	Pulse	0.30	3
Cr			2	1.017	ug/l	4.10	2,896.96	2.918E-02	Pulse	0.30	3
Mn			2	287.266	ug/l	0.60	373,397.74	3.761E+00	Pulse	0.30	3
Fe			2	24525.573	ug/l	1.15	47,389,500.34	4.773E+02	Analog	0.30	3
Co			2	0.458	ug/l	3.06	1,777.74	1.791E-02	Pulse	0.30	3
Ni			2	0.436	ug/l	8.91	844.48	8.504E-03	Pulse	0.30	3
Cu			2	0.599	ug/l	2.61	6,773.67	6.822E-02	Pulse	0.30	3
Zn			2	4.908	ug/l	1.27	2,866.95	2.888E-02	Pulse	0.30	3
As			2	0.856	ug/l	16.01	181.00	1.822E-03	Pulse	1.00	3
Cd			2	-0.003	ug/l	-0.80	-0.07	-1.267E-07	Pulse	0.30	3
Sn			2	1.150	ug/l	2.78	1,400.08	2.662E-03	Pulse	0.30	3
Se			3	0.216	ug/l	19.79	21.93	1.326E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,057,445.71	1.12	83.4	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,772,369.50	2.34	92.5	Pulse	0.10	3
1	Ge		357,694.38	2.99	100.3	Pulse	0.10	3
1	Ge		489,931.10	2.63	99.5	Pulse	0.10	3
1	Rh		2,178,821.63	2.81	86.6	Pulse	0.10	3
1	In		2,277,057.43	2.52	92.8	Pulse	0.10	3
1	Tb		3,497,708.39	3.46	95.3	Pulse	0.10	3
1	Ho		348,900.79	3.96	94.6	Pulse	0.10	3
1	Bi		1,993,557.94	2.66	86.1	Pulse	0.10	3
2	Sc		99,287.48	0.50	86.0	Pulse	0.30	3
2	Ge		59,702.02	0.77	97.4	Pulse	0.30	3
2	Ge		90,392.88	1.50	96.6	Pulse	0.30	3
2	Rh		1,433,311.12	0.20	84.0	Pulse	0.30	3
2	In		525,949.04	0.12	86.9	Pulse	0.30	3
2	Tb		2,053,699.15	0.61	90.2	Pulse	0.30	3
2	Ho		208,756.86	0.51	92.3	Pulse	0.30	3
2	Bi		1,296,277.20	0.84	83.6	Pulse	0.30	3
3	Sc		173,900.61	0.51	92.6	Pulse	0.30	3
3	Ge		111,214.77	2.91	94.8	Pulse	0.30	3
3	Ge		165,793.90	3.57	93.1	Pulse	0.30	3
3	Rh		1,647,999.31	1.09	85.0	Pulse	0.30	3
3	Tb		3,028,692.80	0.53	91.3	Pulse	0.30	3

Quantitation Report

File Name 117SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 19:31
Sample Name jc99611-5f
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.005	ug/l	104.33	17.33	1.656E-05	Pulse	0.25	3
B			1	154.421	ug/l	2.50	290,346.36	2.773E-01	Pulse	0.15	3
Ca			1	133504.869	ug/l	1.72	36,109,400.30	2.112E+01	Analog	0.10	3
Sr			1	777.447	ug/l	2.17	9,444,660.49	4.508E+00	Analog	0.10	3
Mo			1	1.678	ug/l	2.13	4,154.03	1.982E-03	Pulse	0.10	3
Ag			1	0.011	ug/l	34.71	80.00	3.625E-05	Pulse	0.10	3
Sn			1	0.954	ug/l	11.91	2,940.40	1.338E-03	Pulse	0.10	3
Sb			1	0.237	ug/l	5.26	1,706.83	4.970E-04	Pulse	0.10	3
Ba			1	142.083	ug/l	0.84	276,613.11	8.058E-02	Pulse	0.10	3
Tl			1	0.028	ug/l	14.96	380.02	1.984E-04	Pulse	0.10	3
Pb			1	46.425	ug/l	0.12	197,885.37	1.034E-01	Pulse	0.10	3
Pb			1	44.660	ug/l	1.53	168,000.02	8.775E-02	Pulse	0.10	3
Pb			1	45.386	ug/l	0.83	779,141.11	4.070E-01	Pulse	0.10	3
Na			2	243497.733	ug/l	1.32	114,147,444.35	1.174E+03	Analog	0.30	3
Mg			2	37912.227	ug/l	1.42	8,295,089.12	8.535E+01	Analog	0.30	3
Al			2	5.948	ug/l	18.80	665.58	6.840E-03	Pulse	0.30	3
K			2	10088.235	ug/l	0.93	1,378,535.08	1.418E+01	Pulse	0.30	3
Ca			2	124511.404	ug/l	0.99	933,639.13	9.606E+00	Pulse	0.30	3
Ti			2	0.880	ug/l	33.14	51.11	5.258E-04	Pulse	0.30	3
V			2	0.026	ug/l	53.11	546.68	5.627E-03	Pulse	0.30	3
Cr			2	0.709	ug/l	1.62	2,091.27	2.152E-02	Pulse	0.30	3
Mn			2	1720.494	ug/l	0.12	2,189,191.30	2.252E+01	Pulse	0.30	3
Fe			2	2139.202	ug/l	0.71	4,052,902.20	4.170E+01	Pulse	0.30	3
Co			2	30.062	ug/l	0.46	113,342.73	1.166E+00	Pulse	0.30	3
Ni			2	24.505	ug/l	0.41	25,340.71	2.607E-01	Pulse	0.30	3
Cu			2	48.179	ug/l	0.69	138,507.78	1.425E+00	Pulse	0.30	3
Zn			2	64.036	ug/l	0.60	27,106.89	2.789E-01	Pulse	0.30	3
As			2	2.077	ug/l	8.25	419.68	4.316E-03	Pulse	1.00	3
Cd			2	0.559	ug/l	5.52	347.43	6.713E-04	Pulse	0.30	3
Sn			2	0.762	ug/l	5.78	914.48	1.769E-03	Pulse	0.30	3
Se			3	0.386	ug/l	8.56	34.33	2.106E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,047,102.53	1.79	82.6	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,709,841.54	2.44	89.2	Pulse	0.10	3
1	Ge		340,190.20	2.05	95.4	Pulse	0.10	3
1	Ge		473,748.51	2.09	96.2	Pulse	0.10	3
1	Rh		2,096,045.02	3.02	83.3	Pulse	0.10	3
1	In		2,197,406.28	2.63	89.5	Pulse	0.10	3
1	Tb		3,432,220.47	2.40	93.5	Pulse	0.10	3
1	Ho		349,471.67	2.62	94.8	Pulse	0.10	3
1	Bi		1,914,007.99	2.99	82.7	Pulse	0.10	3
2	Sc		97,200.87	1.39	84.2	Pulse	0.30	3
2	Ge		59,253.74	2.10	96.7	Pulse	0.30	3
2	Ge		87,795.74	1.98	93.8	Pulse	0.30	3
2	Rh		1,404,667.65	1.73	82.3	Pulse	0.30	3
2	In		517,276.04	1.66	85.4	Pulse	0.30	3
2	Tb		2,043,444.36	1.45	89.8	Pulse	0.30	3
2	Ho		208,377.79	0.99	92.2	Pulse	0.30	3
2	Bi		1,275,872.38	1.53	82.3	Pulse	0.30	3
3	Sc		171,602.73	0.74	91.4	Pulse	0.30	3
3	Ge		107,533.86	2.82	91.6	Pulse	0.30	3
3	Ge		163,196.61	2.70	91.7	Pulse	0.30	3
3	Rh		1,620,995.59	0.64	83.6	Pulse	0.30	3
3	Tb		3,011,116.20	0.58	90.7	Pulse	0.30	3

Quantitation Report

File Name 118SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 19:36
Sample Name jc99611-6f
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.011	ug/l	46.74	33.33	3.147E-05	Pulse	0.25	3
B			1	157.064	ug/l	0.24	298,987.15	2.819E-01	Pulse	0.15	3
Ca			1	90500.401	ug/l	1.47	24,402,483.80	1.432E+01	Analog	0.10	3
Sr			1	1058.321	ug/l	1.68	12,870,686.89	6.136E+00	Analog	0.10	3
Mo			1	1.341	ug/l	2.23	3,330.48	1.588E-03	Pulse	0.10	3
Ag			1	0.008	ug/l	21.56	56.67	2.601E-05	Pulse	0.10	3
Sn			1	1.055	ug/l	2.40	3,310.46	1.523E-03	Pulse	0.10	3
Sb			1	0.158	ug/l	8.55	1,313.44	3.858E-04	Pulse	0.10	3
Ba			1	394.857	ug/l	1.12	762,744.16	2.239E-01	Pulse	0.10	3
Tl			1	0.004	ug/l	35.51	86.67	4.644E-05	Pulse	0.10	3
Pb			1	0.125	ug/l	13.03	700.05	3.749E-04	Pulse	0.10	3
Pb			1	0.116	ug/l	20.09	630.04	3.369E-04	Pulse	0.10	3
Pb			1	0.123	ug/l	9.25	2,780.22	1.486E-03	Pulse	0.10	3
Na			2	351612.135	ug/l	1.90	165,749,117.86	1.696E+03	Analog	0.30	3
Mg			2	82460.135	ug/l	1.41	18,144,365.94	1.856E+02	Analog	0.30	3
Al			2	11.577	ug/l	2.79	1,081.16	1.106E-02	Pulse	0.30	3
K			2	10739.665	ug/l	1.84	1,475,341.57	1.509E+01	Pulse	0.30	3
Ca			2	84925.246	ug/l	2.08	640,428.45	6.552E+00	Pulse	0.30	3
Ti			2	0.628	ug/l	58.66	36.67	3.776E-04	Pulse	0.30	3
V			2	0.338	ug/l	9.90	1,115.60	1.142E-02	Pulse	0.30	3
Cr			2	1.179	ug/l	4.16	3,243.69	3.318E-02	Pulse	0.30	3
Mn			2	169.485	ug/l	2.06	216,881.88	2.219E+00	Pulse	0.30	3
Fe			2	55928.067	ug/l	2.60	106,364,106.89	1.088E+03	Analog	0.30	3
Co			2	2.356	ug/l	6.02	8,942.17	9.151E-02	Pulse	0.30	3
Ni			2	0.473	ug/l	12.88	867.81	8.882E-03	Pulse	0.30	3
Cu			2	0.014	ug/l	361.91	5,039.72	5.154E-02	Pulse	0.30	3
Zn			2	2.866	ug/l	0.90	1,979.03	2.024E-02	Pulse	0.30	3
As			2	50.616	ug/l	2.88	10,108.47	1.034E-01	Pulse	1.00	3
Cd			2	0.023	ug/l	37.09	15.27	3.049E-05	Pulse	0.30	3
Sn			2	0.872	ug/l	2.95	1,011.16	2.023E-03	Pulse	0.30	3
Se			3	0.367	ug/l	7.12	31.07	2.021E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,060,418.56	1.46	83.7	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,704,206.59	2.36	88.9	Pulse	0.10	3
1	Ge		341,875.95	2.76	95.9	Pulse	0.10	3
1	Ge		469,574.24	2.18	95.3	Pulse	0.10	3
1	Rh		2,097,927.26	2.28	83.4	Pulse	0.10	3
1	In		2,173,367.54	2.43	88.5	Pulse	0.10	3
1	Tb		3,406,415.89	2.14	92.8	Pulse	0.10	3
1	Ho		338,966.03	2.42	91.9	Pulse	0.10	3
1	Bi		1,869,791.85	3.25	80.8	Pulse	0.10	3
2	Sc		97,761.73	1.89	84.7	Pulse	0.30	3
2	Ge		58,574.95	2.98	95.6	Pulse	0.30	3
2	Ge		87,051.09	1.12	93.0	Pulse	0.30	3
2	Rh		1,356,735.30	2.62	79.5	Pulse	0.30	3
2	In		499,944.65	1.64	82.6	Pulse	0.30	3
2	Tb		1,986,815.89	1.49	87.3	Pulse	0.30	3
2	Ho		201,220.52	1.96	89.0	Pulse	0.30	3
2	Bi		1,220,713.81	2.35	78.8	Pulse	0.30	3
3	Sc		162,992.73	0.27	86.8	Pulse	0.30	3
3	Ge		103,819.11	1.83	88.5	Pulse	0.30	3
3	Ge		153,646.32	2.07	86.3	Pulse	0.30	3
3	Rh		1,509,043.86	0.83	77.8	Pulse	0.30	3
3	Tb		2,801,587.80	1.57	84.4	Pulse	0.30	3

Quantitation Report

File Name	119SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 19:41
Sample Name	jc99611-7f
Sample Type	Sample
Comment	
Prep Dilution	2.000
Auto Dilution	N/A
Total Dilution	2.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.009	ug/l	84.56	26.67	2.521E-05	Pulse	0.25	3
B			1	29.077	ug/l	3.39	61,985.88	5.872E-02	Pulse	0.15	3
Ca			1	85226.948	ug/l	1.03	22,721,184.66	1.349E+01	Analog	0.10	3
Sr			1	612.506	ug/l	1.70	7,584,169.47	3.551E+00	Analog	0.10	3
Mo			1	0.459	ug/l	14.24	1,193.42	5.589E-04	Pulse	0.10	3
Ag			1	0.018	ug/l	73.44	123.34	5.619E-05	Pulse	0.10	3
Sn			1	0.954	ug/l	7.50	2,930.38	1.338E-03	Pulse	0.10	3
Sb			1	0.062	ug/l	10.13	856.72	2.511E-04	Pulse	0.10	3
Ba			1	46.605	ug/l	0.23	90,245.32	2.644E-02	Pulse	0.10	3
Tl			1	0.004	ug/l	81.40	86.67	4.390E-05	Pulse	0.10	3
Pb			1	0.043	ug/l	30.27	380.02	1.934E-04	Pulse	0.10	3
Pb			1	0.041	ug/l	13.91	370.02	1.886E-04	Pulse	0.10	3
Pb			1	0.049	ug/l	10.35	1,623.43	8.266E-04	Pulse	0.10	3
Na			2	47260.946	ug/l	8.52	20,486,380.85	2.281E+02	Analog	0.30	3
Mg			2	67270.021	ug/l	7.77	13,607,913.35	1.514E+02	Analog	0.30	3
Al			2	5.467	ug/l	37.72	577.80	6.480E-03	Pulse	0.30	3
K			2	5931.807	ug/l	7.61	752,348.53	8.372E+00	Pulse	0.30	3
Ca			2	84113.218	ug/l	7.49	583,197.88	6.490E+00	Pulse	0.30	3
Ti			2	0.343	ug/l	30.14	18.89	2.109E-04	Pulse	0.30	3
V			2	0.077	ug/l	58.54	590.02	6.568E-03	Pulse	0.30	3
Cr			2	0.850	ug/l	8.19	2,249.07	2.502E-02	Pulse	0.30	3
Mn			2	4176.591	ug/l	7.21	4,914,075.91	5.467E+01	Analog	0.30	3
Fe			2	11569.033	ug/l	7.42	20,237,662.53	2.252E+02	Analog	0.30	3
Co			2	6.215	ug/l	8.16	21,674.23	2.412E-01	Pulse	0.30	3
Ni			2	11.715	ug/l	8.62	11,380.72	1.267E-01	Pulse	0.30	3
Cu			2	2.461	ug/l	12.82	10,902.60	1.213E-01	Pulse	0.30	3
Zn			2	4.744	ug/l	6.55	2,536.89	2.819E-02	Pulse	0.30	3
As			2	14.892	ug/l	8.04	2,738.90	3.048E-02	Pulse	1.00	3
Cd			2	0.010	ug/l	26.72	7.68	1.593E-05	Pulse	0.30	3
Sn			2	0.797	ug/l	12.51	882.25	1.849E-03	Pulse	0.30	3
Se			3	0.084	ug/l	10.55	11.60	7.195E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,055,838.04	1.34	83.3	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,684,706.80	1.74	87.9	Pulse	0.10	3
1	Ge		332,823.07	1.12	93.3	Pulse	0.10	3
1	Ge		463,898.95	2.49	94.2	Pulse	0.10	3
1	Rh		2,135,886.43	1.70	84.9	Pulse	0.10	3
1	In		2,189,785.80	1.22	89.2	Pulse	0.10	3
1	Tb		3,413,252.87	2.28	93.0	Pulse	0.10	3
1	Ho		340,739.62	2.29	92.4	Pulse	0.10	3
1	Bi		1,963,014.66	2.56	84.8	Pulse	0.10	3
2	Sc		90,186.06	7.11	78.1	Pulse	0.30	3
2	Ge		54,802.73	6.56	89.5	Pulse	0.30	3
2	Ge		82,729.80	6.77	88.4	Pulse	0.30	3
2	Rh		1,340,379.15	7.96	78.5	Pulse	0.30	3
2	In		480,169.67	7.91	79.3	Pulse	0.30	3
2	Tb		1,902,953.81	7.91	83.6	Pulse	0.30	3
2	Ho		190,321.38	8.73	84.2	Pulse	0.30	3
2	Bi		1,231,561.13	8.15	79.5	Pulse	0.30	3
3	Sc		170,485.04	1.40	90.8	Pulse	0.30	3
3	Ge		107,692.73	1.50	91.8	Pulse	0.30	3
3	Ge		161,299.72	1.26	90.6	Pulse	0.30	3
3	Rh		1,644,199.00	0.94	84.8	Pulse	0.30	3
3	Tb		2,991,417.52	0.63	90.1	Pulse	0.30	3

Quantitation Report

File Name	120SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 19:46
Sample Name	jc99611-8f
Sample Type	Sample
Comment	
Prep Dilution	2.000
Auto Dilution	N/A
Total Dilution	2.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.011	ug/l	108.56	33.33	3.128E-05	Pulse	0.25	3
B			1	139.822	ug/l	1.52	267,372.28	2.519E-01	Pulse	0.15	3
Ca			1	66830.601	ug/l	1.75	18,009,138.06	1.058E+01	Analog	0.10	3
Sr			1	456.609	ug/l	1.99	5,656,621.38	2.648E+00	Analog	0.10	3
Mo			1	2.206	ug/l	7.08	5,547.84	2.599E-03	Pulse	0.10	3
Ag			1	0.012	ug/l	12.74	83.33	3.793E-05	Pulse	0.10	3
Sn			1	0.815	ug/l	1.25	2,373.60	1.082E-03	Pulse	0.10	3
Sb			1	0.015	ug/l	6.79	640.04	1.858E-04	Pulse	0.10	3
Ba			1	104.318	ug/l	0.84	203,825.71	5.917E-02	Pulse	0.10	3
Tl			1	0.000	ug/l	1370.91	43.33	2.193E-05	Pulse	0.10	3
Pb			1	0.016	ug/l	13.81	263.34	1.333E-04	Pulse	0.10	3
Pb			1	-0.009	ug/l	-139.73	180.01	9.089E-05	Pulse	0.10	3
Pb			1	0.013	ug/l	19.32	986.72	4.992E-04	Pulse	0.10	3
Na			2	66992.151	ug/l	1.34	30,300,386.57	3.232E+02	Analog	0.30	3
Mg			2	51582.371	ug/l	0.62	10,886,176.51	1.161E+02	Analog	0.30	3
Al			2	1.646	ug/l	38.42	338.90	3.614E-03	Pulse	0.30	3
K			2	2391.593	ug/l	0.51	320,835.98	3.422E+00	Pulse	0.30	3
Ca			2	63936.054	ug/l	0.52	462,480.62	4.933E+00	Pulse	0.30	3
Ti			2	0.287	ug/l	20.94	16.67	1.777E-04	Pulse	0.30	3
V			2	0.019	ug/l	34.10	514.46	5.488E-03	Pulse	0.30	3
Cr			2	0.627	ug/l	5.76	1,826.79	1.948E-02	Pulse	0.30	3
Mn			2	891.813	ug/l	0.17	1,094,496.48	1.167E+01	Pulse	0.30	3
Fe			2	29331.193	ug/l	1.54	53,511,314.54	5.708E+02	Analog	0.30	3
Co			2	0.165	ug/l	10.08	615.55	6.563E-03	Pulse	0.30	3
Ni			2	0.178	ug/l	16.64	543.35	5.795E-03	Pulse	0.30	3
Cu			2	-0.156	ug/l	-59.30	4,377.30	4.669E-02	Pulse	0.30	3
Zn			2	1.052	ug/l	18.95	1,178.95	1.258E-02	Pulse	0.30	3
As			2	9.947	ug/l	3.83	1,911.45	2.039E-02	Pulse	1.00	3
Cd			2	0.002	ug/l	293.39	2.89	5.788E-06	Pulse	0.30	3
Sn			2	0.611	ug/l	3.09	716.69	1.421E-03	Pulse	0.30	3
Se			3	0.074	ug/l	66.50	11.00	6.726E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,061,488.09	0.73	83.7	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,702,770.03	1.85	88.8	Pulse	0.10	3
1	Ge		343,685.18	2.58	96.4	Pulse	0.10	3
1	Ge		468,550.36	2.01	95.1	Pulse	0.10	3
1	Rh		2,137,175.96	2.32	84.9	Pulse	0.10	3
1	In		2,192,635.60	2.71	89.3	Pulse	0.10	3
1	Tb		3,445,395.05	2.56	93.9	Pulse	0.10	3
1	Ho		346,843.68	2.63	94.0	Pulse	0.10	3
1	Bi		1,975,696.53	1.67	85.3	Pulse	0.10	3
2	Sc		93,750.66	0.70	81.2	Pulse	0.30	3
2	Ge		57,120.51	1.15	93.2	Pulse	0.30	3
2	Ge		87,042.86	2.26	93.0	Pulse	0.30	3
2	Rh		1,413,800.81	0.81	82.8	Pulse	0.30	3
2	In		504,300.18	1.14	83.3	Pulse	0.30	3
2	Tb		1,999,107.84	0.91	87.8	Pulse	0.30	3
2	Ho		201,389.82	0.11	89.1	Pulse	0.30	3
2	Bi		1,278,769.39	0.48	82.5	Pulse	0.30	3
3	Sc		171,544.56	0.83	91.4	Pulse	0.30	3
3	Ge		110,079.29	0.50	93.8	Pulse	0.30	3
3	Ge		163,206.44	1.14	91.7	Pulse	0.30	3
3	Rh		1,642,180.00	1.23	84.7	Pulse	0.30	3
3	Tb		2,993,454.26	0.80	90.2	Pulse	0.30	3

Quantitation Report

File Name 121SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 19:51
Sample Name jc99611-9f
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.003	ug/l	78.80	13.33	1.264E-05	Pulse	0.25	3
B			1	164.126	ug/l	1.73	310,645.00	2.943E-01	Pulse	0.15	3
Ca			1	137596.983	ug/l	1.46	36,747,880.29	2.177E+01	Analog	0.10	3
Sr			1	635.056	ug/l	2.69	7,872,876.97	3.682E+00	Analog	0.10	3
Mo			1	2.812	ug/l	3.11	7,068.43	3.306E-03	Pulse	0.10	3
Ag			1	0.006	ug/l	43.18	46.67	2.124E-05	Pulse	0.10	3
Sn			1	0.904	ug/l	5.45	2,757.00	1.247E-03	Pulse	0.10	3
Sb			1	0.193	ug/l	10.00	1,496.79	4.342E-04	Pulse	0.10	3
Ba			1	59.905	ug/l	0.48	117,274.09	3.398E-02	Pulse	0.10	3
Tl			1	0.002	ug/l	104.63	70.00	3.515E-05	Pulse	0.10	3
Pb			1	0.162	ug/l	13.35	903.40	4.571E-04	Pulse	0.10	3
Pb			1	0.118	ug/l	34.78	673.38	3.398E-04	Pulse	0.10	3
Pb			1	0.144	ug/l	11.13	3,313.61	1.675E-03	Pulse	0.10	3
Na			2	41682.277	ug/l	1.11	19,130,821.46	2.012E+02	Analog	0.30	3
Mg			2	73955.869	ug/l	0.74	15,833,448.81	1.665E+02	Analog	0.30	3
Al			2	22.624	ug/l	129.64	1,835.11	1.935E-02	Pulse	0.30	3
K			2	6722.466	ug/l	0.49	901,358.54	9.478E+00	Pulse	0.30	3
Ca			2	127835.201	ug/l	0.31	937,977.39	9.862E+00	Pulse	0.30	3
Ti			2	0.679	ug/l	47.22	38.89	4.077E-04	Pulse	0.30	3
V			2	0.319	ug/l	11.76	1,052.27	1.107E-02	Pulse	0.30	3
Cr			2	0.619	ug/l	0.71	1,834.57	1.929E-02	Pulse	0.30	3
Mn			2	1161.157	ug/l	1.11	1,445,602.09	1.520E+01	Pulse	0.30	3
Fe			2	18686.111	ug/l	1.96	34,583,569.74	3.637E+02	Analog	0.30	3
Co			2	1.070	ug/l	4.16	3,960.50	4.165E-02	Pulse	0.30	3
Ni			2	0.307	ug/l	15.97	680.02	7.147E-03	Pulse	0.30	3
Cu			2	0.072	ug/l	13.19	5,057.50	5.318E-02	Pulse	0.30	3
Zn			2	8.190	ug/l	4.06	4,067.21	4.276E-02	Pulse	0.30	3
As			2	32.991	ug/l	3.96	6,412.94	6.744E-02	Pulse	1.00	3
Cd			2	0.005	ug/l	156.96	5.03	9.836E-06	Pulse	0.30	3
Sn			2	0.769	ug/l	2.62	907.81	1.785E-03	Pulse	0.30	3
Se			3	0.115	ug/l	25.85	14.07	8.639E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,055,638.92	0.15	83.3	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,688,265.29	2.04	88.1	Pulse	0.10	3
1	Ge		343,999.11	2.03	96.5	Pulse	0.10	3
1	Ge		476,882.98	2.07	96.8	Pulse	0.10	3
1	Rh		2,139,076.11	2.97	85.0	Pulse	0.10	3
1	In		2,209,421.37	2.73	90.0	Pulse	0.10	3
1	Tb		3,450,857.97	2.68	94.0	Pulse	0.10	3
1	Ho		346,454.36	2.85	93.9	Pulse	0.10	3
1	Bi		1,976,867.11	2.75	85.4	Pulse	0.10	3
2	Sc		95,107.99	1.00	82.4	Pulse	0.30	3
2	Ge		56,973.36	0.84	93.0	Pulse	0.30	3
2	Ge		86,818.41	1.52	92.8	Pulse	0.30	3
2	Rh		1,410,443.35	0.97	82.6	Pulse	0.30	3
2	In		508,648.37	0.96	84.0	Pulse	0.30	3
2	Tb		2,010,452.70	0.40	88.3	Pulse	0.30	3
2	Ho		202,768.23	1.51	89.7	Pulse	0.30	3
2	Bi		1,288,728.07	1.76	83.1	Pulse	0.30	3
3	Sc		170,821.16	1.01	91.0	Pulse	0.30	3
3	Ge		109,138.82	1.12	93.0	Pulse	0.30	3
3	Ge		163,087.30	2.17	91.6	Pulse	0.30	3
3	Rh		1,632,263.65	0.61	84.2	Pulse	0.30	3
3	Tb		2,970,842.80	1.11	89.5	Pulse	0.30	3

Quantitation Report

File Name	122_CCV.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 19:56
Sample Name	CCVA 5
Sample Type	CCV
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	47.694	ug/l	0.83	244,263.16	2.227E-01	Pulse	0.25	3
B			1	96.966	ug/l	0.90	379,716.50	3.463E-01	Pulse	0.15	3
Ca			1	4884.188	ug/l	0.39	2,697,696.21	1.554E+00	Pulse	0.10	3
Sr			1	53.826	ug/l	0.66	1,428,347.58	6.243E-01	Pulse	0.10	3
Mo			1	51.049	ug/l	1.17	272,774.17	1.192E-01	Pulse	0.10	3
Ag			1	48.512	ug/l	0.77	656,093.45	2.825E-01	Pulse	0.10	3
Sn			1	50.263	ug/l	0.58	426,726.65	1.838E-01	Pulse	0.10	3
Sb			1	52.921	ug/l	1.50	520,453.55	1.485E-01	Pulse	0.10	3
Ba			1	52.589	ug/l	0.96	209,056.51	5.965E-02	Pulse	0.10	3
Tl			1	51.579	ug/l	0.50	1,368,181.12	6.511E-01	Pulse	0.10	3
Pb			1	51.063	ug/l	0.40	477,628.89	2.273E-01	Pulse	0.10	3
Pb			1	50.901	ug/l	0.76	420,012.38	1.999E-01	Pulse	0.10	3
Pb			1	50.815	ug/l	0.48	1,914,058.07	9.109E-01	Pulse	0.10	3
Na			2	4924.481	ug/l	0.98	4,804,114.53	4.764E+01	Analog	0.30	3
Mg			2	4575.475	ug/l	0.63	2,077,395.75	2.060E+01	Pulse	0.30	3
Al			2	4708.314	ug/l	0.66	712,347.73	7.064E+00	Pulse	0.30	3
K			2	4959.541	ug/l	0.84	1,406,368.59	1.395E+01	Pulse	0.30	3
Ca			2	5273.348	ug/l	0.56	82,135.21	8.145E-01	Pulse	0.30	3
Ti			2	49.848	ug/l	2.87	5,896.67	5.848E-02	Pulse	0.30	3
V			2	51.776	ug/l	0.37	194,397.34	1.928E+00	Pulse	0.30	3
Cr			2	49.354	ug/l	1.07	247,209.00	2.452E+00	Pulse	0.30	3
Mn			2	50.847	ug/l	0.95	134,279.39	1.332E+00	Pulse	0.30	3
Fe			2	5350.114	ug/l	0.66	21,002,437.50	2.083E+02	Analog	0.30	3
Co			2	49.908	ug/l	1.29	390,397.33	3.872E+00	Pulse	0.30	3
Ni			2	48.892	ug/l	0.89	103,721.19	1.029E+00	Pulse	0.30	3
Cu			2	47.856	ug/l	1.10	280,371.00	2.780E+00	Pulse	0.30	3
Zn			2	49.331	ug/l	1.79	42,882.69	4.253E-01	Pulse	0.30	3
As			2	51.430	ug/l	0.99	21,187.04	2.101E-01	Pulse	1.00	3
Cd			2	49.199	ug/l	0.47	64,723.46	1.176E-01	Pulse	0.30	3
Sn			2	51.338	ug/l	0.27	130,052.62	2.363E-01	Pulse	0.30	3
Se			3	202.487	ug/l	0.93	28,903.21	1.861E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,096,663.69	0.81	86.5	Pulse	0.10	3
1	Sc		1,736,234.77	2.04	90.6	Pulse	0.10	3
1	Ge		334,398.13	3.40	93.8	Pulse	0.10	3

Quantitation Report

1	Ge		461,918.85	2.77	93.8	Pulse	0.10	3
1	Rh		2,288,286.74	2.49	90.9	Pulse	0.10	3
1	In		2,322,071.14	2.69	94.6	Pulse	0.10	3
1	Tb		3,505,086.82	2.91	95.5	Pulse	0.10	3
1	Ho		349,362.20	3.12	94.7	Pulse	0.10	3
1	Bi		2,101,095.96	2.20	90.7	Pulse	0.10	3
2	Sc		100,839.00	0.33	87.4	Pulse	0.30	3
2	Ge		56,988.99	0.54	93.0	Pulse	0.30	3
2	Ge		86,028.39	0.63	91.9	Pulse	0.30	3
2	Rh		1,499,646.30	0.34	87.9	Pulse	0.30	3
2	In		550,389.03	0.35	90.9	Pulse	0.30	3
2	Tb		2,066,908.18	0.36	90.8	Pulse	0.30	3
2	Ho		208,077.15	0.69	92.0	Pulse	0.30	3
2	Bi		1,384,644.60	0.41	89.3	Pulse	0.30	3
3	Sc		168,527.96	0.85	89.8	Pulse	0.30	3
3	Ge		102,315.29	0.69	87.2	Pulse	0.30	3
3	Ge		155,313.83	0.65	87.2	Pulse	0.30	3
3	Rh		1,666,221.36	0.31	85.9	Pulse	0.30	3
3	Tb		2,943,188.98	0.41	88.7	Pulse	0.30	3

Quantitation Report

File Name 123_CCB.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 20:01
Sample Name CCB
Sample Type CCB
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.006	ug/l	20.37	37.33	3.448E-05	Pulse	0.25	3
B			1	3.911	ug/l	2.88	23,465.33	2.165E-02	Pulse	0.15	3
Ca			1	-5.264	ug/l	-12.03	11,984.71	7.150E-03	Pulse	0.10	3
Sr			1	0.025	ug/l	11.17	850.06	3.714E-04	Pulse	0.10	3
Mo			1	0.119	ug/l	26.70	693.38	3.021E-04	Pulse	0.10	3
Ag			1	0.009	ug/l	15.62	123.34	5.418E-05	Pulse	0.10	3
Sn			1	0.416	ug/l	8.36	2,543.64	1.116E-03	Pulse	0.10	3
Sb			1	0.107	ug/l	12.59	1,573.47	4.638E-04	Pulse	0.10	3
Ba			1	0.028	ug/l	46.87	146.67	4.338E-05	Pulse	0.10	3
Tl			1	0.013	ug/l	28.52	386.69	1.860E-04	Pulse	0.10	3
Pb			1	0.010	ug/l	26.75	293.35	1.413E-04	Pulse	0.10	3
Pb			1	0.001	ug/l	424.39	236.68	1.136E-04	Pulse	0.10	3
Pb			1	0.008	ug/l	30.00	1,090.06	5.250E-04	Pulse	0.10	3
Na			2	13.821	ug/l	1.08	27,482.30	2.768E-01	Pulse	0.30	3
Mg			2	0.675	ug/l	20.46	430.01	4.331E-03	Pulse	0.30	3
Al			2	0.428	ug/l	21.45	300.01	3.021E-03	Pulse	0.30	3
K			2	-2.564	ug/l	-12.94	7,077.13	7.127E-02	Pulse	0.30	3
Ca			2	1.017	ug/l	176.56	107.78	1.086E-03	Pulse	0.30	3
Ti			2	0.059	ug/l	113.20	7.78	7.853E-05	Pulse	0.30	3
V			2	-0.108	ug/l	-5.15	112.22	1.131E-03	Pulse	0.30	3
Cr			2	0.009	ug/l	71.39	434.45	4.375E-03	Pulse	0.30	3
Mn			2	0.020	ug/l	10.43	95.56	9.625E-04	Pulse	0.30	3
Fe			2	2.096	ug/l	6.03	15,257.16	1.537E-01	Pulse	0.30	3
Co			2	0.004	ug/l	40.51	47.74	4.809E-04	Pulse	0.30	3
Ni			2	-0.047	ug/l	-9.18	292.23	2.943E-03	Pulse	0.30	3
Cu			2	-0.644	ug/l	-2.06	1,427.86	1.438E-02	Pulse	0.30	3
Zn			2	-0.507	ug/l	-10.67	381.12	3.839E-03	Pulse	0.30	3
As			2	0.012	ug/l	10.99	12.33	1.242E-04	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.000	ug/l	926.78	2.13	3.878E-06	Pulse	0.30	3
Sn			2	0.414	ug/l	11.30	1,048.94	1.921E-03	Pulse	0.30	3
Se			3	0.090	ug/l	26.98	17.60	1.156E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,083,866.97	0.87	85.5	Pulse	0.10	3
1	Sc		1,676,574.61	1.56	87.5	Pulse	0.10	3
1	Ge		323,730.37	1.41	90.8	Pulse	0.10	3
1	Ge		448,572.19	2.24	91.1	Pulse	0.10	3
1	Rh		2,288,245.64	1.84	90.9	Pulse	0.10	3
1	In		2,280,962.98	2.14	92.9	Pulse	0.10	3
1	Tb		3,393,947.35	1.75	92.5	Pulse	0.10	3
1	Ho		336,302.99	1.32	91.2	Pulse	0.10	3
1	Bi		2,078,430.70	2.42	89.8	Pulse	0.10	3
2	Sc		99,297.60	0.44	86.0	Pulse	0.30	3
2	Ge		55,895.07	1.08	91.2	Pulse	0.30	3
2	Ge		84,733.99	0.94	90.5	Pulse	0.30	3
2	Rh		1,497,373.34	0.83	87.7	Pulse	0.30	3
2	In		545,512.61	1.45	90.1	Pulse	0.30	3
2	Tb		2,011,977.77	0.62	88.4	Pulse	0.30	3
2	Ho		201,057.29	1.49	88.9	Pulse	0.30	3
2	Bi		1,370,678.21	1.09	88.4	Pulse	0.30	3
3	Sc		163,723.86	1.35	87.2	Pulse	0.30	3
3	Ge		100,563.36	0.47	85.7	Pulse	0.30	3
3	Ge		152,133.18	0.87	85.4	Pulse	0.30	3
3	Rh		1,687,206.43	0.72	87.0	Pulse	0.30	3
3	Tb		2,893,794.33	0.78	87.2	Pulse	0.30	3

Quantitation Report

File Name 124SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 20:06
Sample Name jc99611-10f
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.043	ug/l	18.04	112.00	1.047E-04	Pulse	0.25	3
B			1	166.321	ug/l	1.79	318,789.90	2.981E-01	Pulse	0.15	3
Ca			1	101797.258	ug/l	2.36	26,648,421.27	1.611E+01	Analog	0.10	3
Sr			1	321.734	ug/l	0.21	4,002,162.96	1.866E+00	Pulse	0.10	3
Mo			1	0.262	ug/l	9.00	706.71	3.291E-04	Pulse	0.10	3
Ag			1	0.038	ug/l	10.14	250.01	1.142E-04	Pulse	0.10	3
Sn			1	1.143	ug/l	3.10	3,680.58	1.683E-03	Pulse	0.10	3
Sb			1	0.266	ug/l	8.63	1,833.50	5.368E-04	Pulse	0.10	3
Ba			1	25.119	ug/l	1.02	48,627.24	1.426E-02	Pulse	0.10	3
Tl			1	0.007	ug/l	49.49	126.67	6.312E-05	Pulse	0.10	3
Pb			1	0.045	ug/l	43.22	400.02	1.982E-04	Pulse	0.10	3
Pb			1	0.036	ug/l	16.70	360.02	1.791E-04	Pulse	0.10	3
Pb			1	0.046	ug/l	17.18	1,610.10	7.998E-04	Pulse	0.10	3
Na			2	11241.794	ug/l	1.39	5,069,346.05	5.436E+01	Analog	0.30	3
Mg			2	46372.578	ug/l	0.81	9,735,681.56	1.044E+02	Analog	0.30	3
Al			2	11.521	ug/l	2.00	1,027.82	1.102E-02	Pulse	0.30	3
K			2	1655.681	ug/l	1.16	223,200.02	2.393E+00	Pulse	0.30	3
Ca			2	93615.569	ug/l	0.91	673,582.87	7.223E+00	Pulse	0.30	3
Ti			2	0.959	ug/l	44.38	53.33	5.718E-04	Pulse	0.30	3
V			2	4.307	ug/l	4.07	7,935.32	8.510E-02	Pulse	0.30	3
Cr			2	1.120	ug/l	3.05	2,958.08	3.172E-02	Pulse	0.30	3
Mn			2	4337.310	ug/l	0.12	5,295,328.40	5.678E+01	Analog	0.30	3
Fe			2	8051.200	ug/l	1.28	14,617,258.86	1.567E+02	Analog	0.30	3
Co			2	0.128	ug/l	9.48	476.10	5.104E-03	Pulse	0.30	3
Ni			2	0.187	ug/l	6.83	548.91	5.886E-03	Pulse	0.30	3
Cu			2	-0.067	ug/l	-57.77	4,591.80	4.923E-02	Pulse	0.30	3
Zn			2	1.164	ug/l	4.98	1,216.72	1.305E-02	Pulse	0.30	3
As			2	4.042	ug/l	3.18	776.69	8.329E-03	Pulse	1.00	3
Cd			2	0.002	ug/l	225.41	3.26	6.428E-06	Pulse	0.30	3
Sn			2	0.993	ug/l	6.54	1,160.06	2.300E-03	Pulse	0.30	3
Se			3	0.265	ug/l	2.43	24.93	1.553E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,069,252.91	1.47	84.4	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,655,000.39	2.85	86.3	Pulse	0.10	3
1	Ge		339,124.99	1.99	95.1	Pulse	0.10	3
1	Ge		472,185.42	3.28	95.9	Pulse	0.10	3
1	Rh		2,145,301.79	2.31	85.2	Pulse	0.10	3
1	In		2,185,737.54	2.31	89.0	Pulse	0.10	3
1	Tb		3,411,412.76	3.46	93.0	Pulse	0.10	3
1	Ho		341,891.04	3.78	92.7	Pulse	0.10	3
1	Bi		2,011,234.76	2.57	86.9	Pulse	0.10	3
2	Sc		93,264.23	0.89	80.8	Pulse	0.30	3
2	Ge		56,836.28	2.02	92.8	Pulse	0.30	3
2	Ge		86,319.77	1.67	92.2	Pulse	0.30	3
2	Rh		1,400,746.89	0.43	82.1	Pulse	0.30	3
2	In		504,411.65	0.88	83.3	Pulse	0.30	3
2	Tb		1,978,752.56	1.13	86.9	Pulse	0.30	3
2	Ho		199,634.57	1.74	88.3	Pulse	0.30	3
2	Bi		1,293,253.18	1.18	83.4	Pulse	0.30	3
3	Sc		167,975.31	0.68	89.5	Pulse	0.30	3
3	Ge		107,288.07	2.30	91.4	Pulse	0.30	3
3	Ge		160,538.37	2.50	90.2	Pulse	0.30	3
3	Rh		1,635,387.12	0.21	84.4	Pulse	0.30	3
3	Tb		2,939,957.94	0.59	88.6	Pulse	0.30	3

Quantitation Report

File Name 125SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 20:11
Sample Name jc99611-11f
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.005	ug/l	124.55	18.67	1.771E-05	Pulse	0.25	3
B			1	93.084	ug/l	1.58	181,285.81	1.704E-01	Pulse	0.15	3
Ca			1	33529.773	ug/l	1.28	8,798,627.37	5.312E+00	Analog	0.10	3
Sr			1	259.611	ug/l	0.48	3,244,045.27	1.505E+00	Pulse	0.10	3
Mo			1	6.907	ug/l	1.97	17,426.69	8.085E-03	Pulse	0.10	3
Ag			1	0.012	ug/l	29.04	83.34	3.766E-05	Pulse	0.10	3
Sn			1	1.115	ug/l	2.64	3,603.86	1.633E-03	Pulse	0.10	3
Sb			1	0.588	ug/l	4.82	3,393.81	9.883E-04	Pulse	0.10	3
Ba			1	34.351	ug/l	2.59	66,918.65	1.949E-02	Pulse	0.10	3
Tl			1	0.105	ug/l	6.85	1,373.45	6.842E-04	Pulse	0.10	3
Pb			1	0.204	ug/l	19.87	1,110.09	5.518E-04	Pulse	0.10	3
Pb			1	0.155	ug/l	19.35	830.06	4.137E-04	Pulse	0.10	3
Pb			1	0.186	ug/l	6.27	4,110.40	2.048E-03	Pulse	0.10	3
Na			2	49664.075	ug/l	1.11	22,501,171.88	2.397E+02	Analog	0.30	3
Mg			2	32250.975	ug/l	1.07	6,816,522.23	7.260E+01	Analog	0.30	3
Al			2	6.389	ug/l	10.83	673.38	7.171E-03	Pulse	0.30	3
K			2	1489.151	ug/l	0.35	202,850.94	2.161E+00	Pulse	0.30	3
Ca			2	31297.409	ug/l	1.00	226,765.72	2.415E+00	Pulse	0.30	3
Ti			2	0.911	ug/l	20.72	51.11	5.439E-04	Pulse	0.30	3
V			2	0.044	ug/l	50.30	560.02	5.965E-03	Pulse	0.30	3
Cr			2	0.514	ug/l	13.12	1,566.76	1.668E-02	Pulse	0.30	3
Mn			2	307.227	ug/l	0.91	377,646.23	4.022E+00	Pulse	0.30	3
Fe			2	19456.465	ug/l	0.60	35,552,783.03	3.787E+02	Analog	0.30	3
Co			2	0.202	ug/l	2.90	748.48	7.971E-03	Pulse	0.30	3
Ni			2	0.966	ug/l	6.89	1,320.07	1.406E-02	Pulse	0.30	3
Cu			2	6.050	ug/l	0.90	20,997.96	2.236E-01	Pulse	0.30	3
Zn			2	8.114	ug/l	2.74	3,983.87	4.243E-02	Pulse	0.30	3
As			2	28.036	ug/l	1.16	5,382.23	5.732E-02	Pulse	1.00	3
Cd			2	0.004	ug/l	207.05	4.20	8.334E-06	Pulse	0.30	3
Sn			2	0.970	ug/l	5.17	1,136.72	2.246E-03	Pulse	0.30	3
Se			3	0.285	ug/l	18.86	26.53	1.641E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,064,145.03	1.65	84.0	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,656,617.27	1.73	86.4	Pulse	0.10	3
1	Ge		342,463.90	2.16	96.1	Pulse	0.10	3
1	Ge		473,103.40	1.34	96.1	Pulse	0.10	3
1	Rh		2,155,099.24	2.82	85.6	Pulse	0.10	3
1	In		2,206,997.21	2.53	89.9	Pulse	0.10	3
1	Tb		3,431,708.18	3.28	93.5	Pulse	0.10	3
1	Ho		345,945.41	3.58	93.8	Pulse	0.10	3
1	Bi		2,005,452.05	3.40	86.6	Pulse	0.10	3
2	Sc		93,891.21	0.57	81.3	Pulse	0.30	3
2	Ge		57,315.44	0.41	93.6	Pulse	0.30	3
2	Ge		86,338.70	1.03	92.3	Pulse	0.30	3
2	Rh		1,409,379.22	1.31	82.6	Pulse	0.30	3
2	In		506,016.17	0.57	83.6	Pulse	0.30	3
2	Tb		1,979,192.15	1.03	87.0	Pulse	0.30	3
2	Ho		200,844.54	1.07	88.8	Pulse	0.30	3
2	Bi		1,294,571.65	1.58	83.5	Pulse	0.30	3
3	Sc		169,461.69	1.31	90.3	Pulse	0.30	3
3	Ge		108,344.66	1.41	92.3	Pulse	0.30	3
3	Ge		161,736.73	1.16	90.8	Pulse	0.30	3
3	Rh		1,659,474.34	1.48	85.6	Pulse	0.30	3
3	Tb		2,979,982.11	0.71	89.8	Pulse	0.30	3

Quantitation Report

File Name 126SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 20:16
Sample Name jc99611-12f
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.017	ug/l	33.55	46.67	4.420E-05	Pulse	0.25	3
B			1	58.592	ug/l	1.85	116,212.27	1.102E-01	Pulse	0.15	3
Ca			1	71866.162	ug/l	2.62	19,175,217.22	1.138E+01	Analog	0.10	3
Sr			1	587.316	ug/l	2.21	7,189,898.02	3.405E+00	Analog	0.10	3
Mo			1	1.341	ug/l	3.00	3,353.81	1.588E-03	Pulse	0.10	3
Ag			1	0.017	ug/l	38.71	116.67	5.407E-05	Pulse	0.10	3
Sn			1	0.912	ug/l	3.29	2,730.35	1.261E-03	Pulse	0.10	3
Sb			1	0.092	ug/l	28.74	990.07	2.932E-04	Pulse	0.10	3
Ba			1	82.535	ug/l	1.17	158,146.17	4.681E-02	Pulse	0.10	3
Tl			1	0.005	ug/l	48.39	100.00	5.238E-05	Pulse	0.10	3
Pb			1	0.207	ug/l	3.28	1,070.07	5.586E-04	Pulse	0.10	3
Pb			1	0.202	ug/l	17.42	970.06	5.056E-04	Pulse	0.10	3
Pb			1	0.204	ug/l	1.46	4,240.38	2.213E-03	Pulse	0.10	3
Na			2	90519.632	ug/l	1.04	41,459,826.13	4.367E+02	Analog	0.30	3
Mg			2	62785.965	ug/l	1.66	13,419,068.91	1.413E+02	Analog	0.30	3
Al			2	10.108	ug/l	5.56	945.60	9.960E-03	Pulse	0.30	3
K			2	3309.650	ug/l	0.75	446,788.98	4.706E+00	Pulse	0.30	3
Ca			2	66397.347	ug/l	0.80	486,391.00	5.123E+00	Pulse	0.30	3
Ti			2	0.442	ug/l	50.46	25.56	2.686E-04	Pulse	0.30	3
V			2	0.706	ug/l	7.15	1,732.33	1.825E-02	Pulse	0.30	3
Cr			2	0.570	ug/l	4.29	1,716.78	1.808E-02	Pulse	0.30	3
Mn			2	1784.468	ug/l	0.98	2,217,862.55	2.336E+01	Pulse	0.30	3
Fe			2	51712.713	ug/l	1.10	95,544,009.54	1.006E+03	Analog	0.30	3
Co			2	0.472	ug/l	6.03	1,752.18	1.846E-02	Pulse	0.30	3
Ni			2	0.685	ug/l	3.41	1,054.49	1.111E-02	Pulse	0.30	3
Cu			2	2.925	ug/l	4.25	12,773.94	1.346E-01	Pulse	0.30	3
Zn			2	2.753	ug/l	6.07	1,876.80	1.977E-02	Pulse	0.30	3
As			2	34.049	ug/l	1.37	6,608.02	6.960E-02	Pulse	1.00	3
Cd			2	-0.002	ug/l	-215.35	0.85	1.702E-06	Pulse	0.30	3
Sn			2	0.716	ug/l	6.23	832.25	1.662E-03	Pulse	0.30	3
Se			3	0.136	ug/l	12.82	15.60	9.581E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,054,543.75	0.67	83.2	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,686,179.82	1.71	88.0	Pulse	0.10	3
1	Ge		344,994.32	2.76	96.8	Pulse	0.10	3
1	Ge		466,428.30	2.39	94.7	Pulse	0.10	3
1	Rh		2,112,080.80	2.53	83.9	Pulse	0.10	3
1	In		2,166,372.97	1.95	88.2	Pulse	0.10	3
1	Tb		3,377,603.07	2.10	92.0	Pulse	0.10	3
1	Ho		338,508.67	1.72	91.8	Pulse	0.10	3
1	Bi		1,916,165.18	2.00	82.8	Pulse	0.10	3
2	Sc		94,946.10	0.66	82.3	Pulse	0.30	3
2	Ge		57,694.74	1.04	94.2	Pulse	0.30	3
2	Ge		87,105.13	2.04	93.1	Pulse	0.30	3
2	Rh		1,392,039.11	1.00	81.6	Pulse	0.30	3
2	In		500,770.85	0.47	82.7	Pulse	0.30	3
2	Tb		1,981,523.04	0.55	87.1	Pulse	0.30	3
2	Ho		199,299.61	1.44	88.2	Pulse	0.30	3
2	Bi		1,251,898.70	0.20	80.8	Pulse	0.30	3
3	Sc		169,452.82	1.06	90.3	Pulse	0.30	3
3	Ge		108,185.81	1.19	92.2	Pulse	0.30	3
3	Ge		162,771.02	0.60	91.4	Pulse	0.30	3
3	Rh		1,632,147.78	0.38	84.2	Pulse	0.30	3
3	Tb		2,944,749.81	0.70	88.7	Pulse	0.30	3

Quantitation Report

File Name 127SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 20:21
Sample Name jc99611-13f
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.005	ug/l	40.15	17.33	1.611E-05	Pulse	0.25	3
B			1	113.729	ug/l	0.73	222,239.89	2.064E-01	Pulse	0.15	3
Ca			1	55376.762	ug/l	2.24	14,970,696.45	8.767E+00	Analog	0.10	3
Sr			1	428.138	ug/l	1.58	5,298,822.63	2.483E+00	Analog	0.10	3
Mo			1	8.535	ug/l	5.64	21,308.21	9.985E-03	Pulse	0.10	3
Ag			1	0.010	ug/l	34.96	70.00	3.204E-05	Pulse	0.10	3
Sn			1	0.865	ug/l	1.04	2,573.64	1.174E-03	Pulse	0.10	3
Sb			1	-0.010	ug/l	-154.74	510.03	1.503E-04	Pulse	0.10	3
Ba			1	152.042	ug/l	0.52	292,565.71	8.623E-02	Pulse	0.10	3
Tl			1	0.006	ug/l	64.71	113.34	5.804E-05	Pulse	0.10	3
Pb			1	0.031	ug/l	45.31	323.35	1.658E-04	Pulse	0.10	3
Pb			1	-0.002	ug/l	-513.21	203.34	1.042E-04	Pulse	0.10	3
Pb			1	0.026	ug/l	27.25	1,203.40	6.182E-04	Pulse	0.10	3
Na			2	57451.759	ug/l	2.41	25,939,990.08	2.772E+02	Analog	0.30	3
Mg			2	57528.527	ug/l	0.65	12,119,703.13	1.295E+02	Analog	0.30	3
Al			2	8.421	ug/l	14.16	813.37	8.695E-03	Pulse	0.30	3
K			2	3091.936	ug/l	1.22	411,895.29	4.401E+00	Pulse	0.30	3
Ca			2	52180.285	ug/l	1.06	376,776.84	4.026E+00	Pulse	0.30	3
Ti			2	0.267	ug/l	25.57	15.55	1.660E-04	Pulse	0.30	3
V			2	-0.048	ug/l	-6.45	397.79	4.250E-03	Pulse	0.30	3
Cr			2	0.430	ug/l	9.77	1,366.74	1.460E-02	Pulse	0.30	3
Mn			2	740.462	ug/l	1.02	907,122.78	9.693E+00	Pulse	0.30	3
Fe			2	26492.469	ug/l	1.28	48,248,169.19	5.156E+02	Analog	0.30	3
Co			2	9.423	ug/l	1.30	34,212.22	3.656E-01	Pulse	0.30	3
Ni			2	1.140	ug/l	2.68	1,485.64	1.587E-02	Pulse	0.30	3
Cu			2	0.033	ug/l	97.65	4,874.10	5.208E-02	Pulse	0.30	3
Zn			2	2.464	ug/l	6.81	1,735.67	1.854E-02	Pulse	0.30	3
As			2	22.103	ug/l	2.72	4,230.22	4.521E-02	Pulse	1.00	3
Cd			2	0.002	ug/l	463.13	2.86	5.695E-06	Pulse	0.30	3
Sn			2	0.651	ug/l	4.17	755.58	1.514E-03	Pulse	0.30	3
Se			3	0.046	ug/l	45.89	8.80	5.456E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,076,884.91	0.56	85.0	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,708,056.43	1.86	89.1	Pulse	0.10	3
1	Ge		343,426.14	1.90	96.3	Pulse	0.10	3
1	Ge		472,143.94	1.93	95.9	Pulse	0.10	3
1	Rh		2,134,822.16	2.04	84.8	Pulse	0.10	3
1	In		2,192,546.04	2.44	89.3	Pulse	0.10	3
1	Tb		3,393,112.97	2.15	92.5	Pulse	0.10	3
1	Ho		339,725.72	1.55	92.1	Pulse	0.10	3
1	Bi		1,946,469.40	1.53	84.1	Pulse	0.10	3
2	Sc		93,582.82	0.66	81.1	Pulse	0.30	3
2	Ge		57,604.51	0.43	94.0	Pulse	0.30	3
2	Ge		85,371.67	1.39	91.2	Pulse	0.30	3
2	Rh		1,403,905.43	0.18	82.3	Pulse	0.30	3
2	In		498,984.67	0.68	82.4	Pulse	0.30	3
2	Tb		1,981,273.88	0.69	87.1	Pulse	0.30	3
2	Ho		200,072.10	1.40	88.5	Pulse	0.30	3
2	Bi		1,270,267.66	0.55	81.9	Pulse	0.30	3
3	Sc		168,307.29	0.37	89.7	Pulse	0.30	3
3	Ge		108,409.68	1.67	92.4	Pulse	0.30	3
3	Ge		161,651.42	2.00	90.8	Pulse	0.30	3
3	Rh		1,649,615.35	0.85	85.1	Pulse	0.30	3
3	Tb		2,938,803.91	0.79	88.5	Pulse	0.30	3

Quantitation Report

File Name 128SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 20:26
Sample Name jc99611-14f
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.009	ug/l	54.13	28.00	2.601E-05	Pulse	0.25	3
B			1	114.156	ug/l	1.51	223,230.88	2.071E-01	Pulse	0.15	3
Ca			1	55322.584	ug/l	1.32	14,907,163.95	8.759E+00	Analog	0.10	3
Sr			1	426.854	ug/l	1.16	5,281,653.57	2.475E+00	Analog	0.10	3
Mo			1	8.640	ug/l	1.16	21,575.24	1.011E-02	Pulse	0.10	3
Ag			1	0.004	ug/l	108.50	36.67	1.659E-05	Pulse	0.10	3
Sn			1	0.904	ug/l	7.34	2,747.02	1.246E-03	Pulse	0.10	3
Sb			1	0.116	ug/l	7.03	1,113.42	3.264E-04	Pulse	0.10	3
Ba			1	148.761	ug/l	0.70	287,934.79	8.437E-02	Pulse	0.10	3
Tl			1	0.007	ug/l	13.19	133.34	6.812E-05	Pulse	0.10	3
Pb			1	0.059	ug/l	16.43	446.69	2.282E-04	Pulse	0.10	3
Pb			1	0.050	ug/l	52.47	406.69	2.078E-04	Pulse	0.10	3
Pb			1	0.058	ug/l	5.00	1,773.44	9.060E-04	Pulse	0.10	3
Na			2	57763.181	ug/l	1.46	26,130,213.96	2.787E+02	Analog	0.30	3
Mg			2	57345.141	ug/l	1.44	12,102,522.58	1.291E+02	Analog	0.30	3
Al			2	8.897	ug/l	7.76	848.92	9.052E-03	Pulse	0.30	3
K			2	3074.601	ug/l	1.17	410,383.67	4.377E+00	Pulse	0.30	3
Ca			2	52205.824	ug/l	1.02	377,651.83	4.028E+00	Pulse	0.30	3
Ti			2	0.226	ug/l	26.11	13.33	1.420E-04	Pulse	0.30	3
V			2	-0.043	ug/l	-19.50	406.68	4.338E-03	Pulse	0.30	3
Cr			2	1.067	ug/l	3.22	2,851.39	3.041E-02	Pulse	0.30	3
Mn			2	764.476	ug/l	1.02	938,239.02	1.001E+01	Pulse	0.30	3
Fe			2	26143.874	ug/l	0.97	47,700,018.10	5.088E+02	Analog	0.30	3
Co			2	9.652	ug/l	0.22	35,113.37	3.745E-01	Pulse	0.30	3
Ni			2	1.175	ug/l	5.20	1,522.31	1.624E-02	Pulse	0.30	3
Cu			2	0.412	ug/l	26.21	5,894.44	6.289E-02	Pulse	0.30	3
Zn			2	2.106	ug/l	4.65	1,596.76	1.703E-02	Pulse	0.30	3
As			2	22.089	ug/l	1.98	4,236.56	4.518E-02	Pulse	1.00	3
Cd			2	0.004	ug/l	178.76	3.88	7.721E-06	Pulse	0.30	3
Sn			2	0.808	ug/l	2.90	940.04	1.875E-03	Pulse	0.30	3
Se			3	0.108	ug/l	14.19	13.33	8.281E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,077,793.64	0.39	85.0	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,702,174.09	1.15	88.8	Pulse	0.10	3
1	Ge		342,567.56	2.10	96.1	Pulse	0.10	3
1	Ge		472,268.55	2.79	95.9	Pulse	0.10	3
1	Rh		2,134,257.31	1.99	84.8	Pulse	0.10	3
1	In		2,201,479.06	1.89	89.7	Pulse	0.10	3
1	Tb		3,412,766.41	2.53	93.0	Pulse	0.10	3
1	Ho		342,282.21	3.34	92.8	Pulse	0.10	3
1	Bi		1,958,041.38	2.10	84.6	Pulse	0.10	3
2	Sc		93,759.38	1.21	81.2	Pulse	0.30	3
2	Ge		57,325.72	1.29	93.6	Pulse	0.30	3
2	Ge		86,526.54	0.71	92.5	Pulse	0.30	3
2	Rh		1,405,615.50	0.28	82.4	Pulse	0.30	3
2	In		501,330.93	0.37	82.8	Pulse	0.30	3
2	Tb		1,977,876.38	0.40	86.9	Pulse	0.30	3
2	Ho		200,463.68	1.77	88.7	Pulse	0.30	3
2	Bi		1,264,847.94	0.67	81.6	Pulse	0.30	3
3	Sc		169,704.14	0.17	90.4	Pulse	0.30	3
3	Ge		107,518.27	0.81	91.6	Pulse	0.30	3
3	Ge		161,168.85	1.74	90.5	Pulse	0.30	3
3	Rh		1,638,851.74	0.62	84.5	Pulse	0.30	3
3	Tb		2,948,751.90	0.88	88.8	Pulse	0.30	3

Quantitation Report

File Name	129SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 20:31
Sample Name	jc99611-15f
Sample Type	Sample
Comment	
Prep Dilution	2.000
Auto Dilution	N/A
Total Dilution	2.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.008	ug/l	71.69	25.33	2.404E-05	Pulse	0.25	3
B			1	29.516	ug/l	2.76	62,833.63	5.949E-02	Pulse	0.15	3
Ca			1	76200.423	ug/l	0.43	20,194,071.78	1.206E+01	Analog	0.10	3
Sr			1	577.862	ug/l	3.16	7,128,388.44	3.351E+00	Analog	0.10	3
Mo			1	0.239	ug/l	26.40	640.04	3.019E-04	Pulse	0.10	3
Ag			1	0.012	ug/l	13.94	83.33	3.820E-05	Pulse	0.10	3
Sn			1	0.804	ug/l	2.65	2,316.92	1.063E-03	Pulse	0.10	3
Sb			1	-0.004	ug/l	-313.96	540.03	1.585E-04	Pulse	0.10	3
Ba			1	49.303	ug/l	1.43	95,214.63	2.797E-02	Pulse	0.10	3
Tl			1	0.025	ug/l	46.39	350.02	1.778E-04	Pulse	0.10	3
Pb			1	0.046	ug/l	14.17	390.02	1.995E-04	Pulse	0.10	3
Pb			1	0.046	ug/l	35.19	390.02	1.997E-04	Pulse	0.10	3
Pb			1	0.058	ug/l	15.92	1,766.78	9.043E-04	Pulse	0.10	3
Na			2	46497.334	ug/l	1.02	20,731,005.29	2.244E+02	Analog	0.30	3
Mg			2	55664.903	ug/l	1.62	11,577,392.87	1.253E+02	Analog	0.30	3
Al			2	6.351	ug/l	5.89	660.02	7.142E-03	Pulse	0.30	3
K			2	3980.971	ug/l	0.38	521,526.26	5.644E+00	Pulse	0.30	3
Ca			2	70979.128	ug/l	0.64	505,986.58	5.476E+00	Pulse	0.30	3
Ti			2	0.557	ug/l	22.47	31.11	3.364E-04	Pulse	0.30	3
V			2	0.051	ug/l	63.65	562.24	6.084E-03	Pulse	0.30	3
Cr			2	0.738	ug/l	4.44	2,054.59	2.224E-02	Pulse	0.30	3
Mn			2	5943.539	ug/l	0.90	7,188,463.60	7.780E+01	Analog	0.30	3
Fe			2	1984.431	ug/l	0.77	3,574,302.22	3.869E+01	Pulse	0.30	3
Co			2	12.042	ug/l	1.26	43,166.74	4.672E-01	Pulse	0.30	3
Ni			2	10.214	ug/l	1.14	10,253.28	1.110E-01	Pulse	0.30	3
Cu			2	0.454	ug/l	11.92	5,921.13	6.408E-02	Pulse	0.30	3
Zn			2	7.128	ug/l	4.21	3,534.87	3.826E-02	Pulse	0.30	3
As			2	0.689	ug/l	2.72	137.00	1.483E-03	Pulse	1.00	3
Cd			2	0.001	ug/l	451.50	2.17	4.359E-06	Pulse	0.30	3
Sn			2	0.590	ug/l	5.09	680.02	1.372E-03	Pulse	0.30	3
Se			3	0.041	ug/l	70.91	8.40	5.213E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,056,131.46	0.60	83.3	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,674,464.25	1.78	87.4	Pulse	0.10	3
1	Ge		337,671.11	1.61	94.7	Pulse	0.10	3
1	Ge		469,564.22	2.25	95.3	Pulse	0.10	3
1	Rh		2,128,571.22	2.55	84.6	Pulse	0.10	3
1	In		2,178,768.00	1.72	88.8	Pulse	0.10	3
1	Tb		3,404,542.76	1.81	92.8	Pulse	0.10	3
1	Ho		338,098.33	2.33	91.7	Pulse	0.10	3
1	Bi		1,956,236.17	2.76	84.5	Pulse	0.10	3
2	Sc		92,395.22	0.65	80.1	Pulse	0.30	3
2	Ge		56,343.45	1.43	92.0	Pulse	0.30	3
2	Ge		85,748.29	2.28	91.6	Pulse	0.30	3
2	Rh		1,393,146.79	1.24	81.6	Pulse	0.30	3
2	In		495,605.06	1.21	81.9	Pulse	0.30	3
2	Tb		1,987,582.07	0.54	87.3	Pulse	0.30	3
2	Ho		199,780.60	1.52	88.4	Pulse	0.30	3
2	Bi		1,275,179.50	0.99	82.3	Pulse	0.30	3
3	Sc		167,526.30	0.98	89.2	Pulse	0.30	3
3	Ge		106,090.16	1.52	90.4	Pulse	0.30	3
3	Ge		161,069.66	0.49	90.5	Pulse	0.30	3
3	Rh		1,627,144.73	1.13	83.9	Pulse	0.30	3
3	Tb		2,994,818.56	1.46	90.2	Pulse	0.30	3

Quantitation Report

File Name 130SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 20:36
Sample Name jc99611-16f
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.042	ug/l	30.61	112.00	1.034E-04	Pulse	0.25	3
B			1	5.974	ug/l	7.02	19,980.88	1.843E-02	Pulse	0.15	3
Ca			1	217.036	ug/l	1.14	71,336.59	4.314E-02	Pulse	0.10	3
Sr			1	2.212	ug/l	2.36	28,556.14	1.291E-02	Pulse	0.10	3
Mo			1	0.105	ug/l	12.97	323.35	1.460E-04	Pulse	0.10	3
Ag			1	0.018	ug/l	66.11	126.67	5.584E-05	Pulse	0.10	3
Sn			1	0.964	ug/l	4.00	3,060.41	1.355E-03	Pulse	0.10	3
Sb			1	0.313	ug/l	5.53	2,056.88	6.034E-04	Pulse	0.10	3
Ba			1	1.473	ug/l	5.14	2,887.03	8.473E-04	Pulse	0.10	3
Tl			1	0.005	ug/l	55.41	110.00	5.299E-05	Pulse	0.10	3
Pb			1	0.031	ug/l	53.17	346.68	1.664E-04	Pulse	0.10	3
Pb			1	0.019	ug/l	23.66	303.35	1.456E-04	Pulse	0.10	3
Pb			1	0.031	ug/l	33.29	1,373.41	6.598E-04	Pulse	0.10	3
Na			2	125.713	ug/l	1.24	69,575.08	7.497E-01	Pulse	0.30	3
Mg			2	73.994	ug/l	2.92	15,576.16	1.679E-01	Pulse	0.30	3
Al			2	23.899	ug/l	8.43	1,883.46	2.030E-02	Pulse	0.30	3
K			2	32.112	ug/l	5.72	11,445.10	1.233E-01	Pulse	0.30	3
Ca			2	228.699	ug/l	1.25	1,723.45	1.857E-02	Pulse	0.30	3
Ti			2	0.577	ug/l	44.02	32.22	3.482E-04	Pulse	0.30	3
V			2	-0.061	ug/l	-27.31	372.23	4.013E-03	Pulse	0.30	3
Cr			2	0.683	ug/l	5.12	1,937.91	2.089E-02	Pulse	0.30	3
Mn			2	7.506	ug/l	2.87	9,157.07	9.868E-02	Pulse	0.30	3
Fe			2	7.568	ug/l	2.50	20,358.21	2.194E-01	Pulse	0.30	3
Co			2	0.080	ug/l	17.01	299.95	3.232E-03	Pulse	0.30	3
Ni			2	2.098	ug/l	3.25	2,404.65	2.591E-02	Pulse	0.30	3
Cu			2	26.684	ug/l	1.63	75,355.69	8.120E-01	Pulse	0.30	3
Zn			2	36.702	ug/l	1.24	15,154.89	1.633E-01	Pulse	0.30	3
As			2	0.118	ug/l	6.17	29.33	3.160E-04	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.002	ug/l	223.29	3.31	6.400E-06	Pulse	0.30	3
Sn			2	0.735	ug/l	2.89	876.71	1.706E-03	Pulse	0.30	3
Se			3	0.020	ug/l	64.18	7.00	4.258E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,084,505.53	0.54	85.6	Pulse	0.10	3
1	Sc		1,653,460.76	1.17	86.3	Pulse	0.10	3
1	Ge		335,760.03	1.55	94.2	Pulse	0.10	3
1	Ge		467,008.20	1.33	94.8	Pulse	0.10	3
1	Rh		2,212,009.71	1.65	87.9	Pulse	0.10	3
1	In		2,256,095.33	2.89	91.9	Pulse	0.10	3
1	Tb		3,408,552.97	1.60	92.9	Pulse	0.10	3
1	Ho		342,120.06	2.26	92.8	Pulse	0.10	3
1	Bi		2,084,816.69	2.27	90.0	Pulse	0.10	3
2	Sc		92,805.23	0.99	80.4	Pulse	0.30	3
2	Ge		56,559.80	0.58	92.3	Pulse	0.30	3
2	Ge		85,267.86	1.15	91.1	Pulse	0.30	3
2	Rh		1,455,179.42	1.44	85.3	Pulse	0.30	3
2	In		514,048.55	1.19	84.9	Pulse	0.30	3
2	Tb		1,980,855.62	0.55	87.0	Pulse	0.30	3
2	Ho		199,433.54	0.65	88.2	Pulse	0.30	3
2	Bi		1,342,862.41	0.53	86.6	Pulse	0.30	3
3	Sc		169,105.62	1.27	90.1	Pulse	0.30	3
3	Ge		109,361.48	1.66	93.2	Pulse	0.30	3
3	Ge		164,280.45	1.00	92.3	Pulse	0.30	3
3	Rh		1,748,346.18	0.06	90.2	Pulse	0.30	3
3	Tb		3,040,921.68	0.39	91.6	Pulse	0.30	3

Quantitation Report

File Name 131SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 20:41
Sample Name jc99611-17f
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.054	ug/l	23.14	141.33	1.311E-04	Pulse	0.25	3
B			1	12.541	ug/l	2.43	32,146.17	2.988E-02	Pulse	0.15	3
Ca			1	3087.738	ug/l	0.58	832,262.93	4.972E-01	Pulse	0.10	3
Sr			1	23.639	ug/l	0.92	307,116.27	1.371E-01	Pulse	0.10	3
Mo			1	0.191	ug/l	9.22	550.03	2.457E-04	Pulse	0.10	3
Ag			1	0.012	ug/l	11.83	90.00	3.922E-05	Pulse	0.10	3
Sn			1	0.926	ug/l	6.51	2,950.39	1.287E-03	Pulse	0.10	3
Sb			1	0.055	ug/l	9.54	830.06	2.420E-04	Pulse	0.10	3
Ba			1	3.498	ug/l	3.89	6,848.42	1.996E-03	Pulse	0.10	3
Tl			1	0.009	ug/l	34.55	160.01	7.662E-05	Pulse	0.10	3
Pb			1	0.025	ug/l	43.91	320.02	1.535E-04	Pulse	0.10	3
Pb			1	0.002	ug/l	22.07	236.68	1.139E-04	Pulse	0.10	3
Pb			1	0.024	ug/l	27.86	1,253.40	6.020E-04	Pulse	0.10	3
Na			2	1647.584	ug/l	0.71	747,888.34	8.089E+00	Pulse	0.30	3
Mg			2	377.071	ug/l	1.29	78,595.61	8.501E-01	Pulse	0.30	3
Al			2	15.434	ug/l	4.17	1,290.06	1.395E-02	Pulse	0.30	3
K			2	563.538	ug/l	2.36	80,093.39	8.664E-01	Pulse	0.30	3
Ca			2	3123.068	ug/l	0.71	22,361.79	2.419E-01	Pulse	0.30	3
Ti			2	0.290	ug/l	41.08	16.67	1.798E-04	Pulse	0.30	3
V			2	-0.041	ug/l	-22.21	404.45	4.375E-03	Pulse	0.30	3
Cr			2	0.662	ug/l	5.51	1,882.35	2.036E-02	Pulse	0.30	3
Mn			2	3.379	ug/l	2.50	4,129.46	4.467E-02	Pulse	0.30	3
Fe			2	71.471	ug/l	1.14	135,243.26	1.463E+00	Pulse	0.30	3
Co			2	0.183	ug/l	11.88	670.77	7.255E-03	Pulse	0.30	3
Ni			2	3.438	ug/l	4.68	3,696.01	3.996E-02	Pulse	0.30	3
Cu			2	10.195	ug/l	2.09	31,604.85	3.419E-01	Pulse	0.30	3
Zn			2	63.899	ug/l	1.15	25,730.32	2.783E-01	Pulse	0.30	3
As			2	2.658	ug/l	5.10	508.68	5.502E-03	Pulse	1.00	3
Cd			2	0.002	ug/l	225.70	3.28	6.332E-06	Pulse	0.30	3
Sn			2	0.702	ug/l	11.20	848.92	1.630E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	0.038	ug/l	15.50	8.40	5.064E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,075,996.71	1.56	84.9	Pulse	0.10	3
1	Sc		1,674,065.18	2.04	87.3	Pulse	0.10	3
1	Ge		344,218.85	2.67	96.5	Pulse	0.10	3
1	Ge		475,165.29	2.28	96.5	Pulse	0.10	3
1	Rh		2,239,575.96	2.86	89.0	Pulse	0.10	3
1	In		2,294,006.61	2.24	93.4	Pulse	0.10	3
1	Tb		3,430,821.41	3.03	93.5	Pulse	0.10	3
1	Ho		343,483.16	2.99	93.1	Pulse	0.10	3
1	Bi		2,078,302.52	2.96	89.8	Pulse	0.10	3
2	Sc		92,461.11	1.30	80.1	Pulse	0.30	3
2	Ge		57,273.24	0.94	93.5	Pulse	0.30	3
2	Ge		87,060.49	0.79	93.0	Pulse	0.30	3
2	Rh		1,461,423.59	0.84	85.6	Pulse	0.30	3
2	In		520,539.50	0.72	86.0	Pulse	0.30	3
2	Tb		2,003,313.81	0.61	88.0	Pulse	0.30	3
2	Ho		201,450.96	0.61	89.1	Pulse	0.30	3
2	Bi		1,350,018.84	0.96	87.1	Pulse	0.30	3
3	Sc		170,020.09	0.31	90.6	Pulse	0.30	3
3	Ge		108,742.01	1.79	92.6	Pulse	0.30	3
3	Ge		165,921.40	1.17	93.2	Pulse	0.30	3
3	Rh		1,729,629.37	0.86	89.2	Pulse	0.30	3
3	Tb		3,025,878.07	1.52	91.2	Pulse	0.30	3

Quantitation Report

File Name 132SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 20:46
Sample Name jc99810-1
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.009	ug/l	90.43	28.00	2.584E-05	Pulse	0.25	3
B			1	93.230	ug/l	0.48	185,593.57	1.706E-01	Pulse	0.15	3
Ca			1	40007.046	ug/l	1.78	10,636,211.92	6.336E+00	Analog	0.10	3
Sr			1	272.076	ug/l	0.90	3,429,634.22	1.578E+00	Pulse	0.10	3
Mo			1	0.229	ug/l	15.26	630.04	2.904E-04	Pulse	0.10	3
Ag			1	0.005	ug/l	2.63	40.00	1.777E-05	Pulse	0.10	3
Sn			1	0.746	ug/l	0.81	2,153.57	9.565E-04	Pulse	0.10	3
Sb			1	0.071	ug/l	11.43	903.39	2.636E-04	Pulse	0.10	3
Ba			1	13.898	ug/l	0.44	27,037.54	7.893E-03	Pulse	0.10	3
Tl			1	-0.002	ug/l	-25.09	23.33	1.142E-05	Pulse	0.10	3
Pb			1	0.161	ug/l	19.97	933.40	4.569E-04	Pulse	0.10	3
Pb			1	0.175	ug/l	9.40	923.40	4.531E-04	Pulse	0.10	3
Pb			1	0.170	ug/l	9.10	3,897.02	1.911E-03	Pulse	0.10	3
Na			2	22414.013	ug/l	1.64	10,064,526.54	1.082E+02	Analog	0.30	3
Mg			2	4754.127	ug/l	1.13	995,295.17	1.070E+01	Pulse	0.30	3
Al			2	0.250	ug/l	99.11	238.89	2.567E-03	Pulse	0.30	3
K			2	6893.348	ug/l	0.92	903,525.52	9.716E+00	Pulse	0.30	3
Ca			2	37475.246	ug/l	0.26	268,930.95	2.892E+00	Pulse	0.30	3
Ti			2	0.350	ug/l	17.58	20.00	2.151E-04	Pulse	0.30	3
V			2	-0.094	ug/l	-21.43	315.56	3.392E-03	Pulse	0.30	3
Cr			2	0.786	ug/l	10.00	2,179.06	2.343E-02	Pulse	0.30	3
Mn			2	34.835	ug/l	1.05	42,446.52	4.564E-01	Pulse	0.30	3
Fe			2	904.670	ug/l	0.99	1,643,612.64	1.768E+01	Pulse	0.30	3
Co			2	0.443	ug/l	6.91	1,611.22	1.733E-02	Pulse	0.30	3
Ni			2	4.280	ug/l	2.11	4,536.23	4.878E-02	Pulse	0.30	3
Cu			2	21.411	ug/l	0.93	61,533.29	6.617E-01	Pulse	0.30	3
Zn			2	3.865	ug/l	2.55	2,275.74	2.447E-02	Pulse	0.30	3
As			2	34.585	ug/l	2.28	6,574.01	7.069E-02	Pulse	1.00	3
Cd			2	0.001	ug/l	1117.23	2.16	4.171E-06	Pulse	0.30	3
Sn			2	0.528	ug/l	5.82	630.02	1.230E-03	Pulse	0.30	3
Se			3	0.039	ug/l	44.12	8.27	5.137E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,087,774.33	0.78	85.8	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,678,947.73	1.82	87.6	Pulse	0.10	3
1	Ge		337,867.59	2.56	94.8	Pulse	0.10	3
1	Ge		470,241.76	2.42	95.5	Pulse	0.10	3
1	Rh		2,173,642.68	2.14	86.4	Pulse	0.10	3
1	In		2,251,231.76	2.04	91.7	Pulse	0.10	3
1	Tb		3,425,711.62	2.07	93.3	Pulse	0.10	3
1	Ho		340,825.08	2.26	92.4	Pulse	0.10	3
1	Bi		2,037,512.68	3.31	88.0	Pulse	0.10	3
2	Sc		92,996.16	1.27	80.6	Pulse	0.30	3
2	Ge		56,438.36	0.82	92.1	Pulse	0.30	3
2	Ge		85,705.70	1.38	91.6	Pulse	0.30	3
2	Rh		1,425,980.53	0.77	83.5	Pulse	0.30	3
2	In		512,071.36	0.93	84.6	Pulse	0.30	3
2	Tb		1,991,003.32	0.78	87.5	Pulse	0.30	3
2	Ho		202,014.84	0.81	89.4	Pulse	0.30	3
2	Bi		1,321,364.32	0.70	85.2	Pulse	0.30	3
3	Sc		168,928.35	0.38	90.0	Pulse	0.30	3
3	Ge		106,574.40	0.98	90.8	Pulse	0.30	3
3	Ge		160,815.49	0.59	90.3	Pulse	0.30	3
3	Rh		1,686,742.15	1.18	87.0	Pulse	0.30	3
3	Tb		3,018,635.02	0.73	90.9	Pulse	0.30	3

Quantitation Report

File Name	133SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 20:51
Sample Name	jc99822-2
Sample Type	Sample
Comment	
Prep Dilution	2.000
Auto Dilution	N/A
Total Dilution	2.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	-0.002	ug/l	-13.16	1.33	3.718E-07	Pulse	0.25	3
B			1	-2.727	ug/l	-3.72	10,912.66	3.252E-03	Pulse	0.15	3
Ca			1	-39.324	ug/l	-6.31	13,946.40	2.596E-03	Pulse	0.10	3
Sr			1	0.020	ug/l	33.46	1,483.47	2.013E-04	Pulse	0.10	3
Mo			1	-0.019	ug/l	-3.87	6.67	9.720E-07	Pulse	0.10	3
Ag			1	0.000	ug/l	-149.99	23.33	2.878E-06	Pulse	0.10	3
Sn			1	0.324	ug/l	7.12	1,443.59	1.839E-04	Pulse	0.10	3
Sb			1	-0.094	ug/l	-3.96	400.02	3.275E-05	Pulse	0.10	3
Ba			1	0.033	ug/l	222.82	317.21	3.054E-05	Pulse	0.10	3
Tl			1	-0.003	ug/l	-4.09	30.00	3.967E-06	Pulse	0.10	3
Pb			1	-0.031	ug/l	-7.09	220.01	2.901E-05	Pulse	0.10	3
Pb			1	-0.044	ug/l	-3.74	173.34	2.240E-05	Pulse	0.10	3
Pb			1	-0.031	ug/l	-6.65	840.04	1.100E-04	Pulse	0.10	3
Na			2	-15.170	ug/l	-7.49	21,854.20	7.030E-02	Pulse	0.30	3
Mg			2	0.129	ug/l	199.26	486.80	1.583E-03	Pulse	0.30	3
Al			2	-0.940	ug/l	-111.30	536.79	1.675E-03	Pulse	0.30	3
K			2	-49.723	ug/l	-0.85	2,775.83	8.921E-03	Pulse	0.30	3
Ca			2	-6.504	ug/l	-17.44	134.45	4.275E-04	Pulse	0.30	3
Ti			2	0.001	ug/l	1536.31	3.33	1.019E-05	Pulse	0.30	3
V			2	-0.273	ug/l	-0.80	21.11	6.811E-05	Pulse	0.30	3
Cr			2	-0.135	ug/l	-2.02	184.45	5.901E-04	Pulse	0.30	3
Mn			2	0.003	ug/l	233.64	146.67	4.694E-04	Pulse	0.30	3
Fe			2	-3.123	ug/l	-0.48	3,539.40	1.134E-02	Pulse	0.30	3
Co			2	-0.002	ug/l	-8.71	23.32	7.453E-05	Pulse	0.30	3
Ni			2	-0.151	ug/l	-8.17	732.25	2.344E-03	Pulse	0.30	3
Cu			2	-1.562	ug/l	-0.54	2,060.15	6.598E-03	Pulse	0.30	3
Zn			2	-1.551	ug/l	-2.02	492.24	1.571E-03	Pulse	0.30	3
As			2	-0.029	ug/l	-6.21	5.00	1.609E-05	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	-0.002	ug/l	-50.86	2.22	1.285E-06	Pulse	0.30	3
Sn			2	0.110	ug/l	7.16	451.12	2.675E-04	Pulse	0.30	3
Se			3	0.024	ug/l	312.72	12.53	4.452E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		3,375,805.88	16.25	266.3	Mix	0.10	3
1	Sc		5,460,706.90	16.26	284.9	Analog	0.10	3
1	Ge		871,200.59	17.19	244.4	Pulse	0.10	3
1	Ge		1,213,698.99	17.16	246.4	Pulse	0.10	3
1	Rh		7,438,339.05	15.75	295.6	Analog	0.10	3
1	In		7,900,098.31	16.03	321.8	Analog	0.10	3
1	Tb		12,178,451.90	16.51	331.8	Analog	0.10	3
1	Ho		999,022.85	16.94	270.9	Pulse	0.10	3
1	Bi		7,719,391.55	16.87	333.4	Analog	0.10	3
2	Sc		312,337.55	9.07	270.6	Pulse	0.30	3
2	Ge		167,355.53	9.27	273.2	Pulse	0.30	3
2	Ge		253,364.68	9.37	270.7	Pulse	0.30	3
2	Rh		5,363,122.29	9.96	314.2	Analog	0.30	3
2	In		1,688,503.45	8.94	278.9	Pulse	0.30	3
2	Tb		7,822,814.69	10.84	343.7	Analog	0.30	3
2	Ho		646,392.28	8.76	285.9	Pulse	0.30	3
2	Bi		5,538,032.14	9.79	357.3	Analog	0.30	3
3	Sc		389,582.79	30.53	207.5	Pulse	0.30	3
3	Ge		228,722.57	35.14	194.9	Pulse	0.30	3
3	Ge		344,456.49	35.09	193.4	Pulse	0.30	3
3	Rh		4,319,900.94	37.66	222.8	Mix	0.30	3
3	Tb		7,964,858.85	36.28	240.0	Analog	0.30	3

Quantitation Report

File Name 134_CCV.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 20:56
Sample Name CCVA 5
Sample Type CCV
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	47.474	ug/l	0.43	243,193.79	2.217E-01	Pulse	0.25	3
B			1	96.369	ug/l	1.39	377,547.09	3.442E-01	Pulse	0.15	3
Ca			1	4843.212	ug/l	0.45	2,659,929.39	1.541E+00	Pulse	0.10	3
Sr			1	53.928	ug/l	0.84	1,403,331.80	6.255E-01	Pulse	0.10	3
Mo			1	51.019	ug/l	1.26	267,310.39	1.191E-01	Pulse	0.10	3
Ag			1	48.225	ug/l	0.70	642,060.28	2.809E-01	Pulse	0.10	3
Sn			1	49.817	ug/l	1.24	416,393.47	1.821E-01	Pulse	0.10	3
Sb			1	53.436	ug/l	0.64	515,068.85	1.500E-01	Pulse	0.10	3
Ba			1	52.590	ug/l	0.89	204,875.56	5.966E-02	Pulse	0.10	3
Tl			1	50.989	ug/l	0.50	1,328,356.36	6.437E-01	Pulse	0.10	3
Pb			1	50.476	ug/l	0.70	463,819.39	2.247E-01	Pulse	0.10	3
Pb			1	50.633	ug/l	0.53	410,364.89	1.988E-01	Pulse	0.10	3
Pb			1	50.437	ug/l	0.27	1,865,942.14	9.041E-01	Pulse	0.10	3
Na			2	4909.903	ug/l	0.67	4,871,270.78	4.750E+01	Analog	0.30	3
Mg			2	4538.176	ug/l	0.18	2,095,479.57	2.043E+01	Pulse	0.30	3
Al			2	4662.250	ug/l	0.61	717,370.18	6.995E+00	Pulse	0.30	3
K			2	4924.717	ug/l	0.49	1,420,287.62	1.385E+01	Pulse	0.30	3
Ca			2	5168.240	ug/l	0.79	81,867.55	7.983E-01	Pulse	0.30	3
Ti			2	48.284	ug/l	4.23	5,808.87	5.664E-02	Pulse	0.30	3
V			2	51.209	ug/l	0.63	195,536.82	1.907E+00	Pulse	0.30	3
Cr			2	49.158	ug/l	0.14	250,411.73	2.442E+00	Pulse	0.30	3
Mn			2	49.942	ug/l	0.53	134,132.08	1.308E+00	Pulse	0.30	3
Fe			2	5290.942	ug/l	1.33	21,123,240.27	2.060E+02	Analog	0.30	3
Co			2	48.504	ug/l	0.88	385,864.91	3.763E+00	Pulse	0.30	3
Ni			2	47.848	ug/l	0.74	103,240.28	1.007E+00	Pulse	0.30	3
Cu			2	46.906	ug/l	0.98	279,579.05	2.726E+00	Pulse	0.30	3
Zn			2	48.603	ug/l	0.28	42,979.57	4.191E-01	Pulse	0.30	3
As			2	50.724	ug/l	0.50	21,251.12	2.072E-01	Pulse	1.00	3
Cd			2	49.009	ug/l	0.37	64,465.07	1.171E-01	Pulse	0.30	3
Sn			2	51.364	ug/l	0.44	130,100.79	2.364E-01	Pulse	0.30	3
Se			3	202.246	ug/l	1.10	28,542.97	1.859E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,096,948.48	0.93	86.5	Pulse	0.10	3
1	Sc		1,726,459.92	2.86	90.1	Pulse	0.10	3
1	Ge		332,304.38	2.82	93.2	Pulse	0.10	3

Quantitation Report

1	Ge		458,104.21	2.69	93.0	Pulse	0.10	3
1	Rh		2,243,457.31	2.77	89.1	Pulse	0.10	3
1	In		2,285,659.21	2.60	93.1	Pulse	0.10	3
1	Tb		3,434,478.80	2.38	93.6	Pulse	0.10	3
1	Ho		344,396.66	2.62	93.4	Pulse	0.10	3
1	Bi		2,063,888.72	3.45	89.1	Pulse	0.10	3
2	Sc		102,551.44	0.07	88.9	Pulse	0.30	3
2	Ge		57,133.99	1.02	93.3	Pulse	0.30	3
2	Ge		85,802.82	1.05	91.7	Pulse	0.30	3
2	Rh		1,494,657.79	0.77	87.6	Pulse	0.30	3
2	In		550,320.51	0.40	90.9	Pulse	0.30	3
2	Tb		2,058,592.90	0.19	90.5	Pulse	0.30	3
2	Ho		206,367.57	0.27	91.3	Pulse	0.30	3
2	Bi		1,375,555.26	0.41	88.7	Pulse	0.30	3
3	Sc		167,800.29	0.84	89.4	Pulse	0.30	3
3	Ge		102,159.80	0.73	87.0	Pulse	0.30	3
3	Ge		153,562.22	0.65	86.2	Pulse	0.30	3
3	Rh		1,644,583.79	0.24	84.8	Pulse	0.30	3
3	Tb		2,880,249.95	0.29	86.8	Pulse	0.30	3

Quantitation Report

File Name	135_CCB.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 21:01
Sample Name	CCB
Sample Type	CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.004	ug/l	11.68	26.67	2.473E-05	Pulse	0.25	3
B			1	2.937	ug/l	2.88	19,689.38	1.825E-02	Pulse	0.15	3
Ca			1	-3.682	ug/l	-19.69	12,902.14	7.650E-03	Pulse	0.10	3
Sr			1	0.019	ug/l	23.13	673.37	3.008E-04	Pulse	0.10	3
Mo			1	0.160	ug/l	10.45	890.06	3.969E-04	Pulse	0.10	3
Ag			1	0.008	ug/l	54.38	120.01	5.280E-05	Pulse	0.10	3
Sn			1	0.426	ug/l	7.66	2,616.98	1.152E-03	Pulse	0.10	3
Sb			1	0.105	ug/l	10.25	1,530.13	4.591E-04	Pulse	0.10	3
Ba			1	0.011	ug/l	87.21	80.00	2.385E-05	Pulse	0.10	3
Tl			1	0.012	ug/l	12.71	353.35	1.728E-04	Pulse	0.10	3
Pb			1	-0.002	ug/l	-188.72	180.01	8.786E-05	Pulse	0.10	3
Pb			1	-0.005	ug/l	-12.22	180.01	8.799E-05	Pulse	0.10	3
Pb			1	0.001	ug/l	88.54	840.04	4.112E-04	Pulse	0.10	3
Na			2	10.074	ug/l	4.81	23,750.08	2.406E-01	Pulse	0.30	3
Mg			2	0.348	ug/l	16.42	282.23	2.860E-03	Pulse	0.30	3
Al			2	0.373	ug/l	81.28	290.00	2.939E-03	Pulse	0.30	3
K			2	-2.411	ug/l	-10.13	7,077.11	7.170E-02	Pulse	0.30	3
Ca			2	1.641	ug/l	75.95	116.67	1.182E-03	Pulse	0.30	3
Ti			2	0.030	ug/l	145.56	4.44	4.514E-05	Pulse	0.30	3
V			2	-0.114	ug/l	-2.50	87.78	8.896E-04	Pulse	0.30	3
Cr			2	0.016	ug/l	14.42	465.57	4.716E-03	Pulse	0.30	3
Mn			2	0.015	ug/l	21.64	81.11	8.217E-04	Pulse	0.30	3
Fe			2	1.622	ug/l	5.15	13,346.62	1.352E-01	Pulse	0.30	3
Co			2	0.003	ug/l	53.67	36.63	3.710E-04	Pulse	0.30	3
Ni			2	-0.077	ug/l	-20.80	228.89	2.319E-03	Pulse	0.30	3
Cu			2	-0.655	ug/l	-2.86	1,360.07	1.378E-02	Pulse	0.30	3
Zn			2	-0.574	ug/l	-7.05	323.34	3.276E-03	Pulse	0.30	3
As			2	0.048	ug/l	18.47	26.67	2.702E-04	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.003	ug/l	53.26	5.46	1.018E-05	Pulse	0.30	3
Sn			2	0.379	ug/l	5.88	943.37	1.761E-03	Pulse	0.30	3
Se			3	0.081	ug/l	19.14	16.20	1.076E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,078,780.89	1.11	85.1	Pulse	0.10	3
1	Sc		1,686,862.63	1.73	88.0	Pulse	0.10	3
1	Ge		322,140.48	1.62	90.4	Pulse	0.10	3
1	Ge		445,549.69	0.97	90.5	Pulse	0.10	3
1	Rh		2,241,497.99	1.52	89.1	Pulse	0.10	3
1	In		2,267,797.09	2.11	92.4	Pulse	0.10	3
1	Tb		3,335,886.20	2.57	90.9	Pulse	0.10	3
1	Ho		331,908.71	2.16	90.0	Pulse	0.10	3
1	Bi		2,044,808.15	2.67	88.3	Pulse	0.10	3
2	Sc		98,705.49	0.38	85.5	Pulse	0.30	3
2	Ge		55,578.63	0.96	90.7	Pulse	0.30	3
2	Ge		83,491.10	0.60	89.2	Pulse	0.30	3
2	Rh		1,485,258.24	0.78	87.0	Pulse	0.30	3
2	In		535,503.70	0.58	88.5	Pulse	0.30	3
2	Tb		1,984,534.02	0.82	87.2	Pulse	0.30	3
2	Ho		198,772.87	1.38	87.9	Pulse	0.30	3
2	Bi		1,352,462.72	1.17	87.3	Pulse	0.30	3
3	Sc		162,091.37	0.80	86.3	Pulse	0.30	3
3	Ge		99,676.92	0.37	84.9	Pulse	0.30	3
3	Ge		150,427.23	1.25	84.5	Pulse	0.30	3
3	Rh		1,668,929.10	0.30	86.1	Pulse	0.30	3
3	Tb		2,863,234.05	0.59	86.3	Pulse	0.30	3

Quantitation Report

File Name 136SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 21:06
Sample Name mp18803a-s3 1
Sample Type Sample
Comment
Prep Dilution 5.000
Auto Dilution N/A
Total Dilution 5.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	70.726	ug/l	1.08	72,867.33	6.606E-02	Pulse	0.25	3
B			1	311.565	ug/l	0.44	248,560.67	2.254E-01	Pulse	0.15	3
Ca			1	176374.134	ug/l	2.23	20,730,185.11	1.117E+01	Analog	0.10	3
Sr			1	5314.764	ug/l	1.60	26,625,246.27	1.233E+01	Analog	0.10	3
Mo			1	93.024	ug/l	2.03	93,844.86	4.345E-02	Pulse	0.10	3
Ag			1	68.339	ug/l	0.90	178,665.47	7.961E-02	Pulse	0.10	3
Sn			1	66.854	ug/l	2.43	109,015.34	4.859E-02	Pulse	0.10	3
Sb			1	80.585	ug/l	0.94	151,807.89	4.535E-02	Pulse	0.10	3
Ba			1	309.350	ug/l	0.61	234,962.63	7.018E-02	Pulse	0.10	3
Tl			1	73.625	ug/l	0.58	346,912.37	1.859E-01	Pulse	0.10	3
Pb			1	78.213	ug/l	2.39	130,037.53	6.970E-02	Pulse	0.10	3
Pb			1	78.195	ug/l	0.90	114,774.50	6.149E-02	Pulse	0.10	3
Pb			1	78.008	ug/l	0.48	522,445.07	2.799E-01	Pulse	0.10	3
Na			2	992294.325	ug/l	1.85	227,959,350.94	1.914E+03	Analog	0.30	3
Mg			2	20937.035	ug/l	1.56	2,245,444.56	1.885E+01	Pulse	0.30	3
Al			2	1992.301	ug/l	0.53	71,481.60	6.000E-01	Pulse	0.30	3
K			2	61269.443	ug/l	1.47	4,090,057.34	3.434E+01	Pulse	0.30	3
Ca			2	177705.764	ug/l	1.29	653,170.84	5.484E+00	Pulse	0.30	3
Ti			2	74.266	ug/l	3.86	2,077.94	1.743E-02	Pulse	0.30	3
V			2	78.585	ug/l	1.64	70,114.00	5.888E-01	Pulse	0.30	3
Cr			2	84.547	ug/l	1.91	100,331.93	8.425E-01	Pulse	0.30	3
Mn			2	131.927	ug/l	1.47	82,316.61	6.912E-01	Pulse	0.30	3
Fe			2	2049.029	ug/l	1.04	1,908,051.94	1.602E+01	Pulse	0.30	3
Co			2	66.742	ug/l	1.26	123,366.50	1.036E+00	Pulse	0.30	3
Ni			2	67.130	ug/l	1.02	33,980.61	2.853E-01	Pulse	0.30	3
Cu			2	75.659	ug/l	0.74	108,885.98	9.141E-01	Pulse	0.30	3
Zn			2	65.547	ug/l	1.57	14,169.56	1.190E-01	Pulse	0.30	3
As			2	74.727	ug/l	3.17	7,274.97	6.111E-02	Pulse	1.00	3
Cd			2	64.420	ug/l	2.95	18,119.28	3.080E-02	Pulse	0.30	3
Sn			2	65.122	ug/l	0.31	35,286.11	5.996E-02	Pulse	0.30	3
Se			3	175.357	ug/l	8.79	5,497.26	3.226E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,102,944.58	2.08	87.0	Pulse	0.10	3

NOTE: The remaining raw data for this batch is not relevant to this job. As such it has been omitted.

Current Signal

[1]



Mass	Range	Count	Avg. Count	RSD [%]
7	20000	2224	2264.5	2.42
59	500	2425	2428.3	2.74
89	200	3866	3769.6	1.86
140	500	3905	4010.4	1.77
205	100	3345	3314.2	0.79
156/140	5	0.589 %	0.623 %	19.03
70/140	1000	883.171 %	985.207 %	9.22
9	20	0	1.3	151.44
11	200	272	264.0	12.09
88	200	50	46.8	20.77
95	20	12	13.0	14.04
107	20	2	2.8	34.82
121	5000	14	20.3	24.98
137	50	18	12.8	58.12
208	500	74	61.8	14.75
Integration Time [sec]		0.10		

Plasma Parameters

RF Power	1500	W	Nebulizer Pump	0.10	rps
RF Matching	1.80	V	S/C Temp	2	℃
Smpl Depth	7.8	mm	Gas Switch	Dilution Gas	
Carrier Gas	0.55	L/min	Makeup/Dilution Gas	0.55	L/min
Option Gas	0.0	%			

Lenses Parameters

Extract 1	0.0	V	Cell Entrance	-40	V
Extract 2	-200.0	V	Cell Exit	-58	V
Omega Bias	-80	V	Deflect	13.4	V
Omega Lens	7.9	V	Plate Bias	-45	V

Cell Parameters

Use Gas	false		OctP Bias	-8.0	V
He Flow	0.0	mL/min	OctP RF	200	V
H2 Flow	0.0	mL/min	Energy Discrimination	5.0	V
3rd Gas Flow	0	%			

Meters

IF/BK Press	2.70E+2	Pa	TMP Revolution	100.0	%
Analyzer Press	1.52E-4	Pa	Water Temp	23.6	℃
Reflected Power	1	W			

US EPA Tune Check Sample Report

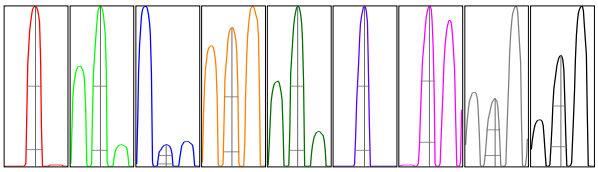
Batch Folder C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Report Comment
Instrument Name G3281A JP10340551

[1]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
9	69063	0.97	5.00	
24	249728	0.71	5.00	
25	34125	1.05	5.00	
26	39277	0.96	5.00	
59	282152	0.55	5.00	
115	380639	0.62	5.00	
206	111282	0.55	5.00	
207	103003	0.56	5.00	
208	241536	0.96	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	68369	69688	69563	69391	68302
24	248038	251362	251624	249706	247908
25	33700	34392	34588	34000	33944
26	38953	39919	39163	39283	39069
59	280412	284160	283231	281931	281025
115	379601	381299	384260	380038	377995
206	110913	111650	112195	110833	110817
207	103096	103416	103500	102954	102048
208	243248	241988	243832	240585	238026

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
9	11172	9.00	8.9 - 9.1		0.763	0.900	
24	41930	23.95	23.9 - 24.1		0.728	0.900	
25	5607	24.95	24.9 - 25.1		0.734	0.900	
26	6458	25.95	25.9 - 26.1		0.730	0.900	
59	48195	58.95	58.9 - 59.1		0.720	0.900	
115	71134	115.00	114.9 - 115.1		0.707	0.900	
206	19580	205.95	205.9 - 206.1		0.729	0.900	
207	17863	206.95	206.9 - 207.1		0.726	0.900	
208	42487	207.95	207.9 - 208.1		0.723	0.900	

X% = 10 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 235 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

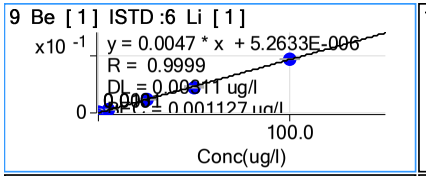
ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1500	W	Carrier Gas	0.55	L/min			
RF Matching	1.80	V	Option Gas	0.0	%			
Smpl Depth	7.8	mm	Nebulizer Pump	0.10	rps			
S/C Temp	2	℃						

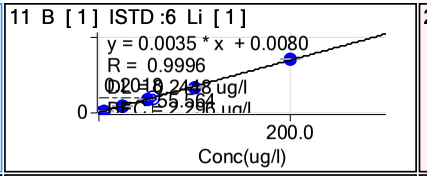
Lenses Parameters

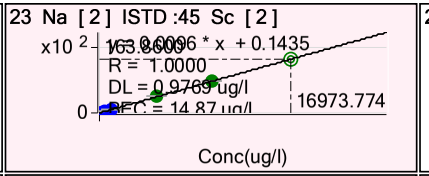
ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	7.9	V			
Extract 2	-200.0	V	Cell Entrance	-40	V			
Omega Bias	-80	V	Cell Exit	-58	V			
Deflect	13.4	V						

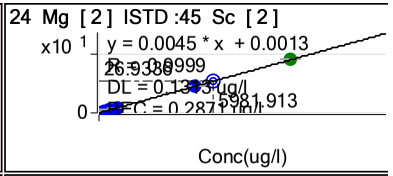
Cell Parameters

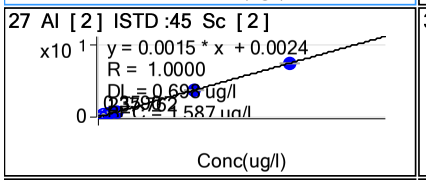
ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Use Gas	false		3rd Gas Flow	0	%			
He Flow	0.0	mL/min	OctP Bias	-8.0	V			
H2 Flow	0.0	mL/min	OctP RF	200	V			
Energy Discrimination	5.0	V						

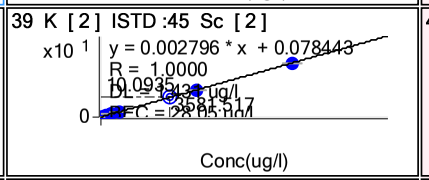

9 Be [1] ISTD :6 Li [1]
x10 -1
y = 0.0047 * x + 5.2633E-006
R = 0.9999
DL = 0.00311 ug/l
100.0
Conc(ug/l)

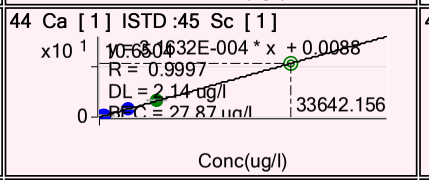

11 B [1] ISTD :6 Li [1]
y = 0.0035 * x + 0.0080
R = 0.9996
200.0
Conc(ug/l)

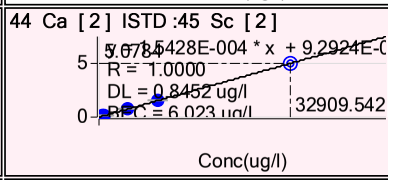

23 Na [2] ISTD :45 Sc [2]
x10 2
y = 0.0096 * x + 0.1435
R = 1.0000
DL = 0.9769 ug/l
16973.774
Conc(ug/l)

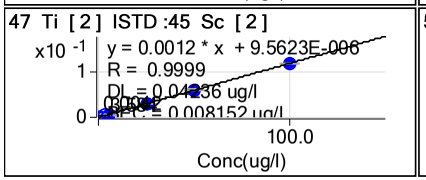

24 Mg [2] ISTD :45 Sc [2]
x10 1
y = 0.0045 * x + 0.0013
R = 0.9999
DL = 0.1345 ug/l
5981.913
Conc(ug/l)

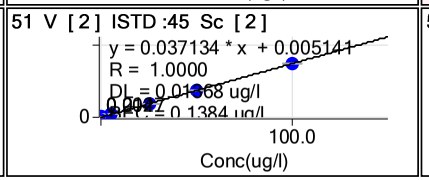

27 Al [2] ISTD :45 Sc [2]
x10 1
y = 0.0015 * x + 0.0024
R = 1.0000
Conc(ug/l)

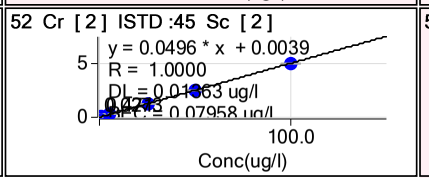

39 K [2] ISTD :45 Sc [2]
x10 1
y = 0.002796 * x + 0.078443
R = 1.0000
Conc(ug/l)

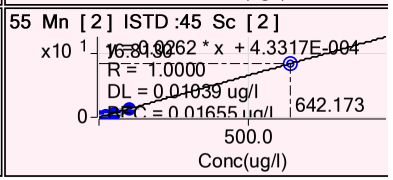

44 Ca [1] ISTD :45 Sc [1]
x10 1
R = 0.9997
DL = 2.14 ug/l
33642.156
Conc(ug/l)

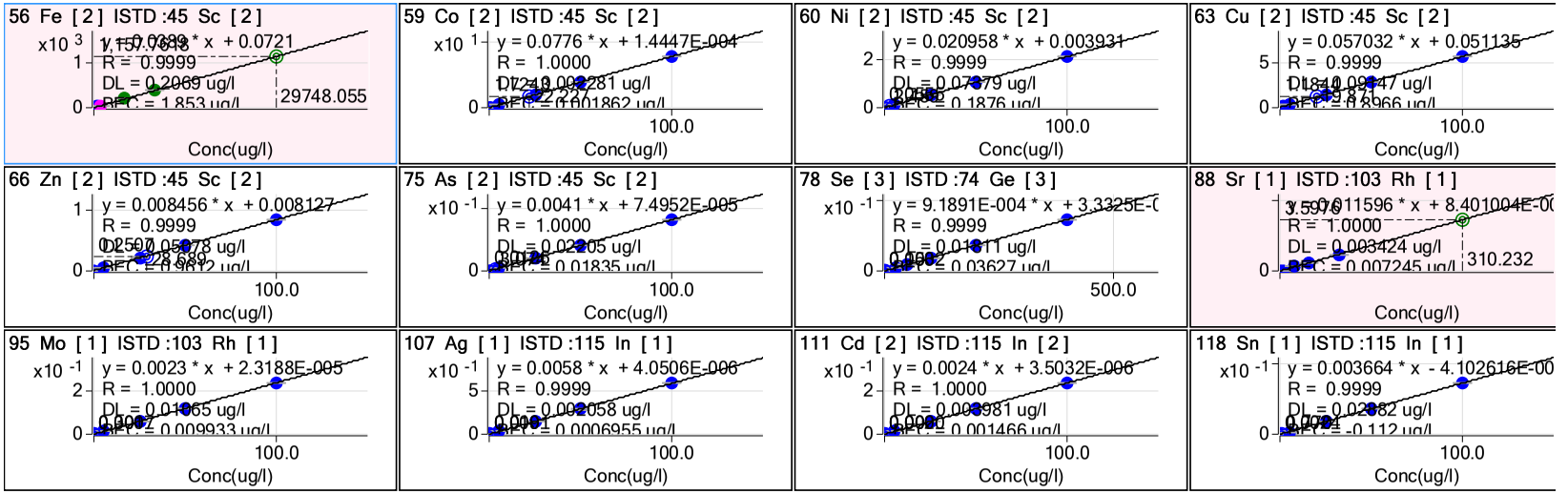

44 Ca [2] ISTD :45 Sc [2]
R = 1.0000
DL = 0.8452 ug/l
32909.542
Conc(ug/l)

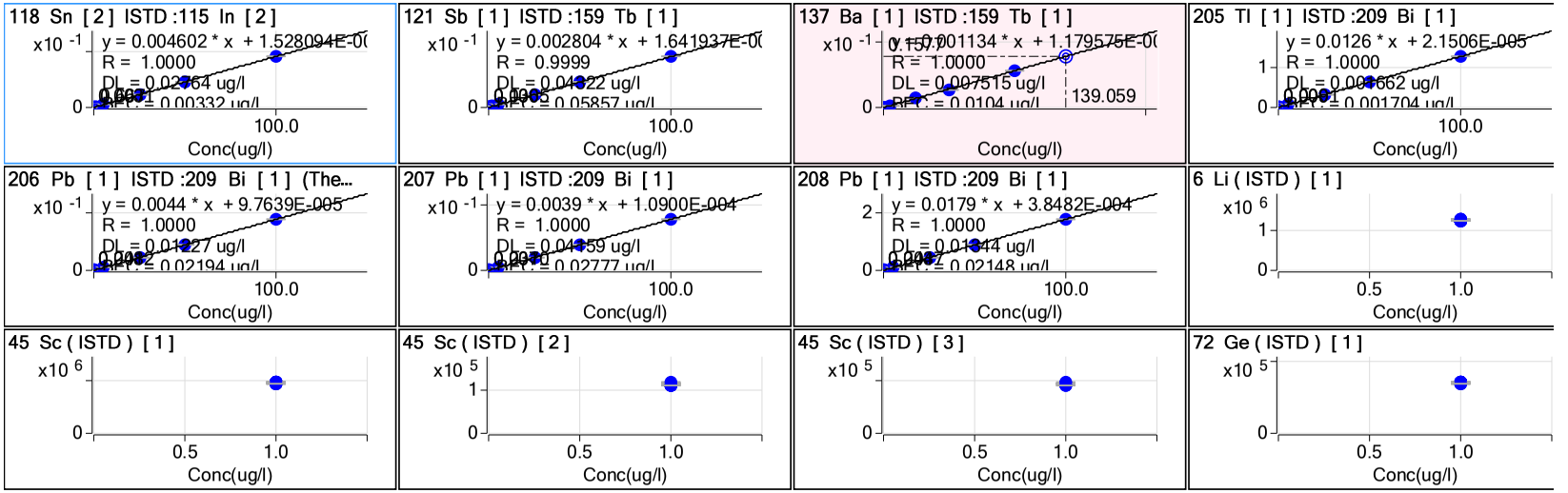

47 Ti [2] ISTD :45 Sc [2]
x10 -1
y = 0.0012 * x + 9.5623E-006
R = 0.9999
DL = 0.04236 ug/l
100.0
Conc(ug/l)

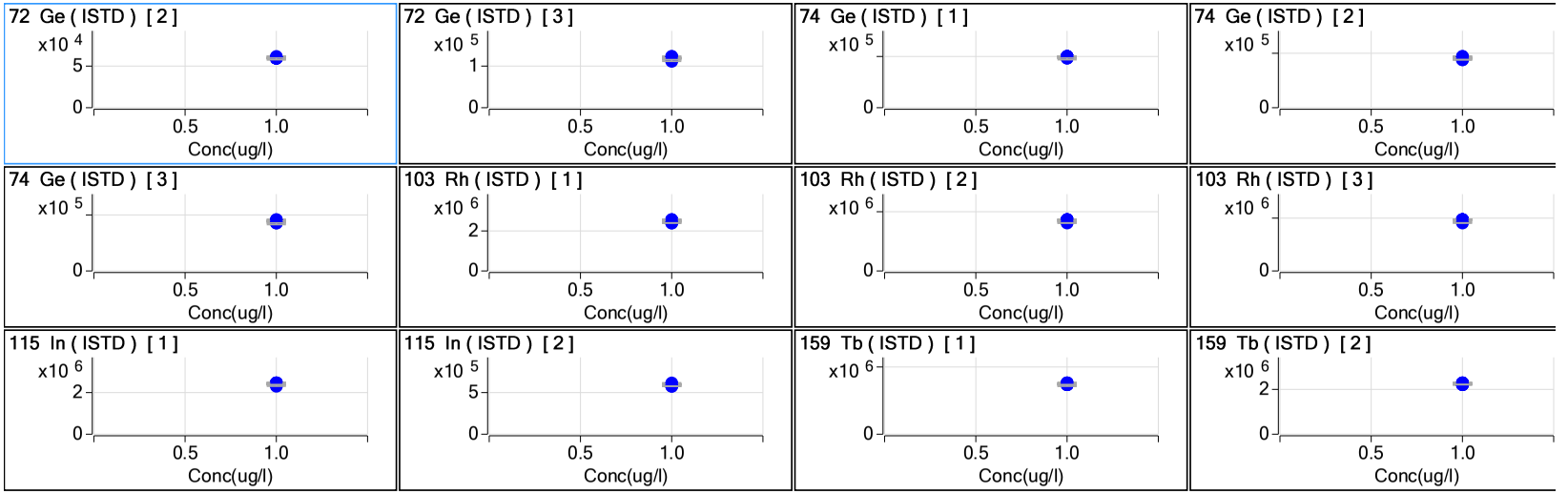

51 V [2] ISTD :45 Sc [2]
y = 0.037134 * x + 0.005141
R = 1.0000
100.0
Conc(ug/l)

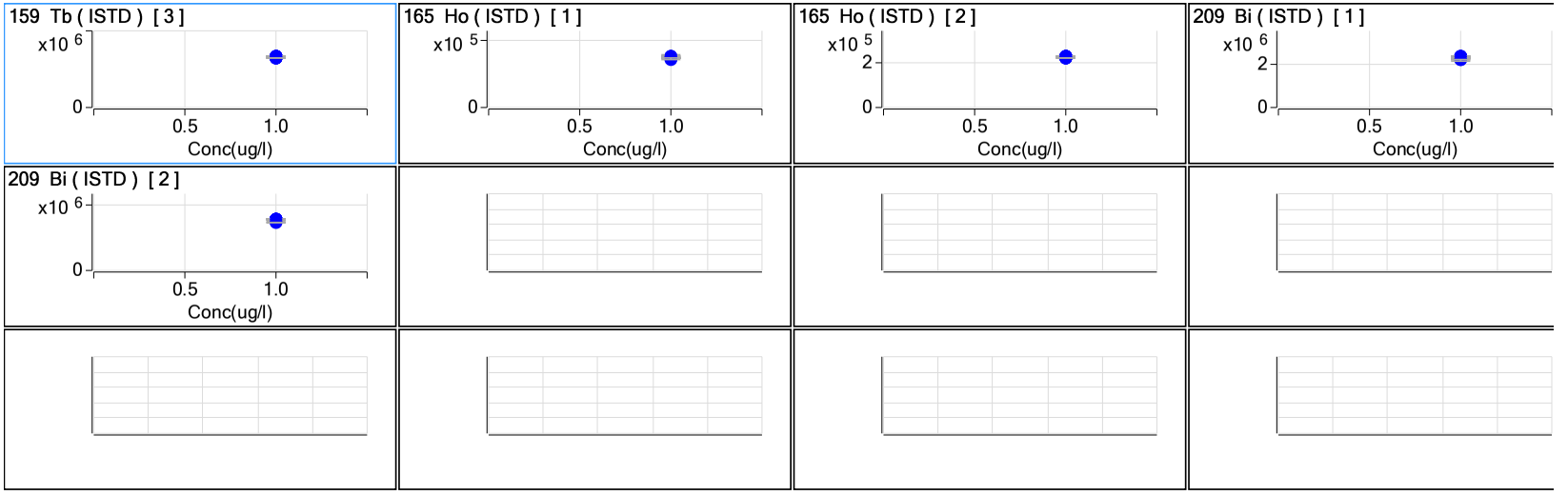

52 Cr [2] ISTD :45 Sc [2]
y = 0.0496 * x + 0.0039
R = 1.0000
100.0
Conc(ug/l)


55 Mn [2] ISTD :45 Sc [2]
x10 1
y = 0.0062 * x + 4.3317E-004
R = 1.0000
DL = 0.01039 ug/l
642.173
500.0
Conc(ug/l)


56 Fe [2] ISTD :45 Sc [2]
y = 0.0689 * x + 0.0721
R = 0.9999
DL = 0.2069 ug/l
29748.055
Conc(ug/l)
59 Co [2] ISTD :45 Sc [2]
y = 0.0776 * x + 1.4447E-004
R = 1.0000
Conc(ug/l)
60 Ni [2] ISTD :45 Sc [2]
y = 0.020958 * x + 0.003931
R = 0.9999
DL = 0.07379 ug/l
Conc(ug/l)
63 Cu [2] ISTD :45 Sc [2]
y = 0.057032 * x + 0.051135
R = 0.9999
Conc(ug/l)
66 Zn [2] ISTD :45 Sc [2]
y = 0.008456 * x + 0.008127
R = 0.9999
Conc(ug/l)
75 As [2] ISTD :45 Sc [2]
y = 0.0041 * x + 7.4952E-005
R = 1.0000
Conc(ug/l)
78 Se [3] ISTD :74 Ge [3]
y = 9.1891E-004 * x + 3.3325E-0
R = 0.9999
DL = 0.01611 ug/l
Conc(ug/l)
88 Sr [1] ISTD :103 Rh [1]
y = 0.011596 * x + 8.401004E-00
R = 1.0000
DL = 0.003424 ug/l
310.232
Conc(ug/l)
95 Mo [1] ISTD :103 Rh [1]
y = 0.0023 * x + 2.3188E-005
R = 1.0000
DL = 0.01665 ug/l
Conc(ug/l)
107 Ag [1] ISTD :115 In [1]
y = 0.0058 * x + 4.0506E-006
R = 0.9999
DL = 0.002058 ug/l
Conc(ug/l)
111 Cd [2] ISTD :115 In [2]
y = 0.0024 * x + 3.5032E-006
R = 1.0000
DL = 0.006981 ug/l
Conc(ug/l)
118 Sn [1] ISTD :115 In [1]
y = 0.003664 * x - 4.102616E-00
R = 0.9999
DL = 0.02682 ug/l
Conc(ug/l)


118 Sn [2] ISTD :115 In [2]
y = 0.004602 * x + 1.528094E-0(
R = 1.0000
DL = 0.02364 ug/l
RL = 0.00332 ug/l
Conc(ug/l)
121 Sb [1] ISTD :159 Tb [1]
y = 0.002804 * x + 1.641937E-0(
R = 0.9999
DL = 0.04322 ug/l
RL = 0.05857 ug/l
Conc(ug/l)
137 Ba [1] ISTD :159 Tb [1]
y = 0.001134 * x + 1.179575E-0(
R = 1.0000
DL = 0.007515 ug/l
RL = 0.0104 ug/l
139.059
Conc(ug/l)
205 Tl [1] ISTD :209 Bi [1]
y = 0.0126 * x + 2.1506E-005
R = 1.0000
DL = 0.000662 ug/l
RL = 0.001704 ug/l
Conc(ug/l)
206 Pb [1] ISTD :209 Bi [1] (The...
y = 0.0044 * x + 9.7639E-005
R = 1.0000
DL = 0.01227 ug/l
RL = 0.02194 ug/l
Conc(ug/l)
207 Pb [1] ISTD :209 Bi [1]
y = 0.0039 * x + 1.0900E-004
R = 1.0000
DL = 0.04159 ug/l
RL = 0.02777 ug/l
Conc(ug/l)
208 Pb [1] ISTD :209 Bi [1]
y = 0.0179 * x + 3.8482E-004
R = 1.0000
DL = 0.01344 ug/l
RL = 0.02148 ug/l
Conc(ug/l)
6 Li (ISTD) [1]
Conc(ug/l)
45 Sc (ISTD) [1]
Conc(ug/l)
45 Sc (ISTD) [2]
Conc(ug/l)
45 Sc (ISTD) [3]
Conc(ug/l)
72 Ge (ISTD) [1]
Conc(ug/l)


72 Ge (ISTD) [2]
x10 4
5
0
0.5
1.0
Conc(ug/l)
72 Ge (ISTD) [3]
x10 5
1
0
0.5
1.0
Conc(ug/l)
74 Ge (ISTD) [1]
x10 5
0
0.5
1.0
Conc(ug/l)
74 Ge (ISTD) [2]
x10 5
0
0.5
1.0
Conc(ug/l)
74 Ge (ISTD) [3]
x10 5
0
0.5
1.0
Conc(ug/l)
103 Rh (ISTD) [1]
x10 6
2
0
0.5
1.0
Conc(ug/l)
103 Rh (ISTD) [2]
x10 6
0
0.5
1.0
Conc(ug/l)
103 Rh (ISTD) [3]
x10 6
0
0.5
1.0
Conc(ug/l)
115 In (ISTD) [1]
x10 6
2
0
0.5
1.0
Conc(ug/l)
115 In (ISTD) [2]
x10 5
5
0
0.5
1.0
Conc(ug/l)
159 Tb (ISTD) [1]
x10 6
0
0.5
1.0
Conc(ug/l)
159 Tb (ISTD) [2]
x10 6
2
0
0.5
1.0
Conc(ug/l)


159 Tb (ISTD) [3]
x10 6
0
0.5
1.0
Conc(ug/l)
165 Ho (ISTD) [1]
x10 5
0
0.5
1.0
Conc(ug/l)
165 Ho (ISTD) [2]
x10 5
2
0
0.5
1.0
Conc(ug/l)
209 Bi (ISTD) [1]
x10 6
2
0
0.5
1.0
Conc(ug/l)
209 Bi (ISTD) [2]
x10 6
0
0.5
1.0
Conc(ug/l)

SGS North America Inc.

Aqueous Metals Digestion Form

Batch Information

Batch ID	Start Date	Start Time	End Date	End time	QC Samp 1	QC Samp 2
MP18781	12/10/2019	11:10	12/10/2019	16:45	JC99822-1	

Temperature

		Block ID1	Therm. ID#	Temperature	Correction	Corrected Temp
1	Start	5	2106305	94	0	94
1	End	5	2106305	94	0	94
2	Start					
2	End					

Methods and Equipment

	Dig. Method	Heating Method		Auto Pipette #	Digestion Tube Lot #	
	SW846 3010A	Digestion Block		M-74	1906257	

Sample ID	Bottle Number	Pres (Y/N)	Initial Sample Volume	Final Volume in ML	Reagent Groups Added	Spike Groups Added	Comments
MP18781-MB1	N/A	N	50	50	AB		
MP18781-B1	N/A	N	50	50	AB	ABCD	
MP18781-S1	1	Y	50	50	AB	ABCD	
MP18781-S2	1	Y	50	50	AB	ABCD	
MP18781-SD1	1	Y	50	50	AB		
JC99611-10F	1	Y	50	50	AB		
JC99611-11F	1	Y	50	50	AB		
JC99611-12F	1	Y	50	50	AB		
JC99611-13F	1	Y	50	50	AB		
JC99611-14F	1	Y	50	50	AB		
JC99611-15F	1	Y	50	50	AB		
JC99611-16F	1	Y	50	50	AB		
JC99611-17F	1	Y	50	50	AB		
JC99611-1F	1	Y	50	50	AB		
JC99611-2F	1	Y	50	50	AB		
JC99611-3F	1	Y	50	50	AB		
JC99611-4F	1	Y	50	50	AB		
JC99611-5F	1	Y	50	50	AB		
JC99611-6F	1	Y	50	50	AB		
JC99611-7F	1	Y	50	50	AB		
JC99611-8F	1	Y	50	50	AB		
JC99611-9F	1	Y	50	50	AB		
JC99810-1	1	Y	50	50	AB		
JC99822-1	1	Y	50	50	AB		
JC99822-2	1	Y	50	50	AB		
MP18781-B2	N/A	N	50	50	AB	EFGHI	
MP18781-S3	1	Y	50	50	AB	EFGHI	
MP18781-S4	1	Y	50	50	AB	EFGHI	

Reagents Groups

Group	Description	MLs Used
A	CONC HNO3	3
B	1:1 HCL	5
C		
D		
E		
F		
G		
H		

Spike Groups

Group	Description	MLs Used
A	ACCUTEST 13A REV1	0.5
B	ACCUTEST 14A REV1	0.5
C	MINERALS 5000PPM	0.25
D	AG 20PPM	0.625
E	ACCUTEST 13B REV1	0.2
F	ACCUTEST 14B REV1	0.2
G	MINERALS 1000PPM	0.2
H	AG 20PPM	0.2
I		

Comments:

Analyst TAYLORG **Approved by** Wendyz **Approved on** 12/11/2019

Note: Reagent traceability for batch Start Date can be seen on the reagent traceability page for this batch.
Serial Dilution samples shown for QC purposes only.
Acceptable Temperature range is 90-95 degrees C unless otherwise noted

SGS North America Inc

Aqueous Metals Digestion Form

Batch Information

Batch ID	Start Date	Start Time	End Date	End time	QC Samp 1	QC Samp 2
MP18781	12/10/2019	11:10	12/10/2019	16:45	JC99822-1	

Temperature

		Block ID1	Therm. ID#	Temperature	Correction	Corrected Temp
1	Start	5	2106305	94	0	94
1	End	5	2106305	94	0	94
2	Start					
2	End					

Methods and Equipment

	Dig. Method	Heating Method		Auto Pipette #	Digestion Tube Lot #	
	SW846 3010A	Digestion Block		M-74	1906257	

Sample ID	Bottle Number	Pres (Y/N)	Initial Sample Volume	Final Volume in ML	Reagent Groups Added	Spike Groups Added	Comments
MP18781-MB1	N/A	N	50	50	AB		
MP18781-B1	N/A	N	50	50	AB	ABCD	
MP18781-S1	1	Y	50	50	AB	ABCD	
MP18781-S2	1	Y	50	50	AB	ABCD	
MP18781-SD1	1	Y	50	50	AB		
JC99611-10F	1	Y	50	50	AB		
JC99611-11F	1	Y	50	50	AB		
JC99611-12F	1	Y	50	50	AB		
JC99611-13F	1	Y	50	50	AB		
JC99611-14F	1	Y	50	50	AB		
JC99611-15F	1	Y	50	50	AB		
JC99611-16F	1	Y	50	50	AB		
JC99611-17F	1	Y	50	50	AB		
JC99611-1F	1	Y	50	50	AB		
JC99611-2F	1	Y	50	50	AB		
JC99611-3F	1	Y	50	50	AB		
JC99611-4F	1	Y	50	50	AB		
JC99611-5F	1	Y	50	50	AB		
JC99611-6F	1	Y	50	50	AB		
JC99611-7F	1	Y	50	50	AB		
JC99611-8F	1	Y	50	50	AB		
JC99611-9F	1	Y	50	50	AB		
JC99810-1	1	Y	50	50	AB		
JC99822-1	1	Y	50	50	AB		
JC99822-2	1	Y	50	50	AB		
MP18781-B2	N/A	N	50	50	AB	EFGHI	
MP18781-S3	1	Y	50	50	AB	EFGHI	
MP18781-S4	1	Y	50	50	AB	EFGHI	

Reagents Groups

Group	Description	MLs Used
A	CONC HNO3	3
B	1:1 HCL	5
C		
D		
E		
F		
G		
H		

Spike Groups

Group	Description	MLs Used
A	ACCUTEST 13A REV1	0.5
B	ACCUTEST 14A REV1	0.5
C	MINERALS 5000PPM	0.25
D	AG 20PPM	0.825
E	ACCUTEST 13B REV1	0.2
F	ACCUTEST 14B REV1	0.2
G	MINERALS 1000PPM	0.2
H	AG 20PPM	0.2
I	SE 20 PPM	0.8

Comments: _____

Analyst TAYLORG Approved by _____ Approved on _____

Note: Reagent traceability for batch Start Date can be seen on the reagent traceability page for this batch.
Serial Dilution samples shown for QC purposes only.
Acceptable Temperature range is 90-95 degrees C unless otherwise noted

SGS

Metals Digestion Reagents Information Log

Digestion Batch ID: MP 18781 **Date:** 12/10/19

Matrix: ALL

Standard/Reagent Type	Exp. Date	Standard/Reagent ID
Spiking Solution - (ACCUTEST-13A REV1)	4/28/2020	MP-015-1244
Spiking Solution - (ACCUTEST-14A REV1)	4/28/2020	MP-015-1245
Spiking Solution - 5000 mg/l Minerals	10/24/2020	P2-MEB684097 MFG: INO. VENT.
Spiking Solution - Sulfur 1000ppm	9/25/2021	LOT: 092518 MFG: ABS. STANDARDS
Spiking Solution - Si 1000ppm	9/24/2020	P2-SI676242 MFG: INO. VENT.
Spiking Solution - Bi 1000ppm	8/29/2020	N2-BI669548 MFG: INO. VENT.
Spiking Solution - Se 20ppm	5/27/2020	MP-015-1252
Spiking Solution - Li 1000ppm	11/4/2020	P2-LI675235 MFG: INO. VENT.
Spiking Solution- Ag 20 ppm	5/27/2020	MP-015-1253
Spiking Solution - (ACCUTEST-13B REV1)	4/28/2020	MP-015-1246
Spiking Solution - (ACCUTEST-14B REV1)	4/28/2020	MP-015-1247
Spiking Solution - 1000ppm Minerals	2/22/2020	MP-015-1213
Spiking Solution- P		
Nitric Acid	12/10/2021	LOT: 237365 MFG: J T. BAKER
Nitric Acid (1:1)	6/4/2020	MP-018-42-353 1 1 HNO3
Hydrochloric Acid	12/10/2021	LOT: 240180 MFG: BAKER
Hydrochloric Acid (1:1)	6/3/2020	MP-018-42-352 1:1 HCL
Hydrogen Peroxide	12/2/2021	LOT: 192235 MFG: FISHER
Soil Lab Control/Soil LC	10/22/2022	LOT: D105-540 MFG: ERA
Teflon Chips(For Soil MB and Blank Spike)	N/A	LOT: 24635764 MFG: SAINT-GOBAIN
Digestion Tubes	N/A	LOT: 1906257 MFG: ENV. EXPRESS
pH Paper	11/1/2021	LOT: 231018 MFG: HYDRION
Filter paper Q8	N/A	LOT: 16939084 MFG: FISHER
Filter paper 0.45µm	N/A	LOT: F9HA99962E MFG: FISHER

Spike witnessed By: CH

Validated By

Validated On:

Metals Prep Reagent
1/17/18

7.3.1

7

Date 12/10/19 Analyst ND MP # 1877/ 18736 18781A

Post spike for ICP Method 6010D

QC sample #

Spiking solution	Elements	Spike added (Y/N)	Vendor	Intermediate Lot #	Exp. Date	Conc. (mg/l)	Amt of Spike added (ml)	Digestate sample volume (ml)	Final Digestate volume in ml (Spike+ Sample)	Final Conc at the instrument (mg/l)
Mixed ICP intermediate Metals Solution (ACCUTEST-13A-REV1)	Ba,Be,B Cd,Cr,Co,Cu,Pb, Mn,Ni,P,Se,Sr,TL, V,Zn	Yes	in house	MP-015-1242	4/28/20	200	0.2	19.25	20	2
Mixed ICP intermediate Metals Solution (ACCUTEST-14A-REV1)	Sb,As,Mo,Sn,Ti, W,Zr	Yes	in house	MP-015-1243	4/28/20	200	0.2			2
Ag Spike Intermediate	Ag	Yes	in house	MP-015-1249	5/13/20	20	0.25			0.25
Metals Mix	Ca,Al,Fe,Mg,K, Na	Yes	inorganic Venture	P2-MEB 678659	4/25/20	5000	0.1			25
S spike	S					200	0.2			2
Bi Spike	Bi					200	0.2			2
Li Spike	Li					200	0.2			2
Si spike	Si					1000	0.1			5

Form: DAYT-MET-0095-01-FORM
Rev. Date : 7/10/2018

Reviewed by:

SGS North America Inc.

Aqueous Metals Digestion Form

Batch Information

Batch ID	Start Date	Start Time	End Date	End time	QC Samp 1	QC Samp 2
MP18781	12/10/2019	11:10	12/10/2019	16:45	JC99822-1	

Temperature

		Block ID1	Therm. ID#	Temperature	Correction	Corrected Temp
1	Start	5	2106305	94	0	94
1	End	5	2106305	94	0	94
2	Start					
2	End					

Methods and Equipment

	Dig. Method	Heating Method		Auto Pipette #	Digestion Tube Lot #	
	SW846 3010A	Digestion Block		M-74	1906257	

Sample ID	Bottle Number	Pres (Y/N)	Initial Sample Volume	Final Volume in ML	Reagent Groups Added	Spike Groups Added	Comments
MP18781-MB1	N/A	N	50	50	AB		
MP18781-B1	N/A	N	50	50	AB	ABCD	
MP18781-S1	1	Y	50	50	AB	ABCD	
MP18781-S2	1	Y	50	50	AB	ABCD	
MP18781-SD1	1	Y	50	50	AB		
JC99611-10F	1	Y	50	50	AB		
JC99611-11F	1	Y	50	50	AB		
JC99611-12F	1	Y	50	50	AB		
JC99611-13F	1	Y	50	50	AB		
JC99611-14F	1	Y	50	50	AB		
JC99611-15F	1	Y	50	50	AB		
JC99611-16F	1	Y	50	50	AB		
JC99611-17F	1	Y	50	50	AB		
JC99611-1F	1	Y	50	50	AB		
JC99611-2F	1	Y	50	50	AB		
JC99611-3F	1	Y	50	50	AB		
JC99611-4F	1	Y	50	50	AB		
JC99611-5F	1	Y	50	50	AB		
JC99611-6F	1	Y	50	50	AB		
JC99611-7F	1	Y	50	50	AB		
JC99611-8F	1	Y	50	50	AB		
JC99611-9F	1	Y	50	50	AB		
JC99810-1	1	Y	50	50	AB		
JC99822-1	1	Y	50	50	AB		
JC99822-2	1	Y	50	50	AB		
MP18781-B2	N/A	N	50	50	AB	EFGHI	
MP18781-S3	1	Y	50	50	AB	EFGHI	
MP18781-S4	1	Y	50	50	AB	EFGHI	

Reagents Groups

Group	Description	MLs Used
A	CONC HNO3	3
B	1:1 HCL	5
C		
D		
E		
F		
G		
H		

Spike Groups

Group	Description	MLs Used
A	ACCUTEST 13A REV1	0.5
B	ACCUTEST 14A REV1	0.5
C	MINERALS 5000PPM	0.25
D	AG 20PPM	0.625
E	ACCUTEST 13B REV1	0.2
F	ACCUTEST 14B REV1	0.2
G	MINERALS 1000PPM	0.2
H	AG 20PPM	0.2
I		

Comments:

Analyst TAYLORG **Approved by** Wendyz **Approved on** 12/11/2019

Note: Reagent traceability for batch Start Date can be seen on the reagent traceability page for this batch.
Serial Dilution samples shown for QC purposes only.
Acceptable Temperature range is 90-95 degrees C unless otherwise noted

SGS North America Inc

Aqueous Metals Digestion Form

Batch Information

Batch ID	Start Date	Start Time	End Date	End time	QC Samp 1	QC Samp 2
MP18781	12/10/2019	11:10	12/10/2019	16:45	JC99822-1	

Temperature

		Block ID1	Therm. ID#	Temperature	Correction	Corrected Temp
1	Start	5	2106305	94	0	94
1	End	5	2106305	94	0	94
2	Start					
2	End					

Methods and Equipment

	Dig. Method	Heating Method		Auto Pipette #	Digestion Tube Lot #	
	SW846 3010A	Digestion Block		M-74	1906257	

Sample ID	Bottle Number	Pres (Y/N)	Initial Sample Volume	Final Volume in ML	Reagent Groups Added	Spike Groups Added	Comments
MP18781-MB1	N/A	N	50	50	AB		
MP18781-B1	N/A	N	50	50	AB	ABCD	
MP18781-S1	1	Y	50	50	AB	ABCD	
MP18781-S2	1	Y	50	50	AB	ABCD	
MP18781-SD1	1	Y	50	50	AB		
JC99611-10F	1	Y	50	50	AB		
JC99611-11F	1	Y	50	50	AB		
JC99611-12F	1	Y	50	50	AB		
JC99611-13F	1	Y	50	50	AB		
JC99611-14F	1	Y	50	50	AB		
JC99611-15F	1	Y	50	50	AB		
JC99611-16F	1	Y	50	50	AB		
JC99611-17F	1	Y	50	50	AB		
JC99611-1F	1	Y	50	50	AB		
JC99611-2F	1	Y	50	50	AB		
JC99611-3F	1	Y	50	50	AB		
JC99611-4F	1	Y	50	50	AB		
JC99611-5F	1	Y	50	50	AB		
JC99611-6F	1	Y	50	50	AB		
JC99611-7F	1	Y	50	50	AB		
JC99611-8F	1	Y	50	50	AB		
JC99611-9F	1	Y	50	50	AB		
JC99810-1	1	Y	50	50	AB		
JC99822-1	1	Y	50	50	AB		
JC99822-2	1	Y	50	50	AB		
MP18781-B2	N/A	N	50	50	AB	EFGHI	
MP18781-S3	1	Y	50	50	AB	EFGHI	
MP18781-S4	1	Y	50	50	AB	EFGHI	

Reagents Groups

Group	Description	MLs Used
A	CONC HNO3	3
B	1:1 HCL	5
C		
D		
E		
F		
G		
H		

Spike Groups

Group	Description	MLs Used
A	ACCUTEST 13A REV1	0.5
B	ACCUTEST 14A REV1	0.5
C	MINERALS 5000PPM	0.25
D	AG 20PPM	0.825
E	ACCUTEST 13B REV1	0.2
F	ACCUTEST 14B REV1	0.2
G	MINERALS 1000PPM	0.2
H	AG 20PPM	0.2
I	SE 20 PPM	0.8

Comments: _____

Analyst TAYLORG Approved by _____ Approved on _____

Note: Reagent traceability for batch Start Date can be seen on the reagent traceability page for this batch.
Serial Dilution samples shown for QC purposes only.
Acceptable Temperature range is 90-95 degrees C unless otherwise noted

SGS

Metals Digestion Reagents Information Log

Digestion Batch ID: MP 18781 **Date:** 12/10/19

Matrix: ALL

Standard/Reagent Type	Exp. Date	Standard/Reagent ID
Spiking Solution - (ACCUTEST-13A REV1)	4/28/2020	MP-015-1244
Spiking Solution - (ACCUTEST-14A REV1)	4/28/2020	MP-015-1245
Spiking Solution - 5000 mg/l Minerals	10/24/2020	P2-MEB684097 MFG: INO. VENT.
Spiking Solution - Sulfur 1000ppm	9/25/2021	LOT: 092518 MFG: ABS. STANDARDS
Spiking Solution - Si 1000ppm	9/24/2020	P2-SI676242 MFG: INO. VENT.
Spiking Solution - Bi 1000ppm	8/29/2020	N2-BI669548 MFG: INO. VENT.
Spiking Solution - Se 20ppm	5/27/2020	MP-015-1252
Spiking Solution - Li 1000ppm	11/4/2020	P2-LI675235 MFG: INO. VENT.
Spiking Solution- Ag 20 ppm	5/27/2020	MP-015-1253
Spiking Solution - (ACCUTEST-13B REV1)	4/28/2020	MP-015-1246
Spiking Solution - (ACCUTEST-14B REV1)	4/28/2020	MP-015-1247
Spiking Solution - 1000ppm Minerals	2/22/2020	MP-015-1213
Spiking Solution- P		
Nitric Acid	12/10/2021	LOT: 237365 MFG: J T. BAKER
Nitric Acid (1:1)	6/4/2020	MP-018-42-353 1 1 HNO3
Hydrochloric Acid	12/10/2021	LOT: 240180 MFG: BAKER
Hydrochloric Acid (1:1)	6/3/2020	MP-018-42-352 1:1 HCL
Hydrogen Peroxide	12/2/2021	LOT: 192235 MFG: FISHER
Soil Lab Control/Soil LC	10/22/2022	LOT: D105-540 MFG: ERA
Teflon Chips(For Soil MB and Blank Spike)	N/A	LOT: 24635764 MFG: SAINT-GOBAIN
Digestion Tubes	N/A	LOT: 1906257 MFG: ENV. EXPRESS
pH Paper	11/1/2021	LOT: 231018 MFG: HYDRION
Filter paper Q8	N/A	LOT: 16939084 MFG: FISHER
Filter paper 0.45µm	N/A	LOT: F9HA99962E MFG: FISHER

Spike witnessed By: CH

Validated By

Validated On:

Metals Prep Reagent
1/17/18

Date 12/10/19 Analyst NP MP # 18771/18736/18781A

Post spike for ICP Method 6010D

QC sample #

Spiking solution	Elements	Spike added (Y/N)	Vendor	Intermediate Lot #	Exp. Date	Conc. (mg/l)	Amt of Spike added (ml)	Digestate sample volume (ml)	Final Digestate volume in ml (Spike+ Sample)	Final Conc at the instrument (mg/l)
Mixed ICP intermediate Metals Solution (ACCUTEST-13A-REV1)	Ba,Be,B Cd,Cr,Co,Cu,Pb, Mn,Ni,P,Se,Sr,TL, V,Zn	Yes	in house	MP-015-1242	4/28/20	200	0.2	19.25	20	2
Mixed ICP intermediate Metals Solution (ACCUTEST-14A-REV1)	Sb,As,Mo,Sn,Ti, W,Zr	Yes	in house	mp-015-1243	4/28/20	200	0.2			2
Ag Spike Intermediate	Ag	Yes	in house	mp-015-1249	5/13/20	20	0.25			0.25
Metals Mix	Ca,Al,Fe,Mg,K, Na	Yes	inorganic Venture	IV-MEB 678659	4/25/20	5000	0.1			25
S spike	S					200	0.2			2
Bi Spike	Bi					200	0.2			2
Li Spike	Li					200	0.2			2
Si spike	Si					1000	0.1			5

Form: DAYT-MET-0095-01-FORM
Rev. Date : 7/10/2018

Reviewed by:

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP25650/GN3545	2.0	0.0	mg/l	80	83.2	104.0	90-110%
Nitrogen, Nitrate + Nitrite	GP25707/GN3690	0.10	0.0	mg/l	2	2.02	101.0	90-110%
Nitrogen, Nitrite	GN3257	0.010	0.0	mg/l	0.04	0.036	90.0	90-110%
Sulfate	GP25650/GN3545	2.0	0.0	mg/l	80	84.1	105.1	90-110%

Associated Samples:
Batch GN3257: JC99810-1A
Batch GP25650: JC99810-1A
Batch GP25707: JC99810-1A
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP25650/GN3545	JC99565-1	mg/l	15.9	15.9	0.0	0-20%
Nitrogen, Nitrate + Nitrite	GP25707/GN3690	JC99779-1	mg/l	0.0	0.0	0.0	0-33%
Nitrogen, Nitrite	GN3257	JC99810-1A	mg/l	0.0030 U	0.0	0.0	0-11%
Sulfate	GP25650/GN3545	JC99565-1	mg/l	98.7	98.4	0.3	0-20%

Associated Samples:
Batch GN3257: JC99810-1A
Batch GP25650: JC99810-1A
Batch GP25707: JC99810-1A
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP25650/GN3545	JC99565-1	mg/l	15.9	80	97.6	102.1	80-120%
Nitrogen, Nitrate + Nitrite	GP25707/GN3690	JC99779-1	mg/l	0.0	1	0.82	82.0N(a)	90-110%
Nitrogen, Nitrite	GN3257	JC99810-1A	mg/l	0.0030 U	0.04	0.019	47.5	22-140%
Sulfate	GP25650/GN3545	JC99565-1	mg/l	98.7	80	178	99.1	80-120%

Associated Samples:
Batch GN3257: JC99810-1A
Batch GP25650: JC99810-1A
Batch GP25707: JC99810-1A
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Spike recovery indicates possible matrix interference.

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: C19121601.TXT Date Analyzed: 12/16/19 Methods: EPA 300/SW846 9056A
Analyst: NV Run ID: GN3545
Parameters: Chloride,Sulfate

Time	Sample Description	Dilution Factor	PS Recov	Comments
17:11	GN3545-STD1	1		Manually integrated chrom. peaks reviewed and verified to comply with criteria of Accutest SOP EQA044.
17:35	GN3545-STD2	1		RT: F=3.002 min Chl=4.251 min So4=5.920 min
17:59	GN3545-STD3	1		STDC
18:23	GN3545-STD4	1		STDD
18:47	GN3545-STD5	1		STDE
19:11	GN3545-STD6	1		STDF
19:35	GN3545-STD7	1		STDG
09:57	GN3545-ICV1	1		
10:21	GN3545-CCV1	1		
10:45	GN3545-CCB1	1		
11:09	GP25587-MB1	1		
11:33	GP25587-B1	1		
11:58	ZZZZZZ	10		
12:22	GP25617-MB2	1		
12:46	GP25617-B2	1		
13:40	ZZZZZZ	5		
14:04	ZZZZZZ	10		
14:27	ZZZZZZ	10		
14:51	ZZZZZZ	5		
15:15	ZZZZZZ	5		
15:39	GN3545-CCV2	1		
16:03	GN3545-CCB2	1		
16:27	ZZZZZZ	10		
16:54	ZZZZZZ	5		
17:18	ZZZZZZ	50		
17:42	ZZZZZZ	50		
18:06	GP25650-MB1	1		
18:31	GP25650-B1	1		
18:55	GP25650-S1	1		
19:19	GP25650-D1	1		
19:43	JC99565-1	1		(sample used for QC only; not part of login JC99810)
20:07	GP25650-S2	1		
20:31	GN3545-CCV3	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: C19121601.TXT Date Analyzed: 12/16/19 Methods: EPA 300/SW846 9056A
Analyst: NV Run ID: GN3545
Parameters: Chloride,Sulfate

Time	Sample Description	Dilution Factor	PS Recov	Comments
20:55	GN3545-CCB3	1		
21:18	JC99565-2	1		(sample used for QC only; not part of login JC99810)
21:42	ZZZZZZ	1		
22:06	ZZZZZZ	1		
22:30	ZZZZZZ	1		
22:54	ZZZZZZ	1		
23:18	ZZZZZZ	1		
23:42	ZZZZZZ	1		
00:06	ZZZZZZ	1		
00:30	ZZZZZZ	1		
00:54	ZZZZZZ	1		
01:18	GN3545-CCV4	1		
01:42	GN3545-CCB4	1		
02:06	ZZZZZZ	1		
02:29	ZZZZZZ	1		
02:53	JC99810-1A	1		
03:17	ZZZZZZ	1		
03:41	ZZZZZZ	1		
04:05	ZZZZZZ	1		
04:29	ZZZZZZ	1		
04:53	ZZZZZZ	1		
05:17	ZZZZZZ	1		
05:41	GN3545-CCV5	1		
06:05	GN3545-CCB5	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: C19121601.TXT Date Analyzed: 12/16/19 Methods: EPA 300/SW846 9056A
Run ID: GN3545 Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN3545-ICV1	Chloride	96.5	2.0	0.83	100	96.5	90-110
GN3545-ICV1	Sulfate	96.5	2.0	0.89	100	96.5	90-110
GN3545-CCV1	Chloride	199	2.0	0.83	200	99.5	90-110
GN3545-CCV1	Sulfate	200	2.0	0.89	200	100.0	90-110
GN3545-CCB1	Chloride	0.83 U	2.0	0.83			
GN3545-CCB1	Sulfate	0.89 U	2.0	0.89			
GN3545-CCV2	Chloride	199	2.0	0.83	200	99.5	90-110
GN3545-CCV2	Sulfate	201	2.0	0.89	200	100.5	90-110
GN3545-CCB2	Chloride	0.83 U	2.0	0.83			
GN3545-CCB2	Sulfate	0.89 U	2.0	0.89			
GN3545-CCV3	Chloride	199	2.0	0.83	200	99.5	90-110
GN3545-CCV3	Sulfate	201	2.0	0.89	200	100.5	90-110
GN3545-CCB3	Chloride	0.83 U	2.0	0.83			
GN3545-CCB3	Sulfate	0.89 U	2.0	0.89			
GN3545-CCV4	Chloride	192	2.0	0.83	200	96.0	90-110
GN3545-CCV4	Sulfate	194	2.0	0.89	200	97.0	90-110
GN3545-CCB4	Chloride	0.83 U	2.0	0.83			
GN3545-CCB4	Sulfate	0.89 U	2.0	0.89			
GN3545-CCV5	Chloride	199	2.0	0.83	200	99.5	90-110
GN3545-CCV5	Sulfate	202	2.0	0.89	200	101.0	90-110
GN3545-CCB5	Chloride	0.83 U	2.0	0.83			
GN3545-CCB5	Sulfate	0.89 U	2.0	0.89			

(!) Outside of QC limits

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: E121919W1.NO32 Date Analyzed: 12/19/19 Methods: EPA 353.2/LACHAT
Analyst: KI Run ID: GN3690
Parameters: Nitrogen, Nitrate + Nitrite

Time	Sample Description	Dilution Factor	PS Recov	Comments
16:43	GN3690-STD1	1		STDA
16:44	GN3690-STD2	1		STDB
16:45	GN3690-STD3	1		STDC
16:46	GN3690-STD4	1		STDD
16:47	GN3690-STD5	1		STDE
16:48	GN3690-STD6	1		STDF
16:49	GN3690-STD7	1		STDG
16:52	GN3690-ICV1	1		
16:53	GN3690-ICB1	1		
16:54	GN3690-CCV1	1		
16:55	GN3690-CCB1	1		
16:56	GP25707-MB1	1		
16:57	GP25707-B1	1		
16:58	GP25707-S1	1		
16:59	GP25707-D1	1		see rerun
17:01	JC99779-1	1		(sample used for QC only; not part of login JC99810)
17:02	ZZZZZZ	1		
17:03	ZZZZZZ	1		
17:04	ZZZZZZ	1		
17:05	GP25707-D1	1		
17:06	ZZZZZZ	1		
17:07	GN3690-CCV2	1		
17:08	GN3690-CCB2	1		
17:10	JC99810-1A	1		
17:11	ZZZZZZ	1		
17:12	ZZZZZZ	1		
17:13	ZZZZZZ	1		
17:16	GN3690-CCV3	1		
17:17	GN3690-CCB3	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: JC99810
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: E121919W1.NO32 Date Analyzed: 12/19/19 Methods: EPA 353.2/LACHAT
Run ID: GN3690 Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN3690-ICV1	Nitrogen, Nitrate + Nitrite	1.99	0.10	0.090	2	99.5	90-110
GN3690-ICB1	Nitrogen, Nitrate + Nitrite	0.090 U	0.10	0.090			
GN3690-CCV1	Nitrogen, Nitrate + Nitrite	2.48	0.10	0.090	2.5	99.2	90-110
GN3690-CCB1	Nitrogen, Nitrate + Nitrite	0.090 U	0.10	0.090			
GN3690-CCV2	Nitrogen, Nitrate + Nitrite	2.48	0.10	0.090	2.5	99.2	90-110
GN3690-CCB2	Nitrogen, Nitrate + Nitrite	0.090 U	0.10	0.090			
GN3690-CCV3	Nitrogen, Nitrate + Nitrite	2.57	0.10	0.090	2.5	102.8	90-110
GN3690-CCB3	Nitrogen, Nitrate + Nitrite	0.090 U	0.10	0.090			

(!) Outside of QC limits

General Chemistry

Raw Data

SGS

Test: Nitrogen, Nitrite
Product: NO2
Method: SM4500NO2 B-11 (Aqueous) ◉ Units: mg/l
SM4500NO2 B-11 M (Solids) ○ mg/kg

Analyst: UP
GN Batch ID: GN3257
GP Batch ID: N/A
Date: 12/7/2019
Instrument ID: M

Original Calibration Information — Calibration Date: 10/25/2019

	Blank	Std 1	Std 2	Std 3	Std 4	Std 5	Std 6	Std 7
Known:	0.000	0.010	0.025	0.050	0.075	0.100	0.200	
Absorbance:	0.000	0.035	0.081	0.169	0.269	0.351	0.682	
Actual Value:	0.000	0.010	0.023	0.049	0.078	0.102	0.198	

Continuing Calibration Check Standards Data: 12/7/2019

	Blank	Std 1	Std 6
Known:	0.000	0.010	0.200
Absorbance:	0.000	0.035	0.659
Recovery:	0.0%	98.8%	95.8%
Actual Value:		0.010	0.192

Correlation Coeff. = 0.99965
Slope = 0.29122
Intercept = -0.00031

Bottle #	Sample ID	Time Analyzed	Initial Wt (g) or Vol (ml)	Final Vol (ml)	Dilution	Sample Abs	Background Abs.	Result From Curve (mg/L)	Final Result	DL	Units	Factor	pH between 5 and 9 (Y or N)
	ICV	10:44	50	50	1	0.321	NA	0.093	0.093	NA	mg/l	NA	
	CCV	11:09	50	50	1	0.325	NA	0.094	0.094	NA	mg/l	NA	
	CCB	11:09	50	50	1	0.000	NA	0.000	0.000	NA	mg/l	NA	
	GN3257-MB1	11:09	50	50	1	0.000	0.000	0.000	0.000	0.010	mg/l	1	
	GN3257-B1	11:09	50	50	1	0.125	0.000	0.036	0.036	0.010	mg/l	1	
3	GN3257-S1	11:09	50	50	1	0.075	0.009	0.019	0.019	0.010	mg/l	1	
3	GN3257-D1	11:09	50	50	1	0.002	0.009	0.000	0.000	0.010	mg/l	1	
3	JC99810-1A	11:09	50	50	1	0.001	0.009	0.000	0.000	0.010	mg/l	1	
3	JC99713-7	11:09	50	50	1	0.041	0.015	0.007	0.007	0.010	mg/l	1	
3	JC99713-8	11:09	50	50	1	0.238	0.002	0.068	0.068	0.010	mg/l	1	
3	JC99713-9	11:09	50	50	1	0.000	0.000	0.000	0.000	0.010	mg/l	1	
		11:09			1								
		11:09			1								
	CCVA	11:09	50	50	1	0.659		0.192	0.192	NA	mg/l	NA	
	CCB		50	50	1	0.000		0.000	0.000	NA	mg/l	NA	
					1								
					1								
					1								
					1								
					1								
					1								
					1								
					1								
					1								
					1								
	CCV		50	50	1					NA		NA	
	CCB		50	50	1					NA		NA	
					1								
					1								
					1								
					1								
					1								
					1								
					1								
					1								
					1								
					1								
	CCVA		50	50	1					NA		NA	
	CCB		50	50	1					NA		NA	

S. ID. = JC99810-1A

BS 1 mg = 2.0 ml of 1 PPM → 50 ml DI H2O / sample

Analyst: UP Date: 12/07/19 QC Reviewer: _____ Date: _____

SGS

GN3257

Reagent Information Log - Nitrite as Nitrogen

Reagent	Reagent # or Manufacturer/Lot
Calibration Source: 1000 mg/l nitrite stock (STD)	ERA LOT#511118M XP:03/11/2021
External Check (ICV)	ERA LOT #020518 XP: 5/30/2020
Spiking Solution Source (1 PPM)	ERA LOT#511118M XP:03/11/2021
Color Reagent	GNE11-59608-NO2 XP 12/12/2019
NH4OH	FISHER 153331 XP:7/15/21

All standards and stocks were made as described in the SOP for this method (circle one): Y or N
If no (N), see attached page for standards prep.

Form: GN087A-42
Rev. Date:12/7/2019

SGS

Test: **Nitrogen, Nitrite**
Product: **NO2**
Method: **SM18 4500 NO2B (aqueous)**
SM18 4500 NO2B M (solids)

Units: mg/l
mg/kg

Analyst: VP
GNBatch ID: GN3257
GPBatch ID: N/A
Date: 12/07/19

Preparation Batch QC Summary Units = mg/L

Method Blank ID: MB1 Date: 12/07/19 Result: < DL DL: 0.010 <DL: Yes
Spike Blank ID: B1 Date: " Result: 0.036 Spike 0.04 %Rec.: 90.00%
Duplicate ID: D1 Samp. Result: 0.000 Dup. Result: 0.000 %RPD: 100%
MS ID: S1 Samp. Result: 0.00 MS Result: 0.019 Spike: 0.04 %Rec 47.5%

Method Blank ID: Date: Result: DL: <DL:
Spike Blank ID: Date: Result: Spike: %Rec.:
Duplicate ID: Samp. Result: Dup. Result: %RPD:
MS ID: Samp. Result: MS Result: Spike: %Rec:

Analysis Batch QC Summary Units =
ICV (Ext): 12/07/19 Result: 0.093 TV: 0.1 %Rec: 93.00%

CCV: " Result: 0.094 TV: 0.1 %Rec.: 94.00%
CCVA: " Result: TV: 0.2 %Rec.: 96.00%
CCV: Result: TV: %Rec.:
CCVA: Result: TV: %Rec.:
CCV: Result: TV: %Rec.:
CCVA: Result: TV: %Rec.:

CCB: Result: DL: <DL:
CCB: Result: DL: <DL:
CCB: Result: DL: <DL:
CCB: Result: DL: <DL:
CCB: Result: DL: <DL:
CCB: Result: DL: <DL:

Reagent Reference Numbers:

Analyst: VP Date: 12/07/19

Comments: S1D1 = JC99810-1

Form: GN032-01
Rev. Date:9/4/09]

SGS

GENERAL CHEMISTRY STANDARD PREPARATION LOG

Product: NO_2

GN or GP Number: GN3257

Intermediate Standard Description	Stock used to prepare standard	Stock concentration	Stock volume or weight used with units	Balance or Auto pipet ID (*)	Diluent	Final Volume	Final Conc. of Intermediate (mg/l)	Expiration Date	Analyst	Date
(Std.) NO2 10 mg/L	ERA LOT#511118M XP:03/11/2021	1000 mg/L	10.0 ml	A	DI water	100 ml	100 mg/L	12/7/2019	UP	12/7/2019
	NO2 10 mg/L	100 mg/L	10.0 ml	A	DI water	100 ml	10 mg/L			
(External)NO2 10 mg/L	ERA Lot 020518 Exp MAY-2020	100 mg/L	1.0 ml	A	DI water	100 ml	1 mg/L	12/7/2019	UP	12/7/2019
	NO2 10 mg/L									

Standard Description	Intermediate or Stock used to prepare standard	Intermediate or Stock concentration	Intermediate or Stock volume used in ml	Balance or Auto pipet ID (*)	Diluent	Final Volume	Final Conc. of Standard (mg/l)		Analyst	Date
0.2 mg/L	1.0 mg/L(ERA #190917)	1.0 mg/L	20.0 ml	A	DI water	100 ml	0.2 mg/L	12/7/2019	UP	12/7/2019
0.1 mg/L	1.0 mg/L(ERA #190917)	1.0 mg/L	10.0 ml		DI water	100 ml	0.1 mg/L			
0.075 mg/L	1.0 mg/L(ERA #190917)	1.0 mg/L	7.5 ml		DI water	100 ml	0.075 mg/L			
0.05 mg/L	1.0 mg/L(ERA #190917)	1.0 mg/L	5.0 ml		DI water	100 ml	0.05 mg/L			
0.025 mg/L	1.0 mg/L(ERA #190917)	1.0 mg/L	2.5 ml		DI water	100 ml	0.025 mg/L			
0.01 mg/L	1.0 mg/L(ERA #190917)	1.0 mg/L	1.0 ml	A	DI water	100 ml	0.01 mg/L	12/7/2019	UP	12/7/2019
0 mg/L	NA	NA	NA		NA	100 ml	NA	12/7/2019	UP	12/7/2019
CCV	1.0 mg/L(ERA #190917)	1.0 mg/L	10.0 ml		DI water	100 ml	0.1 mg/L	12/7/2019	UP	12/7/2019
CCVA	1.0 mg/L(ERA #190917)	1.0 mg/L	20.0 ml		DI water	100 ml	0.2 mg/L	12/7/2019	UP	12/7/2019
ICV	1.0 mg/L(ERA #02518)	1.0 mg/L	10.0 ml		DI water	100 ml	0.1 mg/L	12/7/2019	UP	12/7/2019

* If Class A glass pipets are used, enter an A. For balances or autopipets, then enter the appropriate Accutest ID number.

Form: GN121-01
Rev. Date: 1/13/09

SGS

Immediate Analysis Record

Tracking #: JC99810

Date Generated: 12/7/2019 Sampling Date/Time: 12/6/19 14:45

Client Name: Sovereign Consulting # of Samples: 1 # of Bottles: 1

Locations: G36,

Comments:

Sample info reliquished from sample management by: DOMINICG Date / Time: 12/7/2019 7:37:22 AM

Sample info received in general chemistry by: Date / Time:

Sample Number	Analysis	Matrix
1	NO2 (Nitrite)	AQ

Requested by: Date/Time:

The following samples have been depleted / broken:

Relinquished by (Sample Mgt): Rcv'd by (Lab): Date/Time:

Relinquished by (Lab): Rcv'd by (Sample Mgt): Date/Time:

* Field parameters and methods including field parameters such a pH were received out of hold and will be analyzed as such.

FORM: SM004-05
Rev Date: 10/04/17

SGS
Immediate Analysis Record

Tracking #: JC99713

Date Generated: 12/7/2019 **Sampling Date/Time:** 12/5/19 12:15

Client Name: ATC **# of Samples:** 3 **# of Bottles:** 3

Locations: G36,

Comments:

Sample info reliquished from sample management by: DOMINICG Date / Time: 12/7/2019 7:56:20 AM

Sample info received in general chemistry by: Date / Time:

Sample Number	Analysis	Matrix
7-9	NO2 (Nitrite)	AQ

Requested by: Date/Time:

The following samples have been depleted / broken:

Relinquished by (Sample Mgt): Rcv'd by (Lab): Date/Time:

Relinquished by (Lab): Rcv'd by (Sample Mgt): Date/Time:

* Field parameters and methods including field parameters such a pH were received out of hold and will be analyzed as such.

FORM: SM004-05
Rev Date: 10/04/17

LABORATORY REVIEW SIGNATURE FORM
(To be stored with the raw data)

File ID: C19121601.TXT
Analyst: NV

Date Analyzed: 12/16/19
Run ID: GN3545

Methods: EPA 300/SW846 9056A

The following analyst(s) have reviewd this run and attest that, to the best of their knowledge, this documentation is complete and correct:

Analyst: NV Date 12/17/19

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

The following supervisor or their designee has reviewed this run and attests that, to the best of their knowledge, this documentation is complete and correct:

Supervisor (or designee): _____ Date 12/17/19

LABORATORY REVIEW SIGNATURE FORM
(To be stored with the raw data)

File ID: C19121601.TXT Date Analyzed: 12/16/19 Methods: EPA 300/SW846 9056A
Analyst: NV Run ID: GN3545

The following analyst(s) have reviewd this run and attest that, to the best of their knowledge, this documentation is complete and correct:

Analyst: NV Date 12/16/19

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

The following supervisor or their designee has reviewed this run and attests that, to the best of their knowledge, this documentation is complete and correct:

Supervisor (or designee): _____ Date _____

Sequence: C19121601
Last Update Operator: Chemistry

GN3545

CD	Name	Type	Dilution	Level	Position	Volume	Status	Inject Time	Comment	Instrument Method
	BLANKCONF	Unknown	1.0000		1	5000	Finished	12/16/2019 9:34:26 AM		Anions_012919
	STDA	Calibration Standard	1.0000	1	6	5000	Finished	12/5/2019 5:11:58 PM		Anions_012919
	STDB	Calibration Standard	1.0000	2	8	5000	Finished	12/5/2019 5:35:53 PM		Anions_012919
	STDC	Calibration Standard	1.0000	3	9	5000	Finished	12/5/2019 5:59:48 PM		Anions_012919
	STDD	Calibration Standard	1.0000	4	10	5000	Finished	12/5/2019 6:23:44 PM		Anions_012919
	STDE	Calibration Standard	1.0000	5	11	5000	Finished	12/5/2019 6:47:39 PM		Anions_012919
	STDF	Calibration Standard	1.0000	6	12	5000	Finished	12/5/2019 7:11:35 PM		Anions_012919
	STDG	Calibration Standard	1.0000	7	13	5000	Finished	12/5/2019 7:35:30 PM		Anions_012919
	ICV	Unknown	1.0000		2	5000	Finished	12/16/2019 9:57:54 AM		Anions_012919
	CCV	Unknown	1.0000		3	5000	Finished	12/16/2019 10:21:49 A		Anions_012919
	CCB	Unknown	1.0000		4	5000	Finished	12/16/2019 10:45:45 A		Anions_012919
	MBSO	Unknown	1.0000		5	5000	Finished	12/16/2019 11:09:41 A		Anions_012919
	BSPSO	Unknown	1.0000		6	5000	Finished	12/16/2019 11:33:37 A		Anions_012919
	JC99869-2	Unknown	10.0000		7	5000	Finished	12/16/2019 11:58:45 A		Anions_012919
	MB	Unknown	1.0000		8	5000	Finished	12/16/2019 12:22:10 P		Anions_012919
	BSP	Unknown	1.0000		9	5000	Finished	12/16/2019 12:46:05 P		Anions_012919
	JC99959-11	Unknown	5.0000		10	5000	Finished	12/16/2019 1:40:34 PM		Anions_012919
	JC99530-4	Unknown	10.0000		11	5000	Finished	12/16/2019 2:04:00 PM		Anions_012919
	JC99536-1	Unknown	10.0000		12	5000	Finished	12/16/2019 2:27:54 PM		Anions_012919
	JC99562-1	Unknown	5.0000		13	5000	Finished	12/16/2019 2:51:49 PM		Anions_012919
	JC99562-2	Unknown	5.0000		14	5000	Finished	12/16/2019 3:15:44 PM		Anions_012919
	CCV	Unknown	1.0000		15	5000	Finished	12/16/2019 3:39:40 PM		Anions_012919
	CCB	Unknown	1.0000		16	5000	Finished	12/16/2019 4:03:35 PM		Anions_012919
	JC99594-1	Unknown	10.0000		17	5000	Finished	12/16/2019 4:27:30 PM		Anions_012919
	JC99594-3	Unknown	5.0000		18	5000	Finished	12/16/2019 4:54:50 PM		Anions_012919
	JC99678-5CONF	Unknown	50.0000		19	5000	Finished	12/16/2019 5:18:26 PM		Anions_012919
	JC99678-6CONF	Unknown	50.0000		20	5000	Finished	12/16/2019 5:42:22 PM		Anions_012919
	MB	Unknown	1.0000		21	5000	Finished	12/16/2019 6:06:16 PM		Anions_012919
	BSP	Unknown	1.0000		22	5000	Finished	12/16/2019 6:31:41 PM		Anions_012919
	GP25650-S1	Unknown	1.0000		23	5000	Finished	12/16/2019 6:55:27 PM	JC99565-1	Anions_012919
	GP25650-D1	Unknown	1.0000		24	5000	Finished	12/16/2019 7:19:21 PM	JC99565-1	Anions_012919
	JC99565-1	Unknown	1.0000		25	5000	Finished	12/16/2019 7:43:17 PM		Anions_012919
	GP25650-S2	Unknown	1.0000		26	5000	Finished	12/16/2019 8:07:12 PM	JC99565-2	Anions_012919
	CCV	Unknown	1.0000		27	5000	Finished	12/16/2019 8:31:08 PM		Anions_012919
	CCB	Unknown	1.0000		28	5000	Finished	12/16/2019 8:55:03 PM		Anions_012919
	JC99565-2	Unknown	1.0000		29	5000	Finished	12/16/2019 9:18:59 PM		Anions_012919
	JC99565-3	Unknown	1.0000		30	5000	Finished	12/16/2019 9:42:54 PM		Anions_012919
	JC99565-4	Unknown	1.0000		31	5000	Finished	12/16/2019 10:06:49 P		Anions_012919

Sequence: C19121601
Last Update Operator: Chemistry

CD	Name	Type	Dilution	Level	Position	Volume	Status	Inject Time	Comment	Instrument Method
	JC99597-1	Unknown	1.0000		32	5000	Finished	12/16/2019 10:30:45 P		Anions_012919
	JC99604-1	Unknown	1.0000		33	5000	Finished	12/16/2019 10:54:40 P		Anions_012919
	JC99604-2	Unknown	1.0000		34	5000	Finished	12/16/2019 11:18:35 P		Anions_012919
	JC99604-3	Unknown	1.0000		35	5000	Finished	12/16/2019 11:42:30 P		Anions_012919
	JC99604-4	Unknown	1.0000		36	5000	Finished	12/17/2019 12:06:24 A		Anions_012919
	JD146-11	Unknown	1.0000		37	5000	Finished	12/17/2019 12:30:20 A		Anions_012919
	JC99700-1	Unknown	1.0000		38	5000	Finished	12/17/2019 12:54:15 A		Anions_012919
	CCV	Unknown	1.0000		39	5000	Finished	12/17/2019 1:18:10 AM		Anions_012919
	CCB	Unknown	1.0000		40	5000	Finished	12/17/2019 1:42:06 AM		Anions_012919
	JC99705-1	Unknown	1.0000		41	5000	Finished	12/17/2019 2:06:01 AM		Anions_012919
	JC99761-1	Unknown	1.0000		42	5000	Finished	12/17/2019 2:29:56 AM		Anions_012919
	JC99810-1A	Unknown	1.0000		43	5000	Finished	12/17/2019 2:53:51 AM		Anions_012919
	JD345-2	Unknown	1.0000		44	5000	Finished	12/17/2019 3:17:45 AM		Anions_012919
	JD345-3	Unknown	1.0000		45	5000	Finished	12/17/2019 3:41:41 AM		Anions_012919
	JD345-5	Unknown	1.0000		46	5000	Finished	12/17/2019 4:05:36 AM		Anions_012919
	JC99842-1	Unknown	1.0000		47	5000	Finished	12/17/2019 4:29:31 AM		Anions_012919
	JC99842-4	Unknown	1.0000		48	5000	Finished	12/17/2019 4:53:27 AM		Anions_012919
	JC99911-1	Unknown	1.0000		49	5000	Finished	12/17/2019 5:17:24 AM		Anions_012919
	CCV	Unknown	1.0000		50	5000	Finished	12/17/2019 5:41:31 AM		Anions_012919
	CCB	Unknown	1.0000		1	5000	Finished	12/17/2019 6:05:26 AM		Anions_012919

Sequence: C19121601
Last Update Operator: Chemistry

GN3545

Bottle#s

CD	Name	Type	Dilution	Level	Position	Volume	Status	Inject Time	Comment	Instrument Method
	BLANKCONF	Unknown	1.0000		1	5000	Finished	12/16/2019 9:34:26 AM		Anions_012919
	STDA	Calibration Standard	1.0000	1	6	5000	Finished	12/5/2019 5:11:58 PM		Anions_012919
	STDB	Calibration Standard	1.0000	2	8	5000	Finished	12/5/2019 5:35:53 PM		Anions_012919
	STDC	Calibration Standard	1.0000	3	9	5000	Finished	12/5/2019 5:59:48 PM		Anions_012919
	STDD	Calibration Standard	1.0000	4	10	5000	Finished	12/5/2019 6:23:44 PM		Anions_012919
	STDE	Calibration Standard	1.0000	5	11	5000	Finished	12/5/2019 6:47:39 PM		Anions_012919
	STDF	Calibration Standard	1.0000	6	12	5000	Finished	12/5/2019 7:11:35 PM		Anions_012919
	STDG	Calibration Standard	1.0000	7	13	5000	Finished	12/5/2019 7:35:30 PM		Anions_012919
	ICV	Unknown	1.0000		2	5000	Finished	12/16/2019 9:57:54 AM		Anions_012919
	CCV	Unknown	1.0000		3	5000	Finished	12/16/2019 10:21:49 A		Anions_012919
	CCB	Unknown	1.0000		4	5000	Finished	12/16/2019 10:45:45 A		Anions_012919
	MBSO	Unknown	1.0000		5	5000	Finished	12/16/2019 11:09:41 A		Anions_012919
	BSPSO	Unknown	1.0000		6	5000	Finished	12/16/2019 11:33:37 A		Anions_012919
1	JC99869-2	Unknown	10.0000		7	5000	Finished	12/16/2019 11:58:45 A		Anions_012919
	MB	Unknown	1.0000		8	5000	Finished	12/16/2019 12:22:10 P		Anions_012919
	BSP	Unknown	1.0000		9	5000	Finished	12/16/2019 12:46:05 P		Anions_012919
1	JC99959-11	Unknown	5.0000		10	5000	Finished	12/16/2019 1:40:34 PM		Anions_012919
3	JC99530-4	Unknown	10.0000		11	5000	Finished	12/16/2019 2:04:00 PM		Anions_012919
1	JC99536-1	Unknown	10.0000		12	5000	Finished	12/16/2019 2:27:54 PM		Anions_012919
2	JC99562-1	Unknown	5.0000		13	5000	Finished	12/16/2019 2:51:49 PM		Anions_012919
2	JC99562-2	Unknown	5.0000		14	5000	Finished	12/16/2019 3:15:44 PM		Anions_012919
	CCV	Unknown	1.0000		15	5000	Finished	12/16/2019 3:39:40 PM		Anions_012919
	CCB	Unknown	1.0000		16	5000	Finished	12/16/2019 4:03:35 PM		Anions_012919
3	JC99594-1	Unknown	10.0000		17	5000	Finished	12/16/2019 4:27:30 PM		Anions_012919
3	JC99594-3	Unknown	5.0000		18	5000	Finished	12/16/2019 4:54:50 PM		Anions_012919
1	None	JC99678-5	Unknown	50.0000		19	5000	Running		Anions_012919
1	None	JC99678-6	Unknown	50.0000		20	5000	Idle		Anions_012919
	None	MB	Unknown	1.0000		21	5000	Idle		Anions_012919
	None	BSP	Unknown	1.0000		22	5000	Idle		Anions_012919
2	None	GP25650-S1	Unknown	1.0000		23	5000	Idle	JC99565-1	Anions_012919
2	None	GP25650-D1	Unknown	1.0000		24	5000	Idle	JC99565-1	Anions_012919
2	None	JC99565-1	Unknown	1.0000		25	5000	Idle		Anions_012919
2	None	GP25650-S2	Unknown	1.0000		26	5000	Idle	JC99565-2	Anions_012919
	None	CCV	Unknown	1.0000		27	5000	Idle		Anions_012919
1	None	CCB	Unknown	1.0000		28	5000	Idle		Anions_012919
2	None	JC99565-2	Unknown	1.0000		29	5000	Idle		Anions_012919
2	None	JC99565-3	Unknown	1.0000		30	5000	Idle		Anions_012919
2	None	JC99565-4	Unknown	1.0000		31	5000	Idle		Anions_012919

Sequence: C19121601
Last Update Operator: Chemistry

	CD	Name	Type	Dilution	Level	Position	Volume	Status	Inject Time	Comment	Instrument Method
1	None	JC99597-1	Unknown	1.0000		32	5000	Idle			Anions_012919
2	None	JC99604-1	Unknown	1.0000		33	5000	Idle			Anions_012919
2	None	JC99604-2	Unknown	1.0000		34	5000	Idle			Anions_012919
2	None	JC99604-3	Unknown	1.0000		35	5000	Idle			Anions_012919
2	None	JC99604-4	Unknown	1.0000		36	5000	Idle			Anions_012919
1	None	JD146-11	Unknown	1.0000		37	5000	Idle			Anions_012919
11	None	JC99700-1	Unknown	1.0000		38	5000	Idle			Anions_012919
	None	CCV	Unknown	1.0000		39	5000	Idle			Anions_012919
	None	CCB	Unknown	1.0000		40	5000	Idle			Anions_012919
18	None	JC99705-1	Unknown	1.0000		41	5000	Idle			Anions_012919
13	None	JC99761-1	Unknown	1.0000		42	5000	Idle			Anions_012919
3	None	JC99810-1A	Unknown	1.0000		43	5000	Idle			Anions_012919
3	None	JD345-2	Unknown	1.0000		44	5000	Idle			Anions_012919
4	None	JD345-3	Unknown	1.0000		45	5000	Idle			Anions_012919
4	None	JD345-5	Unknown	1.0000		46	5000	Idle			Anions_012919
1	None	JC99842-1	Unknown	1.0000		47	5000	Idle			Anions_012919
4	None	JC99842-4	Unknown	1.0000		48	5000	Idle			Anions_012919
5	None	JC99911-1	Unknown	1.0000		49	5000	Idle			Anions_012919
	None	CCV	Unknown	1.0000		50	5000	Idle			Anions_012919
	None	CCB	Unknown	1.0000		1	5000	Idle			Anions_012919

SGS

Analyst NN

Product F, Cl, SO4

Prep Date 12/16/19

Batch ID GN3545

Pipette ID 42

Balance ID NA

Sample Prep Log

Sample ID	Initial Sample Amount	Final Volume (mL)
BSP	0.5mL spiking solution	50
GP256S0-S1	0.5mL spiking solution	50 JC99565-1
GP256S0-S2	0.5mL spiking solution	50 JC99565-2

Form: GN166-02
Rev. Date: 8/5/05

QC Review

Analyst JKW Product SO_4, F, CHL Autopipette #

Date 12/16/19 Batch ID GP Class A Vol. Flask

Sample Dilution Prep Log

Sample ID	Dilution	Initial Volume	Final Volume	Comments
JC99869-2	1:10	5	50	SO_4
JC99959-11	1:5	10	50	SO_4
JC99530-4	1:10	~~10~~ 5 JKW 12/16/19	50	F
JC99536-1	1:10	~~10~~ 5	50	F
JC99562-1	1:5	10	50	CHL
JC99562-2	1:5	10	50	CHL
JC99594-1	1:10	5	50	CHL
JC99594-3	1:5	10	50	CHL
JC99678-5	1:50	1	50	F
JC99678-6	1:50	1	50	F

QC Reviewer: [signature] Date: 12/17/19

Form: GN165-01
Rev. Date: 2/25/03

SGS

Analyst JKW

Method CHL-F-SO4

Prep Date 12/12/19

GP # GP25587

Autopipette # 42

Balance # B-27

Sample Prep Log

Bottle #s	Sample ID	Sample Size	Final Volume
	GP25587-MB1	10.01g of teflon chips	100 mL
	GP25587-B1	1mL of spike + 9.95g of ~~spike~~ teflon chips JKW 12/12/19	
1	GP25587-S1	1mL of spike + 10.01g of sample	JC99731-2
1	GP25587-S2	1mL of spike + 10.28g of sample	JC99731-3
1	GP25587-D1	10.21g	JC99731-2
1	JC99731-2	10.40g	
1	-3	10.66g	
1	-4	10.16g	
1	-6	10.15g	
1	-7	10.19g	
1	-8	10.86g	
1	-9	10.18g	
1	-10	10.50g	
1	-11	10.69g	
2	JC99869-1	10.59g	
1	-2	10.50g	
2	-3	10.32g	

12/12/19

Form: GN166-02
Rev. Date: 8/5/05

QC Review

9.2

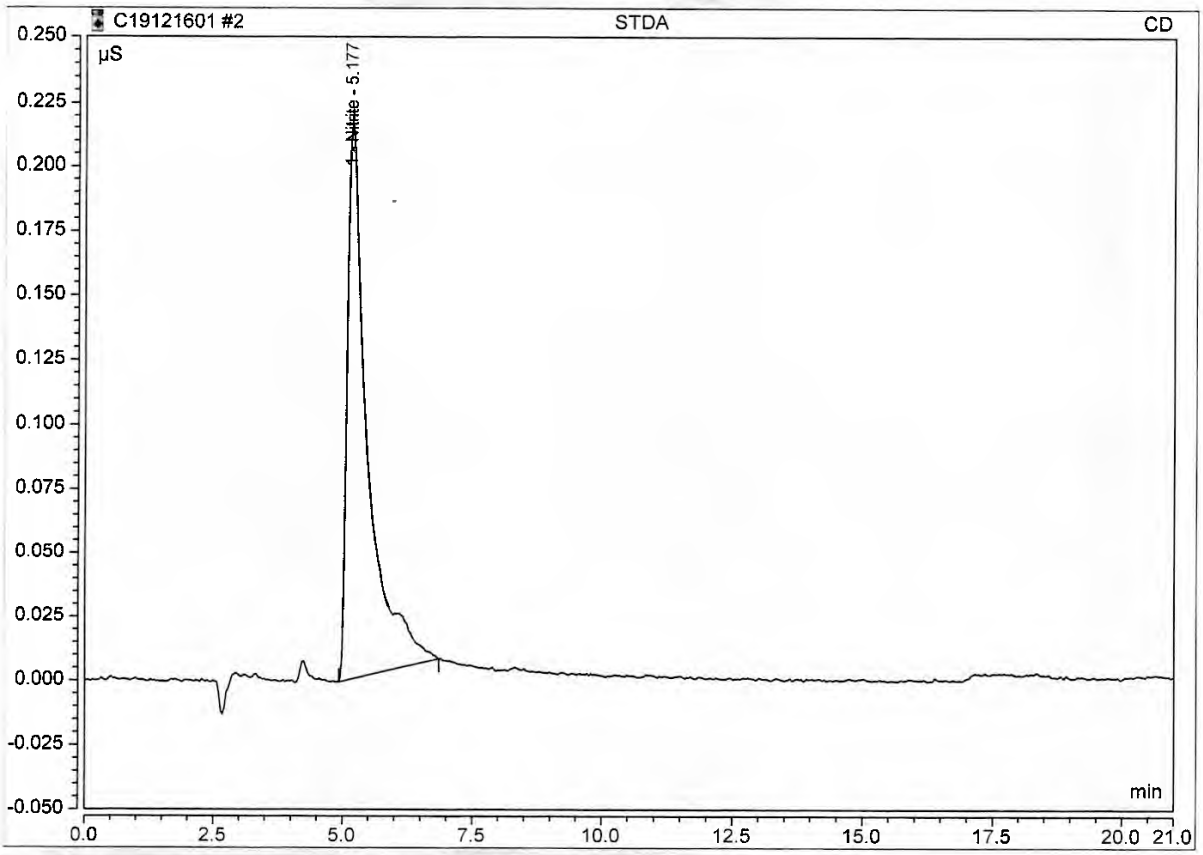
9

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**STDA**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**05-Dec-2019 / 17:11**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	5.18	Nitrite	BMB	0.100	0.217	0.1895
		TOTAL:		0.10	0.22	0.19



Anion/Integration

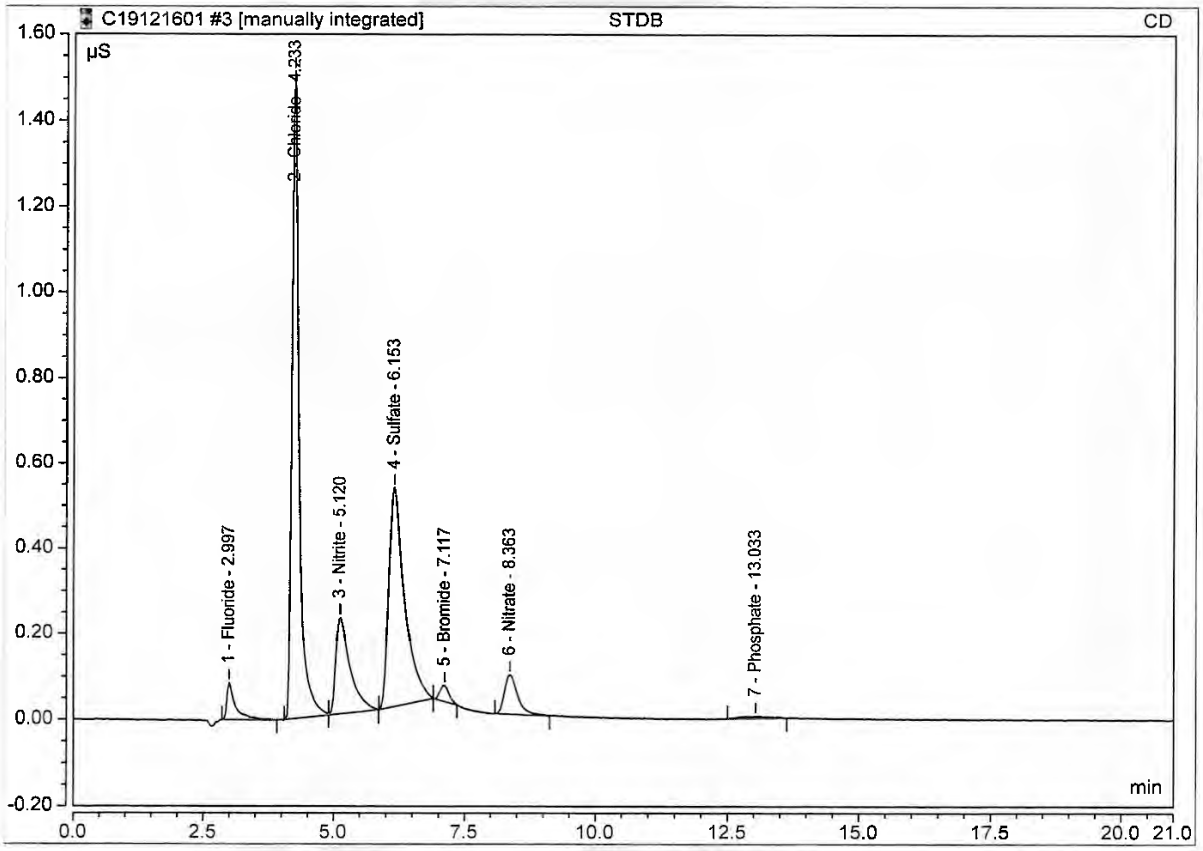
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**STDB**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**05-Dec-2019 / 17:35**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	3.00	Fluoride	BMB	0.016	0.086	0.0698
2	4.23	Chloride	BM *	0.241	1.513	0.9009
3	5.12	Nitrite	MB*	0.072	0.226	0.1301
4	6.15	Sulfate	BMB	0.178	0.512	0.5118
5	7.12	Bromide	BMB	0.007	0.037	0.0823
6	8.36	Nitrate	BMB	0.027	0.092	0.1937
7	13.03	Phosphate	BMB	0.003	0.005	0.4753
		TOTAL:		0.54	2.47	2.36



PK
NV 12/16/19

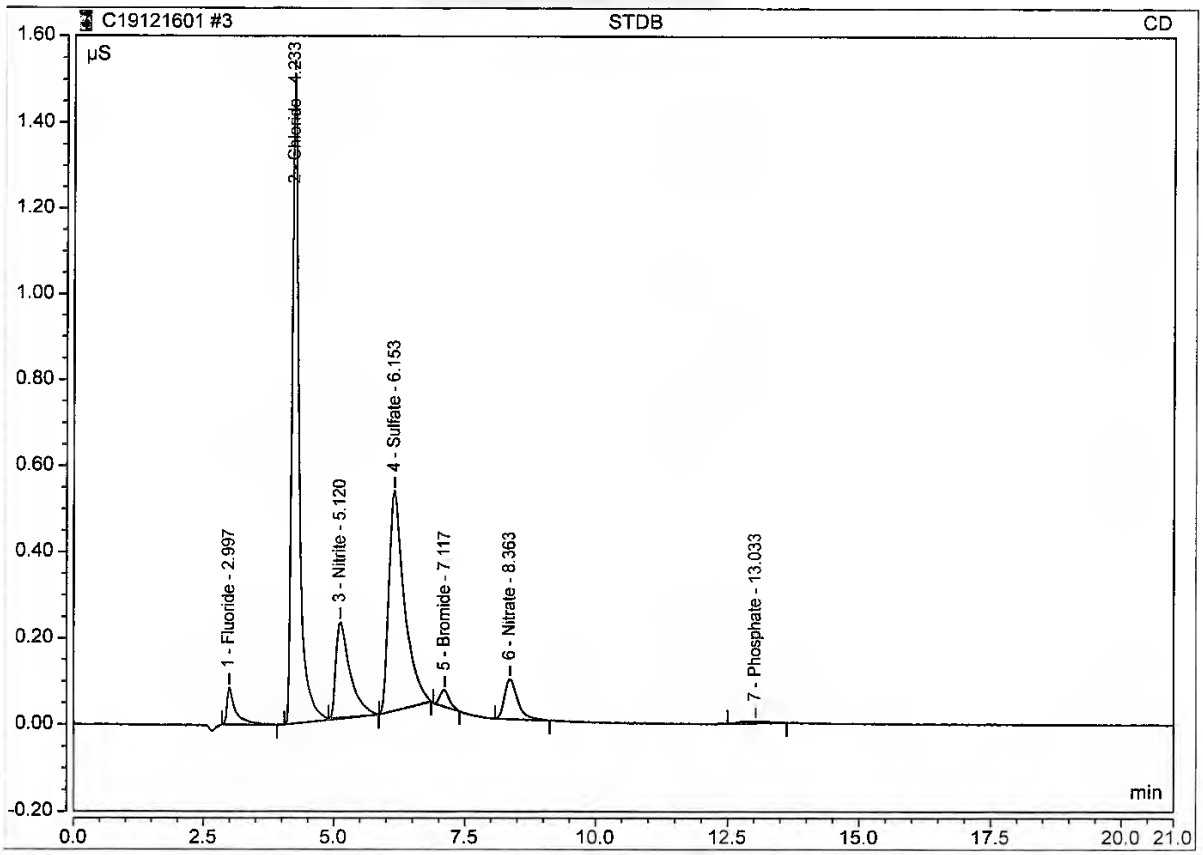
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**STDB**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**05-Dec-2019 / 17:35**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	3.00	Fluoride	BMB	0.016	0.086	0.0698
2	4.23	Chloride	BMB	0.242	1.513	0.9011
3	5.12	Nitrite	Rd	0.070	0.223	0.1297
4	6.15	Sulfate	BMB	0.176	0.511	0.5063
5	7.12	Bromide	BMB	0.008	0.038	0.0771
6	8.36	Nitrate	BMB	0.027	0.092	0.1937
7	13.03	Phosphate	BMB	0.003	0.005	0.4753
		TOTAL:		0.54	2.47	2.35



Anion/Integration

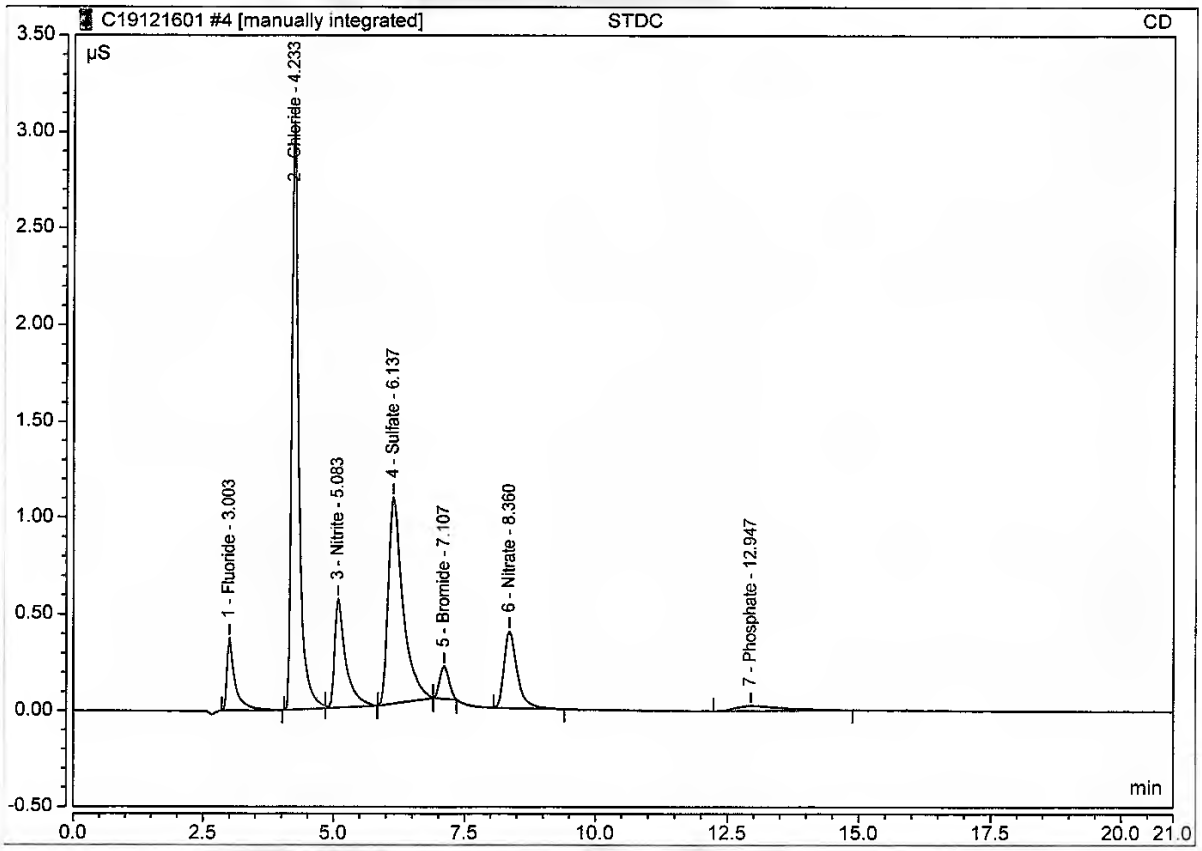
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**STDC**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**05-Dec-2019 / 17:59**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	3.00	Fluoride	BMB	0.067	0.376	0.1958
2	4.23	Chloride	BM *	0.486	3.049	1.8812
3	5.08	Nitrite	MB*	0.138	0.562	0.2695
4	6.14	Sulfate	BMB	0.347	1.067	1.4534
5	7.11	Bromide	BMB	0.035	0.169	0.4432
6	8.36	Nitrate	BMB	0.117	0.397	0.3371
7	12.95	Phosphate	BMB	0.028	0.026	0.5924
TOTAL:				1.22	5.65	5.17



PI NV 12/16/19

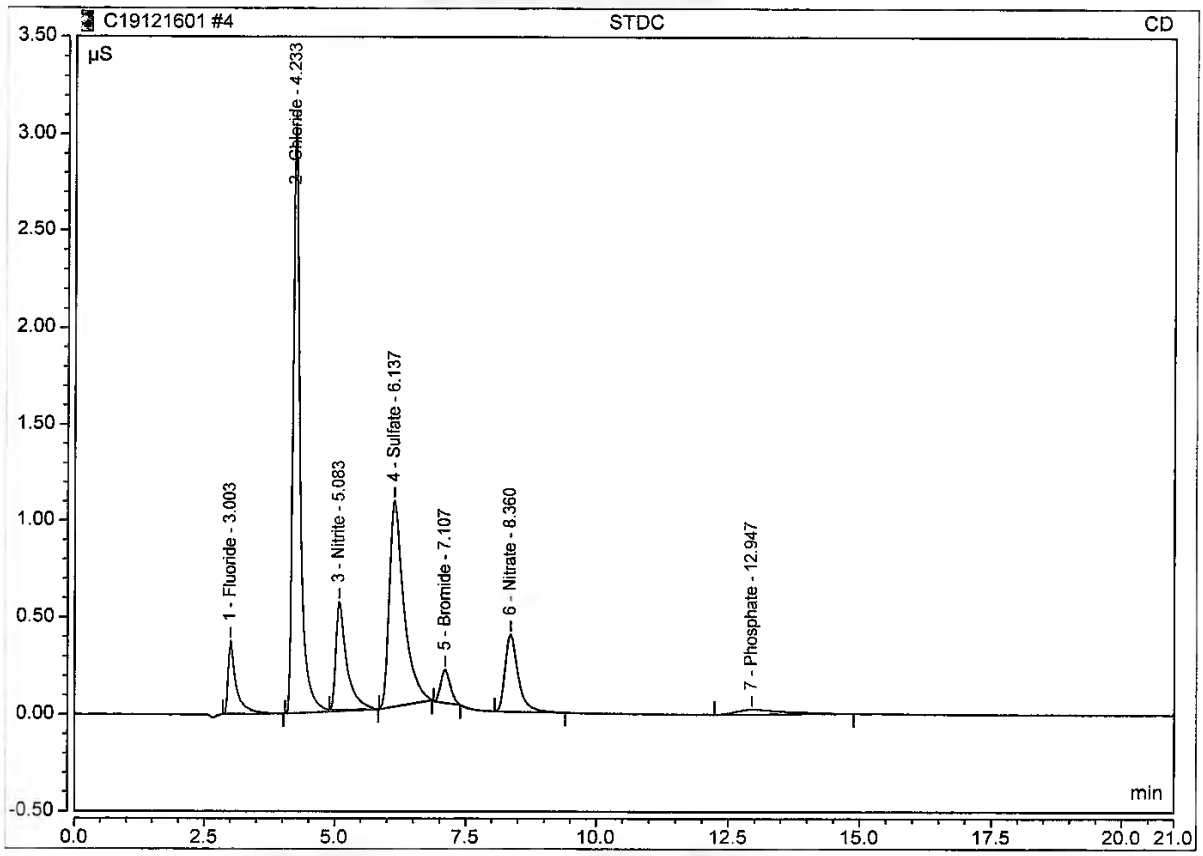
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**STDC**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**05-Dec-2019 / 17:59**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	3.00	Fluoride	BMB	0.067	0.376	0.1958
2	4.23	Chloride	BMB	0.490	3.049	1.8916
3	5.08	Nitrite	Rd	0.134	0.556	0.2636
4	6.14	Sulfate	BMB	0.344	1.065	1.4426
5	7.11	Bromide	BMB	0.037	0.173	0.4604
6	8.36	Nitrate	BMB	0.117	0.397	0.3371
7	12.95	Phosphate	BMB	0.028	0.026	0.5924
TOTAL:				1.22	5.64	5.18



Anion/Integration

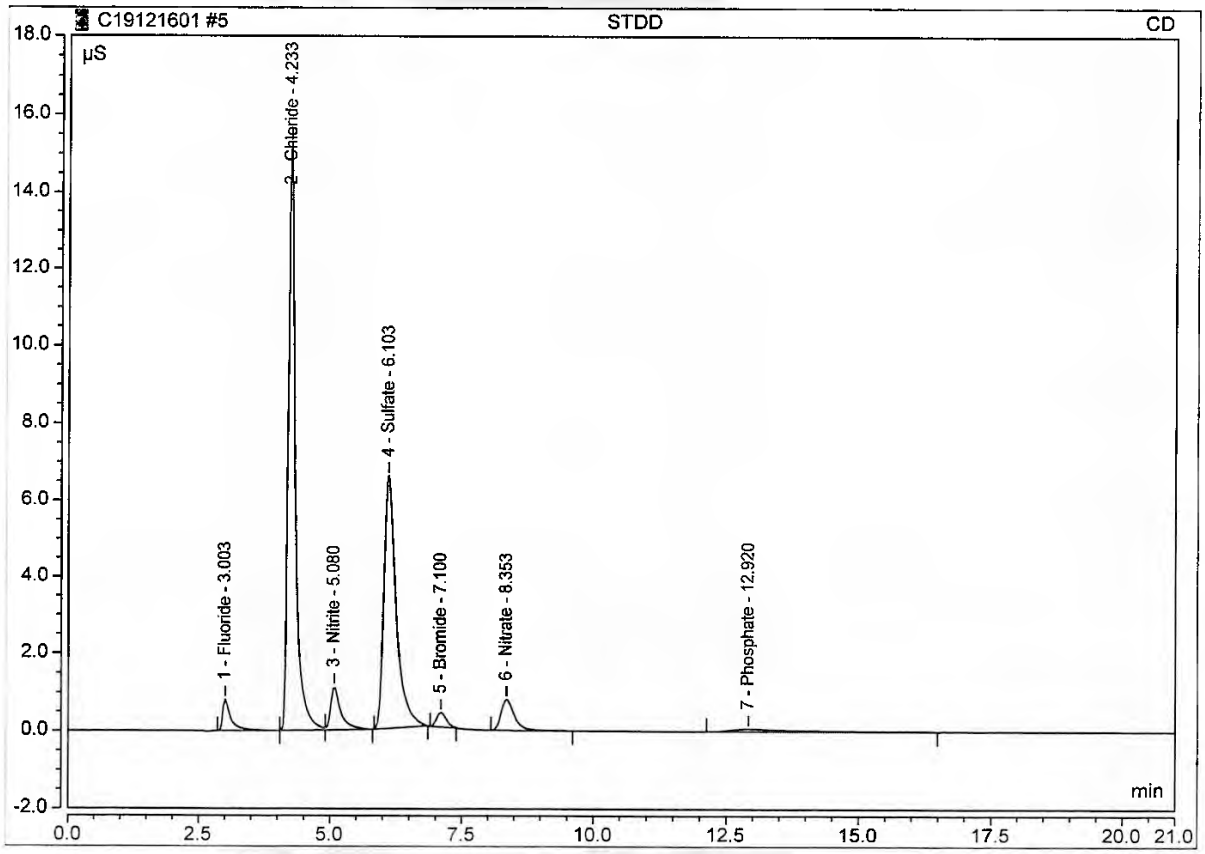
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**STDD**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**05-Dec-2019 / 18:23**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	3.00	Fluoride	BMB	0.144	0.803	0.3876
2	4.23	Chloride	BM	2.452	15.270	9.7628
3	5.08	Nitrite	MB	0.248	1.122	0.4997
4	6.10	Sulfate	BMB	1.767	6.578	9.3728
5	7.10	Bromide	BMB	0.079	0.372	1.0279
6	8.35	Nitrate	BMB	0.233	0.799	0.5222
7	12.92	Phosphate	BMB	0.088	0.066	0.8755
TOTAL:				5.01	25.01	22.45



Anion/Integration

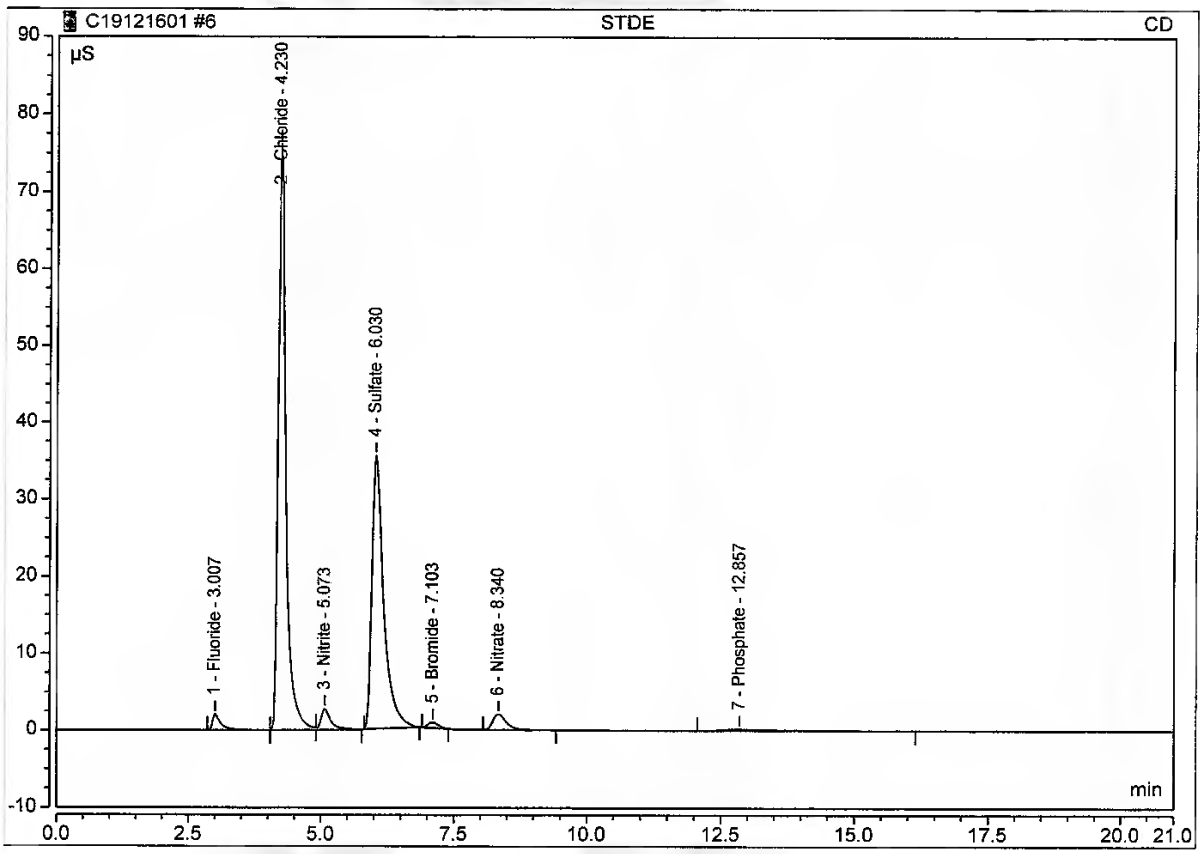
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**STDE**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**05-Dec-2019 / 18:47**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	3.01	Fluoride	BMB	0.380	2.052	0.9737
2	4.23	Chloride	BM	12.465	76.196	49.8943
3	5.07	Nitrite	MB	0.586	2.770	1.2069
4	6.03	Sulfate	BMB	9.042	35.434	49.9620
5	7.10	Bromide	BMB	0.162	0.756	2.1235
6	8.34	Nitrate	BMB	0.605	2.040	1.1179
7	12.86	Phosphate	BMB	0.241	0.204	1.6023
TOTAL:				23.48	119.45	106.88



Anion/Integration

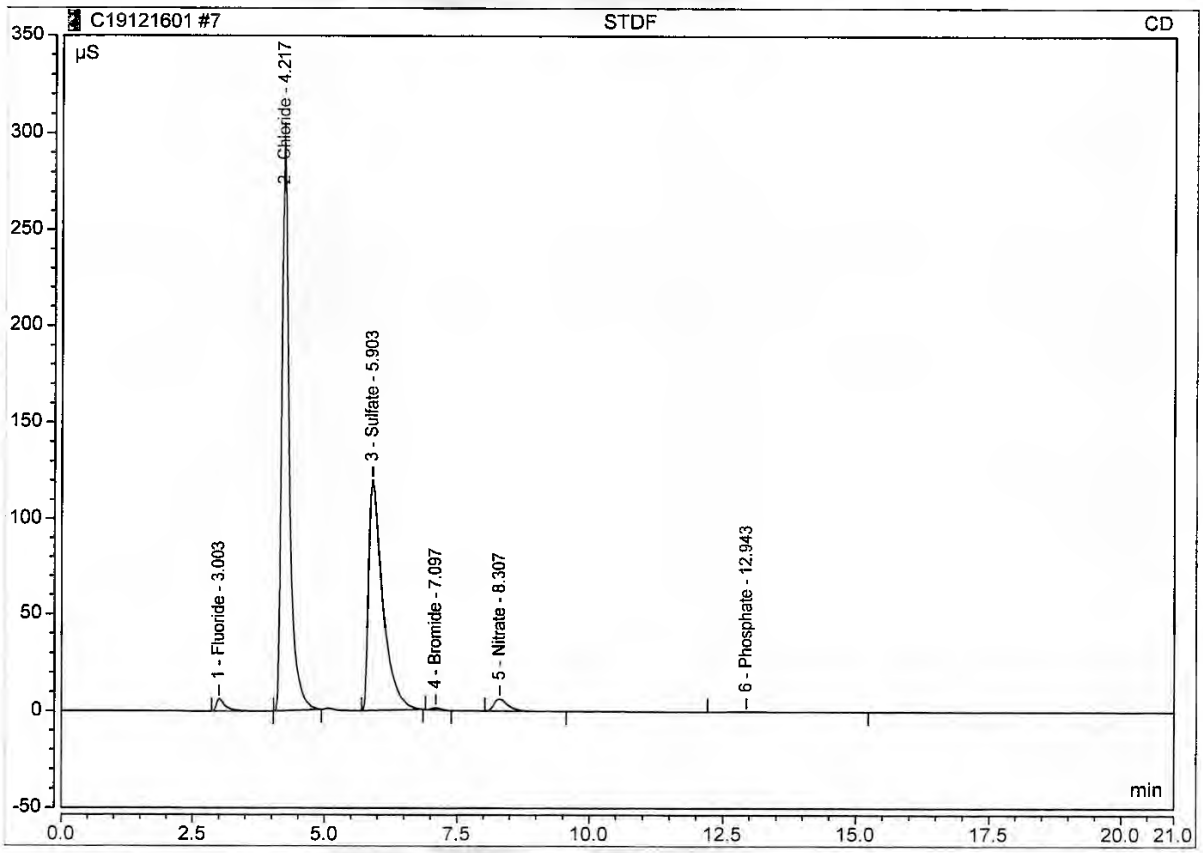
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**STDF**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**05-Dec-2019 / 19:11**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	3.00	Fluoride	BMB	1.209	6.302	3.0357
2	4.22	Chloride	BMB	50.187	298.396	201.0815
3	5.90	Sulfate	BMB	36.538	119.735	203.3512
4	7.10	Bromide	BMB	0.228	1.087	2.9908
5	8.31	Nitrate	BMB	1.904	6.138	3.1966
6	12.94	Phosphate	BMB	0.078	0.070	0.8309
TOTAL:				90.14	431.73	414.49



Anion/Integration

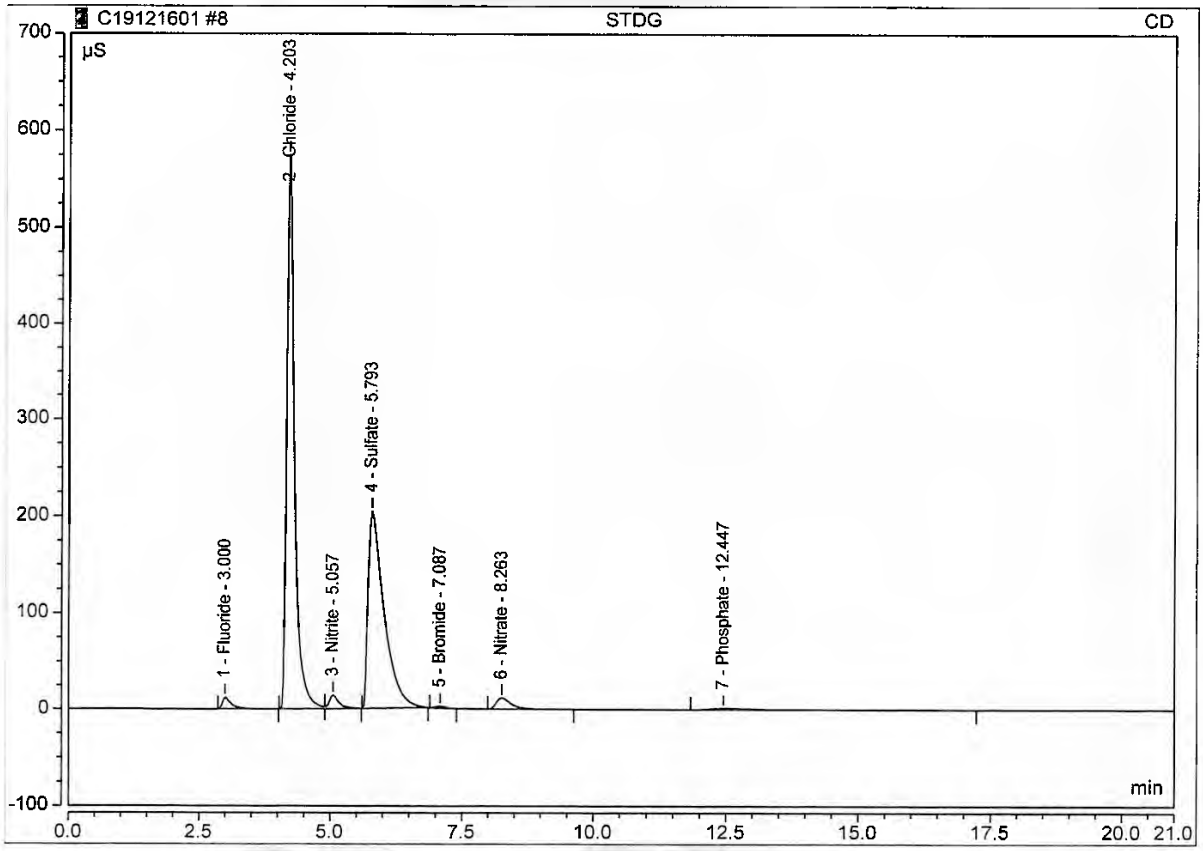
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**STDG**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**05-Dec-2019 / 19:35**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	3.00	Fluoride	BMB	2.396	12.217	5.9873
2	4.20	Chloride	BM	99.689	574.736	399.4792
3	5.06	Nitrite	MB	2.998	14.119	6.2542
4	5.79	Sulfate	BMB	71.492	204.132	398.3488
5	7.09	Bromide	BMB	0.378	1.788	4.9573
6	8.26	Nitrate	BMB	3.770	11.759	6.1824
7	12.45	Phosphate	BMB	1.416	1.446	7.1737
TOTAL:				182.14	820.20	828.38



Anion/Integration

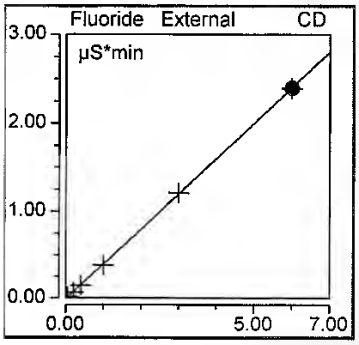
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

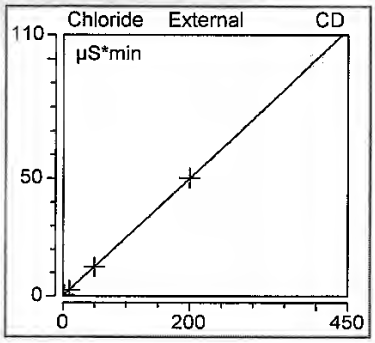
Calibration Batch Report

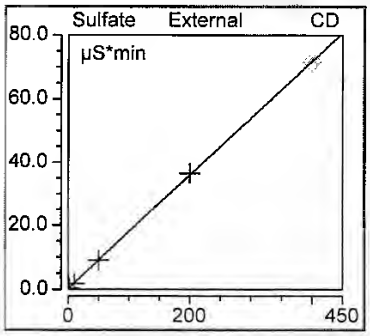
Sequence:	C19121601	*Injection Volu*	5,000.00
Instrument Mt	Anions_012 919	*Operator:*	Chemistry
Inj. Date / Tin	05/12/2019 / 19:35	*Run Time:*	21

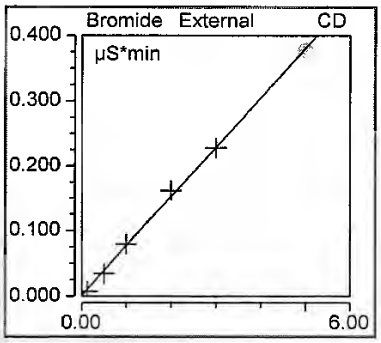
bration Summary

Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
Fluoride	Area	Lin, WithOffse	6.000	-0.012	0.402	0.000	99.9902
Chloride	Area	Lin, WithOffse	6.000	0.016	0.250	0.000	99.9988
Nitrite	Area	Lin, WithOffse	6.000	0.009	0.478	0.000	97.3067
Sulfate	Area	Lin, WithOffse	6.000	0.087	0.179	0.000	99.9885
Bromide	Area	Lin, WithOffse	6.000	0.001	0.076	0.000	99.8628
Nitrate	Area	Lin, WithOffse	6.000	-0.094	0.625	0.000	96.6220
Phosphate	Area	Lin, WithOffse	6.000	-0.097	0.211	0.000	79.6320
		AVERAGE:		-0.0128	0.3172	0.0000	96.2001







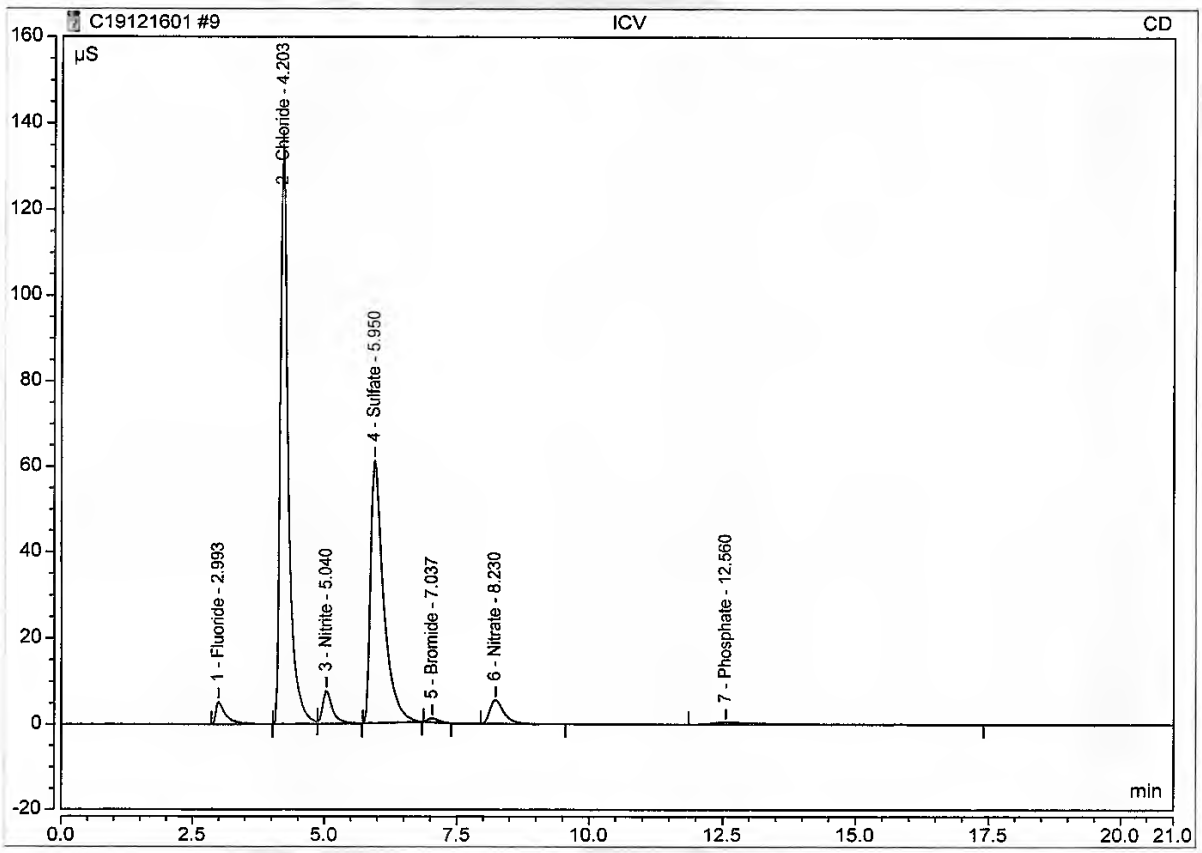


Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	ICV	*Inj. Vol.:*	5000.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Instrument Method:	Anions_012919	*Operator:*	Chemistry
Inj. Date / Time:	16-Dec-2019 / 09:57	*Run Time:*	21.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.99	Fluoride	BMB	1.128	5.318	2.8342
2	4.20	Chloride	BM	24.100	135.080	96.5265
3	5.04	Nitrite	MB	1.683	7.740	3.5020
4	5.95	Sulfate	BMB	17.380	61.148	96.4733
5	7.04	Bromide	BMB	0.210	0.956	2.7557
6	8.23	Nitrate	BMB	1.769	5.599	2.9807
7	12.56	Phosphate	BMB	0.672	0.505	3.6471
TOTAL:				46.94	216.35	208.72



Anion/Integration

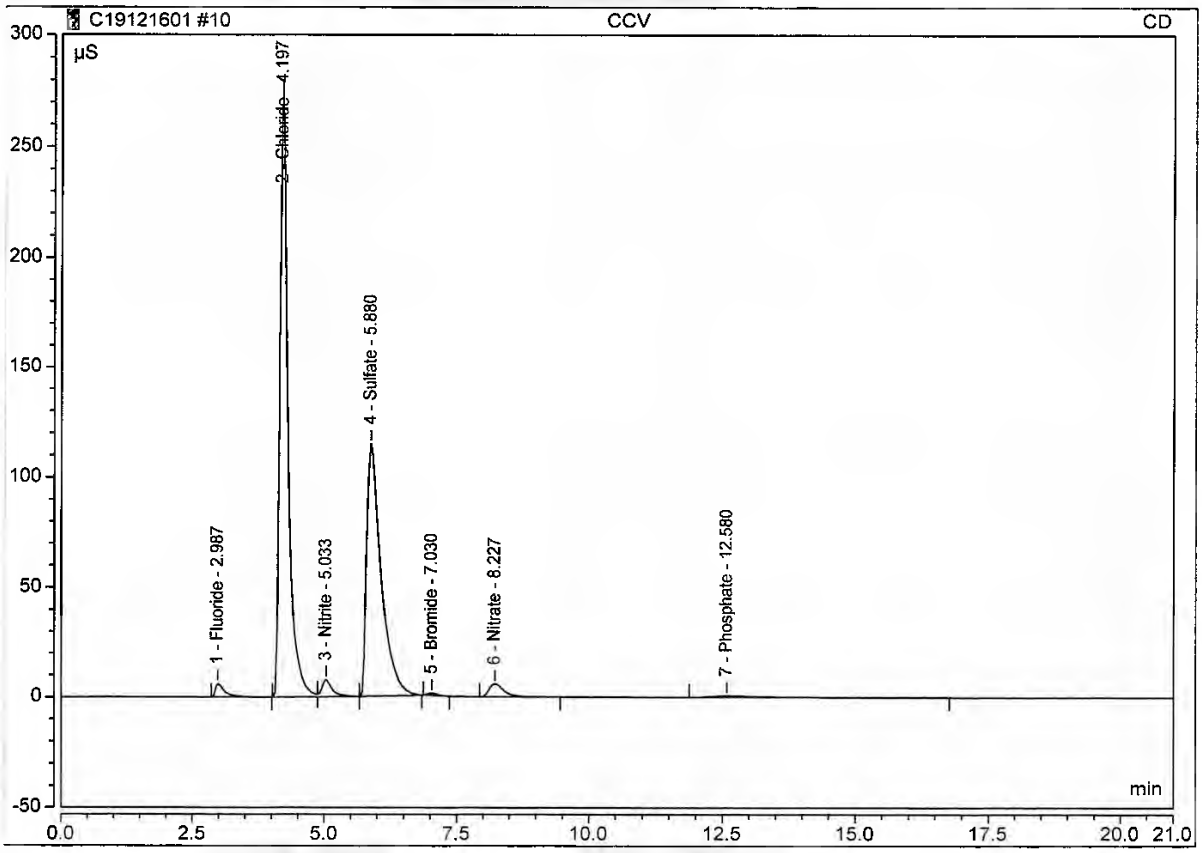
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	CCV	*Inj. Vol.:*	5000.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Instrument Method:	Anions_012919	*Operator:*	Chemistry
Inj. Date / Time:	16-Dec-2019 / 10:21	*Run Time:*	21.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.99	Fluoride	BMB	1.209	6.043	3.0360
2	4.20	Chloride	BM	49.603	274.004	198.7399
3	5.03	Nitrite	MB	1.703	7.672	3.5433
4	5.88	Sulfate	BMB	36.016	114.696	200.4385
5	7.03	Bromide	BMB	0.212	0.997	2.7728
6	8.23	Nitrate	BMB	1.850	5.798	3.1099
7	12.58	Phosphate	BMB	0.852	0.678	4.4968
TOTAL:				91.44	409.89	416.14



Anion/Integration

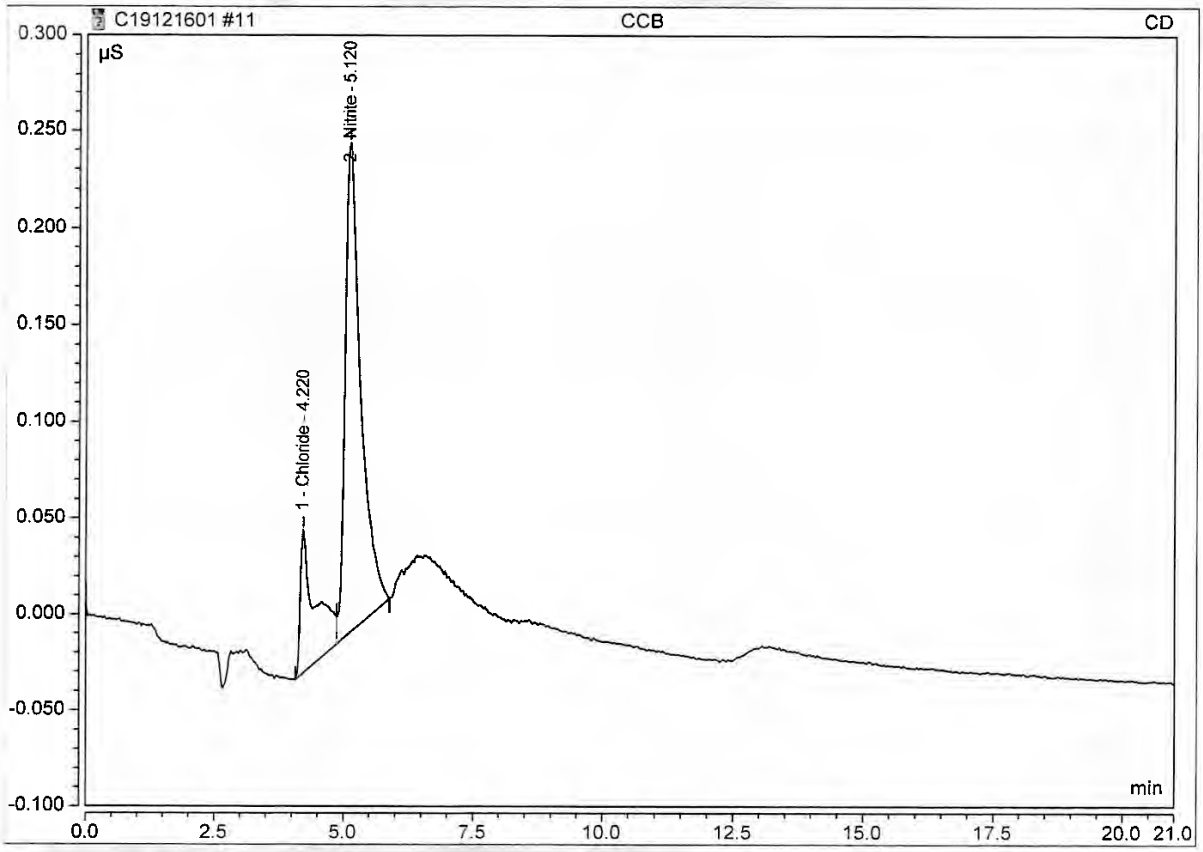
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**16-Dec-2019 / 10:45**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	4.22	Chloride	BM	0.025	0.075	0.0348
2	5.12	Nitrite	MB	0.090	0.253	0.1684
TOTAL:				0.11	0.33	0.20



Anion/Integration

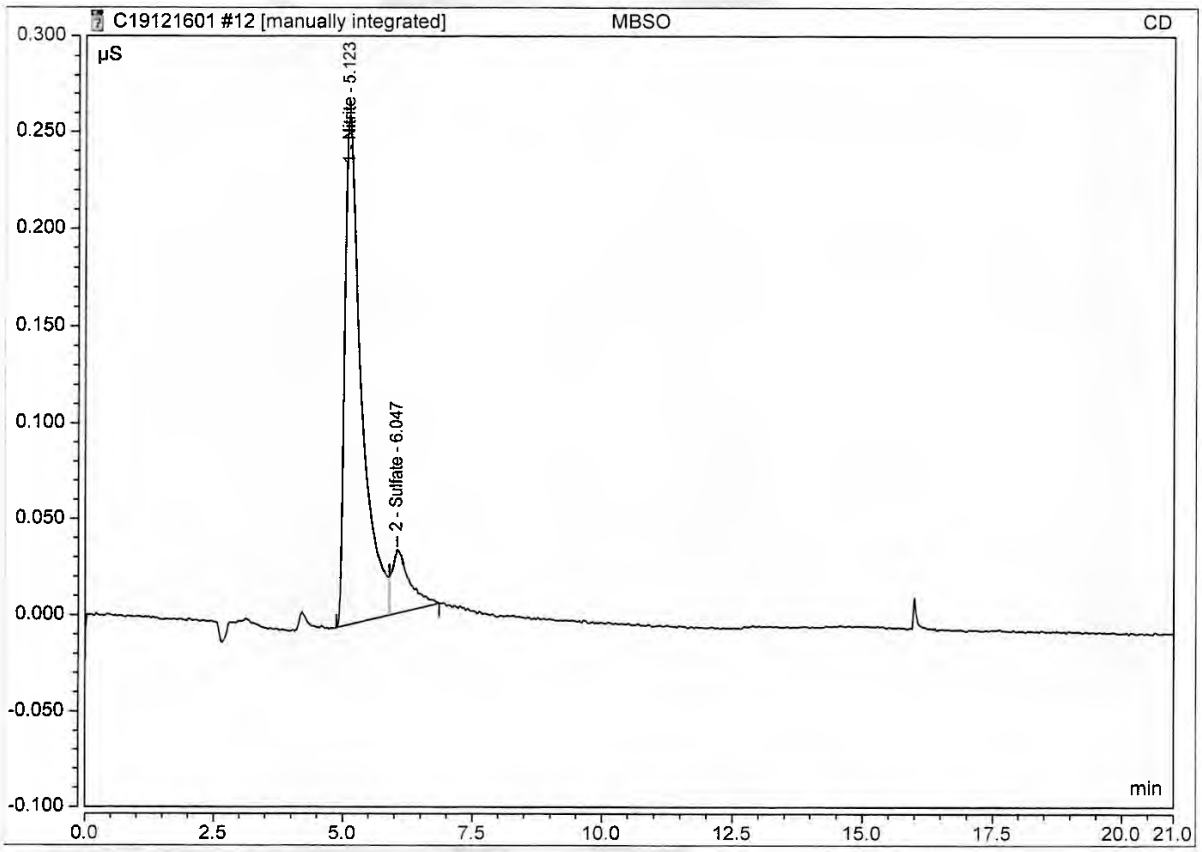
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**MBSO**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**16-Dec-2019 / 11:09**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	5.12	Nitrite	BM *	0.100	0.264	0.1891
2	6.05	Sulfate	MB*	0.013	0.033	n.a.
		TOTAL:		0.11	0.30	0.19



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Anion/Integration

Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

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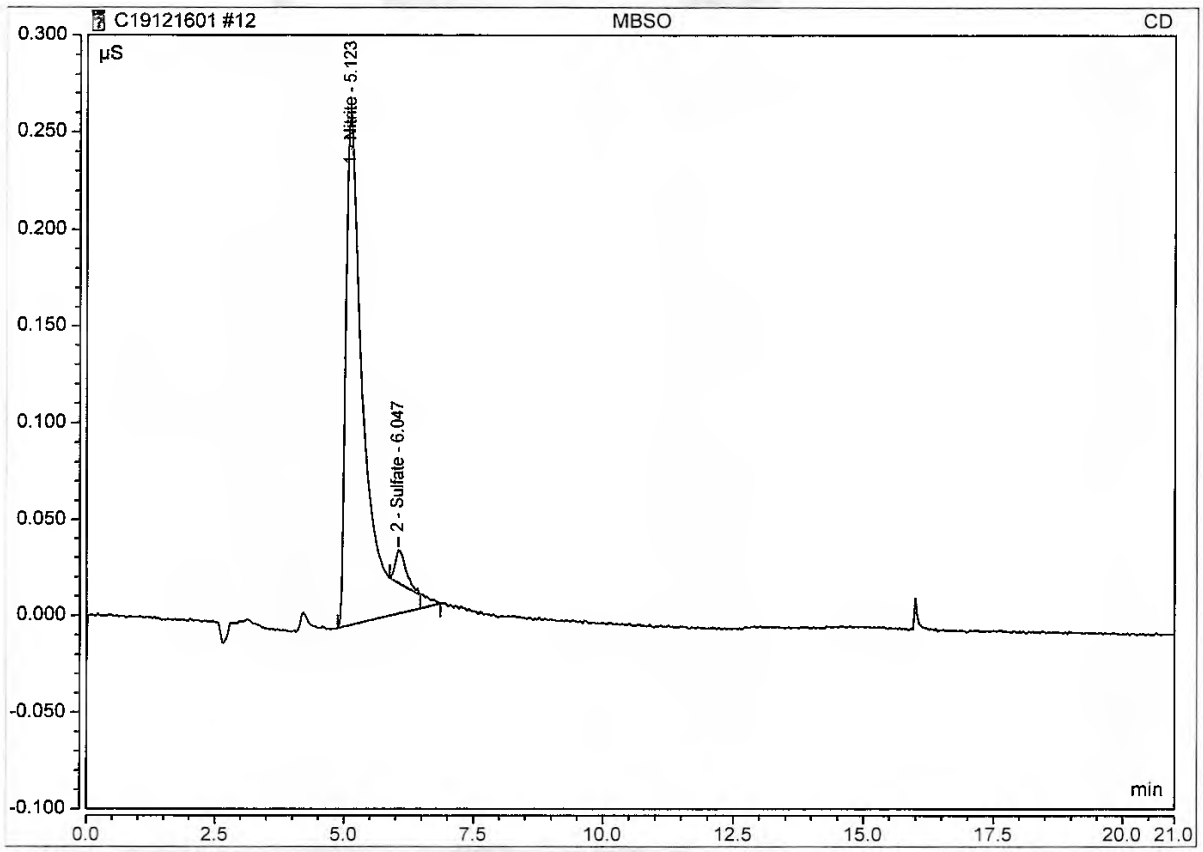
Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**MBSO**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**16-Dec-2019 / 11:09**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	5.12	Nitrite	BMB	0.109	0.264	0.2101
2	6.05	Sulfate	Rd	0.004	0.017	n.a.
TOTAL:				0.11	0.28	0.21



Anion/Integration

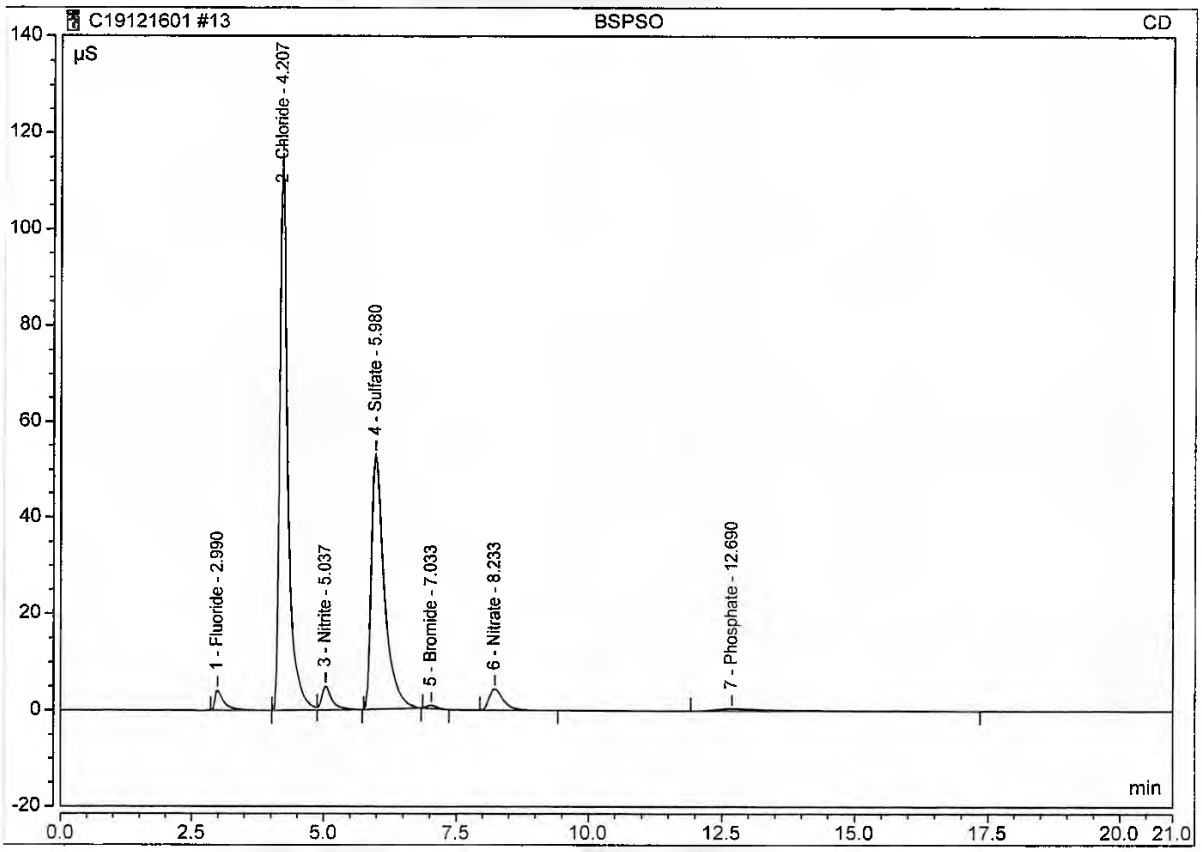
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**BSPSO**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**16-Dec-2019 / 11:33**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.99	Fluoride	BMB	0.815	4.220	2.0563
2	4.21	Chloride	BM	20.527	115.517	82.2072
3	5.04	Nitrite	MB	1.096	4.952	2.2740
4	5.98	Sulfate	BMB	14.872	52.983	82.4814
5	7.03	Bromide	BMB	0.138	0.666	1.8074
6	8.23	Nitrate	BMB	1.379	4.407	2.3572
7	12.69	Phosphate	BMB	0.592	0.456	3.2663
TOTAL:				39.42	183.20	176.45



Anion/Integration

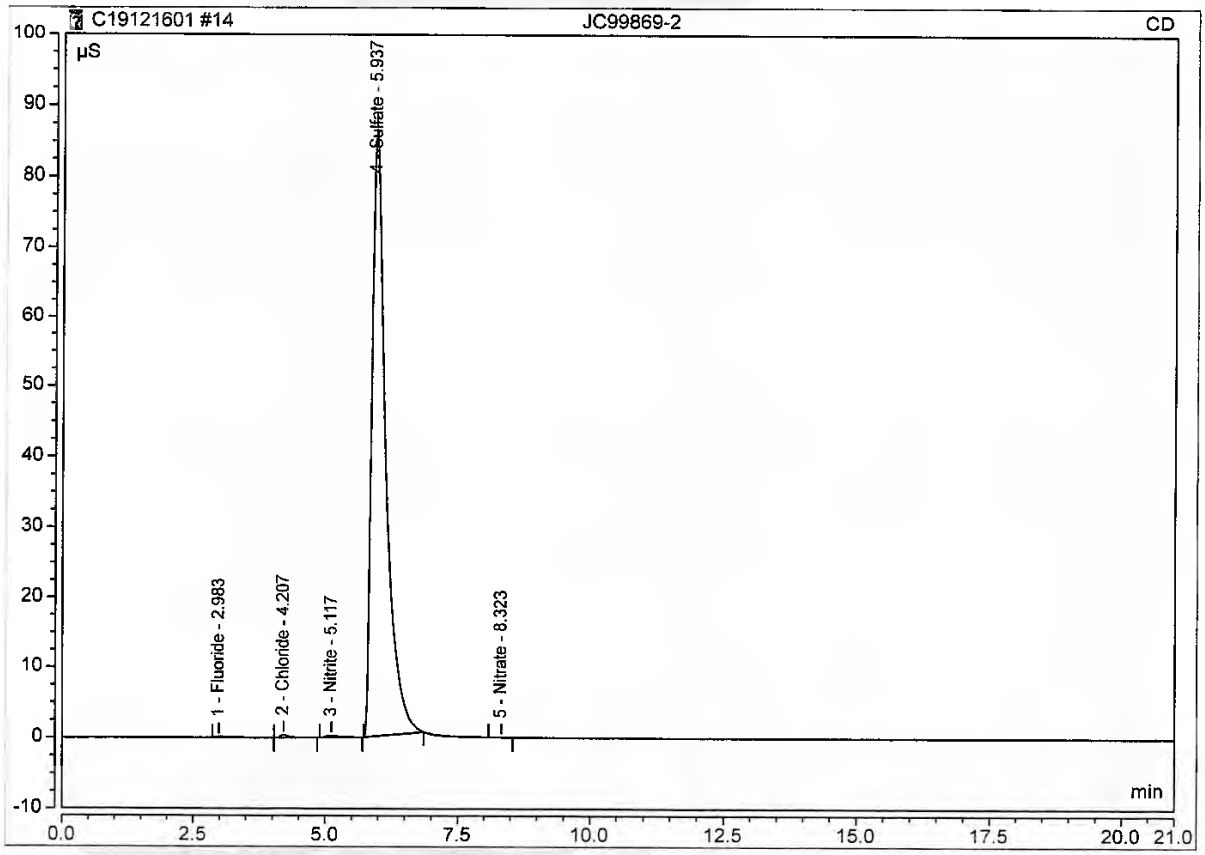
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**JC99869-2**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**10.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**16-Dec-2019 / 11:58**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.98	Fluoride	BMB	0.031	0.137	1.0685
2	4.21	Chloride	BMB	0.071	0.418	2.1814
3	5.12	Nitrite	BMB	0.104	0.309	1.9892
4	5.94	Sulfate	BMB	26.183	86.456	1455.8579
5	8.32	Nitrate	BMB	0.004	0.016	1.5640
TOTAL:				26.39	87.34	1462.66



Anion/Integration

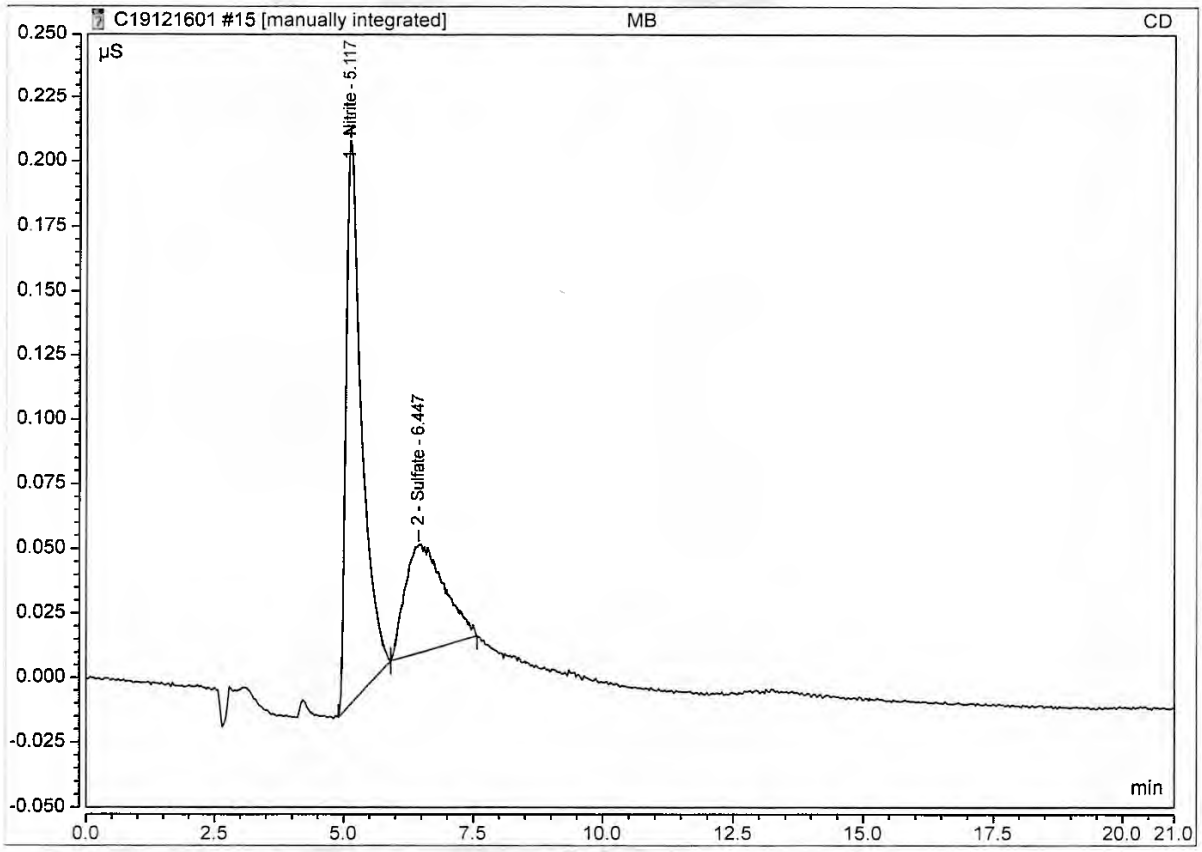
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	MB	*Inj. Vol.:*	5000.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Instrument Method:	Anions_012919	*Operator:*	Chemistry
Inj. Date / Time:	16-Dec-2019 / 12:22	*Run Time:*	21.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	5.12	Nitrite	BMB	0.077	0.219	0.1443
2	6.45	Sulfate	BMB*	0.036	0.042	n.a.
TOTAL:				0.11	0.26	0.14



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Anion/Integration

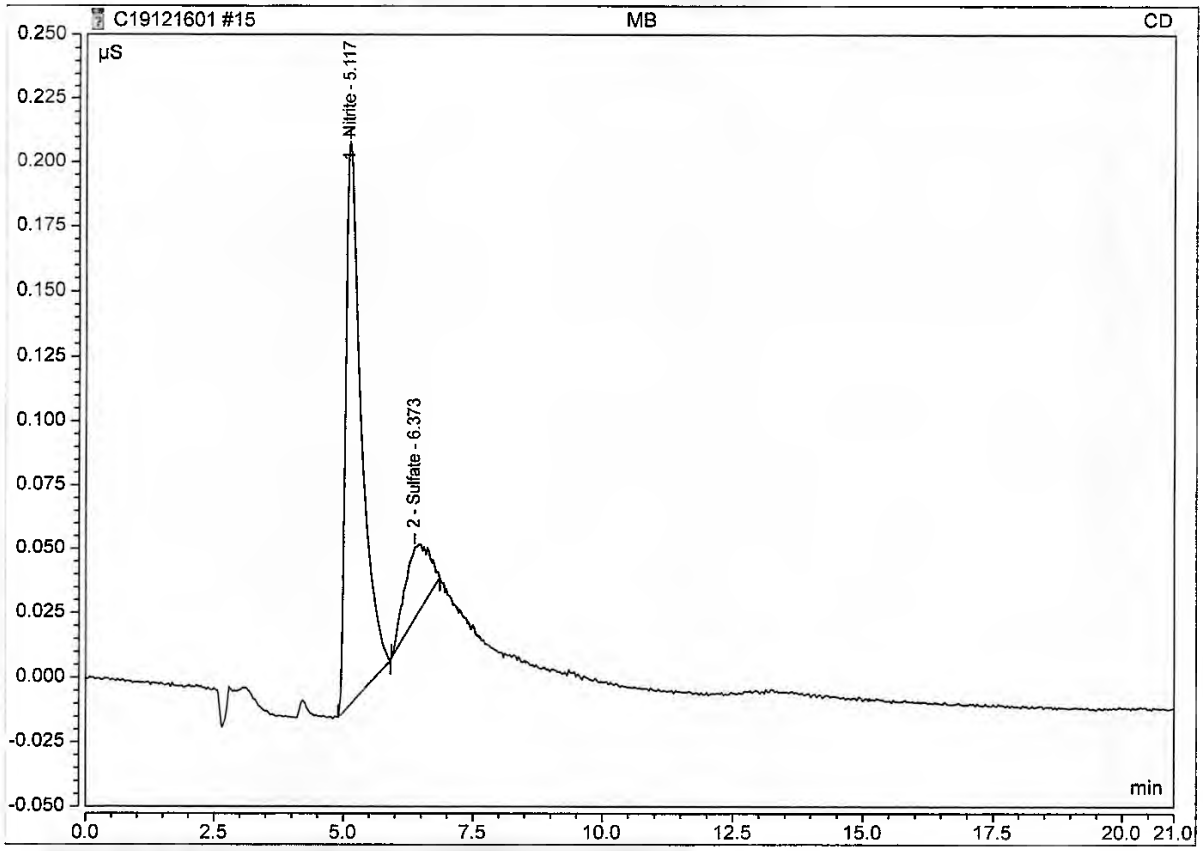
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**MB**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	16-Dec-2019 / 12:22	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	5.12	Nitrite	BMB	0.077	0.219	0.1417
2	6.37	Sulfate	BMB	0.015	0.028	n.a.
TOTAL:				0.09	0.25	0.14



Anion/Integration

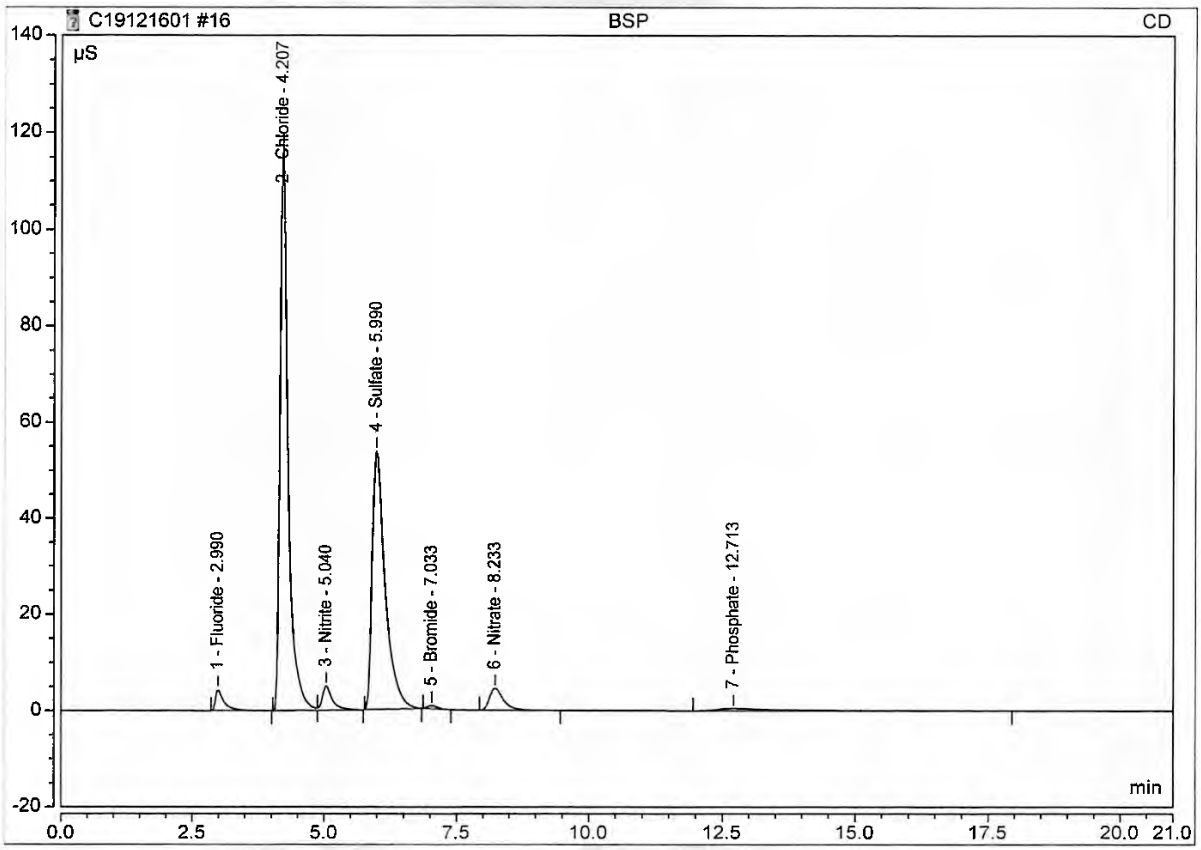
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**BSP**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**16-Dec-2019 / 12:46**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.99	Fluoride	BMB	0.831	4.396	2.0950
2	4.21	Chloride	BM	20.785	116.987	83.2383
3	5.04	Nitrite	MB	1.116	5.018	2.3152
4	5.99	Sulfate	BMB	15.143	53.788	83.9978
5	7.03	Bromide	BMB	0.146	0.685	1.9083
6	8.23	Nitrate	BMB	1.403	4.482	2.3948
7	12.71	Phosphate	BMB	0.647	0.491	3.5268
TOTAL:				40.07	185.85	179.48



Anion/Integration

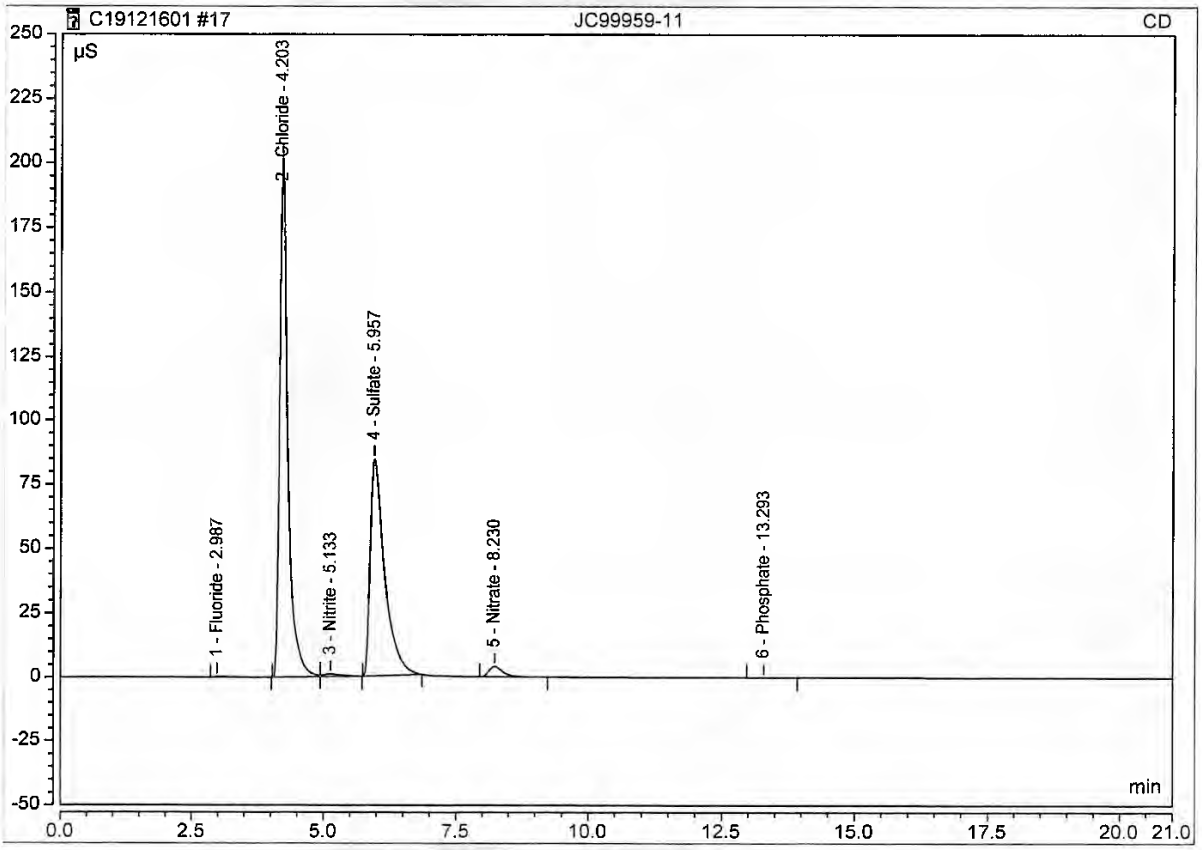
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**JC99959-11**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**5.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	16-Dec-2019 / **13:40**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.99	Fluoride	BMB	0.090	0.299	1.2706
2	4.20	Chloride	BM	36.278	202.393	726.6661
3	5.13	Nitrite	MB	0.411	1.036	4.2027
4	5.96	Sulfate	BMB	26.366	84.395	733.0203
5	8.23	Nitrate	BMB	1.257	4.065	10.8108
6	13.29	Phosphate	BMB	0.002	0.005	2.3560
TOTAL:				64.40	292.19	1478.33



Anion/Integration

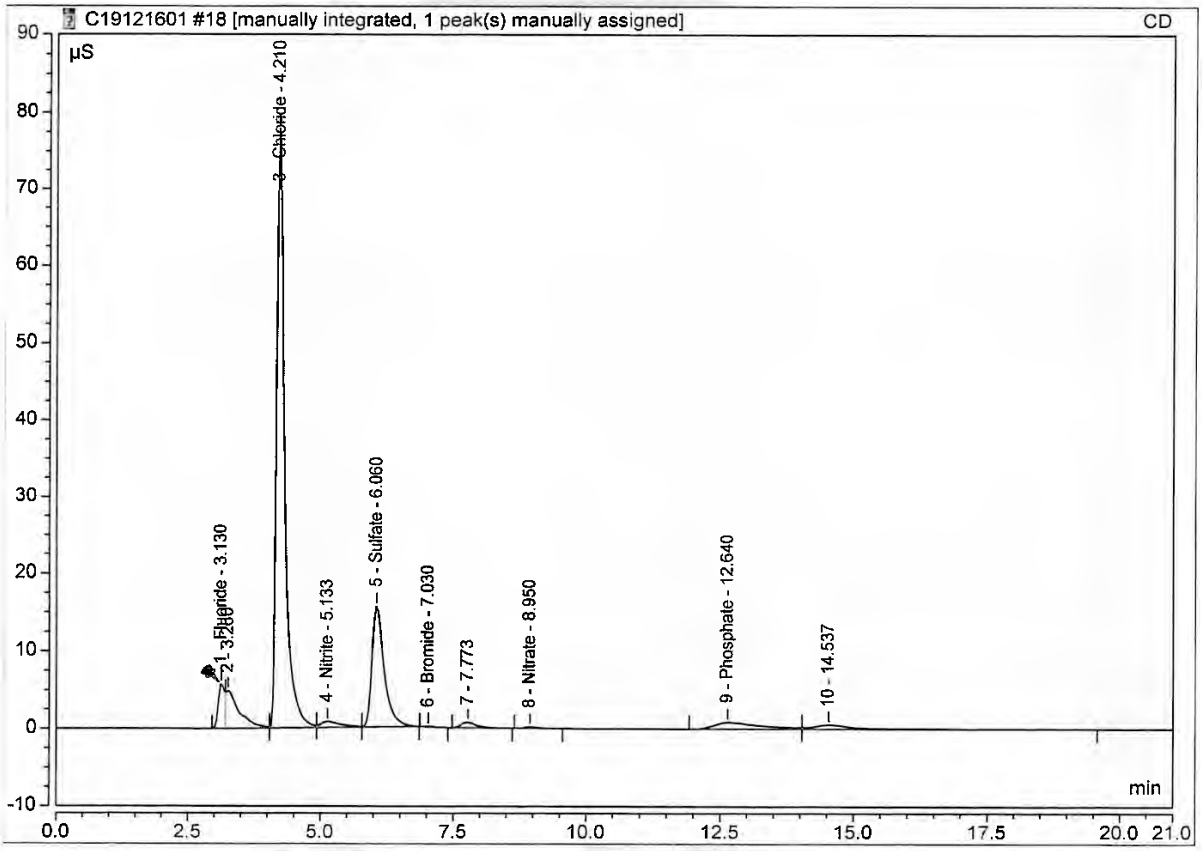
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**JC99530-4**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**10.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**16-Dec-2019 / 14:04**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	3.13	Fluoride	BM *^	0.785	5.835	19.8060
3	4.21	Chloride	M	13.652	77.846	546.4965
4	5.13	Nitrite	M	0.333	0.779	6.7635
5	6.06	Sulfate	MB	4.154	15.566	226.8881
6	7.03	Bromide	BMB	0.017	0.088	2.1191
8	8.95	Nitrate	BMB	0.052	0.173	2.3398
9	12.64	Phosphate	BM	0.869	0.847	45.7776
TOTAL:				19.86	101.14	850.19



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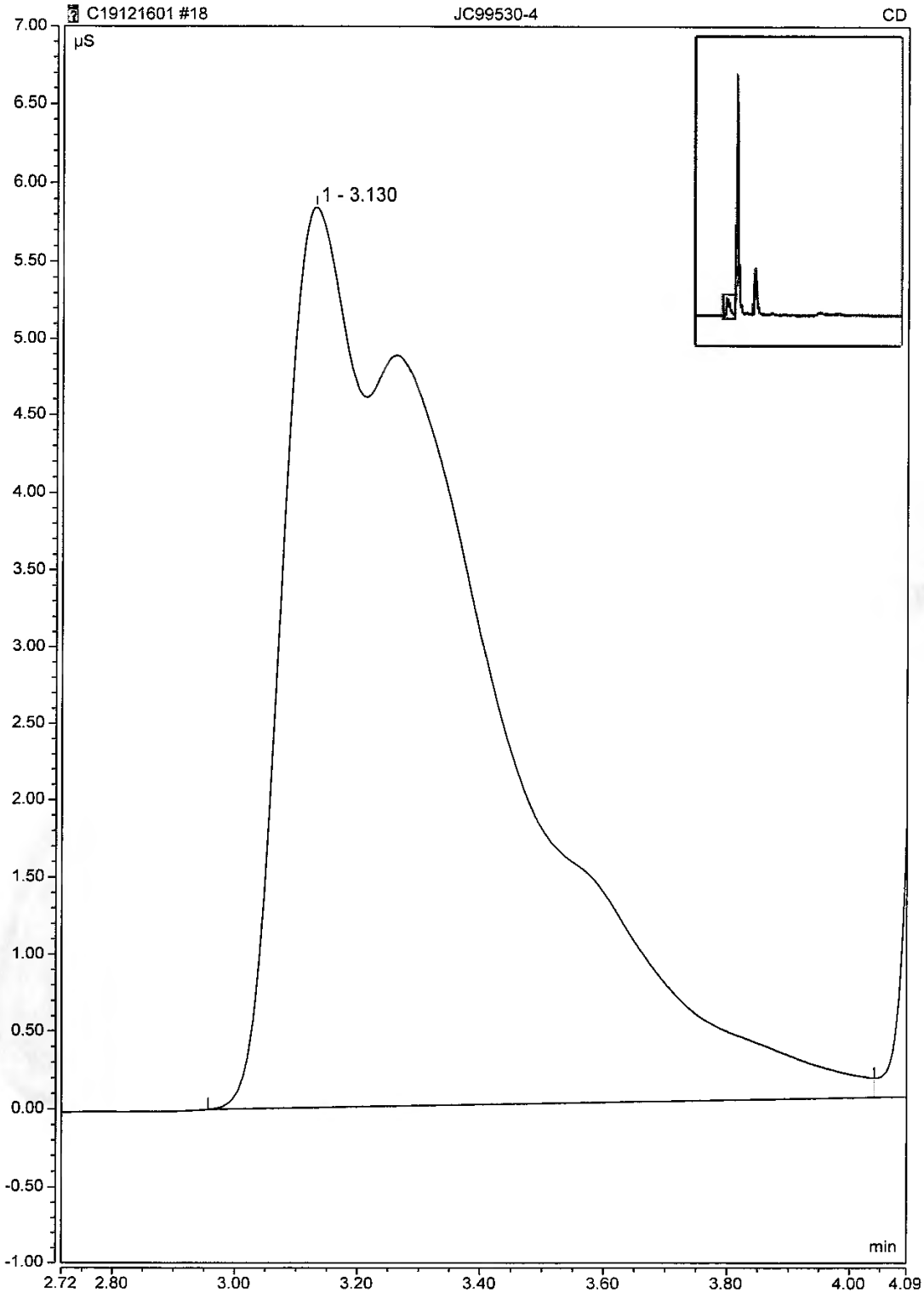
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Sequence: C19121601
Injection #18: JC99530-4

Chromatogram



Chromeleon 7,
Version 7.2.8.10783, Thermo Fisher Scientific

Page 1 of 1

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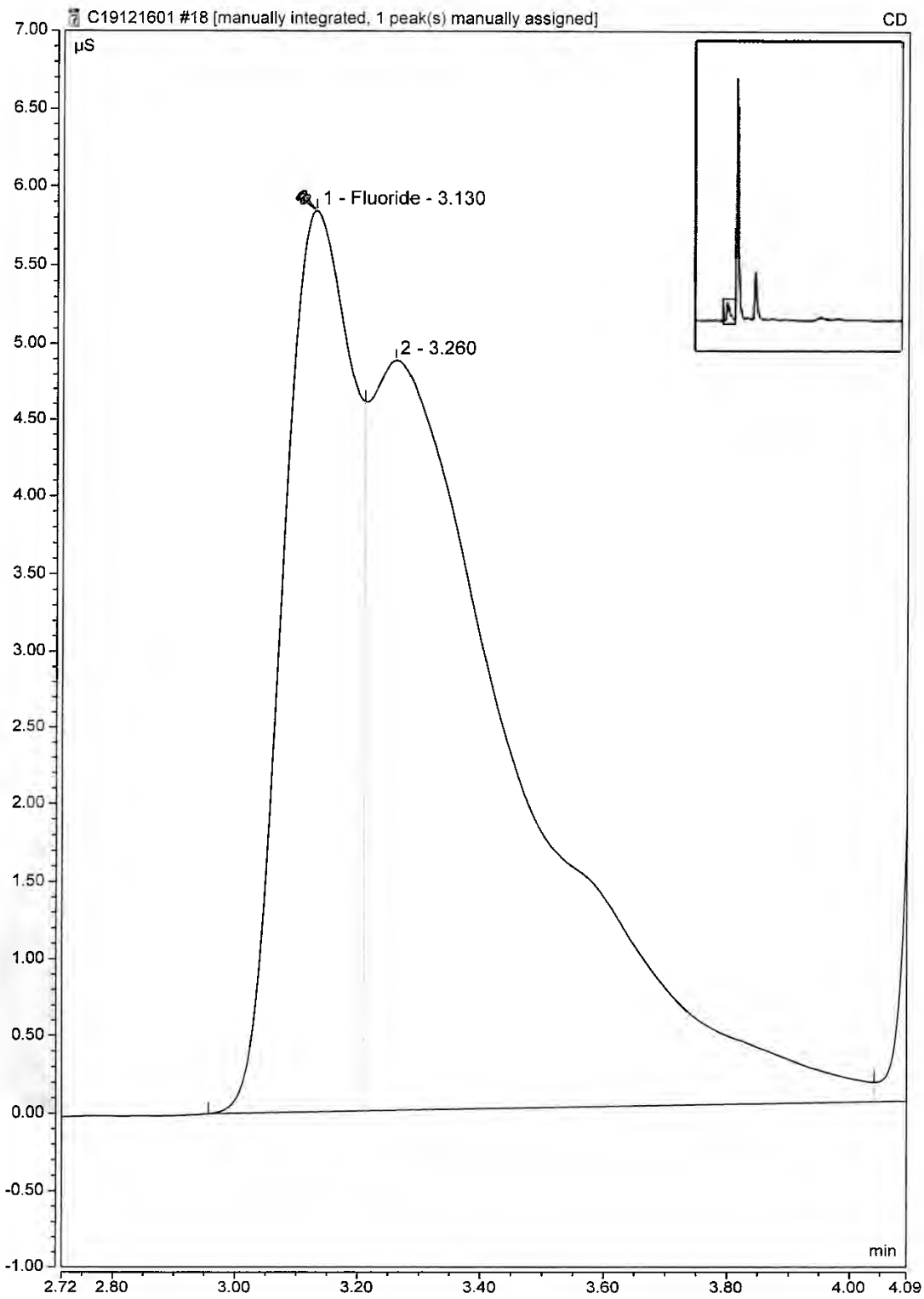
9.2

Sequence: C19121601
Injection #18: JC99530-4

Chromatogram



Chromeleon 7,
Version 7.2.8.10783, Thermo Fisher Scientific

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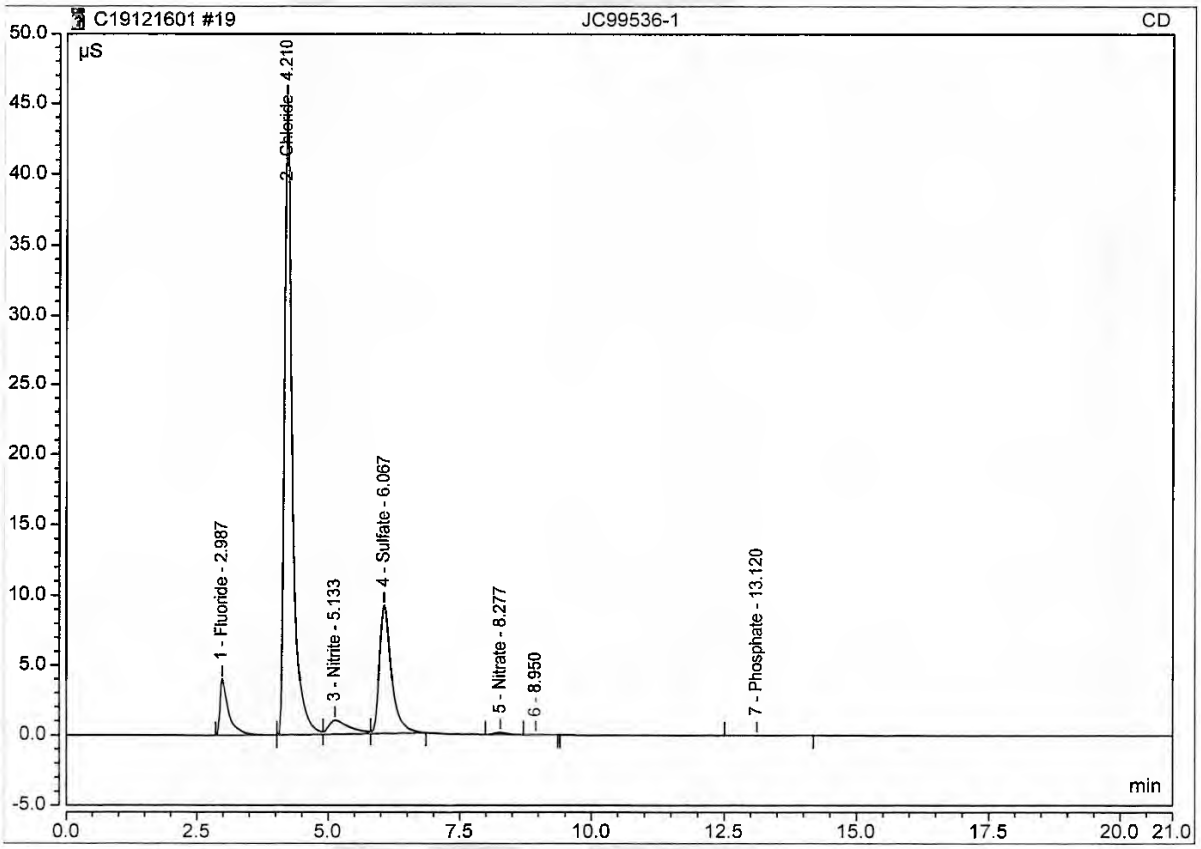
17/12/19 09:12

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	JC99536-1	*Inj. Vol.:*	5000.00
Injection Type:	Unknown	*Dilution Factor:*	10.0000
Instrument Method:	Anions_012919	*Operator:*	Chemistry
Inj. Date / Time:	16-Dec-2019 / 14:27	*Run Time:*	21.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.99	Fluoride	BMB	0.746	3.988	18.8398
2	4.21	Chloride	BM	7.909	45.355	316.3339
3	5.13	Nitrite	M	0.441	0.988	9.0409
4	6.07	Sulfate	MB	2.413	9.127	129.7945
5	8.28	Nitrate	BMB	0.041	0.140	2.1556
7	13.12	Phosphate	BMB	0.011	0.013	5.1343
		TOTAL:		11.56	59.61	481.30



Anion/Integration

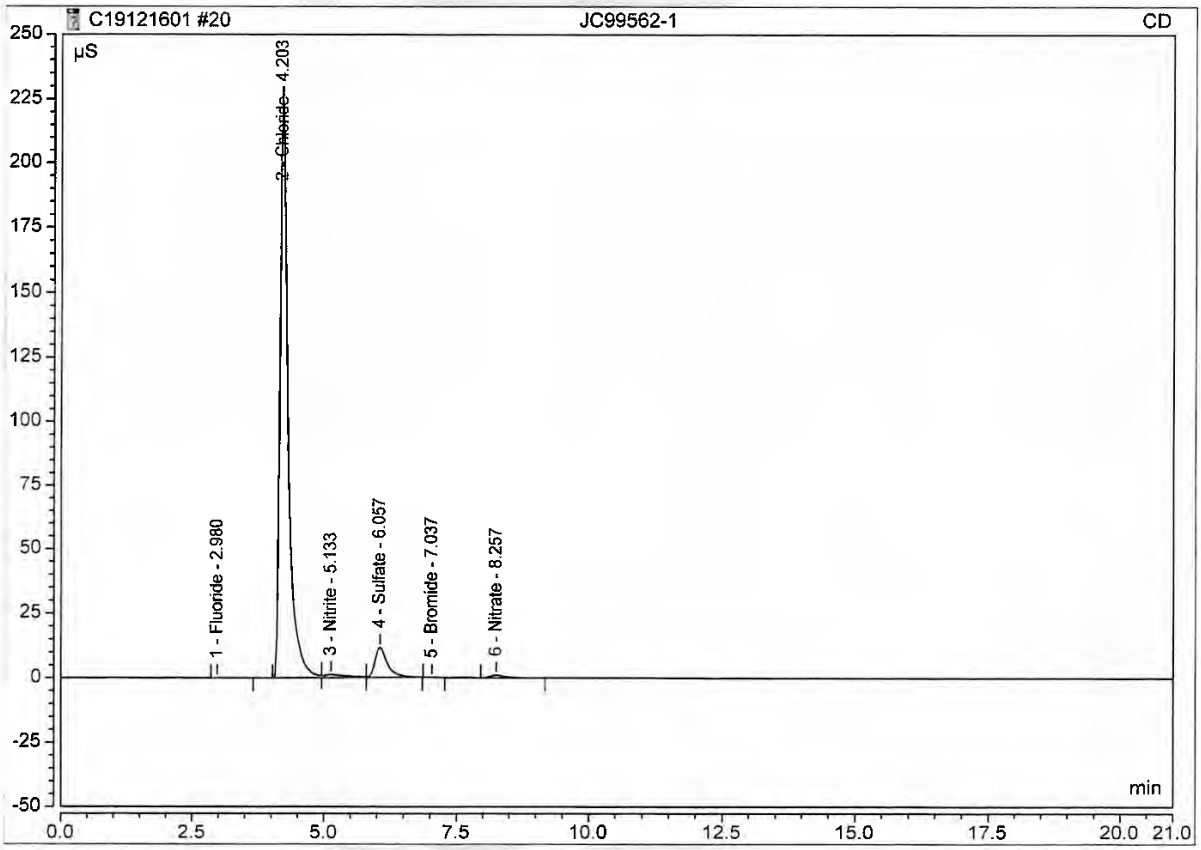
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	JC99562-1	*Inj. Vol.:*	5000.00
Injection Type:	Unknown	*Dilution Factor:*	5.0000
Instrument Method:	Anions_012919	*Operator:*	Chemistry
Inj. Date / Time:	16-Dec-2019 / 14:51	*Run Time:*	21.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.98	Fluoride	BMB	0.013	0.055	0.3093
2	4.20	Chloride	BM	40.286	224.415	806.9858
3	5.13	Nitrite	M	0.589	1.196	6.0639
4	6.06	Sulfate	MB	3.140	11.562	85.1803
5	7.04	Bromide	BMB	0.015	0.078	0.9097
6	8.26	Nitrate	BMB	0.310	1.030	3.2278
TOTAL:				44.35	238.34	902.68



Anion/Integration

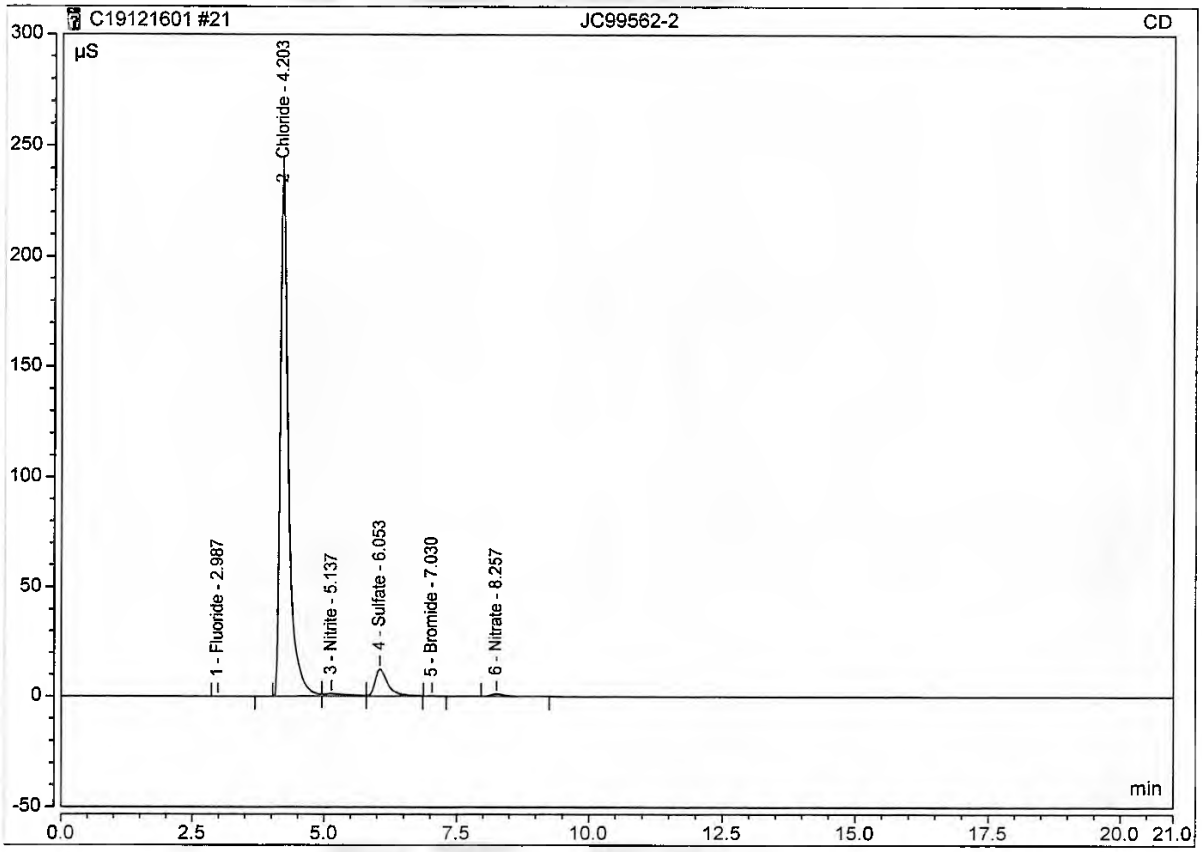
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**JC99562-2**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**5.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**16-Dec-2019 / 15:15**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.99	Fluoride	BMB	0.016	0.055	0.3439
2	4.20	Chloride	BM	43.092	239.158	863.2304
3	5.14	Nitrite	M	0.579	1.173	5.9575
4	6.05	Sulfate	MB	3.365	12.307	91.4527
5	7.03	Bromide	BMB	0.016	0.085	0.9865
6	8.26	Nitrate	BMB	0.334	1.109	3.4197
TOTAL:				47.40	253.89	965.39



Anion/Integration

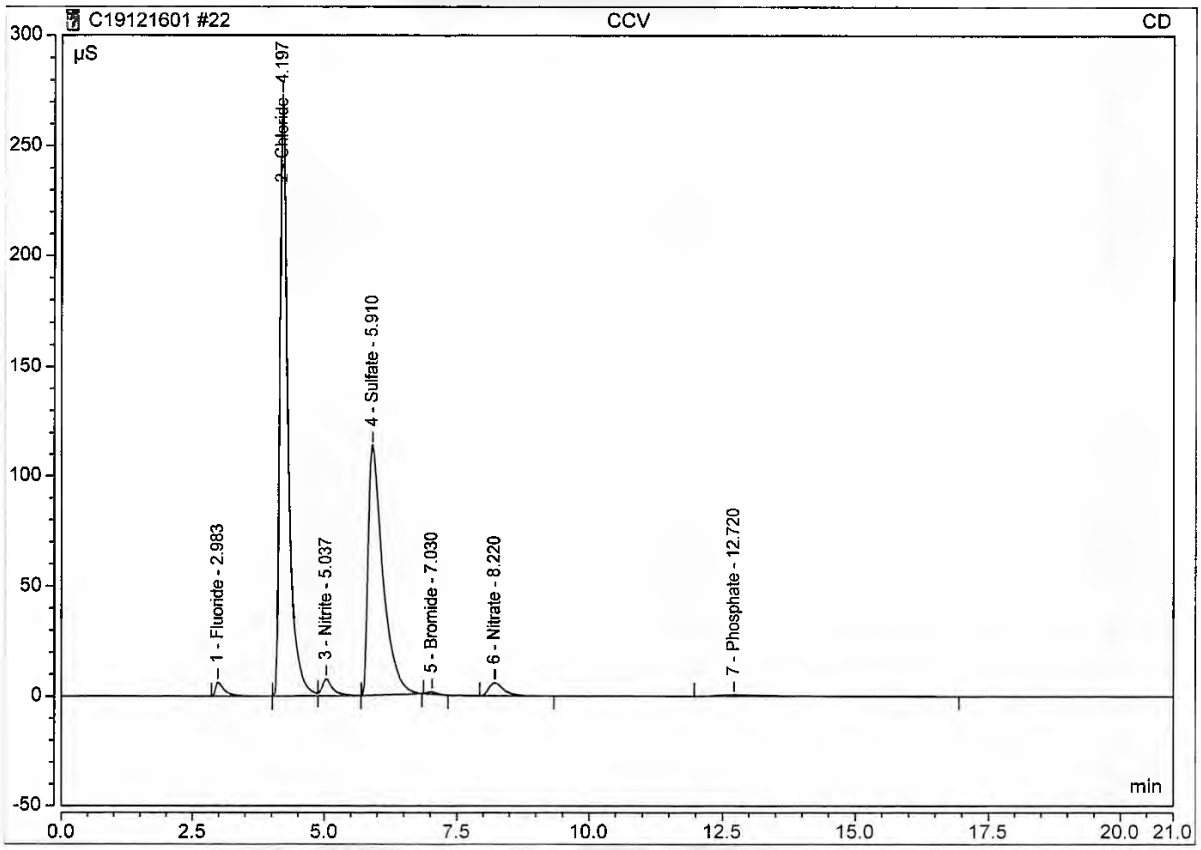
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**CCV**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	16-Dec-2019 / 15:39	*Run Time:*	21.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.98	Fluoride	BMB	1.223	6.379	3.0696
2	4.20	Chloride	BM	49.698	273.052	199.1200
3	5.04	Nitrite	MB	1.731	7.721	3.6037
4	5.91	Sulfate	BMB	36.065	113.803	200.7145
5	7.03	Bromide	BMB	0.194	0.950	2.5385
6	8.22	Nitrate	BMB	1.859	5.861	3.1244
7	12.72	Phosphate	BMB	0.829	0.652	4.3884
TOTAL:				91.60	408.42	416.56



Anion/Integration

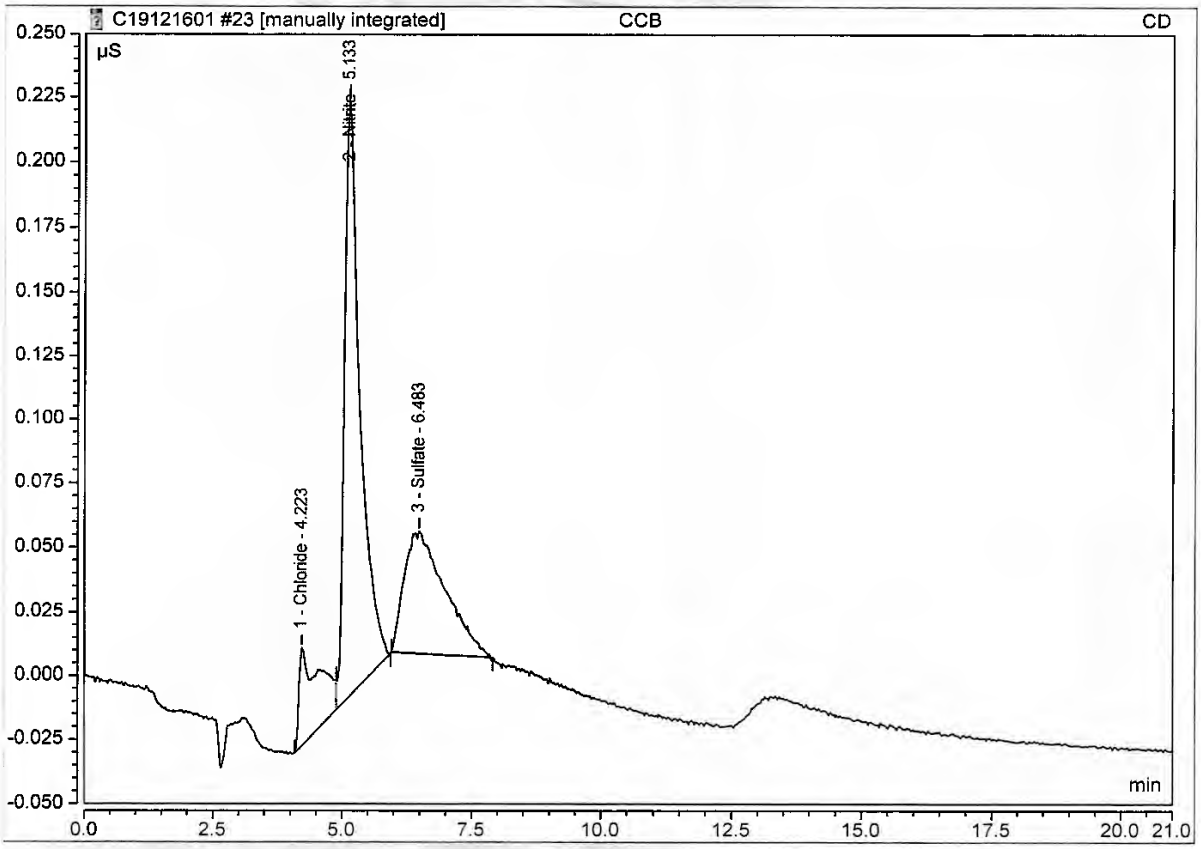
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	CCB	*Inj. Vol.:*	5000.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Instrument Method:	Anions_012919	*Operator:*	Chemistry
Inj. Date / Time:	16-Dec-2019 / 16:03	*Run Time:*	21.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	4.22	Chloride	BM *	0.017	0.038	0.0019
2	5.13	Nitrite	MB*	0.082	0.231	0.1519
3	6.48	Sulfate	BMB*	0.043	0.048	n.a.
TOTAL:				0.14	0.32	0.15



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Anion/Integration

Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

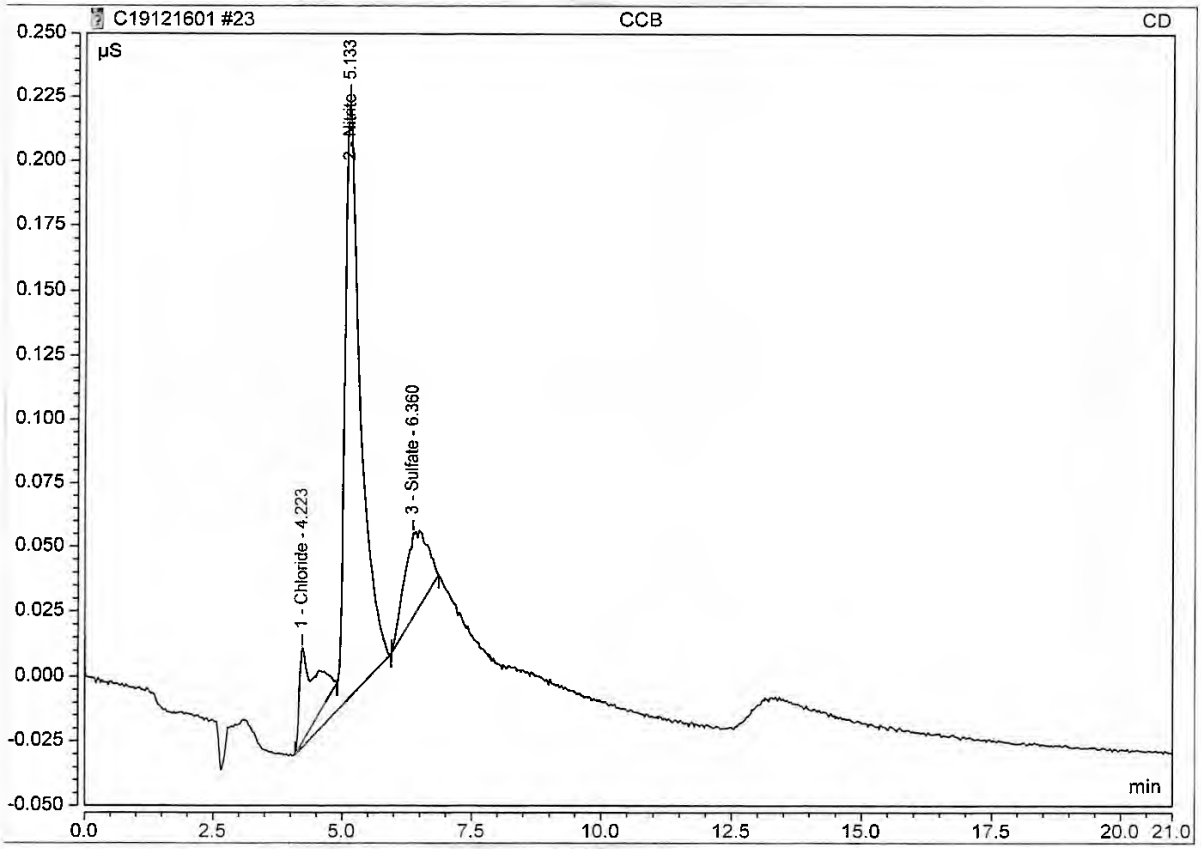
9.2 9

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	CCB	*Inj. Vol.:*	5000.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Instrument Method:	Anions_012919	*Operator:*	Chemistry
Inj. Date / Time:	16-Dec-2019 / 16:03	*Run Time:*	21.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	4.22	Chloride	Ru	0.012	0.037	n.a.
2	5.13	Nitrite	BMB	0.086	0.231	0.1635
3	6.36	Sulfate	BMB	0.016	0.033	n.a.
TOTAL:				0.11	0.30	0.16



Anion/Integration

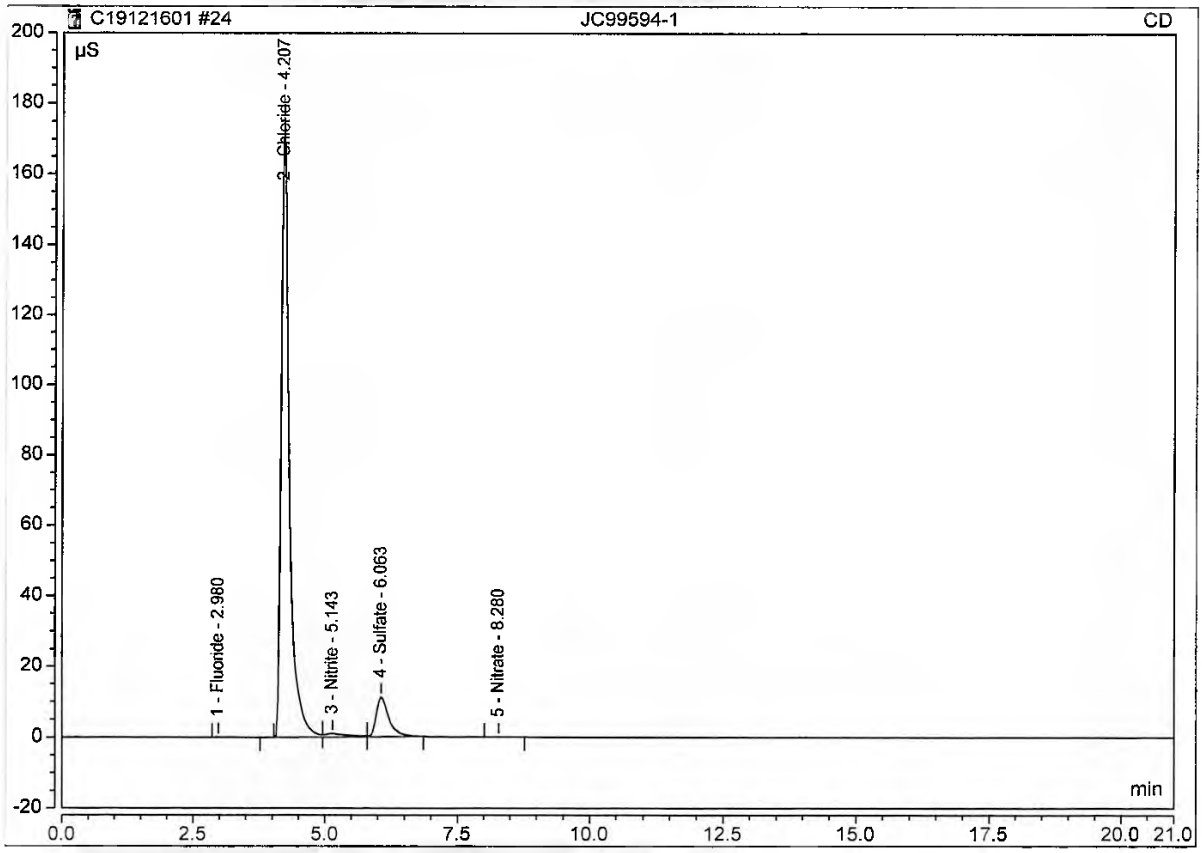
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**JC99594-1**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**10.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**16-Dec-2019 / 16:27**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.98	Fluoride	BMB	0.016	0.076	0.6998
2	4.21	Chloride	BM	31.362	175.814	1256.3142
3	5.14	Nitrite	M	0.452	0.933	9.2687
4	6.06	Sulfate	MB	3.006	11.125	162.8718
5	8.28	Nitrate	BMB	0.014	0.049	1.7249
TOTAL:				34.85	188.00	1430.88



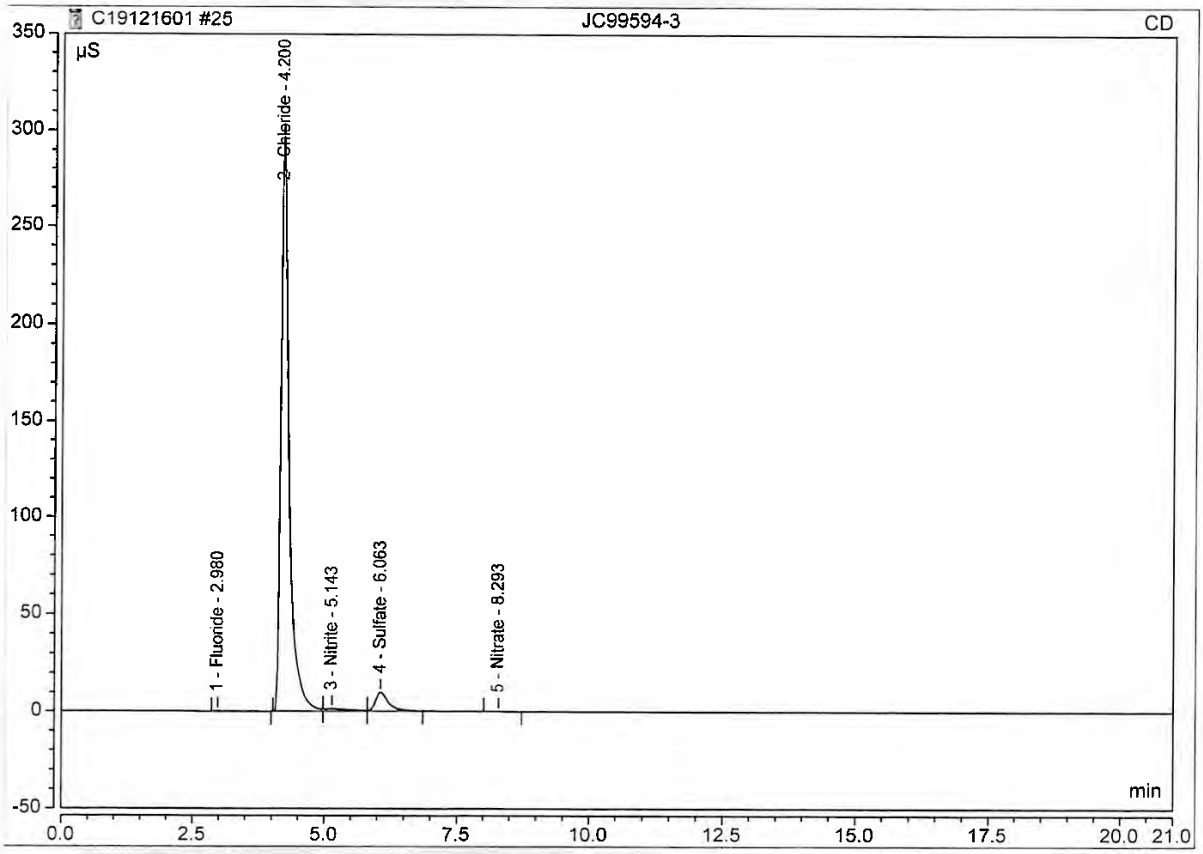
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	JC99594-3	*Inj. Vol.:*	5000.00
Injection Type:	Unknown	*Dilution Factor:*	5.0000
Instrument Method:	Anions_012919	*Operator:*	Chemistry
Inj. Date / Time:	16-Dec-2019 / 16:54	*Run Time:*	21.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.98	Fluoride	BMB	0.035	0.169	0.5844
2	4.20	Chloride	BM	54.102	296.917	1083.8623
3	5.14	Nitrite	M	0.632	1.266	6.5186
4	6.06	Sulfate	MB	2.720	9.879	73.4511
5	8.29	Nitrate	BMB	0.011	0.039	0.8382
TOTAL:				57.50	308.27	1165.25



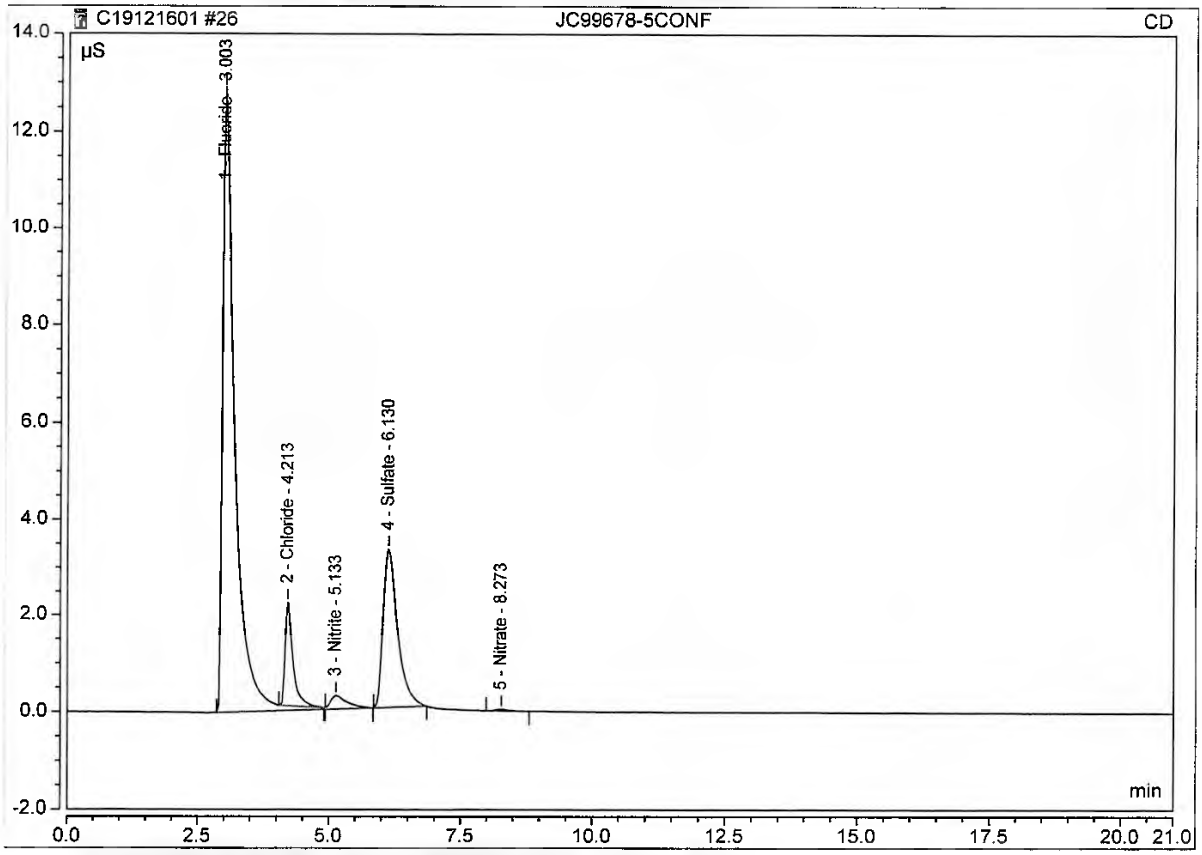
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	JC99678-5CONF	*Inj. Vol.:*	5000.00
Injection Type:	Unknown	*Dilution Factor:*	50.0000
Instrument Method:	Anions_012919	*Operator:*	Chemistry
Inj. Date / Time:	16-Dec-2019 / 17:18	*Run Time:*	21.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	3.00	Fluoride	BM	3.512	12.889	438.0687
2	4.21	Chloride	Rd	0.366	2.140	70.1474
3	5.13	Nitrite	MB	0.102	0.273	9.7107
4	6.13	Sulfate	BMB	1.040	3.293	265.9158
5	8.27	Nitrate	BMB	0.010	0.032	8.2722
TOTAL:				5.03	18.63	792.11



Anion/Integration

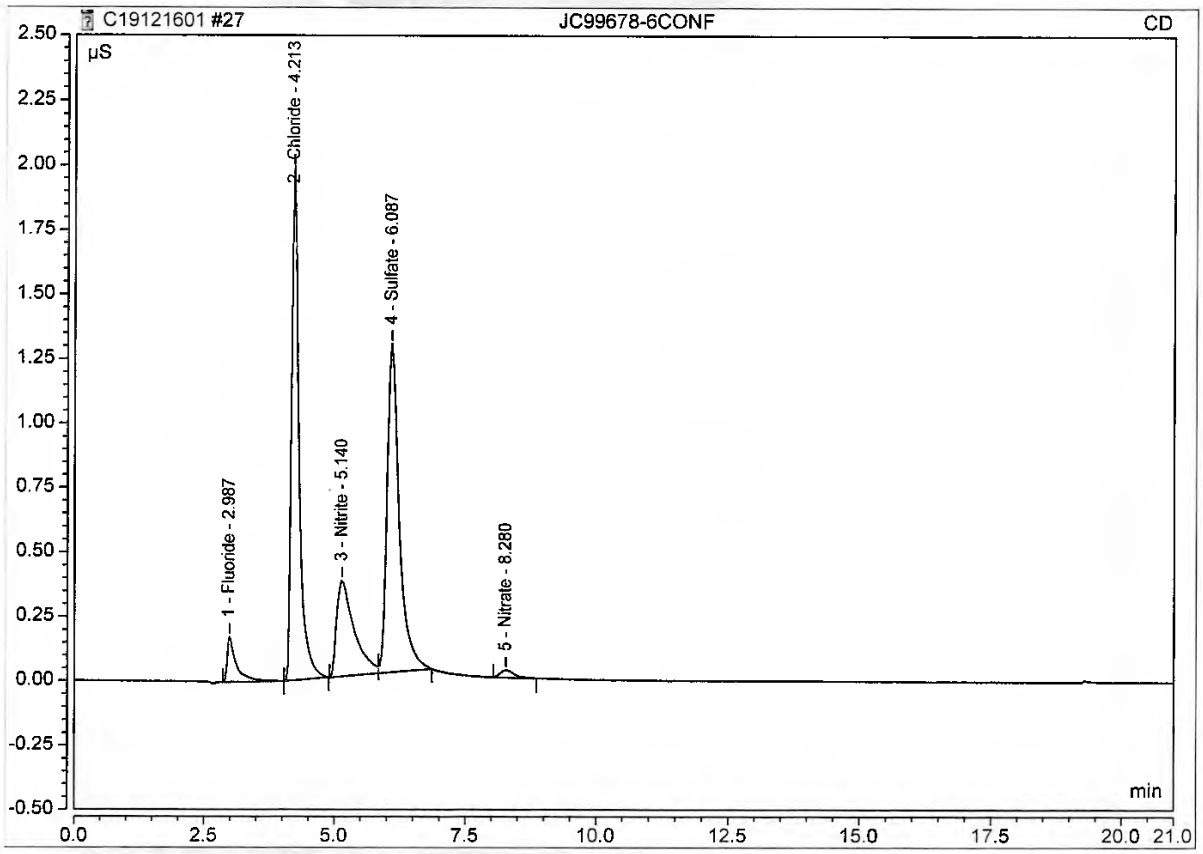
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	JC99678-6CONF	*Inj. Vol.:*	5000.00
Injection Type:	Unknown	*Dilution Factor:*	50.0000
Instrument Method:	Anions_012919	*Operator:*	Chemistry
Inj. Date / Time:	16-Dec-2019 / 17:42	*Run Time:*	21.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.99	Fluoride	BMB	0.035	0.176	5.8712
2	4.21	Chloride	BMB	0.334	1.991	63.5884
3	5.14	Nitrite	BM	0.146	0.374	14.2723
4	6.09	Sulfate	MB	0.345	1.276	72.2121
5	8.28	Nitrate	BMB	0.009	0.030	8.2258
TOTAL:				0.87	3.85	164.17



Anion/Integration

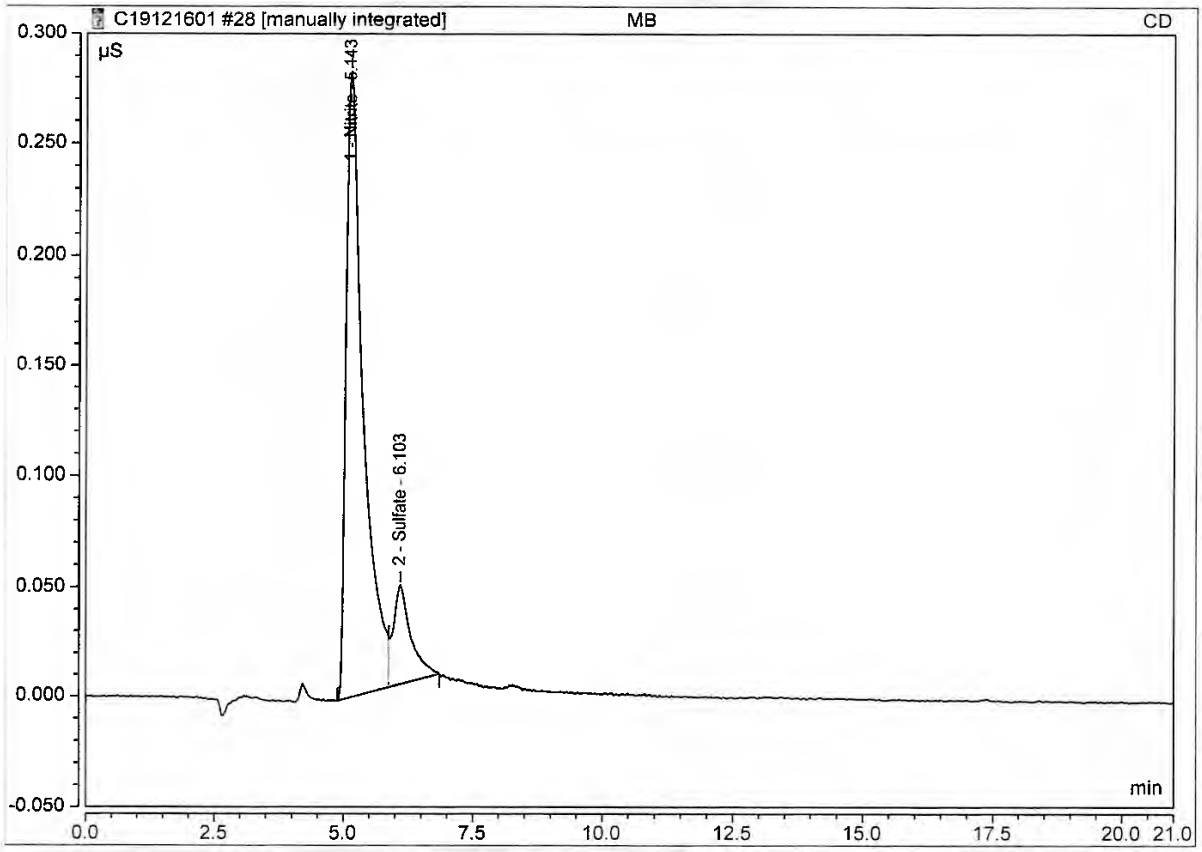
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**MB**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**16-Dec-2019 / 18:06**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	5.14	Nitrite	BM *	0.110	0.283	0.2103
2	6.10	Sulfate	MB*	0.018	0.045	n.a.
TOTAL:				0.13	0.33	0.21



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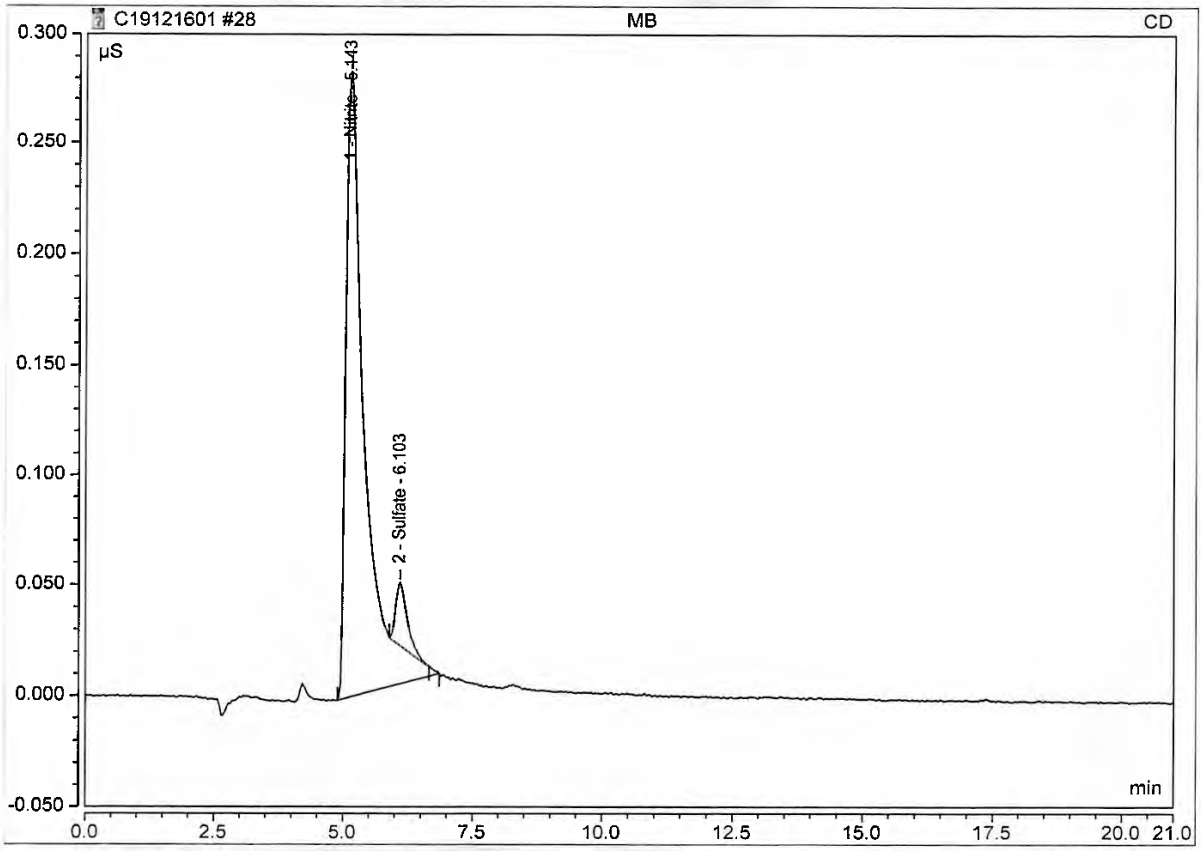
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	MB	*Inj. Vol.:*	5000.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Instrument Method:	Anions_012919	*Operator:*	Chemistry
Inj. Date / Time:	16-Dec-2019 / 18:06	*Run Time:*	21.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	5.14	Nitrite	BMB	0.120	0.283	0.2325
2	6.10	Sulfate	Rd	0.007	0.028	n.a.
TOTAL:				0.13	0.31	0.23



Anion/Integration

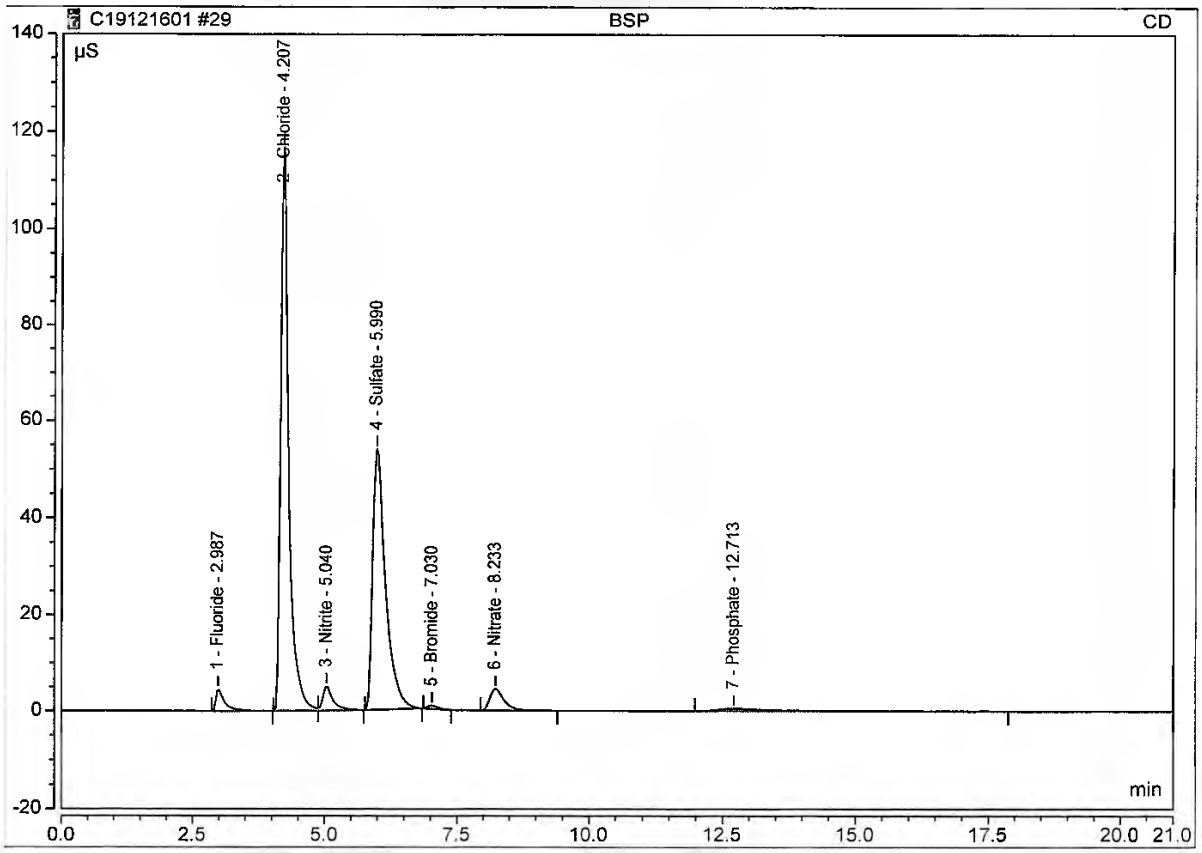
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**BSP**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**16-Dec-2019 / 18:31**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.99	Fluoride	BMB	0.832	4.479	2.0987
2	4.21	Chloride	BM	20.784	116.785	83.2337
3	5.04	Nitrite	MB	1.112	4.987	2.3067
4	5.99	Sulfate	BMB	15.167	53.855	84.1311
5	7.03	Bromide	BMB	0.147	0.690	1.9227
6	8.23	Nitrate	BMB	1.403	4.481	2.3950
7	12.71	Phosphate	BMB	0.666	0.529	3.6187
TOTAL:				40.11	185.80	179.71



Anion/Integration

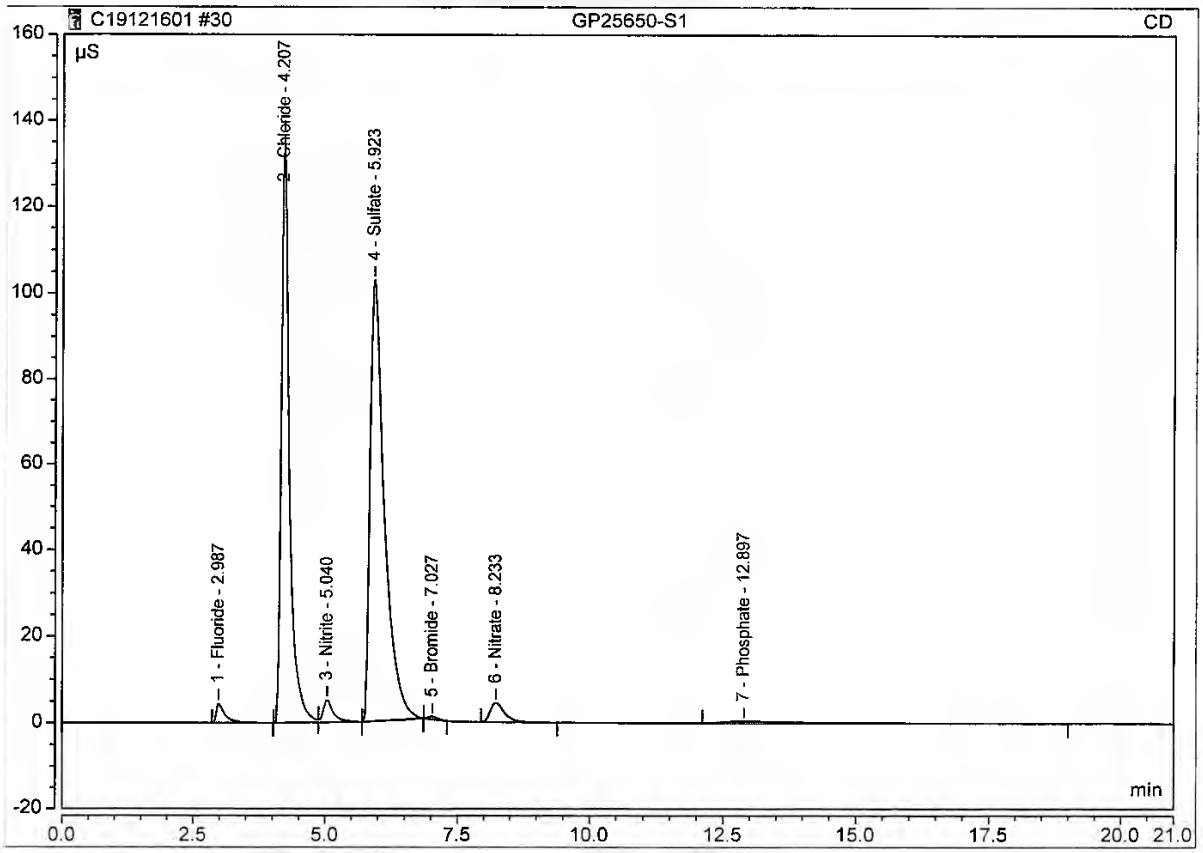
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**GP25650-S1**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**16-Dec-2019 / 18:55**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.99	Fluoride	BMB	0.854	4.575	2.1535
2	4.21	Chloride	BM	24.358	136.413	97.5613
3	5.04	Nitrite	MB	1.154	5.174	2.3962
4	5.92	Sulfate	BMB	31.927	102.782	177.6277
5	7.03	Bromide	BMB	0.120	0.615	1.5698
6	8.23	Nitrate	BMB	1.416	4.521	2.4161
7	12.90	Phosphate	BMB	0.747	0.455	4.0015
TOTAL:				60.58	254.53	287.73



Anion/Integration

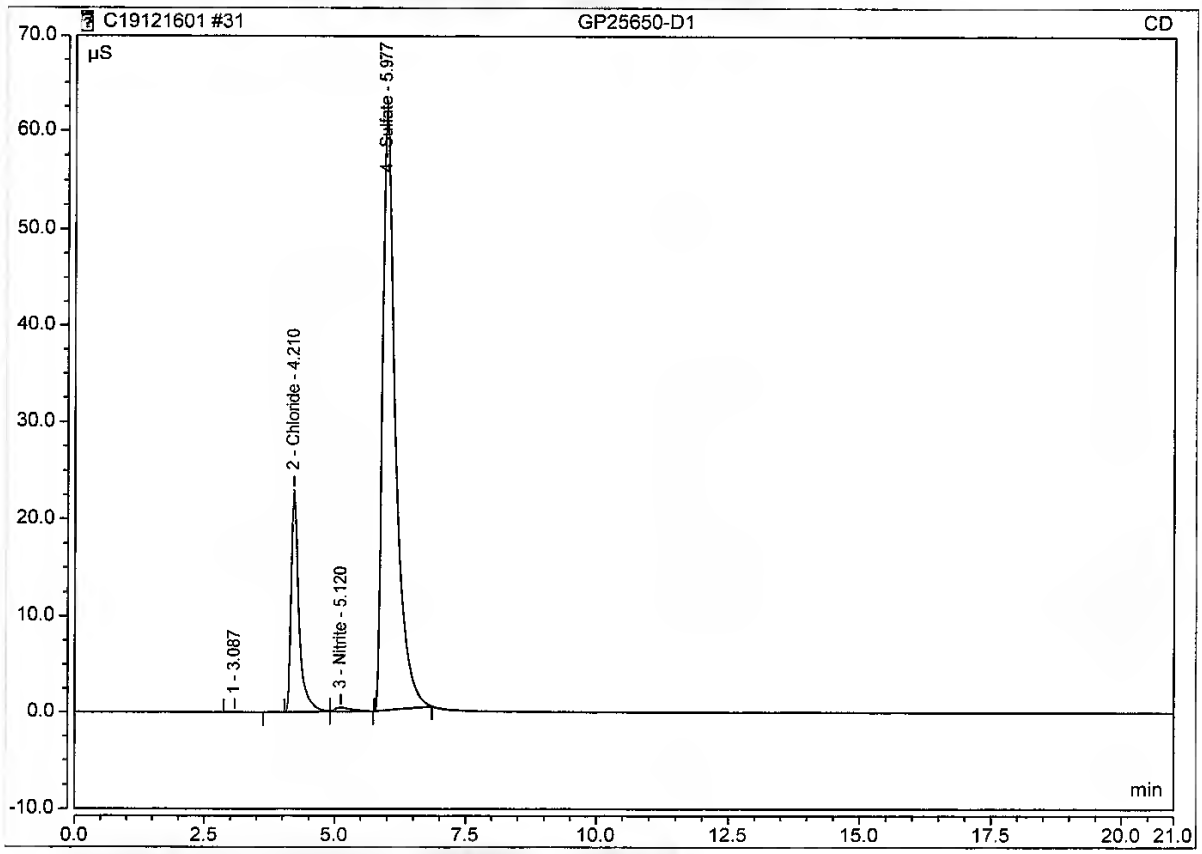
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**GP25650-D1**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**16-Dec-2019 / 19:19**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
2	4.21	Chloride	BM	3.987	23.058	15.9145
3	5.12	Nitrite	MB	0.159	0.437	0.3136
4	5.98	Sulfate	BMB	17.730	61.613	98.4288
TOTAL:				21.88	85.11	114.66



Anion/Integration

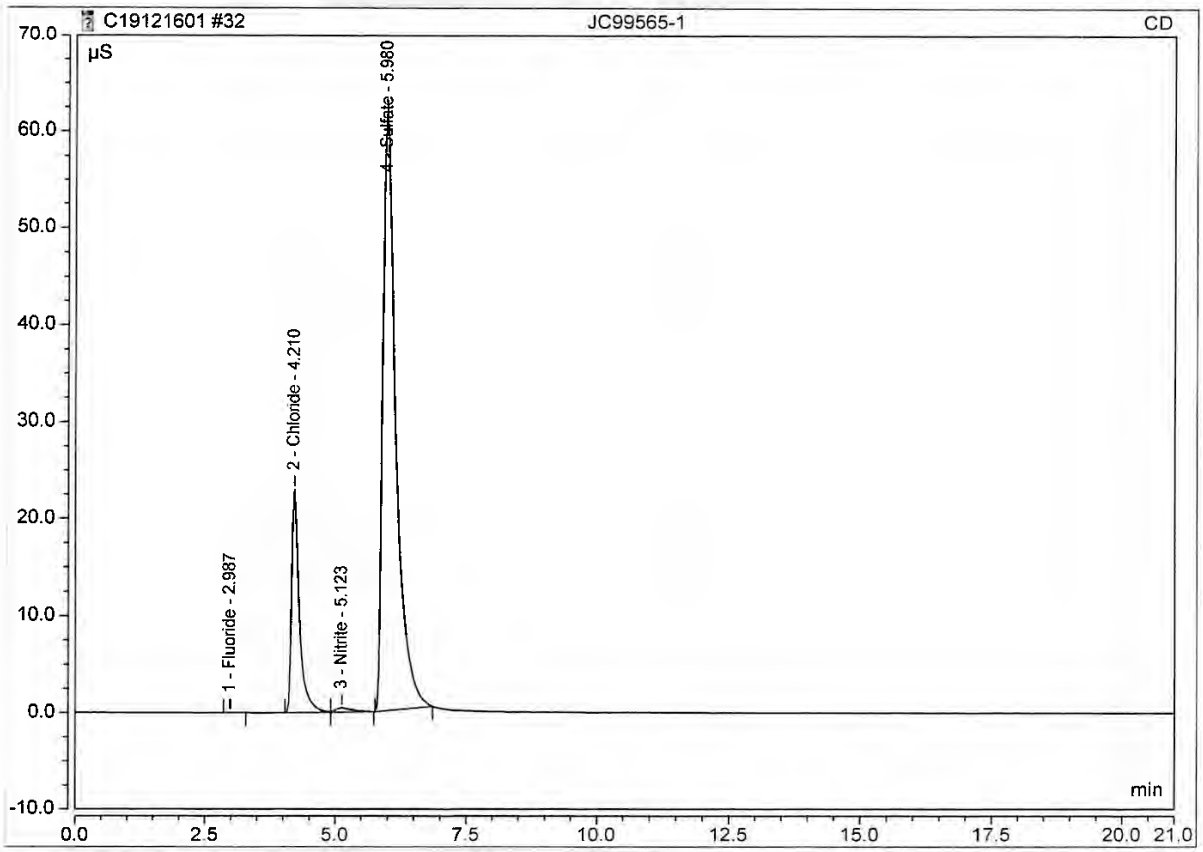
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**JC99565-1**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**16-Dec-2019 / 19:43**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.99	Fluoride	BMB	0.005	0.036	0.0433
2	4.21	Chloride	BM	3.976	22.985	15.8695
3	5.12	Nitrite	MB	0.158	0.430	0.3103
4	5.98	Sulfate	BMB	17.788	61.613	98.7499
TOTAL:				21.93	85.06	114.97



Anion/Integration

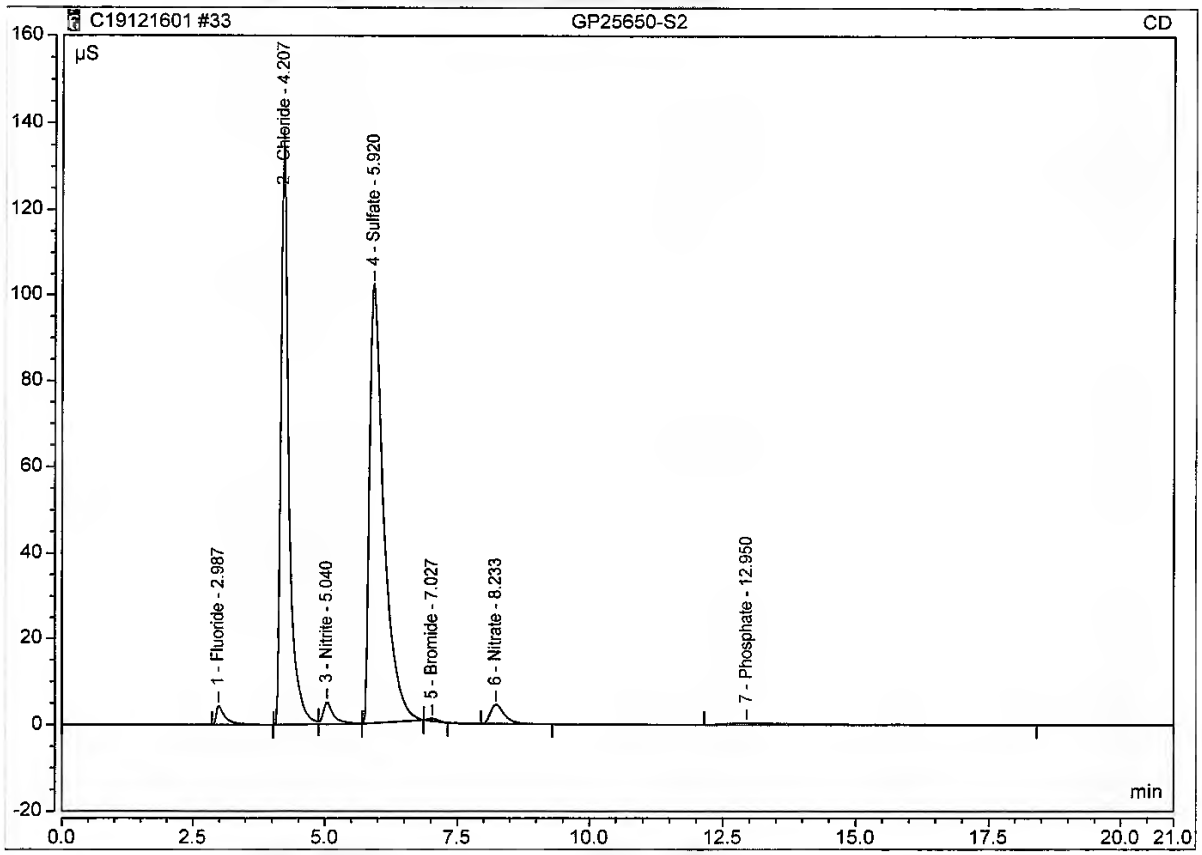
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**GP25650-S2**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**16-Dec-2019 / 20:07**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.99	Fluoride	BMB	0.852	4.502	2.1492
2	4.21	Chloride	BM	24.156	135.396	96.7483
3	5.04	Nitrite	MB	1.151	5.089	2.3885
4	5.92	Sulfate	BMB	31.809	102.146	176.9677
5	7.03	Bromide	BMB	0.117	0.597	1.5255
6	8.23	Nitrate	BMB	1.399	4.456	2.3882
7	12.95	Phosphate	BMB	0.666	0.385	3.6180
TOTAL:				60.15	252.57	285.79



Anion/Integration

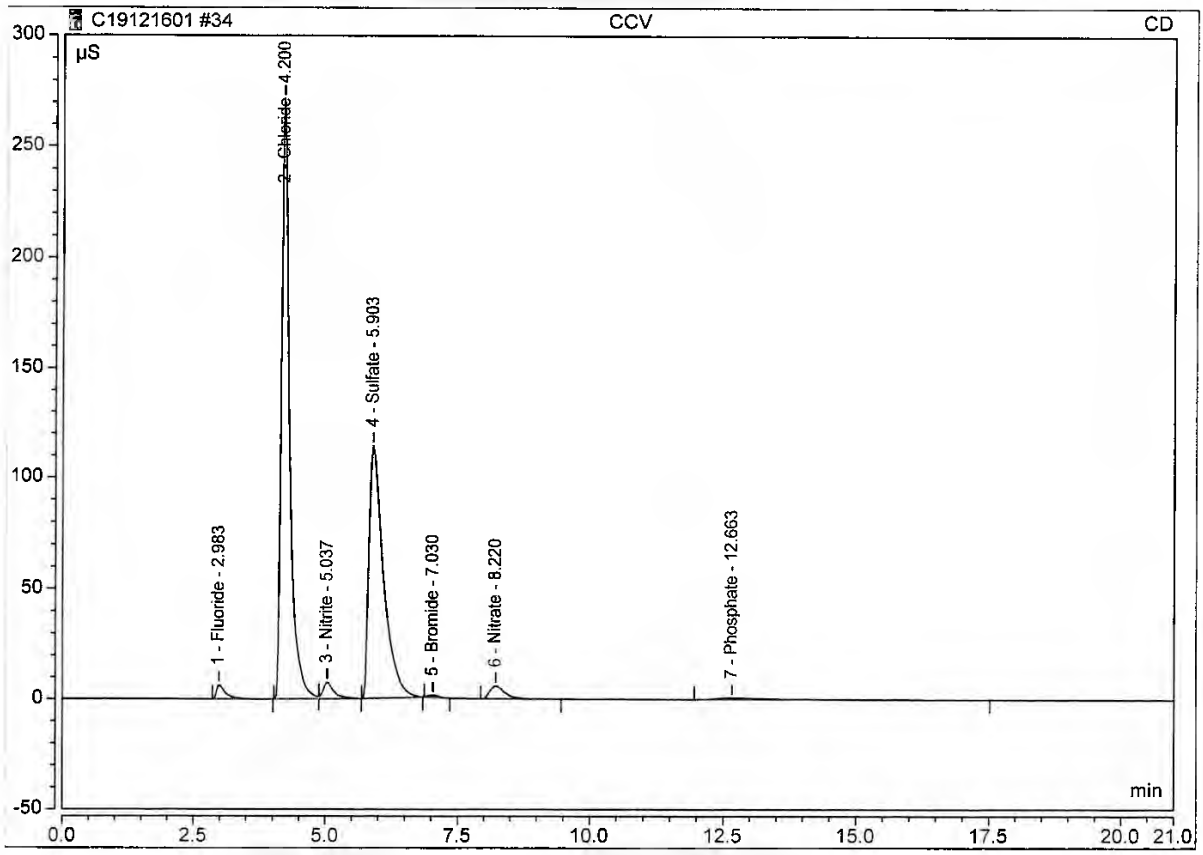
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	CCV	*Inj. Vol.:*	5000.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Instrument Method:	Anions_012919	*Operator:*	Chemistry
Inj. Date / Time:	16-Dec-2019 / 20:31	*Run Time:*	21.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.98	Fluoride	BMB	1.229	6.560	3.0865
2	4.20	Chloride	BM	49.591	271.798	198.6914
3	5.04	Nitrite	MB	1.711	7.638	3.5610
4	5.90	Sulfate	BMB	36.162	114.044	201.2546
5	7.03	Bromide	BMB	0.211	1.006	2.7636
6	8.22	Nitrate	BMB	1.850	5.822	3.1097
7	12.66	Phosphate	BMB	0.937	0.741	4.9031
TOTAL:				91.69	407.61	417.37



Anion/Integration

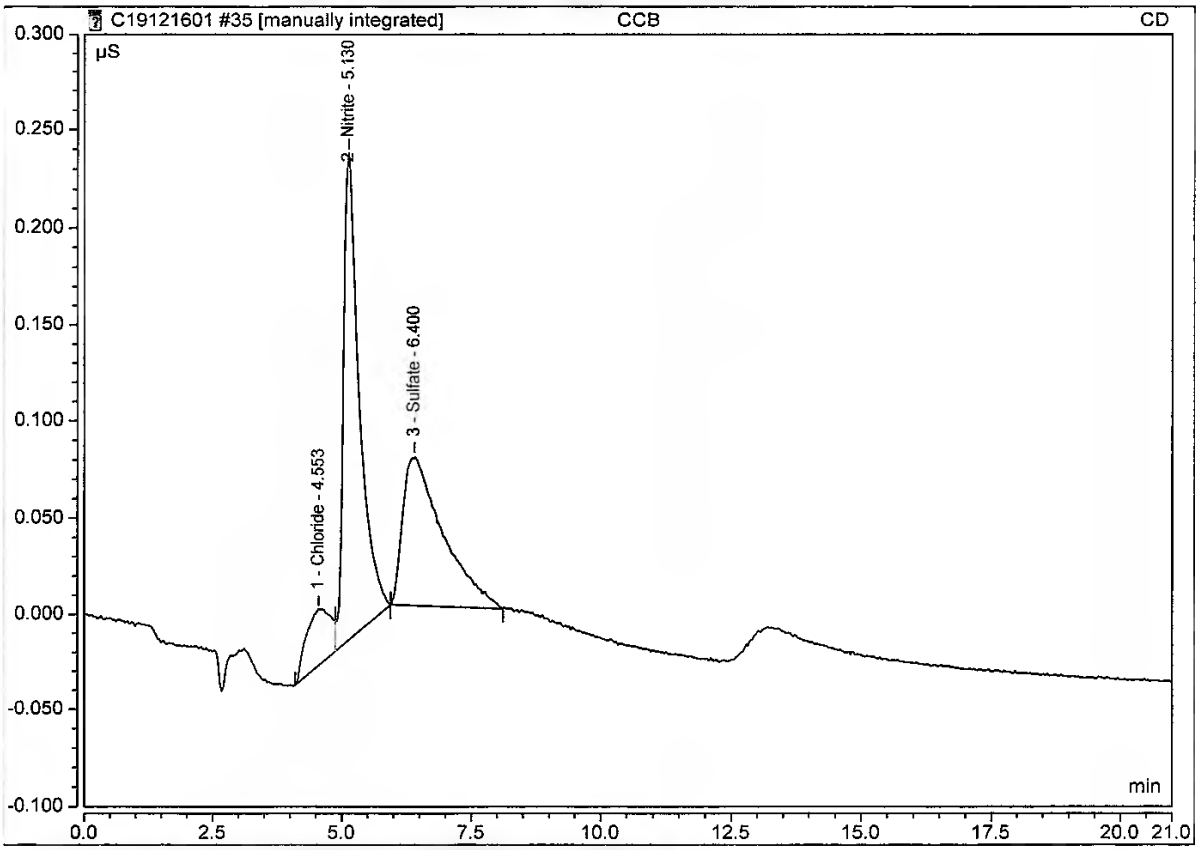
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**16-Dec-2019 / 20:55**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	4.55	Chloride	BM *	0.016	0.030	n.a.
2	5.13	Nitrite	MB*	0.091	0.252	0.1710
3	6.40	Sulfate	BMB*	0.069	0.077	n.a.
TOTAL:				0.18	0.36	0.17



PV
NV 12/17/19

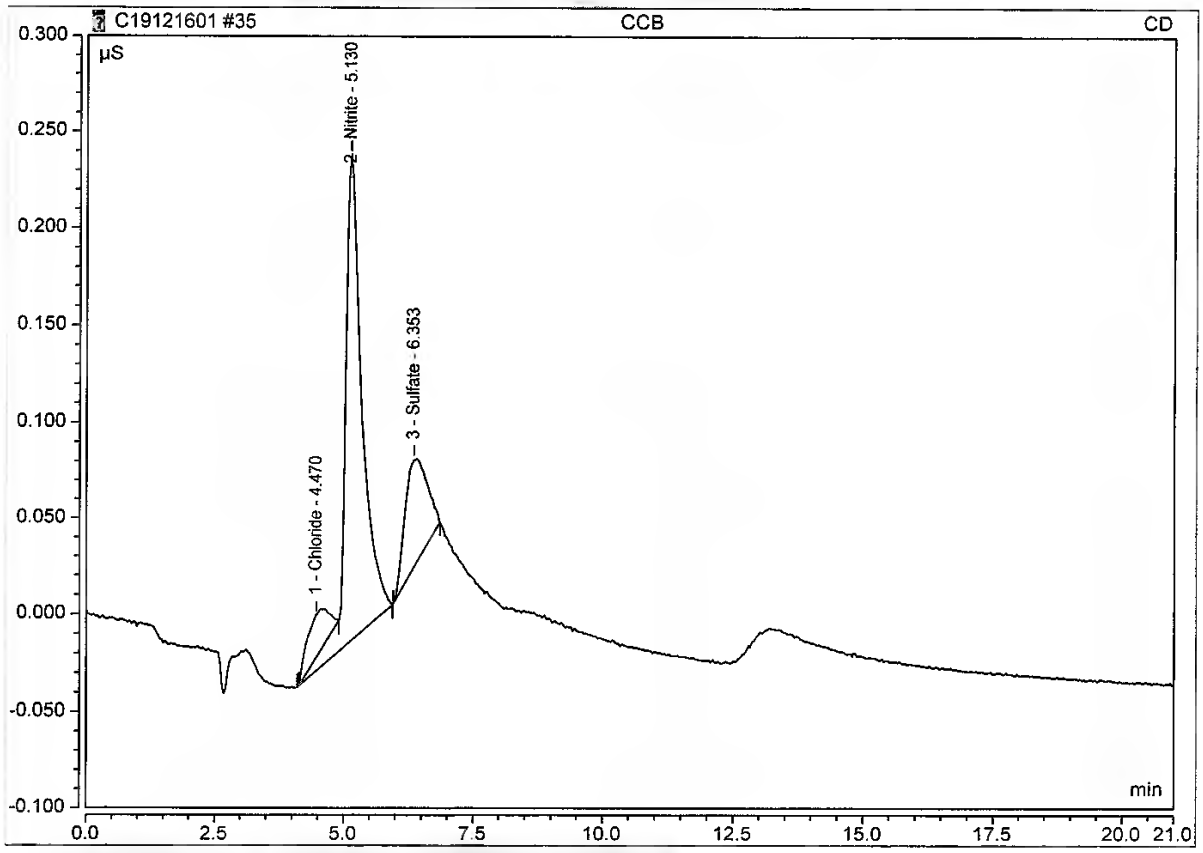
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**16-Dec-2019 / 20:55**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	4.47	Chloride	Ru	0.011	0.022	n.a.
2	5.13	Nitrite	BMB	0.097	0.252	0.1828
3	6.35	Sulfate	BMB	0.028	0.057	n.a.
		TOTAL:		0.13	0.33	0.18



Anion/Integration

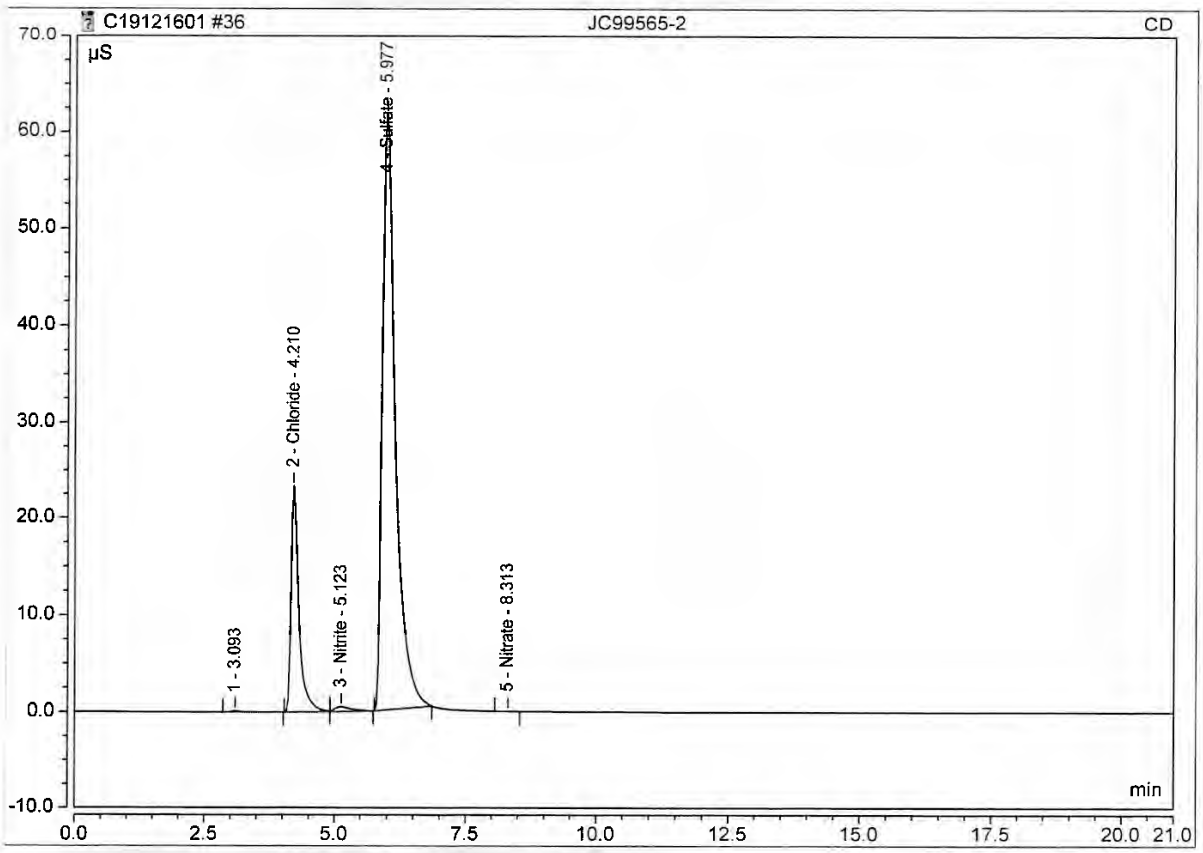
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**JC99565-2**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**16-Dec-2019 / 21:18**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
2	4.21	Chloride	BM	4.016	23.314	16.0309
3	5.12	Nitrite	MB	0.169	0.461	0.3341
4	5.98	Sulfate	BMB	17.708	61.635	98.3051
5	8.31	Nitrate	BMB	0.004	0.016	0.1567
TOTAL:				21.90	85.43	114.83



Anion/Integration

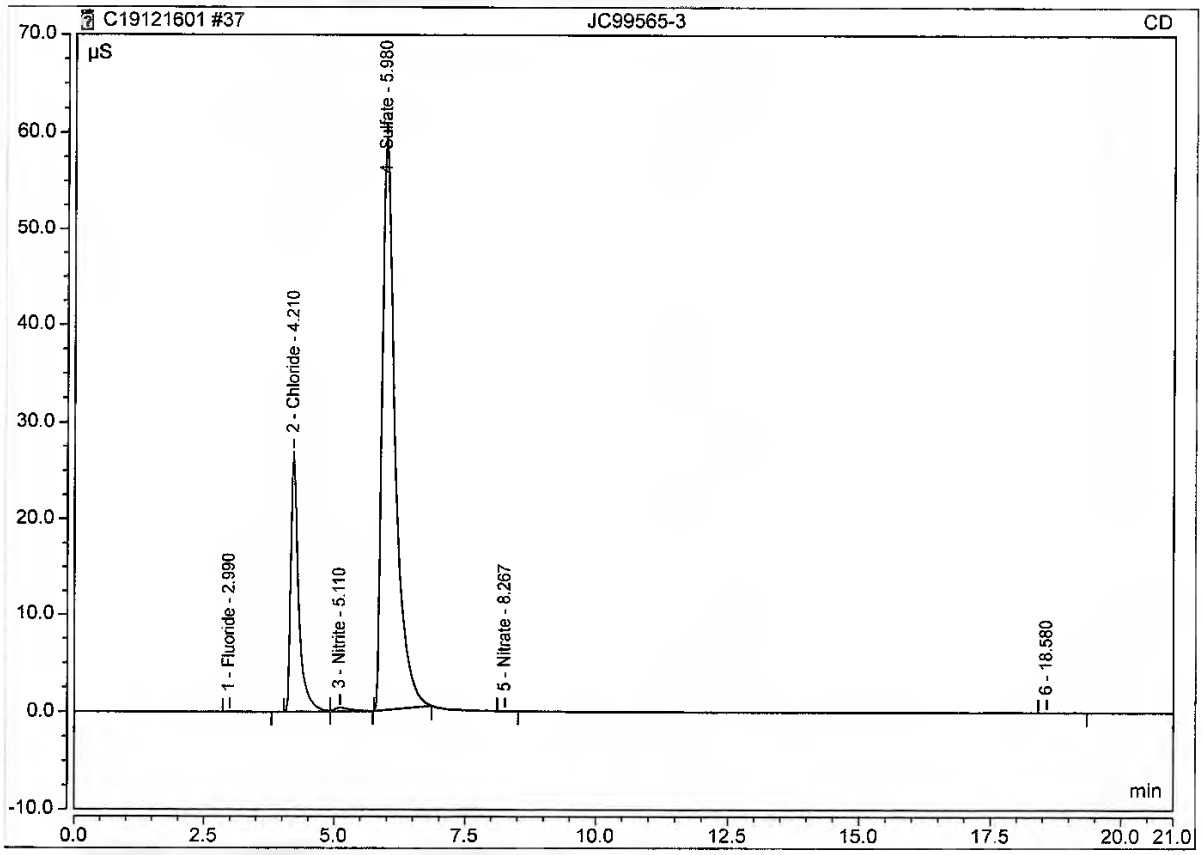
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	JC99565-3	*Inj. Vol.:*	5000.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Instrument Method:	Anions_012919	*Operator:*	Chemistry
Inj. Date / Time:	16-Dec-2019 / 21:42	*Run Time:*	21.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.99	Fluoride	BMB	0.012	0.039	0.0598
2	4.21	Chloride	BM	4.675	26.944	18.6699
3	5.11	Nitrite	MB	0.134	0.372	0.2605
4	5.98	Sulfate	BMB	17.102	59.364	94.9228
5	8.27	Nitrate	BMB	0.002	0.008	0.1530
TOTAL:				21.92	86.73	114.07



Anion/Integration

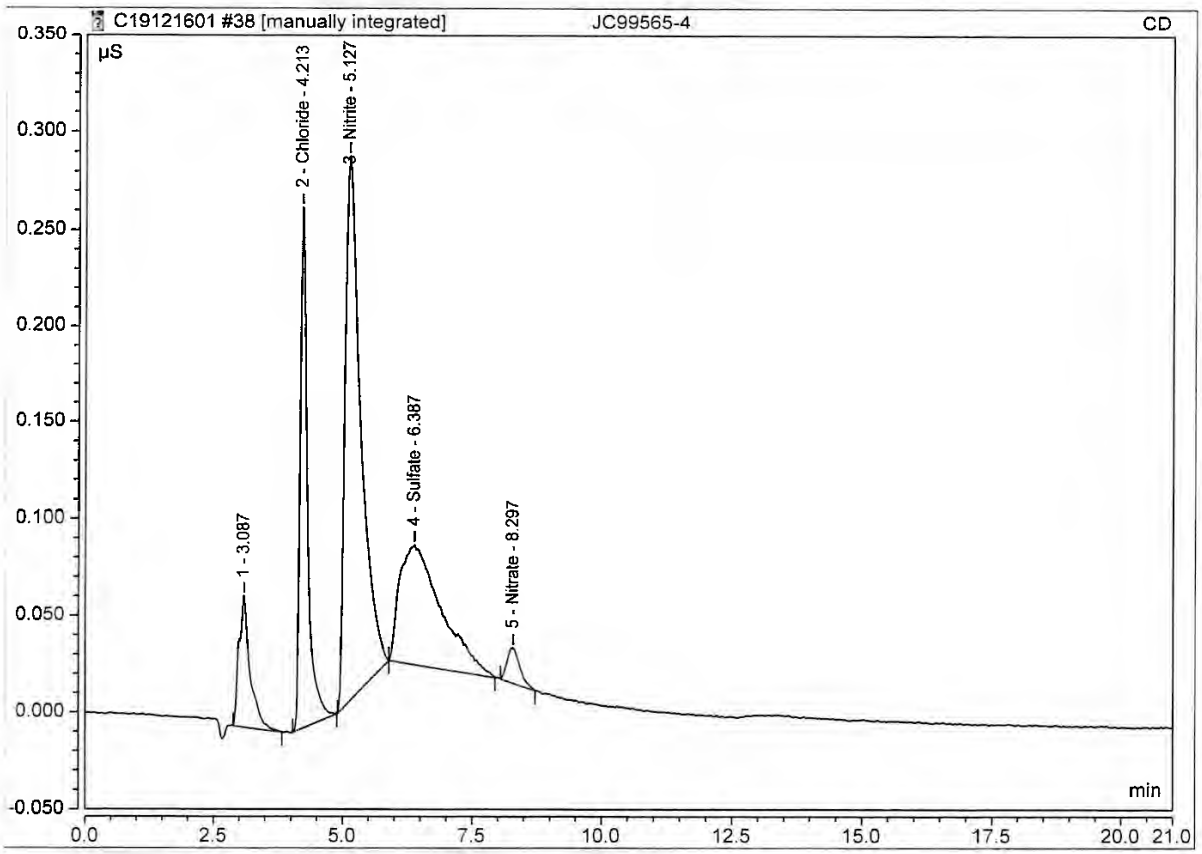
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**JC99565-4**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**16-Dec-2019 / 22:06**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
2	4.21	Chloride	BMB	0.045	0.270	0.1161
3	5.13	Nitrite	BMB	0.101	0.282	0.1910
4	6.39	Sulfate	BMB*	0.057	0.062	n.a.
5	8.30	Nitrate	BMB	0.005	0.019	0.1587
TOTAL:				0.21	0.63	0.47



PJ
NV 12/17/19

Anion/Integration

Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

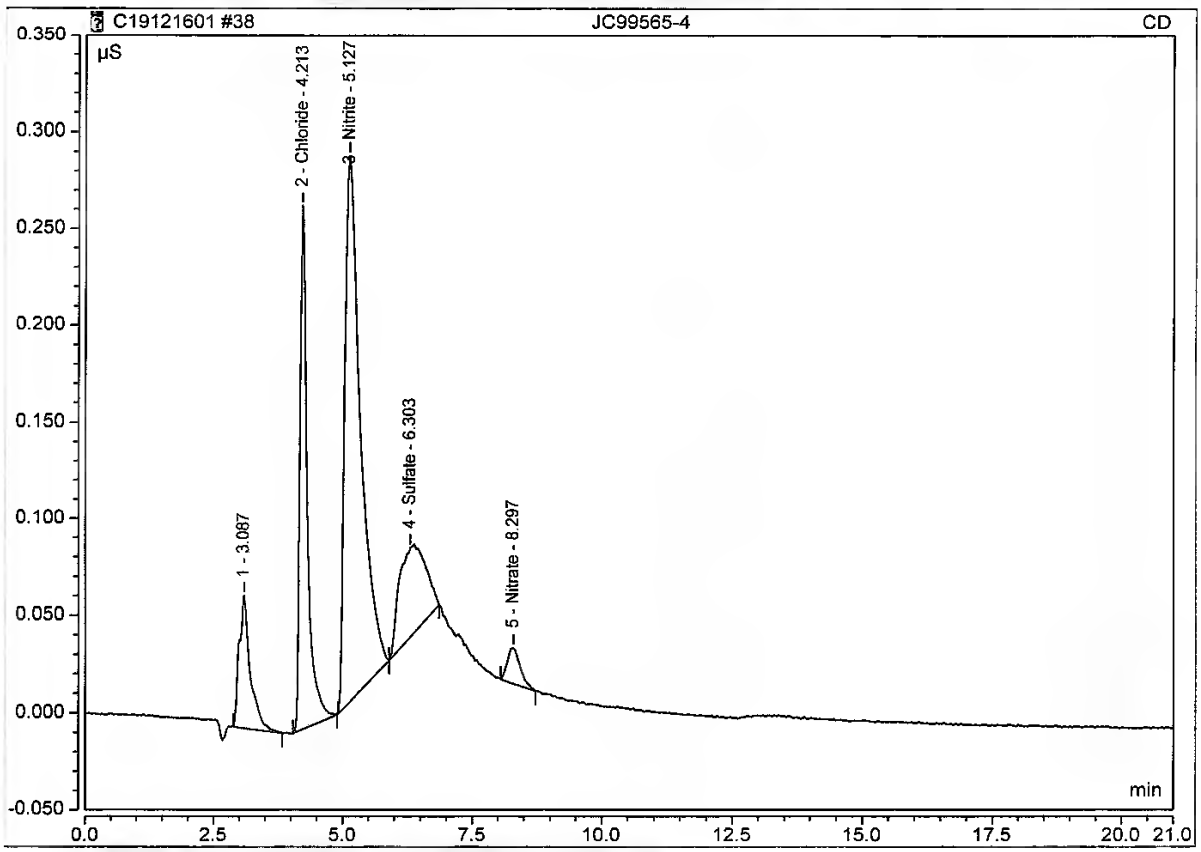
9.2

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**JC99565-4**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**16-Dec-2019 / 22:06**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
2	4.21	Chloride	BMB	0.045	0.270	0.1161
3	5.13	Nitrite	BMB	0.101	0.282	0.1910
4	6.30	Sulfate	BMB	0.027	0.046	n.a.
5	8.30	Nitrate	BMB	0.005	0.019	0.1587
TOTAL:				0.18	0.62	0.47



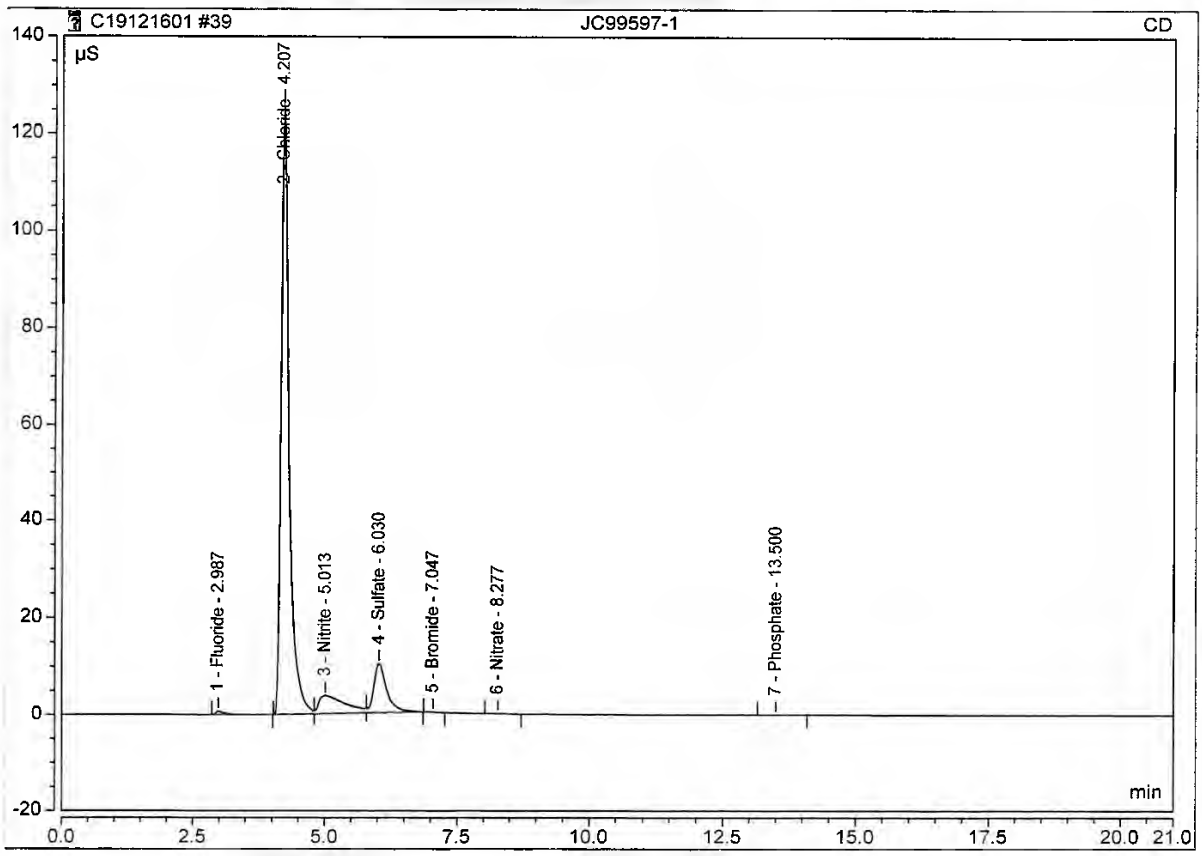
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	JC99597-1	*Inj. Vol.:*	5000.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Instrument Method:	Anions_012919	*Operator:*	Chemistry
Inj. Date / Time:	16-Dec-2019 / 22:30	*Run Time:*	21.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.99	Fluoride	BMB	0.140	0.766	0.3788
2	4.21	Chloride	BM	22.264	125.642	89.1674
3	5.01	Nitrite	M	2.184	3.746	4.5513
4	6.03	Sulfate	MB	2.875	10.162	15.5579
5	7.05	Bromide	BMB	0.010	0.051	0.1143
6	8.28	Nitrate	BMB	0.015	0.055	0.1739
7	13.50	Phosphate	BMB	0.002	0.003	0.4676
		TOTAL:		27.49	140.43	110.41



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9

Anion/Integration

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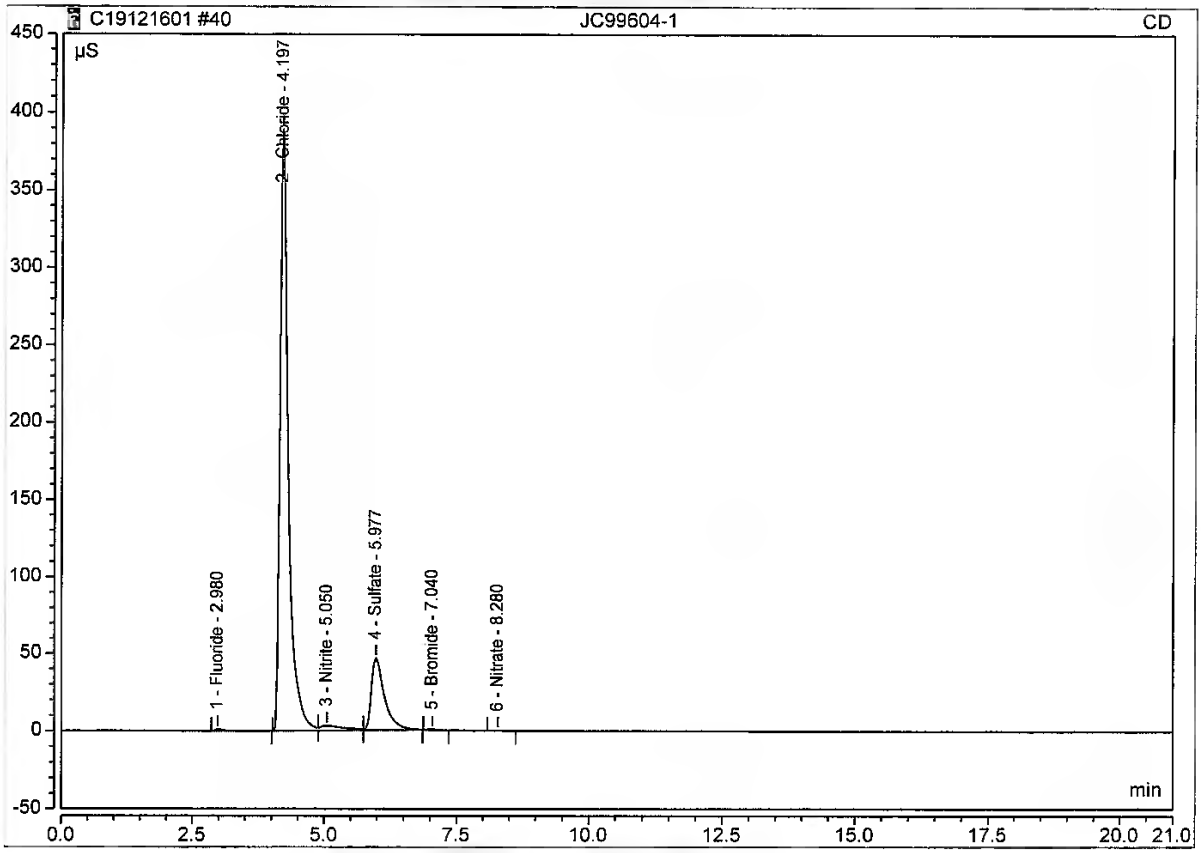
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**JC99604-1**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**16-Dec-2019 / 22:54**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.98	Fluoride	BMB	0.199	1.042	0.5252
2	4.20	Chloride	BM	71.819	389.286	287.7810
3	5.05	Nitrite	M	1.582	3.069	3.2902
4	5.98	Sulfate	MB	13.132	46.419	72.7760
5	7.04	Bromide	BMB	0.067	0.335	0.8658
6	8.28	Nitrate	BMB	0.005	0.019	0.1581
TOTAL:				86.80	440.17	365.40



Anion/Integration

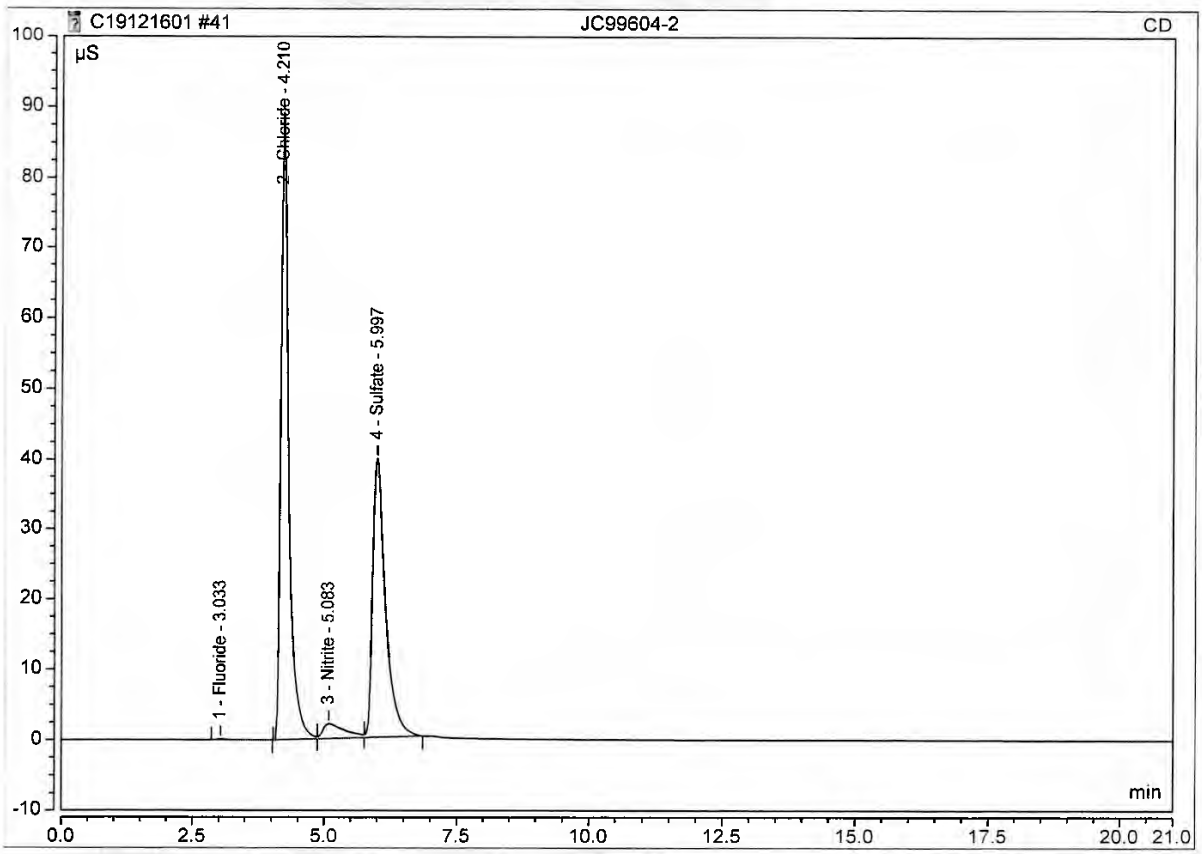
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	JC99604-2	*Inj. Vol.:*	5000.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Instrument Method:	Anions_012919	*Operator:*	Chemistry
Inj. Date / Time:	16-Dec-2019 / 23:18	*Run Time:*	21.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	3.03	Fluoride	BMB	0.038	0.127	0.1242
2	4.21	Chloride	BM	15.584	89.146	62.3937
3	5.08	Nitrite	M	1.025	2.107	2.1265
4	6.00	Sulfate	MB	11.083	39.782	61.3461
TOTAL:				27.73	131.16	125.99



Anion/Integration

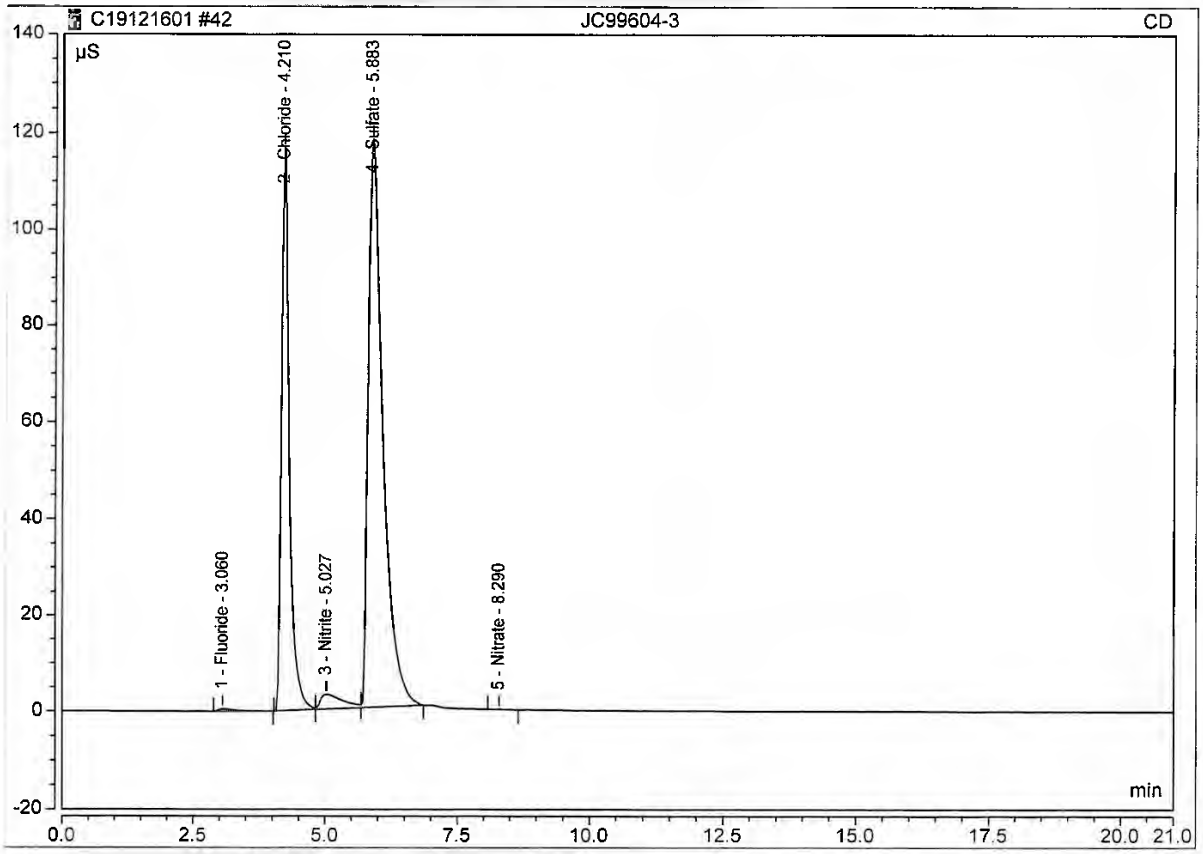
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	JC99604-3	*Inj. Vol.:*	5000.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Instrument Method:	Anions_012919	*Operator:*	Chemistry
Inj. Date / Time:	16-Dec-2019 / 23:42	*Run Time:*	21.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	3.06	Fluoride	BMB	0.155	0.488	0.4146
2	4.21	Chloride	BM	20.262	117.003	81.1427
3	5.03	Nitrite	M	1.462	3.020	3.0390
4	5.88	Sulfate	MB	37.676	117.978	209.6995
5	8.29	Nitrate	BMB	0.011	0.042	0.1681
TOTAL:				59.57	238.53	294.46



Anion/Integration

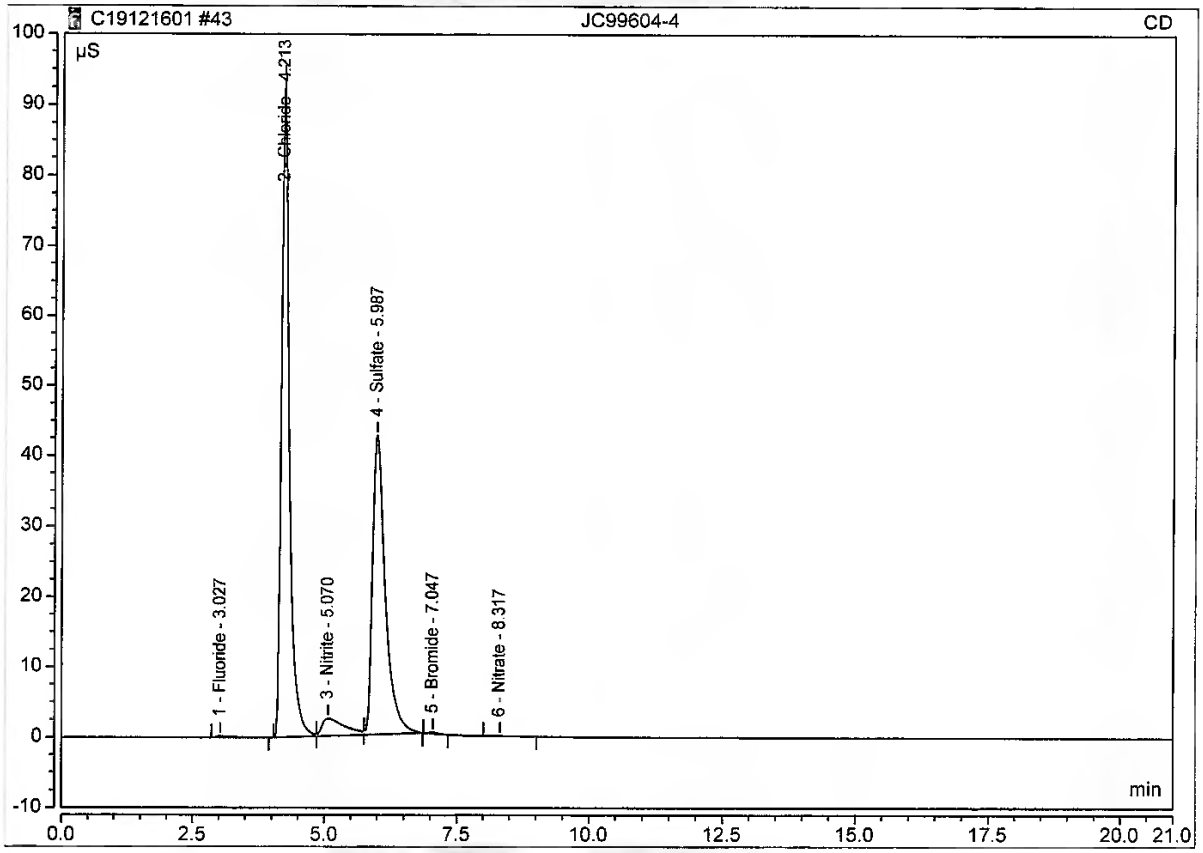
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	JC99604-4	*Inj. Vol.:*	5000.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Instrument Method:	Anions_012919	*Operator:*	Chemistry
Inj. Date / Time:	17-Dec-2019 / 00:06	*Run Time:*	21.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	3.03	Fluoride	BMB	0.052	0.165	0.1596
2	4.21	Chloride	BM	16.199	93.623	64.8588
3	5.07	Nitrite	M	1.203	2.439	2.4971
4	5.99	Sulfate	MB	11.789	42.471	65.2872
5	7.05	Bromide	BMB	0.032	0.164	0.4074
6	8.32	Nitrate	BMB	0.008	0.019	0.1633
TOTAL:				29.28	138.88	133.37



Anion/Integration

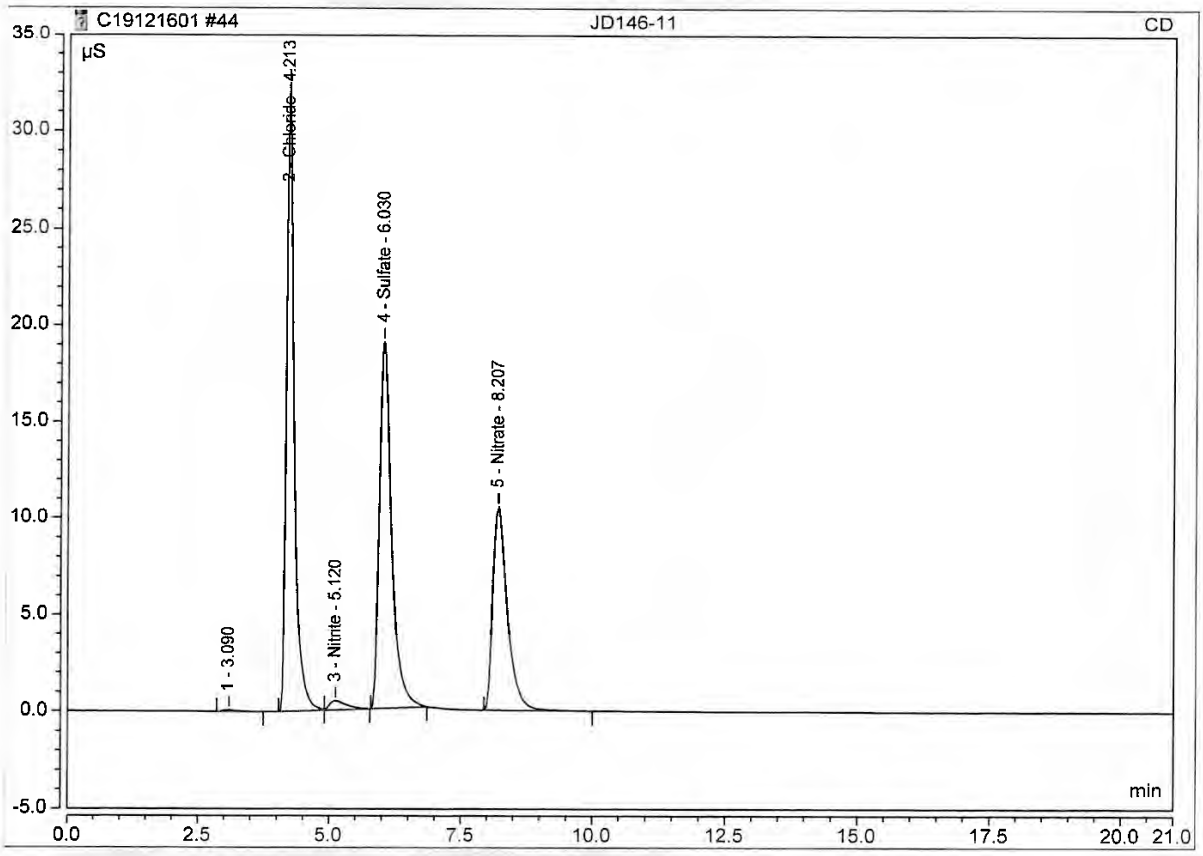
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	JD146-11	*Inj. Vol.:*	5000.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Instrument Method:	Anions_012919	*Operator:*	Chemistry
Inj. Date / Time:	17-Dec-2019 / 00:30	*Run Time:*	21.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
2	4.21	Chloride	BM	5.597	32.505	22.3666
3	5.12	Nitrite	MB	0.180	0.475	0.3574
4	6.03	Sulfate	BMB	5.065	19.014	27.7739
5	8.21	Nitrate	BMB	3.399	10.543	5.5885
TOTAL:				14.24	62.54	56.09



Anion/Integration

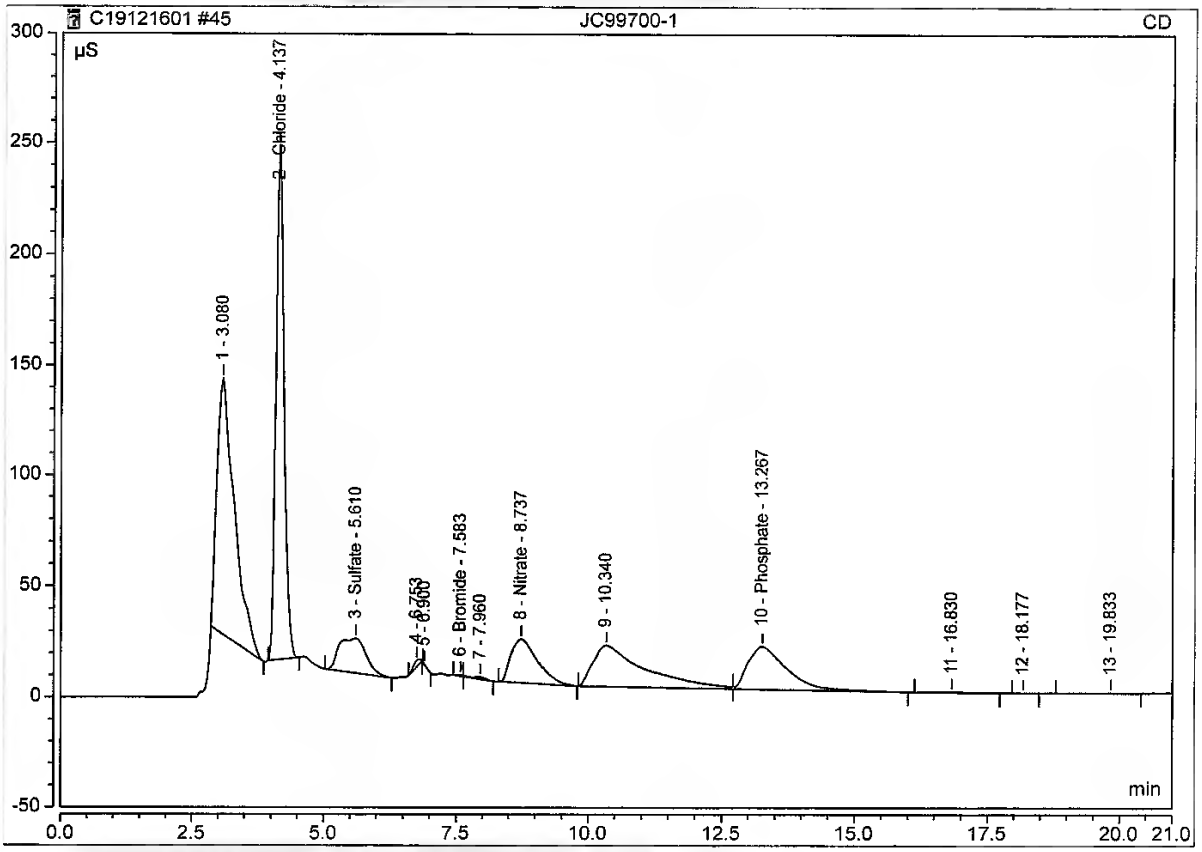
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	JC99700-1	*Inj. Vol.:*	5000.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Instrument Method:	Anions_012919	*Operator:*	Chemistry
Inj. Date / Time:	17-Dec-2019 / 00:54	*Run Time:*	21.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
2	4.14	Chloride	BMB	40.896	231.947	163.8410
3	5.61	Sulfate	BMB	9.255	15.809	51.1472
6	7.58	Bromide	BM	0.045	0.368	0.5789
8	8.74	Nitrate	BMB	11.493	19.839	18.5386
10	13.27	Phosphate	MB	16.361	19.425	78.0300
TOTAL:				78.05	287.39	312.14



Anion/Integration

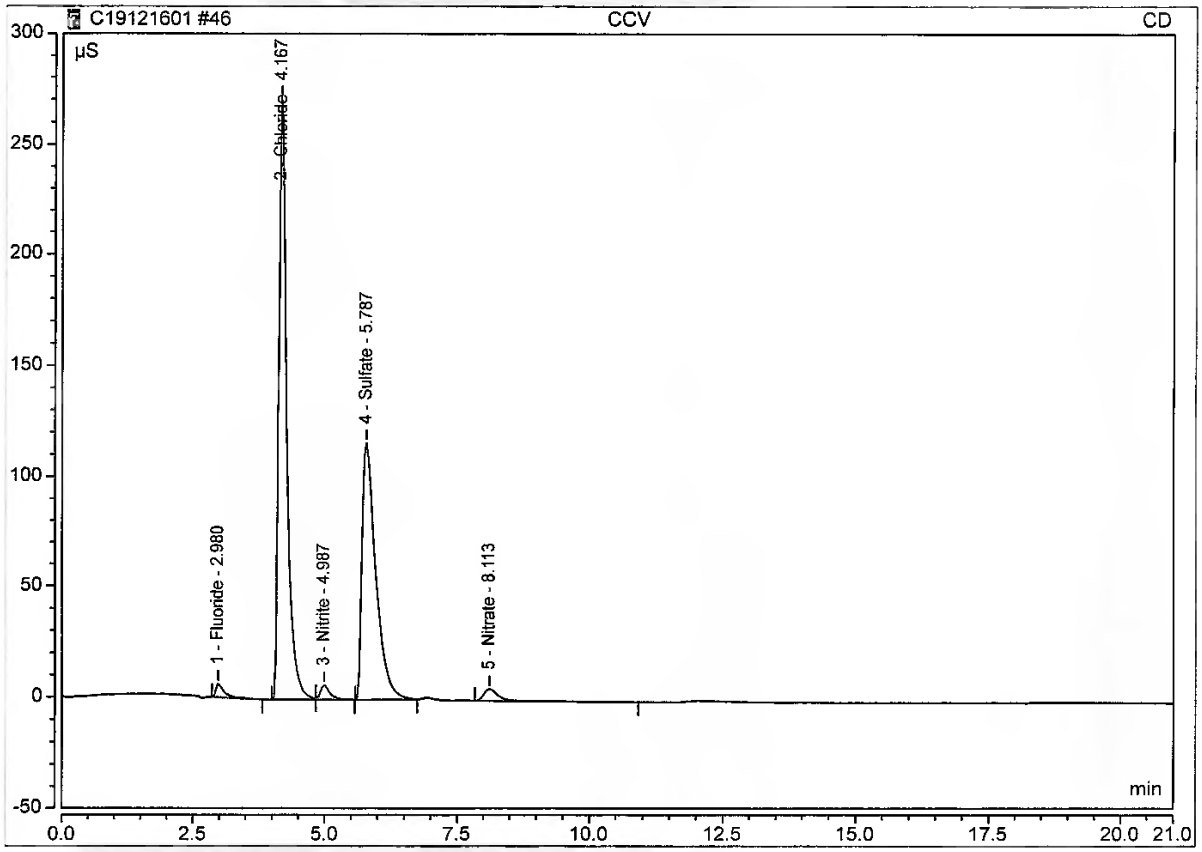
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	CCV	*Inj. Vol.:*	5000.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Instrument Method:	Anions_012919	*Operator:*	Chemistry
Inj. Date / Time:	17-Dec-2019 / 01:18	*Run Time:*	21.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.98	Fluoride	BMB	1.043	5.980	2.6241
2	4.17	Chloride	BM	47.967	271.027	192.1840
3	4.99	Nitrite	MB	1.355	6.560	2.8164
4	5.79	Sulfate	BMB	34.805	116.273	193.6864
5	8.11	Nitrate	BMB	1.661	5.219	2.8082
TOTAL:				86.83	405.06	394.12

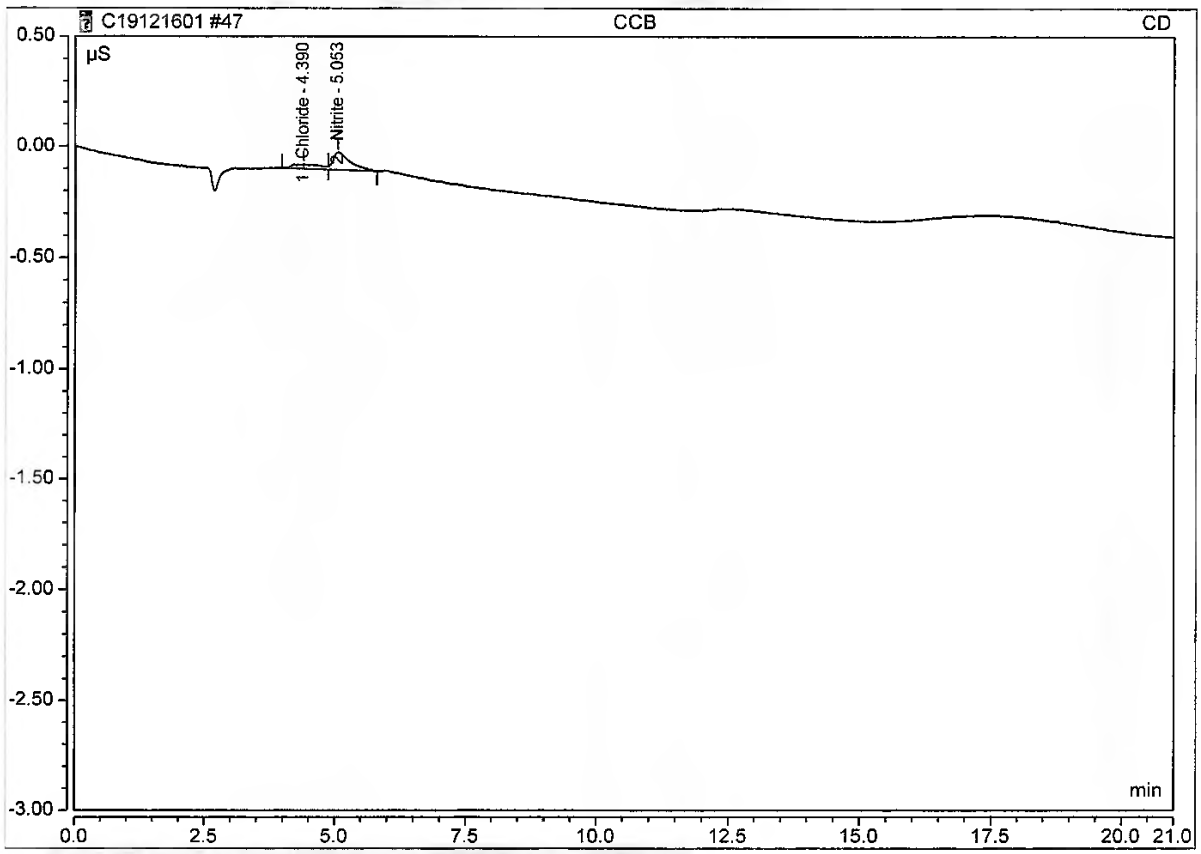


Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Peak Integration Report

Sample Name:	CCB	*Inj. Vol.:*	5000.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Instrument Method:	Anions_012919	*Operator:*	Chemistry
Inj. Date / Time:	17-Dec-2019 / 01:42	*Run Time:*	21.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	4.39	Chloride	BM	0.012	0.020	n.a.
2	5.05	Nitrite	MB	0.030	0.079	0.0439
TOTAL:				0.04	0.10	0.04

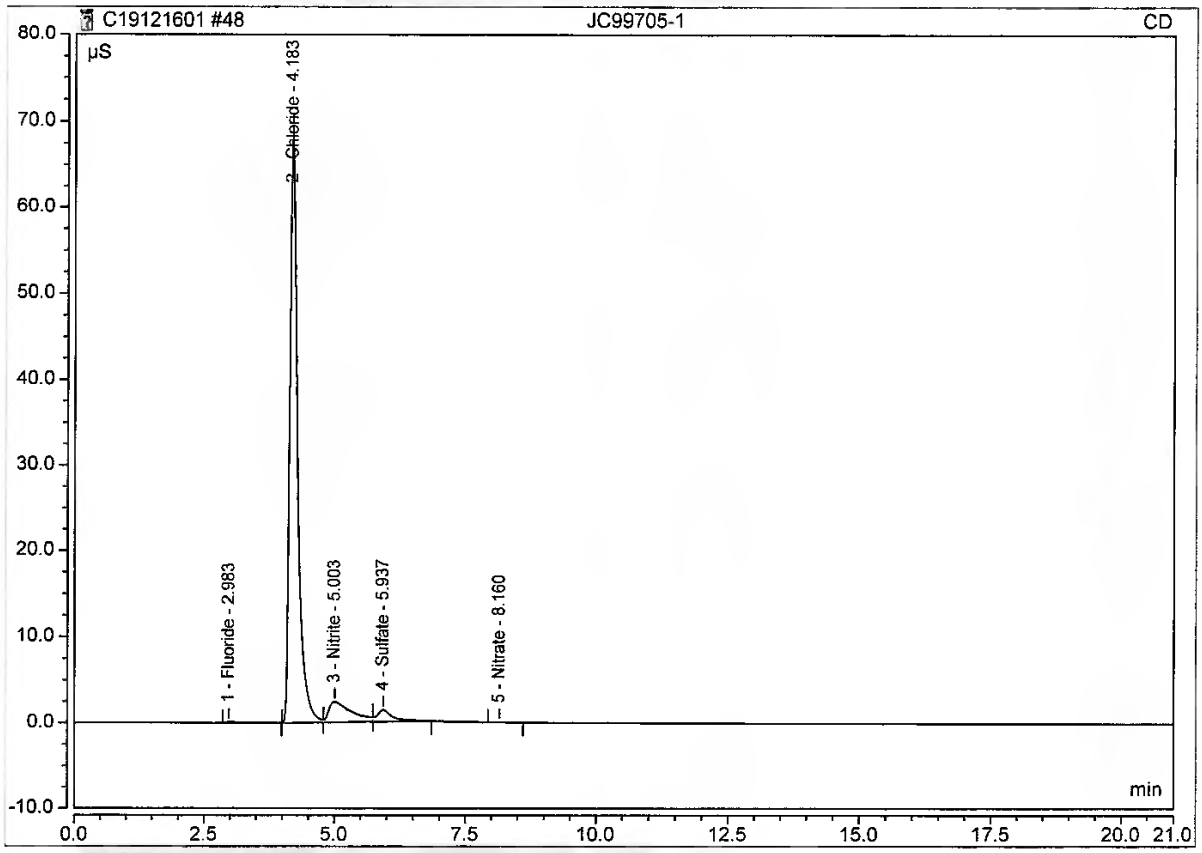


Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**JC99705-1**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**17-Dec-2019 / 02:06**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.98	Fluoride	BMB	0.038	0.118	0.1253
2	4.18	Chloride	BM	11.979	69.341	47.9472
3	5.00	Nitrite	M	1.219	2.380	2.5313
4	5.94	Sulfate	MB	0.470	1.403	2.1390
5	8.16	Nitrate	BMB	0.012	0.044	0.1695
TOTAL:				13.72	73.29	52.91



Anion/Integration

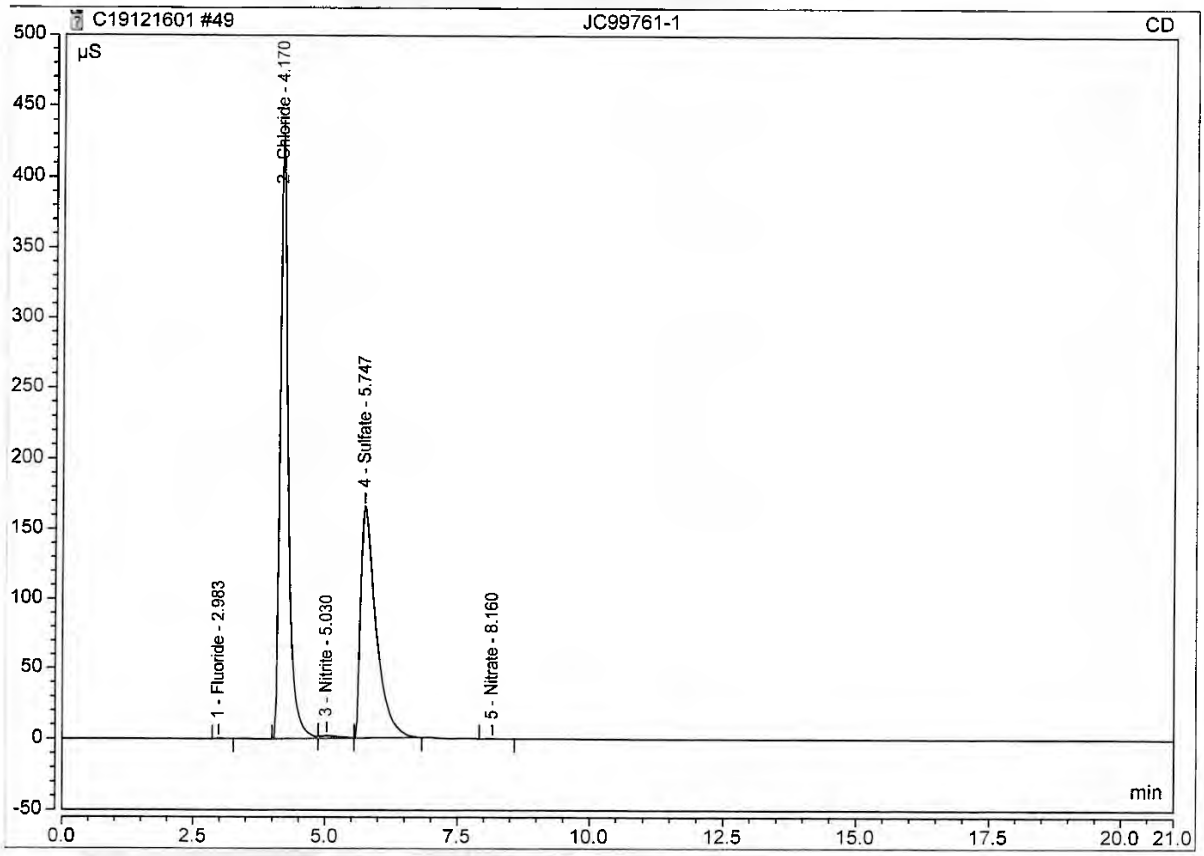
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	JC99761-1	*Inj. Vol.:*	5000.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Instrument Method:	Anions_012919	*Operator:*	Chemistry
Inj. Date / Time:	17-Dec-2019 / 02:29	*Run Time:*	21.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.98	Fluoride	BMB	0.050	0.333	0.1534
2	4.17	Chloride	BM	76.746	430.612	307.5280
3	5.03	Nitrite	M	0.732	1.822	1.5120
4	5.75	Sulfate	MB	55.306	165.736	308.0528
5	8.16	Nitrate	BMB	0.025	0.092	0.1903
TOTAL:				132.86	598.59	617.44



Anion/Integration

Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

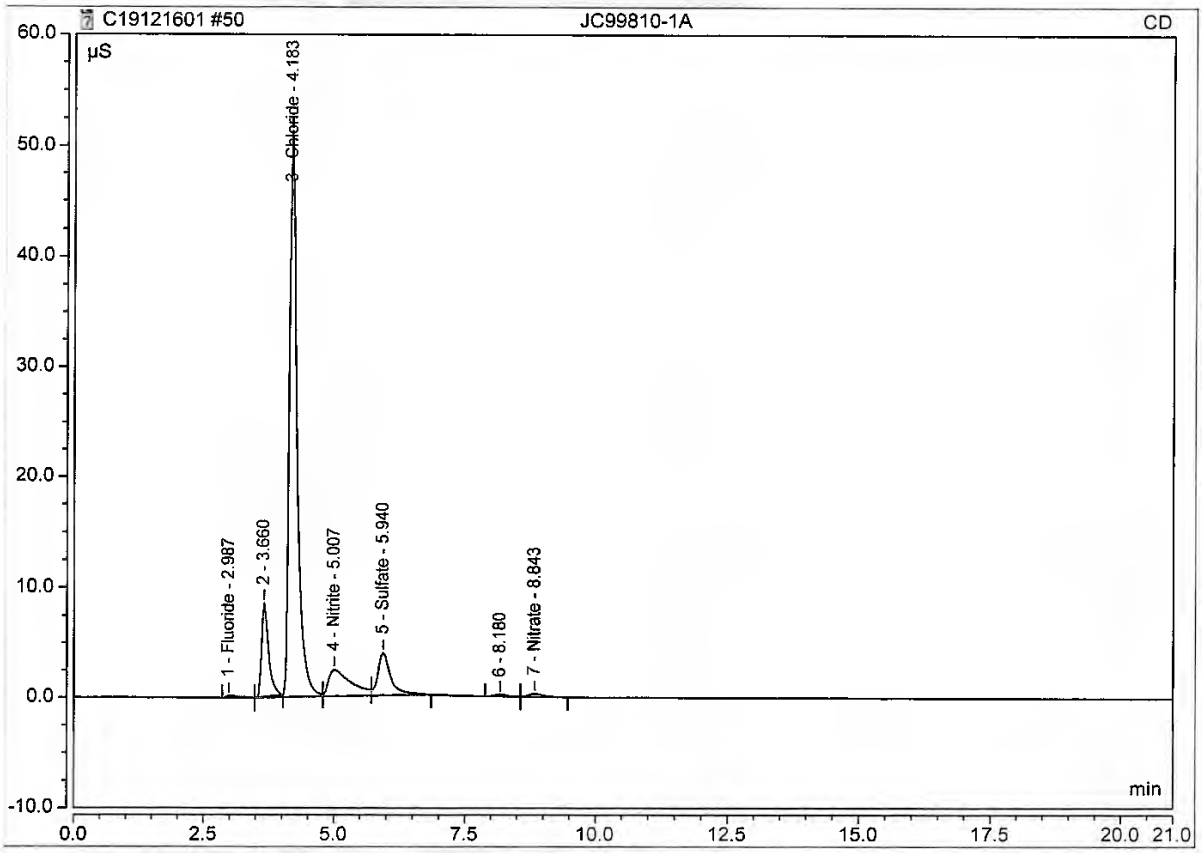
9.2

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**JC99810-1A**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**17-Dec-2019 / 02:53**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.99	Fluoride	BMB	0.039	0.146	0.1269
3	4.18	Chloride	BM	8.864	51.278	35.4603
4	5.01	Nitrite	M	1.222	2.420	2.5382
5	5.94	Sulfate	MB	1.106	3.893	5.6880
7	8.84	Nitrate	MB	0.085	0.278	0.2864
TOTAL:				11.32	58.01	44.10



Anion/Integration

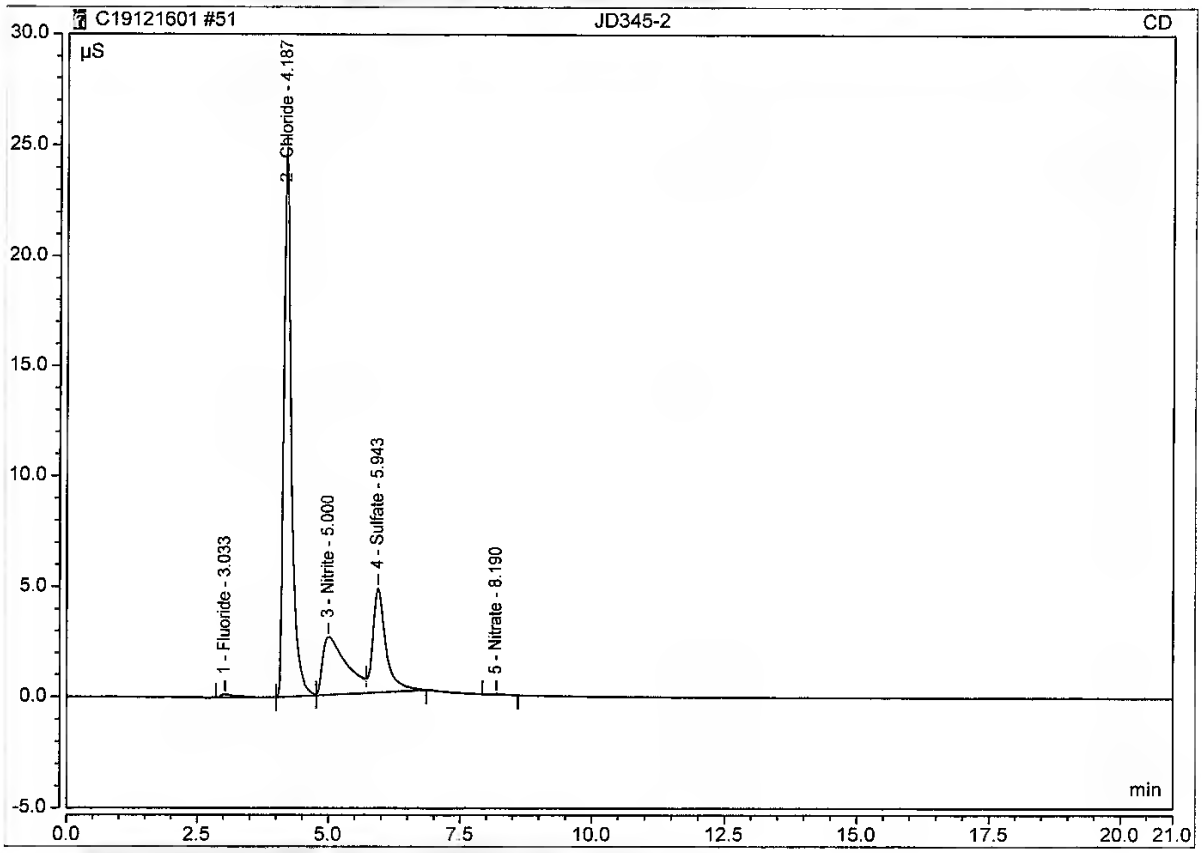
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	JD345-2	*Inj. Vol.:*	5000.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Instrument Method:	Anions_012919	*Operator:*	Chemistry
Inj. Date / Time:	17-Dec-2019 / 03:17	*Run Time:*	21.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	3.03	Fluoride	BMB	0.044	0.143	0.1384
2	4.19	Chloride	BM	4.212	24.869	16.8150
3	5.00	Nitrite	M	1.371	2.630	2.8495
4	5.94	Sulfate	MB	1.356	4.730	7.0797
5	8.19	Nitrate	BMB	0.012	0.045	0.1692
TOTAL:				6.99	32.42	27.05



Anion/Integration

Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

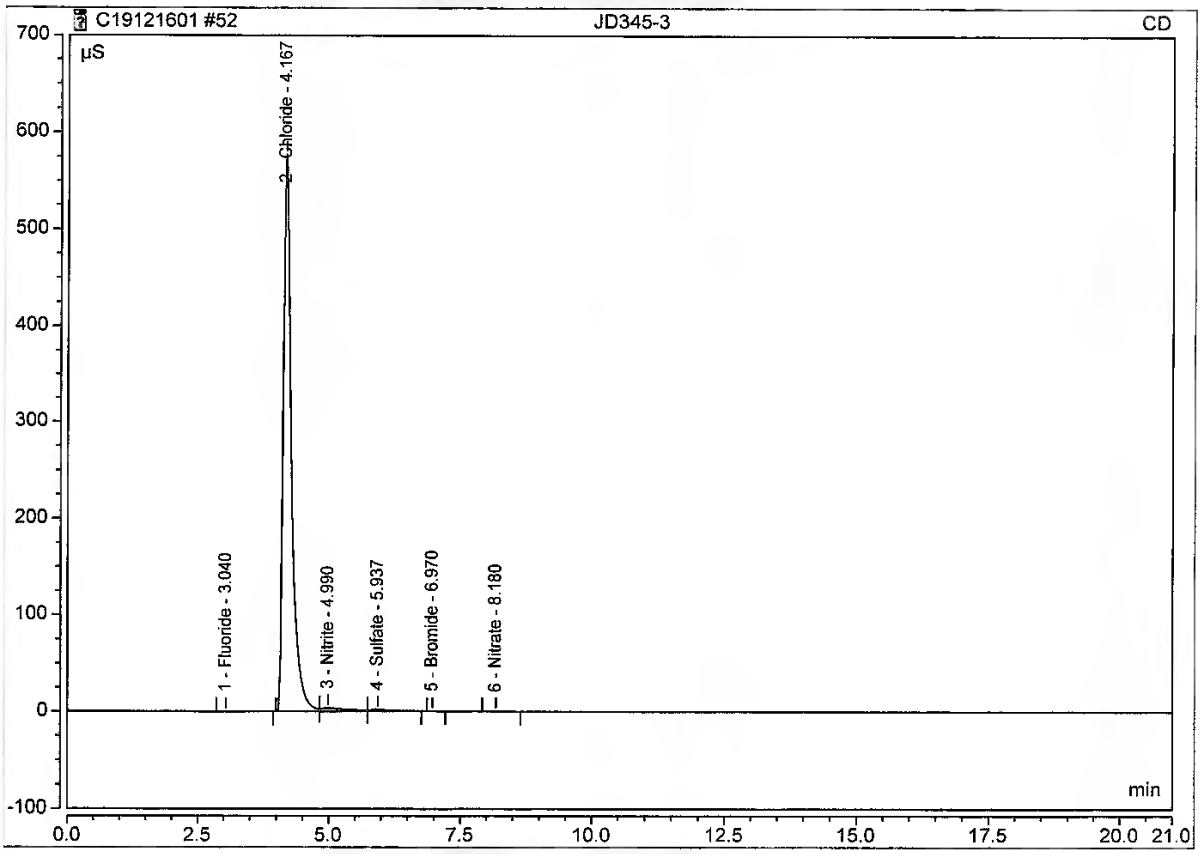
9.2
9

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	JD345-3	*Inj. Vol.:*	5000.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Instrument Method:	Anions_012919	*Operator:*	Chemistry
Inj. Date / Time:	17-Dec-2019 / 03:41	*Run Time:*	21.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	3.04	Fluoride	BMB	0.029	0.085	0.1007
2	4.17	Chloride	BM	105.839	576.548	424.1275
3	4.99	Nitrite	M	1.908	3.453	3.9726
4	5.94	Sulfate	MB	0.634	1.740	3.0528
5	6.97	Bromide	BMB	0.028	0.169	0.3505
6	8.18	Nitrate	BMB	0.031	0.109	0.1999
TOTAL:				108.47	582.10	431.80



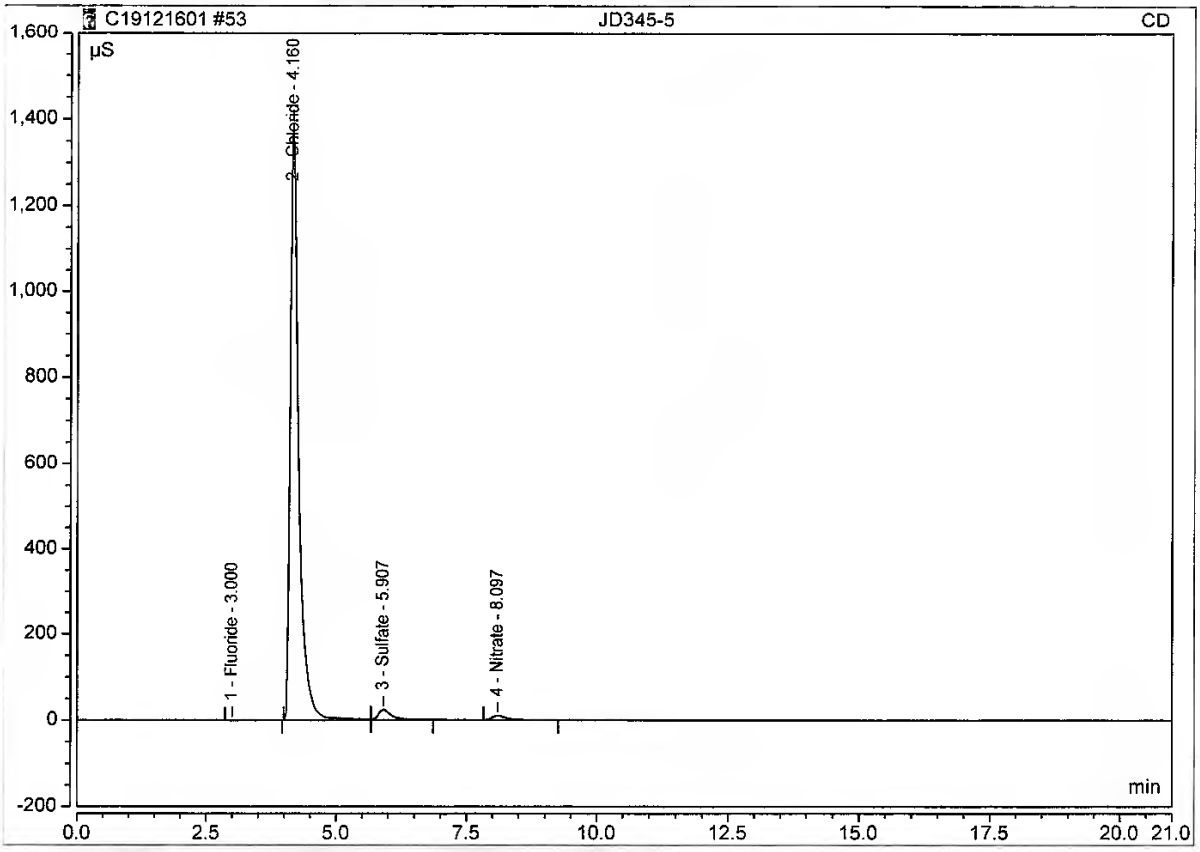
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**JD345-5**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**17-Dec-2019 / 04:05**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	3.00	Fluoride	BMB	0.033	0.101	0.1121
2	4.16	Chloride	BM	263.150	1388.720	1054.6189
3	5.91	Sulfate	MB	6.819	24.123	37.5608
4	8.10	Nitrate	BMB	3.140	9.884	5.1736
TOTAL:				273.14	1422.83	1097.47



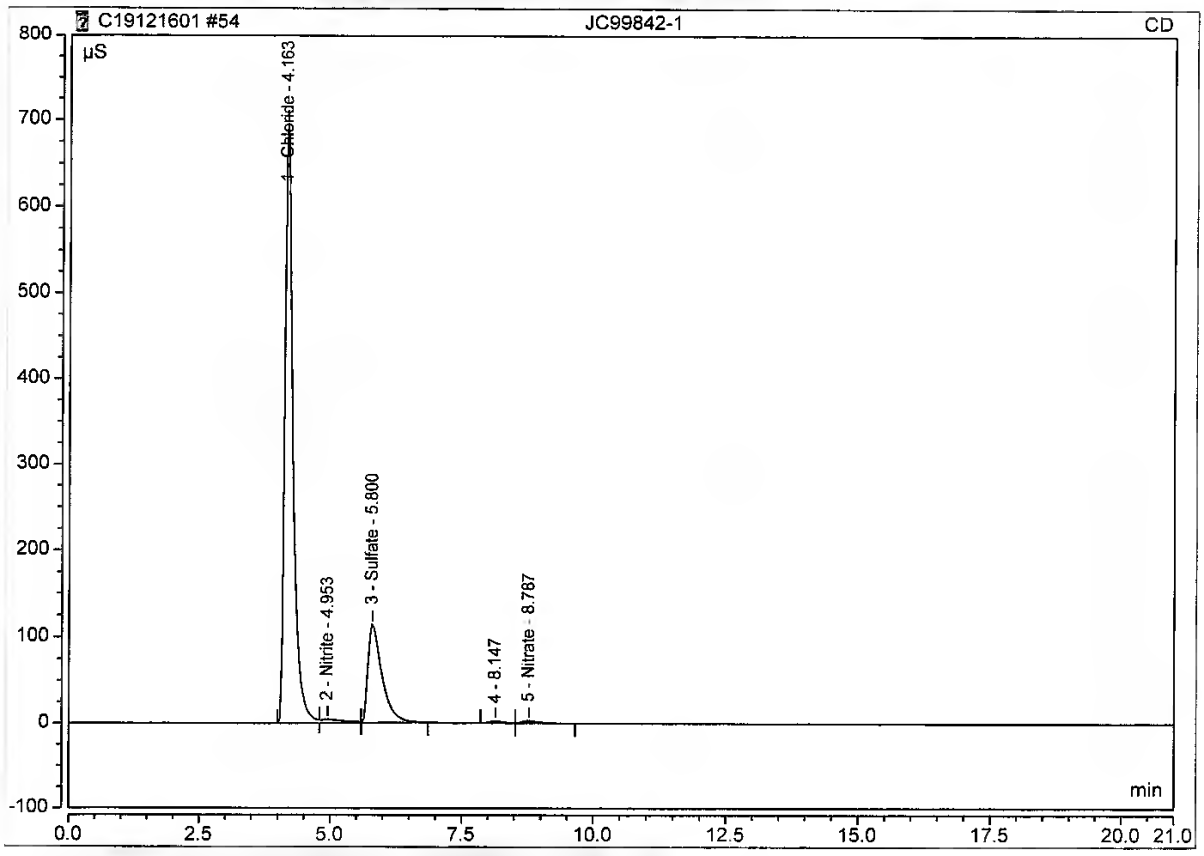
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	JC99842-1	*Inj. Vol.:*	5000.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Instrument Method:	Anions_012919	*Operator:*	Chemistry
Inj. Date / Time:	17-Dec-2019 / 04:29	*Run Time:*	21.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	4.16	Chloride	BM	127.265	695.610	510.0034
2	4.95	Nitrite	M	2.166	4.238	4.5123
3	5.80	Sulfate	MB	35.292	113.925	196.4027
5	8.79	Nitrate	MB	0.944	2.852	1.6602
TOTAL:				165.67	816.62	712.58



Anion/Integration

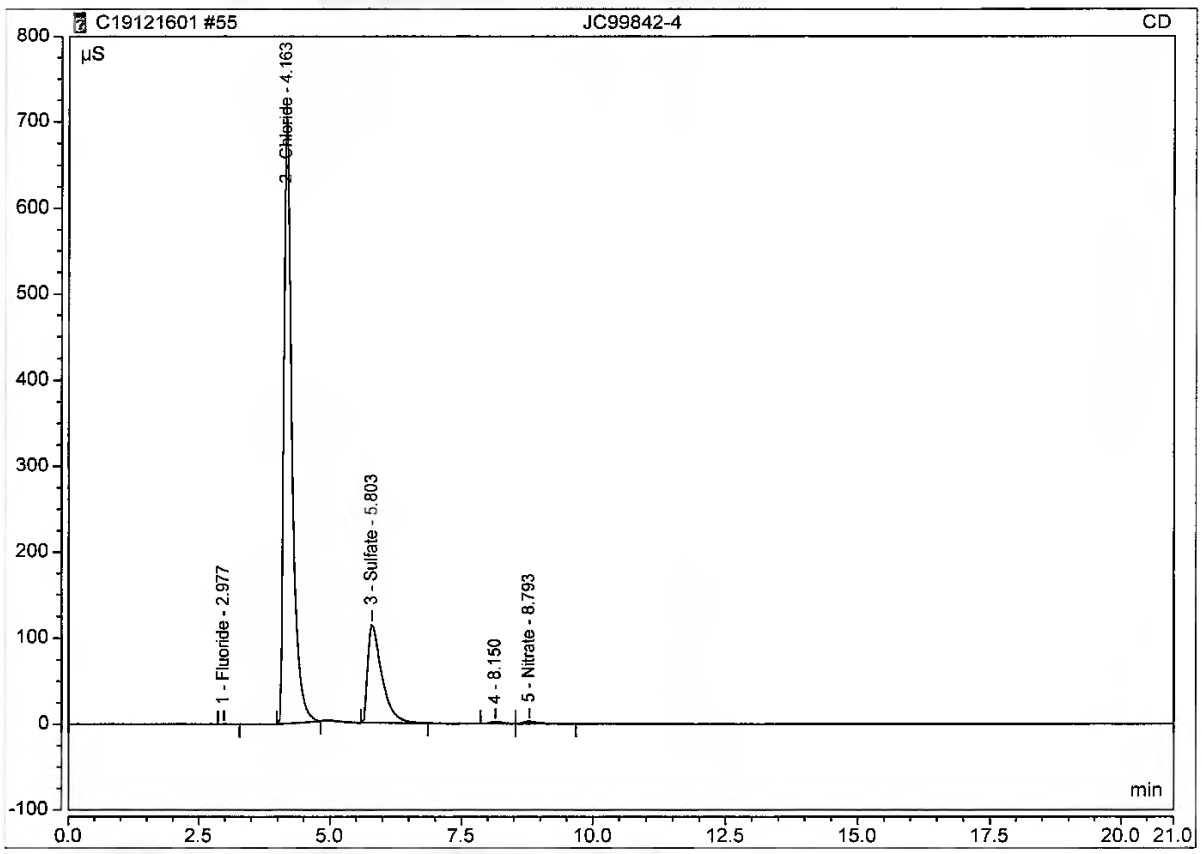
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**JC99842-4**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**17-Dec-2019 / 04:53**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.98	Fluoride	BMB	0.035	0.274	0.1158
2	4.16	Chloride	BMB	127.903	704.947	512.5584
3	5.80	Sulfate	BMB	35.007	113.975	194.8117
5	8.79	Nitrate	MB	0.820	2.491	1.4622
TOTAL:				163.76	821.69	708.95



Anion/Integration

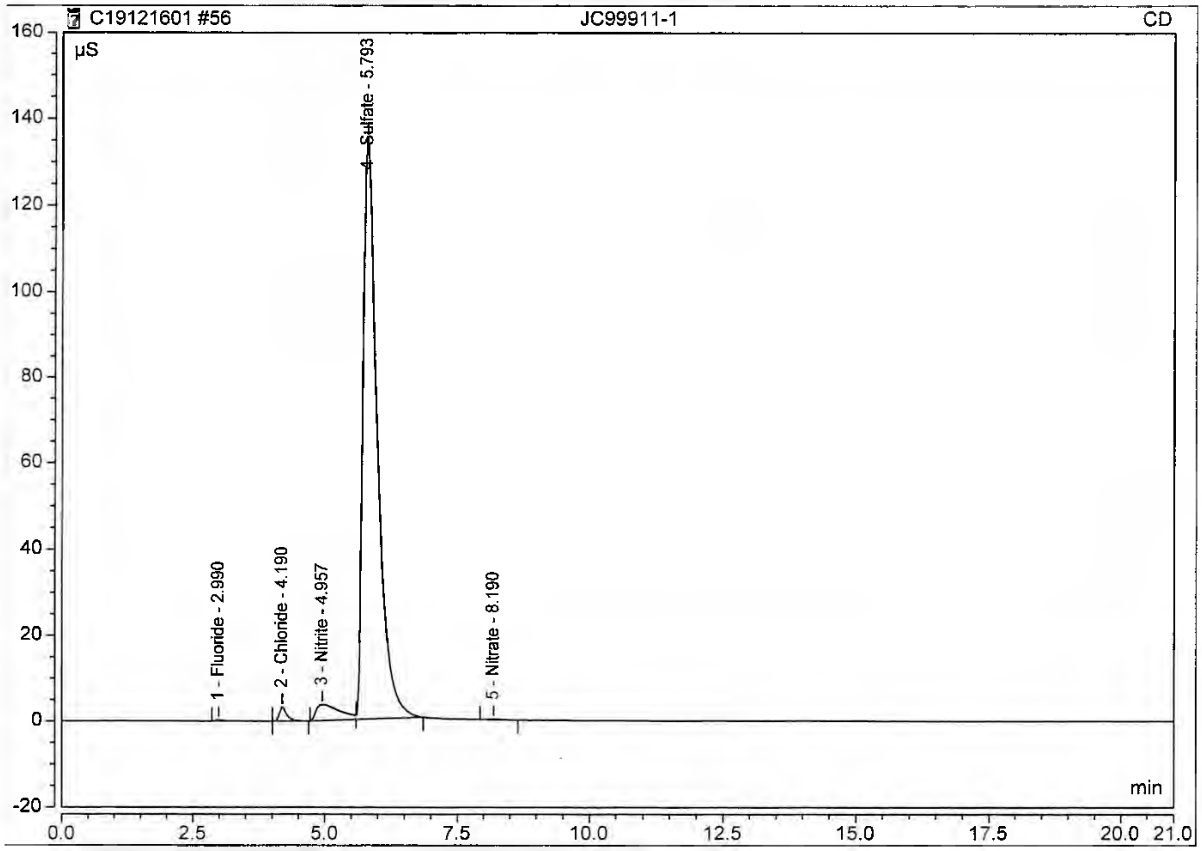
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**JC99911-1**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**17-Dec-2019 / 05:17**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.99	Fluoride	BMB	0.055	0.269	0.1670
2	4.19	Chloride	BMB	0.520	3.197	2.0178
3	4.96	Nitrite	BM	1.935	3.727	4.0300
4	5.79	Sulfate	MB	42.284	135.036	235.4088
5	8.19	Nitrate	BMB	0.044	0.162	0.2206
TOTAL:				44.84	142.39	241.84



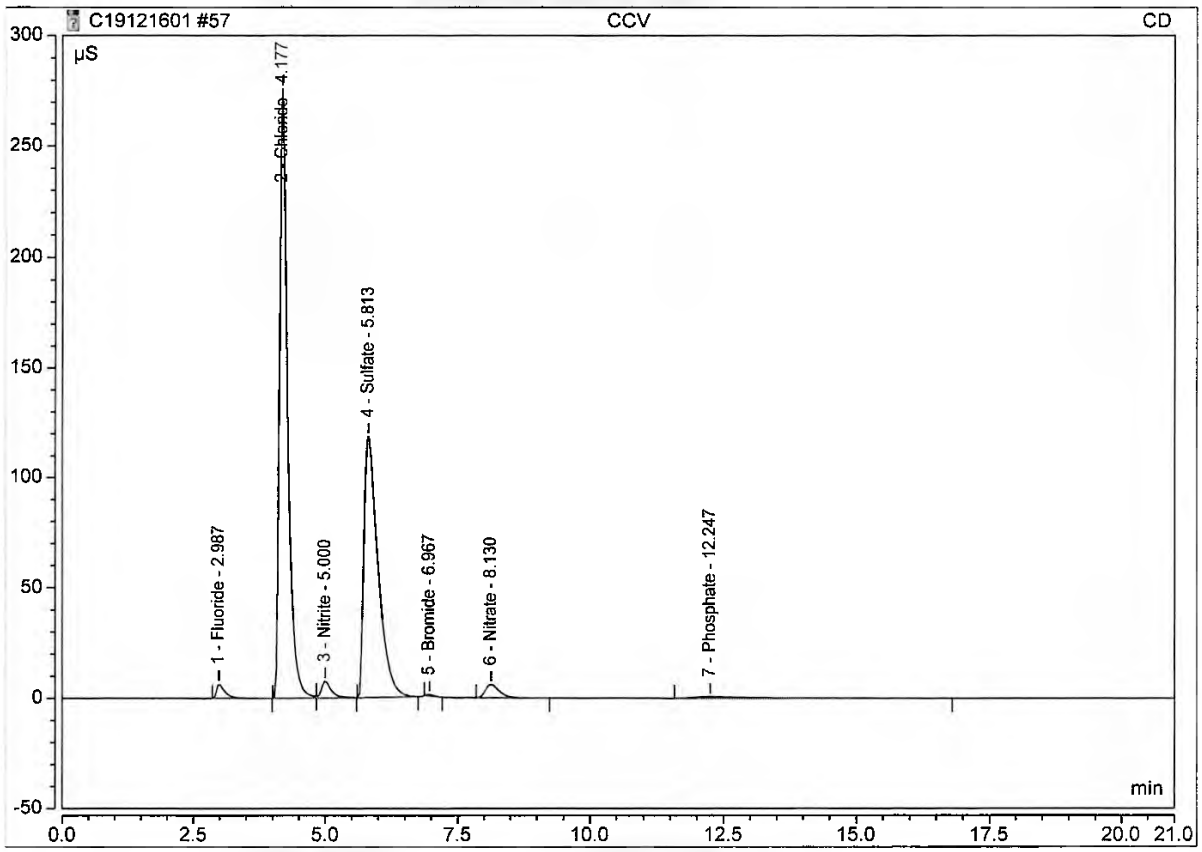
Anion/Integration

Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Peak Integration Report

Sample Name:	**CCV**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**17-Dec-2019 / 05:41**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	2.99	Fluoride	BMB	1.204	6.500	3.0239
2	4.18	Chloride	BM	49.594	276.121	198.7020
3	5.00	Nitrite	MB	1.626	7.533	3.3822
4	5.81	Sulfate	BMB	36.302	118.363	202.0346
5	6.97	Bromide	BMB	0.106	0.654	1.3841
6	8.13	Nitrate	BMB	1.833	5.991	3.0839
7	12.25	Phosphate	BMB	0.760	0.666	4.0630
		TOTAL:		91.42	415.83	415.67



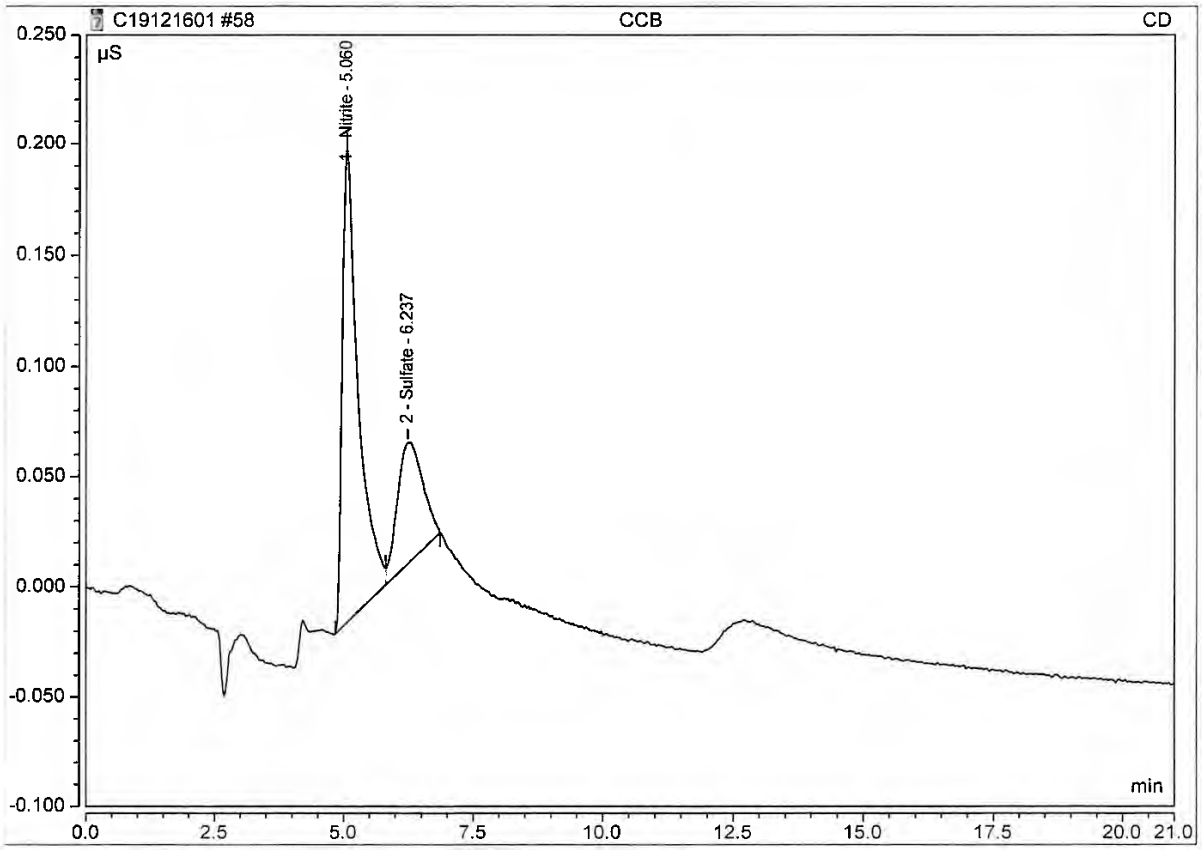
Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

Logged on User: Chemistry
Instrument: Integrion_2
Sequence: C19121601

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**5000.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Instrument Method:	**Anions_012919**	*Operator:*	**Chemistry**
Inj. Date / Time:	**17-Dec-2019 / 06:05**	*Run Time:*	**21.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount
1	5.06	Nitrite	BM	0.077	0.215	0.1420
2	6.24	Sulfate	MB	0.031	0.055	n.a.
		TOTAL:		0.11	0.27	0.14



Anion/Integration

Chromeleon (c) Dionex 1996-2009
Version 7.2.8.10783

LABORATORY REVIEW SIGNATURE FORM
(To be stored with the raw data)

File ID: E121919W1.NO32 Date Analyzed: 12/19/19 Methods: EPA 353.2/LACHAT
Analyst: KI Run ID: GN3690

The following analyst(s) have reviewd this run and attest that, to the best of their knowledge, this documentation is complete and correct:

Analyst: KI Date 12/19/19

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

Analyst: _____ Date _____

The following supervisor or their designee has reviewed this run and attests that, to the best of their knowledge, this documentation is complete and correct:

Supervisor (or designee): _____ Date 12/20/19

GN3690

e121919 w1.w032

Author: Chemistry

Date : 12/19/2019

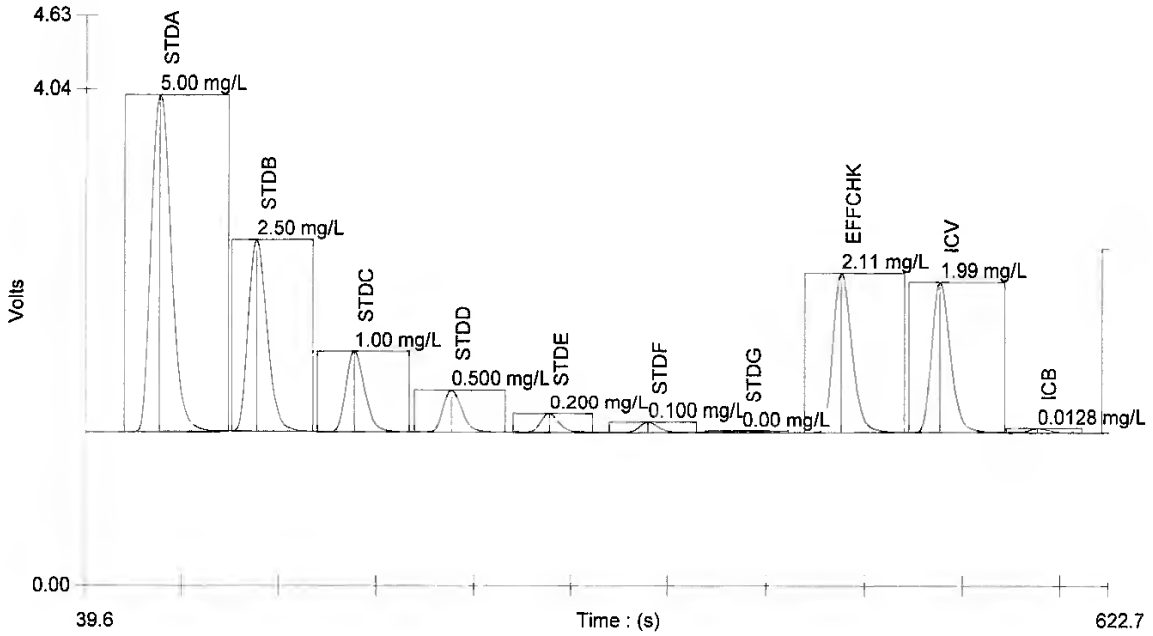
Original Run Filename: OM_12-19-2019_04-42-12PM.OMN Created: 12/19/2019 4:42:12 PM
Original Run Author's Signature: [Chemistry]
Current Run Filename: OM_12-19-2019_04-42-12PM.OMN Last Modified: 12/19/2019 5:20:01 PM
Current Run Author's Signature: [Chemistry]
Description: Default New Run

Sample	Rep.	Cup No.	Channel 1 NO32 (mg/L)	Detection Time	MDF	% REC
STDA	1	S1	5.00	12/19/2019@4:43:02 PM		
STDB	1	S2	2.50	12/19/2019@4:44:09 PM		
STDC	1	S3	1.00	12/19/2019@4:45:17 PM		
STDD	1	S4	0.500	12/19/2019@4:46:24 PM		
STDE	1	S5	0.200	12/19/2019@4:47:32 PM		
STDF	1	S6	0.100	12/19/2019@4:48:39 PM		
STDG	1	S7	0.00	12/19/2019@4:49:45 PM		
EFFCHK	1	1	2.11	12/19/2019@4:50:54 PM		
	Known Conc:		2.00			105
	Calibration:		Table/Fig. : 1			
ICV	1	2	1.99	12/19/2019@4:52:02 PM		
	Known Conc:		2.00			99.5
ICB	1	3	0.0128	12/19/2019@4:53:09 PM		
	Known Conc:		0.00			
CCV	1	S9	2.48	12/19/2019@4:54:17 PM		
	Known Conc:		2.50			99.2
CCB	1	S10	-0.0712	12/19/2019@4:55:25 PM		
	Known Conc:		0.00			
GP25707-MB1	1	4	1.11e-3	12/19/2019@4:56:32 PM		
GP25707-B1	1	5	2.02	12/19/2019@4:57:40 PM		101
GP25707-S1	1	6	0.820	12/19/2019@4:58:47 PM		
GP25707-D1 (2)	1	8	0.224	12/19/2019@4:59:55 PM		see rerun
JC99779-1	1	9	0.0673	12/19/2019@5:01:02 PM		
JC99779-3	1	10	0.168	12/19/2019@5:02:09 PM		
JC99779-6	1	11	0.347	12/19/2019@5:03:16 PM		
JC99779-9	1	12	0.0152	12/19/2019@5:04:23 PM		
GP25707-D1	1	8	0.0673	12/19/2019@5:05:31 PM		
JC99779-10	1	13	0.0921	12/19/2019@5:06:37 PM		
CCV	1	S9	2.48	12/19/2019@5:07:45 PM		
	Known Conc:		2.50			99.2
CCB	1	S10	-0.0382	12/19/2019@5:08:52 PM		
	Known Conc:		0.00			
JC99810-1A	1	14	0.278	12/19/2019@5:10:00 PM		
JD345-2	1	15	0.332	12/19/2019@5:11:06 PM		
JD345-3	1	16	0.294	12/19/2019@5:12:14 PM		
JD345-5	1	17	4.77	12/19/2019@5:13:22 PM		
CCV	1	S9	2.57	12/19/2019@5:16:32 PM		
	Known Conc:		2.50			102.8
CCB	1	S10	-0.0387	12/19/2019@5:17:40 PM		
	Known Conc:		0.00			

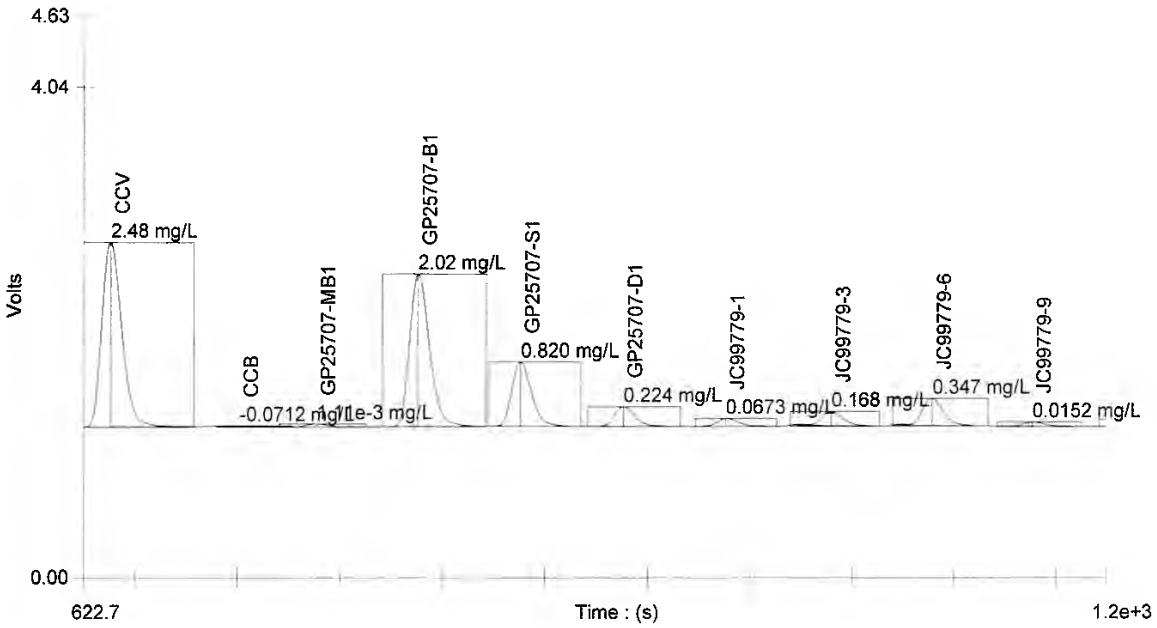
Author: Chemistry

Date : 12/19/2019

Channel 1 - Set: 1 / 3



Channel 1 - Set: 2 / 3



Author: Chemistry

Date : 12/19/2019

Channel 1 - Set: 3 / 3

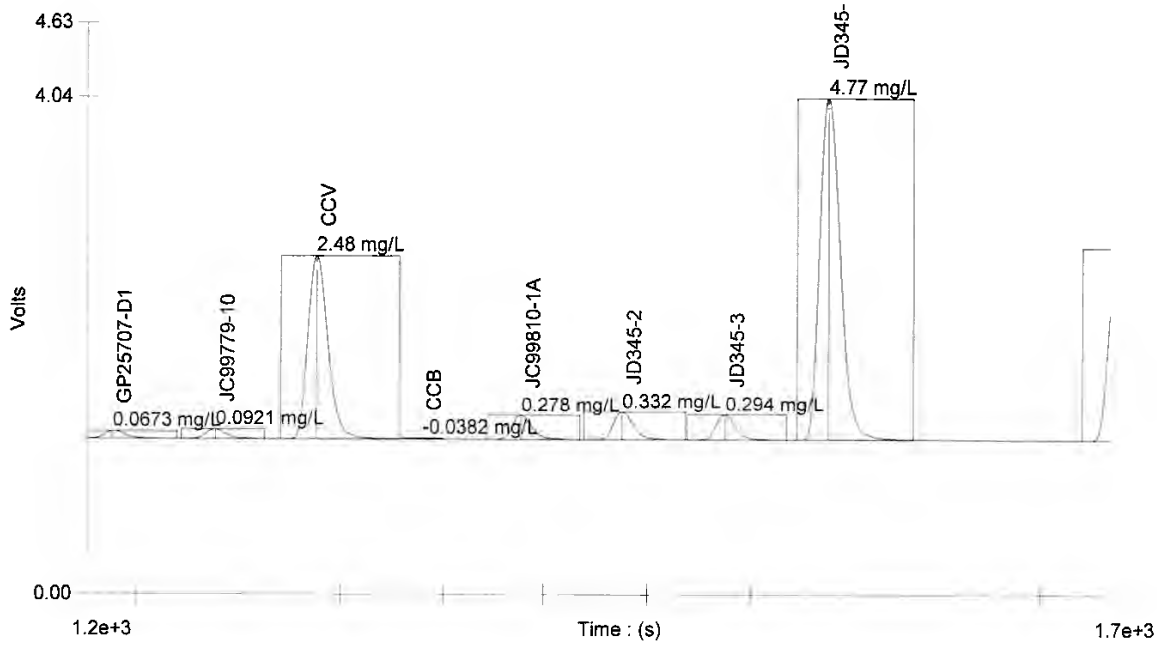
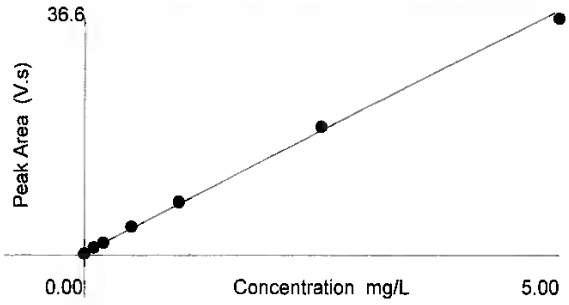


Table : 1 (NO32)

	Known Conc. (mg/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg/L)	Detection Date	Detection Time
1	5.00	1	36.6	2.74	0.0	3.4	4.82	12/19/2019	4:43:02 PM
2	2.50	1	19.7	1.57	0.0	-3.0	2.57	12/19/2019	4:44:09 PM
3	1.00	1	8.20	0.663	0.0	-4.3	1.04	12/19/2019	4:45:17 PM
4	0.500	1	4.39	0.356	0.0	-6.7	0.536	12/19/2019	4:46:24 PM
5	0.200	1	1.92	0.156	0.0	-3.0	0.208	12/19/2019	4:47:32 PM
6	0.100	1	1.14	0.0909	0.0	-2.6	0.104	12/19/2019	4:48:39 PM
7	0.00	1	0.219	0.0142			-0.0186	12/19/2019	4:49:45 PM

Figure : 1 (NO32)



Area = 7.50 * Conc + 0.362
Conc = 0.133 * Area - 0.0478
Correlation Coefficient (r) = 0.99981

Weighting : 1/x

Analyst: KI

Pipette ID: 45

Product: NO32

Balance ID: _____

Prep Date: 12/19/19

Batch ID: _____

NO32 Sample Prep Log

Sample ID	Initial Sample Amount	Final Volume	pH
EDTA BUFFER SOLN.			
GD25707-B1	2mL 100 ppm NO32 std		9.1
-S1	.5mL 100ppm		5-9
(FI) -S2		JC99779-1	
JC99779-1			
-3			
-6			
-9			
-10			
JC99810-1A			
JD345-2			
-3			
-5			

Reviewer: _____

Date: _____

Form: DAYT-WET-0318-01-FORM NO32 PREP
Revised: 10/18/19

GN3690

Reagent Information Log - Nitrate Lachat Autoanalyzer

Reagent	Reagent # or Manufacturer/Lot	Expiration Date
Nitrate Stock Solution	GNE8-58737-NO32	2/5/2020
Ammonium Chloride Buffer Solution	GNE11-59729-NO3	5/26/2020
Sulfanilamide Color Reagent	GNE12-59818-NO3	1/9/2020
1:1 NH4OH	GNE11-59688-NO3	5/19/2020
Carrier Solution	GNE11-59728-NO3	5/26/2020
1000 ppm Nitrite Solution	GNE8-58735-NO32	2/5/2020
Nitrate External Stock Solution	GNE8-58736-NO32	2/5/2020

Reason codes for data corrections: 1-reviewer error correction: 2-transcription error; 3-computer error; 4-analyst error

Form: GN087A-43
Rev. Date: 7/19/06

SGS

GENERAL CHEMISTRY STANDARD PREPARATION LOG FOR NITRATE

GN or GP Number: GN3690

Intermediate Standard Description	Stock used to prepare standard	Stock concentration in mg/l	Stock volume used in ml	Diluent (a)	Final Volume	Final Conc. of Intermediate (mg/l)	Expiration Date	Analyst	Date
100 ppm NO3 intermediate	GNE8-58737-NO32	1000	10	Carrier	100 ml	100	1/19/2020	ki	12/19/2019
100 ppm NO2 Intermediate	GNE8-58735-NO32	1000	10	Carrier	100 ml	100	1/19/2020	ki	12/19/2019
100 ppm NO3 External	GNE8-58736-NO32	1000	10	Carrier	100 ml	100	1/19/2020	ki	12/19/2019

Standard Description	Intermediate or Stock used to prepare standard	Intermediate or Stock concentration	Intermediate or Stock volume used in ml	Diluent	Final Volume	Final Conc. of Standard (mg/l)	Expiration Date	Analyst	Date
5.0 mg/l NO3	100 ppm NO3 intermediate	100 mg/l	5.0	Carrier	100 ml	5.0	12/26/2019	KI	12/19/2019
2.5 mg/l NO3	100 ppm NO3 intermediate	100 mg/l	2.5	Carrier	100 ml	2.5	12/26/2019	KI	12/19/2019
1.0 mg/l NO3	100 ppm NO3 intermediate	100 mg/l	1.0	Carrier	100 ml	1.0	12/26/2019	KI	12/19/2019
0.5 mg/l NO3	100 ppm NO3 intermediate	100 mg/l	5.0	Carrier	100 ml	0.5	12/26/2019	KI	12/19/2019
0.2 mg/l NO3	100 ppm NO3 intermediate	100 mg/l	2.0	Carrier	100 ml	0.2	12/26/2019	KI	12/19/2019
0.1 mg/l NO3	100 ppm NO3 intermediate		1.0	Carrier	100 ml	0.1	12/26/2019	KI	12/19/2019
Effcheck 2.0	100 ppm NO2 Intermediate	100 mg/l	2.0	Carrier	100 ml	2.0	12/19/2019	KI	12/19/2019
ICV	100 ppm NO3 External	100 mg/l	2.0	Carrier	100 ml	2.0	12/26/2019	KI	12/19/2019

(a) Diluent reagent reference number_____Expiration Date_____

**Volume will change with standardization concentration.

Form: GN199-02
Rev. Date: 3/2/18

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Sovereign Consulting

Shepley's Hill (SHL), Devens, MA

AC001.M01

SGS Job Number: JC99822

Sampling Date: 12/06/19

Report to:

Sovereign Consulting
9 Payson Road Suite 150
Foxborough, MA 02035
SPassafaro@SovCon.com

ATTN: Steve Passafaro

Total number of pages in report: 555

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Laura Degenhardt
General Manager

Client Service contact: Victoria Pushkova 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

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Test results relate only to samples analyzed.

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Please share your ideas about how we can serve you better at:
EHS.US.CustomerCare@sgs.com

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SGS North America Inc.

Sample Summary

Sovereign Consulting

Job No: JC99822

Shepley's Hill (SHL), Devens, MA
Project No: AC001.M01

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC99822-1	12/06/19	15:00	LH	12/06/19	AQ	Ground Water	EW-01
JC99822-2	12/06/19	15:15	LH	12/06/19	AQ	Ground Water	EW-04

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Sovereign Consulting	**Job No**	JC99822
Site:	Shepley's Hill (SHL), Devens, MA	**Report Date**	12/17/2019 10:23:30 A

On 12/06/2019, 2 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 2.8 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JC99822 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

Metals Analysis By Method SW846 6010D

Matrix: AQ **Batch ID:** MP18781A

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC99822-1MS, JC99822-1MSD, JC99822-1PS, JC99822-1SDL were used as the QC samples for metals.

Metals Analysis By Method SW846 6020B

Matrix: AQ **Batch ID:** MP18781

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC99822-1MSD, JC99822-1SDL, JC99822-1MS were used as the QC samples for metals.
- Matrix Spike Recovery(s) for Arsenic: are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

Summary of Hits

Job Number: JC99822
Account: Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA
Collected: 12/06/19

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
JC99822-1	**EW-01**					
Arsenic		1640	30	20	ug/l	SW846 6020B
Iron		65900	100	50	ug/l	SW846 6010D
Manganese		1920	15	5.0	ug/l	SW846 6010D
JC99822-2	**EW-04**					
Arsenic		3320	75	50	ug/l	SW846 6020B
Iron		40500	100	50	ug/l	SW846 6010D
Manganese		2120	15	5.0	ug/l	SW846 6010D

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: EW-01
Lab Sample ID: JC99822-1
Matrix: AQ - Ground Water
Project: Shepley's Hill (SHL), Devens, MA

Date Sampled: 12/06/19
Date Received: 12/06/19
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	1640	30	20	9.4	ug/l	20	12/10/19	12/12/19	GT	SW846 6020B [2]	SW846 3010A [3]
Iron	65900	100	50	32	ug/l	1	12/10/19	12/10/19	ND	SW846 6010D [1]	SW846 3010A [4]
Manganese	1920	15	5.0	1.4	ug/l	1	12/10/19	12/10/19	ND	SW846 6010D [1]	SW846 3010A [4]

(1) Instrument QC Batch: MA47940
(2) Instrument QC Batch: MA47956
(3) Prep QC Batch: MP18781
(4) Prep QC Batch: MP18781A

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Report of Analysis

Client Sample ID: EW-04
Lab Sample ID: JC99822-2
Matrix: AQ - Ground Water
Project: Shepley's Hill (SHL), Devens, MA

Date Sampled: 12/06/19
Date Received: 12/06/19
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	3320	75	50	24	ug/l	50	12/10/19	12/16/19	GT	SW846 6020B [2]	SW846 3010A [3]
Iron	40500	100	50	32	ug/l	1	12/10/19	12/10/19	ND	SW846 6010D [1]	SW846 3010A [4]
Manganese	2120	15	5.0	1.4	ug/l	1	12/10/19	12/10/19	ND	SW846 6010D [1]	SW846 3010A [4]

(1) Instrument QC Batch: MA47940
(2) Instrument QC Batch: MA47968
(3) Prep QC Batch: MP18781
(4) Prep QC Batch: MP18781A

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

GW

CHAIN OF CUSTODY

Page 1 of 1

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

FED-EX Tracking #:
Bottle Order Control #: SP-112119-186
SGS Quote #:
SGS Job #: JC99822

Client / Reporting Information

Company Name: Sovereign Consulting
Street Address: 9 Payson Rd Ste150
City: Foxboro State: MA Zip: 02035
Project Contact: Steve Passafaro E-mail:
Phone #: 508 339 3200
Sampler(s) Name(s): Liam Henry Phone #:

Project Information

Project Name: Shepley's Hill (SHL) Devens MA
Street:
City: Devens State: MA
Project #: A(001.M01
Client Purchase Order #:
Project Manager: SPassafaro@SOVcon.com

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis

total As 6020A
total Fe+Mn 6010C

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB - Field Blank
EB-Equipment Blank
RB - Rinse Blank
TB - Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Grab (G) Comp (C)	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	LAB USE ONLY
1	EW-01		12-6-19	1500	LH	G	GW	1			X						
2	EW-04		12-6-19	1515	LH	G	GW	1			X						

A19

Turn Around Time (Business Days)

Approved By (SGS PM): / Date:

- [ ] 10 Business Days
- [x] 5 Business Days
- [ ] 3 Business Days
- [ ] 2 Business Days
- [ ] 1 Business Day
- [ ] Other
- All data available via Labink
- Approval needed for 1-3 Business Day TAT

Deliverable

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] NJ Reduced (Level 3)
- [ ] Full Tier I (Level 4)
- [ ] Commercial "C"
- [ ] NJ DKQP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] MA MCP Criteria
- [ ] CT RCP Criteria
- [ ] State Forms
- [ ] EDD Format
- [ ] DOD-QSM5

Commercial "A" = Results only; Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC Summary + Partial Raw data

Comments / Special Instructions

rush As only

http://www.sgs.com/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished By	Date / Time	Received By
1		12-6-19, 16:47	
2		12/7/19 2AM	
3		12-7-19 6:20AM	
4			
5			

Custody Seal # 70557 Intact / Not Intact

Preserved where applicable: Absent

Therm. ID:

On Ice

Cooler Temp. °C: 3.0 oc B

Initial Assessment JBo

Label Verification

SGS-ACCUTEST MARLBOR 12/6

EHSA-QAC-0023-02-FORM-Dayton - Standard COC.xlsx

SGS Sample Receipt Summary

Job Number: JC99822 **Client:** SOVEREIGN CONSULTING **Project:** SHEPLEY'S HILL (SHL), DEVENS, MA

Date / Time Received: 12/6/2019 4:07:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (3.0);

Cooler Temps (Corrected) °C: Cooler 1: (2.8);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	Bar Therm		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 229517 pH 12+: 208717 Other: (Specify)

Comments

SM089-03
Rev. Date 12/7/17

JC99822: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Sovereign Consulting

Job No: JC99822

Shepley's Hill (SHL), Devens, MA
Project No: AC001.M01

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC99822-1 EW-01	Collected: 06-DEC-19 15:00 By: LH		Received: 06-DEC-19 By: DG			
JC99822-1	SW846 6010D	10-DEC-19 20:48	ND	10-DEC-19	TG	FE,MN
JC99822-1	SW846 6020B	12-DEC-19 18:56	GT	10-DEC-19	CH	ASMS
JC99822-2 EW-04	Collected: 06-DEC-19 15:15 By: LH		Received: 06-DEC-19 By: DG			
JC99822-2	SW846 6010D	10-DEC-19 21:03	ND	10-DEC-19	TG	FE,MN
JC99822-2	SW846 6020B	16-DEC-19 12:57	GT	10-DEC-19	CH	ASMS

SGS Internal Chain of Custody

Job Number: JC99822
Account: SCMAW Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA
Received: 12/06/19

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC99822-1.1	Dave Hunkele	Secured Storage	12/07/19 09:32	Return to Storage
JC99822-1.1	Secured Storage	Matthew Robbins	12/09/19 17:50	Retrieve from Storage
JC99822-1.1	Matthew Robbins	Secured Staging Area	12/09/19 17:50	Return to Storage
JC99822-1.1	Secured Staging Area	Taylor Gorman	12/10/19 07:28	Retrieve from Storage
JC99822-1.1	Taylor Gorman	Secured Storage	12/10/19 14:45	Return to Storage
JC99822-1.1.1	Taylor Gorman	Metals Digestion	12/10/19 13:14	Digestate from JC99822-1.1
JC99822-1.1.1	Metals Digestion	Taylor Gorman	12/10/19 13:14	Digestate from JC99822-1.1
JC99822-1.1.1	Taylor Gorman	Metals Digestate Storage	12/10/19 13:14	Return to Storage
JC99822-2.1	Dave Hunkele	Secured Storage	12/07/19 09:32	Return to Storage
JC99822-2.1	Secured Storage	Matthew Robbins	12/09/19 17:50	Retrieve from Storage
JC99822-2.1	Matthew Robbins	Secured Staging Area	12/09/19 17:50	Return to Storage
JC99822-2.1	Secured Staging Area	Taylor Gorman	12/10/19 07:28	Retrieve from Storage
JC99822-2.1	Taylor Gorman	Secured Storage	12/10/19 14:45	Return to Storage
JC99822-2.1.1	Taylor Gorman	Metals Digestion	12/10/19 13:14	Digestate from JC99822-2.1
JC99822-2.1.1	Metals Digestion	Taylor Gorman	12/10/19 13:14	Digestate from JC99822-2.1
JC99822-2.1.1	Taylor Gorman	Metals Digestate Storage	12/10/19 13:14	Return to Storage

QC Evaluation: DOD QSM5.x Limits

Job Number: JC99822
Account: Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA
Collected: 12/06/19

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP18781	SW846 6020B						
MP18781-B2	7440-38-2	Arsenic	BSP	REC	90.8	%	84-116
MP18781-S3	7440-38-2	Arsenic	MS	REC	62.5 [a]	%	84-116
MP18781-S4	7440-38-2	Arsenic	MSD	REC	100	%	84-116
MP18781-S4	7440-38-2	Arsenic	MSD	RPD	1.8	%	20
MP18781A	SW846 6010D						
MP18781A-B1	7439-89-6	Iron	BSP	REC	103.6	%	87-115
MP18781A-B1	7439-96-5	Manganese	BSP	REC	94.5	%	90-114
MP18781A-S1	7439-89-6	Iron	MS	REC	91.2	%	87-115
MP18781A-S1	7439-96-5	Manganese	MS	REC	90.5	%	90-114
MP18781A-S2	7439-89-6	Iron	MSD	REC	102.8	%	87-115
MP18781A-S2	7439-89-6	Iron	MSD	RPD	3.2	%	20
MP18781A-S2	7439-96-5	Manganese	MSD	REC	92	%	90-114
MP18781A-S2	7439-96-5	Manganese	MSD	RPD	.8	%	20

(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

* Sample used for QC is not from job JC99822

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries
- IDL and Linear Range Summaries

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
Analyst: ND Run ID: MA47940
Parameters: Fe,Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:46	MA47940-STD1	1		STDA
10:52	MA47940-STD2	1		STDB
10:57	ZZZZZZ	1		
11:02	ZZZZZZ	1		
11:07	MA47940-ICV1	1		
11:12	MA47940-ICB1	1		
11:17	MA47940-CCV1	1		
11:22	MA47940-CCB1	1		
11:27	MA47940-CRI1	1		
11:32	MA47940-CRID1	1		See rerun
11:37	MA47940-ICSA1	1		
11:43	MA47940-ICSAB1	1		
11:48	MA47940-HSTD1	1		
11:54	MA47940-HSTD2	1		
11:59	ZZZZZZ	1		
12:04	ZZZZZZ	1		
12:10	MA47940-CRID2	1		
12:15	ZZZZZZ	1		
12:20	MA47940-CCV2	1		
12:25	MA47940-CCB2	1		
12:30	ZZZZZZ	1		
12:35	ZZZZZZ	1		
12:40	MP18736-S1	5		
12:45	MP18736-S2	5		
12:50	JC99242-17	5		(sample used for QC only; not part of login JC99822)
12:55	MP18736-SD1	25		
13:00	MP18736-PS1	5		Not needed
13:05	ZZZZZZ	5		
13:10	ZZZZZZ	5		
13:15	MA47940-CCV3	1		
13:20	MA47940-CCB3	1		
13:25	ZZZZZZ	5		
13:30	ZZZZZZ	2		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
Analyst: ND Run ID: MA47940
Parameters: Fe,Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
13:35	ZZZZZZ	5		
13:40	ZZZZZZ	5		
13:45	ZZZZZZ	5		
13:50	ZZZZZZ	2		
13:55	ZZZZZZ	5		
14:00	ZZZZZZ	5		
14:05	ZZZZZZ	3		
14:10	MA47940-CCV4	1		
14:15	MA47940-CCB4	1		
14:20	ZZZZZZ	10		
14:25	ZZZZZZ	2		
14:31	ZZZZZZ	5		
14:36	ZZZZZZ	2		
14:41	ZZZZZZ	10		
14:46	ZZZZZZ	3		
14:51	ZZZZZZ	10		
14:56	ZZZZZZ	2		
15:01	ZZZZZZ	10		
15:06	MA47940-CCV5	1		
15:11	MA47940-CCB5	1		
15:16	ZZZZZZ	2		
15:21	ZZZZZZ	10		
15:26	ZZZZZZ	2		
15:31	ZZZZZZ	10		
15:36	ZZZZZZ	2		
15:41	ZZZZZZ	10		
15:46	ZZZZZZ	2		
15:51	ZZZZZZ	10		
15:56	MA47940-CCV6	1		
16:01	MA47940-CCB6	1		
16:07	ZZZZZZ	2		
16:12	ZZZZZZ	10		
16:17	MP18771-B1	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
Analyst: ND Run ID: MA47940
Parameters: Fe,Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
16:22	MP18771-MB1	1		
16:27	MP18771-S1	1		
16:32	MP18771-S2	1		
16:37	JC99645-1	1		(sample used for QC only; not part of login JC99822)
16:42	MP18771-SD1	5		
16:47	MA47940-CCV7	1		
16:52	MA47940-CCB7	1		
16:57	MP18771-PS1	1		
17:02	JC99645-1	1		(sample used for QC only; not part of login JC99822)
17:07	MP18771-S2	2		
17:12	ZZZZZZ	1		
17:17	ZZZZZZ	1		
17:22	ZZZZZZ	1		
17:27	ZZZZZZ	1		
17:32	ZZZZZZ	1		
17:37	ZZZZZZ	1		
17:43	MA47940-CCV8	1		
17:48	MA47940-CCB8	1		
17:53	ZZZZZZ	1		
17:58	ZZZZZZ	1		
18:03	ZZZZZZ	1		
18:08	ZZZZZZ	1		
18:14	ZZZZZZ	1		
18:19	ZZZZZZ	1		
18:24	ZZZZZZ	1		
18:29	ZZZZZZ	1		
18:34	MA47940-CCV9	1		
18:39	MA47940-CCB9	1		
18:44	ZZZZZZ	1		
18:50	ZZZZZZ	1		
18:55	ZZZZZZ	1		
19:00	ZZZZZZ	1		
19:05	MA47940-CCV10	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
Analyst: ND Run ID: MA47940
Parameters: Fe,Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
19:10	MA47940-CCB10	1		
19:15	ZZZZZZ	1		
19:21	ZZZZZZ	1		
19:26	ZZZZZZ	1		
19:31	ZZZZZZ	1		
19:36	ZZZZZZ	1		
19:41	ZZZZZZ	1		
19:47	ZZZZZZ	1		
19:52	ZZZZZZ	1		
19:57	ZZZZZZ	1		
20:02	ZZZZZZ	1		
20:07	ZZZZZZ	1		
20:13	ZZZZZZ	1		
20:18	MA47940-CCV11	1		
20:23	MA47940-CCB11	1		
20:28	MP18781A-MB1	1		
20:33	MP18781A-B1	1		
20:38	MP18781A-S1	1		
20:43	MP18781A-S2	1		
20:48	JC99822-1	1		
20:53	MP18781A-SD1	5		
20:58	ZZZZZZ	1		
21:03	JC99822-2	1		
21:08	MP18781A-PS1	1		
---------->	Last reportable sample/prep for job JC99822			
21:13	MA47940-CCV12	1		
21:18	MA47940-CCB12	1		
---------->	Last reportable CCB for job JC99822			

Refer to raw data for calibration curve and standards.

REPORTED ELEMENTS SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
Analyst: ND Run ID: MA47940
Parameters: Fe,Mn

Time	Sample Description	Element: Dilution	Fe	Mn	
10:57	ZZZZZZ	1			
11:02	ZZZZZZ	1			
11:07	MA47940-ICV1	1	X	X	
11:12	MA47940-ICB1	1	X	X	
11:17	MA47940-CCV1	1	X	X	
11:22	MA47940-CCB1	1	X	X	
11:27	MA47940-CRI1	1	X	X	
11:32	MA47940-CRID1	1	See rerun		
11:37	MA47940-ICSA1	1	X	X	
11:43	MA47940-ICSAB1	1	X	X	
11:48	MA47940-HSTD1	1		X	
11:54	MA47940-HSTD2	1	X		
11:59	ZZZZZZ	1			
12:04	ZZZZZZ	1			
12:10	MA47940-CRID2	1	X	X	
12:15	ZZZZZZ	1			
12:20	MA47940-CCV2	1	X	X	
12:25	MA47940-CCB2	1	X	X	
12:30	ZZZZZZ	1			
12:35	ZZZZZZ	1			
12:40	MP18736-S1	5	X		
12:45	MP18736-S2	5	X		
12:50	JC99242-17	5	X		(a)
12:55	MP18736-SD1	25	X		
13:00	MP18736-PS1	5	Not needed		
13:05	ZZZZZZ	5			
13:10	ZZZZZZ	5			
13:15	MA47940-CCV3	1	X	X	
13:20	MA47940-CCB3	1	X	X	
13:25	ZZZZZZ	5			
13:30	ZZZZZZ	2			
13:35	ZZZZZZ	5			
13:40	ZZZZZZ	5			
		Element:	Fe	Mn	

REPORTED ELEMENTS SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
Analyst: ND Run ID: MA47940
Parameters: Fe,Mn

Time	Sample Description	Element: Dilution	Fe	Mn
13:45	ZZZZZZ	5		
13:50	ZZZZZZ	2		
13:55	ZZZZZZ	5		
14:00	ZZZZZZ	5		
14:05	ZZZZZZ	3		
14:10	MA47940-CCV4	1	X	X
14:15	MA47940-CCB4	1	X	X
14:20	ZZZZZZ	10		
14:25	ZZZZZZ	2		
14:31	ZZZZZZ	5		
14:36	ZZZZZZ	2		
14:41	ZZZZZZ	10		
14:46	ZZZZZZ	3		
14:51	ZZZZZZ	10		
14:56	ZZZZZZ	2		
15:01	ZZZZZZ	10		
15:06	MA47940-CCV5	1	X	X
15:11	MA47940-CCB5	1	X	X
15:16	ZZZZZZ	2		
15:21	ZZZZZZ	10		
15:26	ZZZZZZ	2		
15:31	ZZZZZZ	10		
15:36	ZZZZZZ	2		
15:41	ZZZZZZ	10		
15:46	ZZZZZZ	2		
15:51	ZZZZZZ	10		
15:56	MA47940-CCV6	1	X	X
16:01	MA47940-CCB6	1	X	X
16:07	ZZZZZZ	2		
16:12	ZZZZZZ	10		
16:17	MP18771-B1	1	X	X
16:22	MP18771-MB1	1	X	X
16:27	MP18771-S1	1	X	X
		Element:	Fe	Mn

REPORTED ELEMENTS SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
Analyst: ND Run ID: MA47940
Parameters: Fe,Mn

Time	Sample Description	Element: Dilution	Fe	Mn
16:32	MP18771-S2	1		X
16:37	JC99645-1	1	High RSD	
16:42	MP18771-SD1	5	X	X
16:47	MA47940-CCV7	1	X	X
16:52	MA47940-CCB7	1	X	X
16:57	MP18771-PS1	1	X	X
17:02	JC99645-1	1	X	X (a)
17:07	MP18771-S2	2	X	
17:12	ZZZZZZ	1		
17:17	ZZZZZZ	1		
17:22	ZZZZZZ	1		
17:27	ZZZZZZ	1		
17:32	ZZZZZZ	1		
17:37	ZZZZZZ	1		
17:43	MA47940-CCV8	1	X	X
17:48	MA47940-CCB8	1	X	X
17:53	ZZZZZZ	1		
17:58	ZZZZZZ	1		
18:03	ZZZZZZ	1		
18:08	ZZZZZZ	1		
18:14	ZZZZZZ	1		
18:19	ZZZZZZ	1		
18:24	ZZZZZZ	1		
18:29	ZZZZZZ	1		
18:34	MA47940-CCV9	1	X	X
18:39	MA47940-CCB9	1	X	X
18:44	ZZZZZZ	1		
18:50	ZZZZZZ	1		
18:55	ZZZZZZ	1		
19:00	ZZZZZZ	1		
19:05	MA47940-CCV10	1	X	X
19:10	MA47940-CCB10	1	X	X
19:15	ZZZZZZ	1		
		Element:	Fe	Mn

REPORTED ELEMENTS SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
Analyst: ND Run ID: MA47940
Parameters: Fe,Mn

Time	Sample Description	Element: Dilution	F e	M n
19:21	ZZZZZZ	1		
19:26	ZZZZZZ	1		
19:31	ZZZZZZ	1		
19:36	ZZZZZZ	1		
19:41	ZZZZZZ	1		
19:47	ZZZZZZ	1		
19:52	ZZZZZZ	1		
19:57	ZZZZZZ	1		
20:02	ZZZZZZ	1		
20:07	ZZZZZZ	1		
20:13	ZZZZZZ	1		
20:18	MA47940-CCV11	1	X	X
20:23	MA47940-CCB11	1	X	X
20:28	MP18781A-MB1	1	X	X
20:33	MP18781A-B1	1	X	X
20:38	MP18781A-S1	1	X	X
20:43	MP18781A-S2	1	X	X
20:48	JC99822-1	1	X	X
20:53	MP18781A-SD1	5	X	X
20:58	ZZZZZZ	1		
21:03	JC99822-2	1	X	X
21:08	MP18781A-PS1	1	X	X
21:13	MA47940-CCV12	1	X	X
21:18	MA47940-CCB12	1	X	X

(a) Sample used for QC only; not part of login JC99822.

Element:	F e	M n

INTERNAL STANDARD SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
Analyst: ND Run ID: MA47940
Parameters: Fe,Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
10:46	MA47940-STD1	8423 R	279040 R	32697 R	15047 R
10:52	MA47940-STD2	7878	265340	32013	13551
10:57	ZZZZZZ	8066	272840	32217	13947
11:02	ZZZZZZ	8297	280180	32382	14942
11:07	MA47940-ICV1	8041	271370	32150	13963
11:12	MA47940-ICB1	8259	280570	32291	14906
11:17	MA47940-CCV1	7993	273060	31970	13909
11:22	MA47940-CCB1	8336	282120	32421	15035
11:27	MA47940-CRI1	8197	278850	32369	14765
11:32	MA47940-CRID1	No results reported for the elements associated with this internal standard.			
11:37	MA47940-ICSA1	7546	254930	31237	12638
11:43	MA47940-ICSAB1	7592	256640	31247	12740
11:48	MA47940-HSTD1	8264	281860	32400	15005
11:54	MA47940-HSTD2	7654	257430	31137	12792
11:59	ZZZZZZ	8312	282410	32343	15080
12:04	ZZZZZZ	8206	284570	32958	14980
12:10	MA47940-CRID2	8365	285130	32524	15065
12:15	ZZZZZZ	8400	286780	32949	15176
12:20	MA47940-CCV2	8090	276500	32121	14131
12:25	MA47940-CCB2	8409	285140	33107	15177
12:30	ZZZZZZ	8351	285950	33191	15118
12:35	ZZZZZZ	8198	280880	32823	14436
12:40	MP18736-S1	8429	284600	32979	14651
12:45	MP18736-S2	8510	286570	33463	14782
12:50	JC99242-17	8481	285800	33109	14866
12:55	MP18736-SD1	8398	289110	33110	15022
13:00	MP18736-PS1	No results reported for the elements associated with this internal standard.			
13:05	ZZZZZZ	8608	291510	33919	15033
13:10	ZZZZZZ	8568	290550	33480	15000
13:15	MA47940-CCV3	8191	276060	32101	14217
13:20	MA47940-CCB3	8372	284450	32519	15082
13:25	ZZZZZZ	8521	289690	33823	14910
13:30	ZZZZZZ	8576	290910	34492	14637

INTERNAL STANDARD SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
Analyst: ND Run ID: MA47940
Parameters: Fe,Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
13:35	ZZZZZZ	8424	286680	33564	14753
13:40	ZZZZZZ	8499	286990	33656	14929
13:45	ZZZZZZ	8466	288390	33844	14895
13:50	ZZZZZZ	8595	290090	34038	14788
13:55	ZZZZZZ	8439	287520	33261	14833
14:00	ZZZZZZ	8537	290080	33614	14931
14:05	ZZZZZZ	8321	280480	32734	14577
14:10	MA47940-CCV4	8166	276200	32230	14188
14:15	MA47940-CCB4	8511	286410	32637	15296
14:20	ZZZZZZ	8388	284020	32798	14772
14:25	ZZZZZZ	8500	287310	33563	14724
14:31	ZZZZZZ	8469	284430	33176	14873
14:36	ZZZZZZ	8398	285140	33350	14505
14:41	ZZZZZZ	8544	290480	33325	15027
14:46	ZZZZZZ	8401	283050	32947	14665
14:51	ZZZZZZ	8482	288390	33120	14921
14:56	ZZZZZZ	8444	284410	34087	14488
15:01	ZZZZZZ	8539	290070	33155	15032
15:06	MA47940-CCV5	8187	275610	32337	14192
15:11	MA47940-CCB5	8409	285260	32623	15127
15:16	ZZZZZZ	8249	281710	33108	14397
15:21	ZZZZZZ	8492	286180	32907	14939
15:26	ZZZZZZ	8439	284940	33691	14748
15:31	ZZZZZZ	8454	287150	33111	14990
15:36	ZZZZZZ	8442	286870	34018	14764
15:41	ZZZZZZ	8462	286030	33396	15003
15:46	ZZZZZZ	8434	282790	33236	14737
15:51	ZZZZZZ	8394	285130	32873	14936
15:56	MA47940-CCV6	8058	275520	31710	14090
16:01	MA47940-CCB6	8373	284600	32071	15145
16:07	ZZZZZZ	8356	283360	33217	14580
16:12	ZZZZZZ	8388	292460	33277	14864
16:17	MP18771-B1	8237	282990	32412	14585

INTERNAL STANDARD SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
Analyst: ND Run ID: MA47940
Parameters: Fe,Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
16:22	MP18771-MB1	8362	284360	32612	15172
16:27	MP18771-S1	8262	284110	33081	14542
16:32	MP18771-S2	8277	283840	33007	14574
16:37	JC99645-1	No results reported for the elements associated with this internal standard.			
16:42	MP18771-SD1	8408	291750	31709	15080
16:47	MA47940-CCV7	8351	278470	32291	14502
16:52	MA47940-CCB7	8409	283240	32587	15162
16:57	MP18771-PS1	8137	287870	32213	14335
17:02	JC99645-1	8422	290000	33095	14967
17:07	MP18771-S2	8217	284980	32762	14526
17:12	ZZZZZZ	8400	285260	32796	14799
17:17	ZZZZZZ	8518	286270	33404	15167
17:22	ZZZZZZ	8627	291410	34157	14522
17:27	ZZZZZZ	8522	284150	34721	14364
17:32	ZZZZZZ	8428	288830	34230	14450
17:37	ZZZZZZ	8685	296150	34452	14578
17:43	MA47940-CCV8	8261	281870	32641	14433
17:48	MA47940-CCB8	8516	288080	33027	15442
17:53	ZZZZZZ	8566	283100	34327	14612
17:58	ZZZZZZ	8560	294880	34581	14556
18:03	ZZZZZZ	8722	309980	34420	14775
18:08	ZZZZZZ	8586	298350	34172	14516
18:14	ZZZZZZ	8485	286130	34126	14566
18:19	ZZZZZZ	8509	291990	33880	14444
18:24	ZZZZZZ	8758	295110	34114	14814
18:29	ZZZZZZ	8477	313680	33749	14342
18:34	MA47940-CCV9	8189	280470	32550	14295
18:39	MA47940-CCB9	8550	281910	32379	15428
18:44	ZZZZZZ	8424	287610	33215	14372
18:50	ZZZZZZ	8567	292860	33841	14625
18:55	ZZZZZZ	8601	296010	34485	14569
19:00	ZZZZZZ	8587	295010	34287	14530
19:05	MA47940-CCV10	8262	279490	32375	14432

INTERNAL STANDARD SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
Analyst: ND Run ID: MA47940
Parameters: Fe,Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
19:10	MA47940-CCB10	8533	293520	32683	15444
19:15	ZZZZZZ	8696	294150	32400	15703
19:21	ZZZZZZ	8463	282600	32012	15278
19:26	ZZZZZZ	8499	286570	31630	15304
19:31	ZZZZZZ	8566	294390	31979	15485
19:36	ZZZZZZ	8505	294370	31890	15390
19:41	ZZZZZZ	8480	289330	31662	15268
19:47	ZZZZZZ	8392	290850	31354	15219
19:52	ZZZZZZ	8510	292310	32094	15329
19:57	ZZZZZZ	8559	288250	32381	15480
20:02	ZZZZZZ	8451	288430	31999	15354
20:07	ZZZZZZ	8728	283220	33218	14448
20:13	ZZZZZZ	7811	269130	31033	13796
20:18	MA47940-CCV11	8215	281310	31506	14418
20:23	MA47940-CCB11	8444	293000	31896	15364
20:28	MP18781A-MB1	8517	285800	32147	15548
20:33	MP18781A-B1	8373	290300	32318	14867
20:38	MP18781A-S1	8382	286150	32282	14892
20:43	MP18781A-S2	8185	285370	31853	14589
20:48	JC99822-1	8394	293650	31791	15119
20:53	MP18781A-SD1	8416	287680	31708	15209
20:58	ZZZZZZ	8275	286970	32311	14960
21:03	JC99822-2	8379	296980	32217	15171
21:08	MP18781A-PS1	8111	284190	31764	14465
21:13	MA47940-CCV12	8266	283760	31934	14464
21:18	MA47940-CCB12	8462	294170	31878	15326

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	70-130 %
Istd#2	Yttrium (3600)	70-130 %
Istd#3	Yttrium (3710)	70-130 %
Istd#4	Indium	70-130 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: result < 1/2 RL Run ID: MA47940 Units: ug/l

Time:				11:12		11:22		12:25	
Sample ID:				ICB1		CCB1		CCB2	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Aluminum	200	14	100						
Antimony	6.0	1.3	5.0						
Arsenic	5.0	1.5	3.0						
Barium	200	.3	100						
Beryllium	2.0	.1	1.0						
Bismuth	20	3.3	10						
Boron	200	.8	100						
Cadmium	3.0	.1	2.0						
Calcium	5000	2.3	200						
Chromium	10	.5	5.0						
Cobalt	50	.4	10						
Copper	10	.8	8.0						
Iron	100	4.4	50	1.60	<100	2.30	<100	1.90	<100
Lead	5.0	1.1	3.0						
Lithium	50	4.4	20						
Magnesium	5000	14	500						
Manganese	15	.1	5.0	0.100	<15	0.100	<15	0.100	<15
Molybdenum	20	.7	8.0						
Nickel	10	.3	8.0						
Phosphorus	50	2.4	25						
Potassium	10000	140	500						
Selenium	10	1.8	8.0						
Silicon	200	2.2	150						
Silver	10	.5	4.0						
Sodium	10000	34	1000						
Strontium	10	.1	2.0						
Sulfur	100	9.8	50						
Thallium	10	1.3	5.0						
Tin	10	.9	8.0						
Titanium	10	.3	4.0						
Tungsten	100	3.9	50						
Vanadium	50	.3	4.0						
Zinc	20	1.3	10						

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: result < 1/2 RL Run ID: MA47940 Units: ug/l

Time:				11:12		11:22		12:25	
Sample ID:				ICB1		CCB1		CCB2	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Zirconium	10	.2	5.0						

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: result < 1/2 RL Run ID: MA47940 Units: ug/l

Time:				13:20		14:15		15:11	
Sample ID:				CCB3		CCB4		CCB5	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Aluminum	200	14	100						
Antimony	6.0	1.3	5.0						
Arsenic	5.0	1.5	3.0						
Barium	200	.3	100						
Beryllium	2.0	.1	1.0						
Bismuth	20	3.3	10						
Boron	200	.8	100						
Cadmium	3.0	.1	2.0						
Calcium	5000	2.3	200						
Chromium	10	.5	5.0						
Cobalt	50	.4	10						
Copper	10	.8	8.0						
Iron	100	4.4	50	3.00	<100	0.800	<100	3.10	<100
Lead	5.0	1.1	3.0						
Lithium	50	4.4	20						
Magnesium	5000	14	500						
Manganese	15	.1	5.0	0.100	<15	0.00	<15	0.100	<15
Molybdenum	20	.7	8.0						
Nickel	10	.3	8.0						
Phosphorus	50	2.4	25						
Potassium	10000	140	500						
Selenium	10	1.8	8.0						
Silicon	200	2.2	150						
Silver	10	.5	4.0						
Sodium	10000	34	1000						
Strontium	10	.1	2.0						
Sulfur	100	9.8	50						
Thallium	10	1.3	5.0						
Tin	10	.9	8.0						
Titanium	10	.3	4.0						
Tungsten	100	3.9	50						
Vanadium	50	.3	4.0						
Zinc	20	1.3	10						

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: result < 1/2 RL Run ID: MA47940 Units: ug/l

Time:				13:20		14:15		15:11	
Sample ID:				CCB3		CCB4		CCB5	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Zirconium	10	.2	5.0						

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: result < 1/2 RL Run ID: MA47940 Units: ug/l

Time:				16:01		16:52		17:48	
Sample ID:				CCB6		CCB7		CCB8	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Aluminum	200	14	100						
Antimony	6.0	1.3	5.0						
Arsenic	5.0	1.5	3.0						
Barium	200	.3	100						
Beryllium	2.0	.1	1.0						
Bismuth	20	3.3	10						
Boron	200	.8	100						
Cadmium	3.0	.1	2.0						
Calcium	5000	2.3	200						
Chromium	10	.5	5.0						
Cobalt	50	.4	10						
Copper	10	.8	8.0						
Iron	100	4.4	50	-0.100	<100	-0.400	<100	0.00	<100
Lead	5.0	1.1	3.0						
Lithium	50	4.4	20						
Magnesium	5000	14	500						
Manganese	15	.1	5.0	0.00	<15	0.00	<15	0.200	<15
Molybdenum	20	.7	8.0						
Nickel	10	.3	8.0						
Phosphorus	50	2.4	25						
Potassium	10000	140	500						
Selenium	10	1.8	8.0						
Silicon	200	2.2	150						
Silver	10	.5	4.0						
Sodium	10000	34	1000						
Strontium	10	.1	2.0						
Sulfur	100	9.8	50						
Thallium	10	1.3	5.0						
Tin	10	.9	8.0						
Titanium	10	.3	4.0						
Tungsten	100	3.9	50						
Vanadium	50	.3	4.0						
Zinc	20	1.3	10						

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: result < 1/2 RL Run ID: MA47940 Units: ug/l

Time:				16:01		16:52		17:48	
Sample ID:				CCB6		CCB7		CCB8	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Zirconium	10	.2	5.0						

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: result < 1/2 RL Run ID: MA47940 Units: ug/l

Time:				18:39		19:10		20:23	
Sample ID:				CCB9		CCB10		CCB11	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Aluminum	200	14	100						
Antimony	6.0	1.3	5.0						
Arsenic	5.0	1.5	3.0						
Barium	200	.3	100						
Beryllium	2.0	.1	1.0						
Bismuth	20	3.3	10						
Boron	200	.8	100						
Cadmium	3.0	.1	2.0						
Calcium	5000	2.3	200						
Chromium	10	.5	5.0						
Cobalt	50	.4	10						
Copper	10	.8	8.0						
Iron	100	4.4	50	0.100	<100	0.400	<100	0.700	<100
Lead	5.0	1.1	3.0						
Lithium	50	4.4	20						
Magnesium	5000	14	500						
Manganese	15	.1	5.0	0.100	<15	0.00	<15	0.00	<15
Molybdenum	20	.7	8.0						
Nickel	10	.3	8.0						
Phosphorus	50	2.4	25						
Potassium	10000	140	500						
Selenium	10	1.8	8.0						
Silicon	200	2.2	150						
Silver	10	.5	4.0						
Sodium	10000	34	1000						
Strontium	10	.1	2.0						
Sulfur	100	9.8	50						
Thallium	10	1.3	5.0						
Tin	10	.9	8.0						
Titanium	10	.3	4.0						
Tungsten	100	3.9	50						
Vanadium	50	.3	4.0						
Zinc	20	1.3	10						

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: result < 1/2 RL Run ID: MA47940 Units: ug/l

Time:				18:39		19:10		20:23	
Sample ID:				CCB9		CCB10		CCB11	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Zirconium	10	.2	5.0						

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: result < 1/2 RL Run ID: MA47940 Units: ug/l

Time:				21:18	
Sample ID:				CCB12	
Metal	RL	IDL	LOD	raw	final
Aluminum	200	14	100		
Antimony	6.0	1.3	5.0		
Arsenic	5.0	1.5	3.0		
Barium	200	.3	100		
Beryllium	2.0	.1	1.0		
Bismuth	20	3.3	10		
Boron	200	.8	100		
Cadmium	3.0	.1	2.0		
Calcium	5000	2.3	200		
Chromium	10	.5	5.0		
Cobalt	50	.4	10		
Copper	10	.8	8.0		
Iron	100	4.4	50	1.40	<100
Lead	5.0	1.1	3.0		
Lithium	50	4.4	20		
Magnesium	5000	14	500		
Manganese	15	.1	5.0	0.00	<15
Molybdenum	20	.7	8.0		
Nickel	10	.3	8.0		
Phosphorus	50	2.4	25		
Potassium	10000	140	500		
Selenium	10	1.8	8.0		
Silicon	200	2.2	150		
Silver	10	.5	4.0		
Sodium	10000	34	1000		
Strontium	10	.1	2.0		
Sulfur	100	9.8	50		
Thallium	10	1.3	5.0		
Tin	10	.9	8.0		
Titanium	10	.3	4.0		
Tungsten	100	3.9	50		
Vanadium	50	.3	4.0		
Zinc	20	1.3	10		

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: result < 1/2 RL Run ID: MA47940 Units: ug/l

Time:				21:18	
Sample ID:				CCB12	
Metal	RL	IDL	LOD	raw	final
Zirconium	10	.2	5.0		

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47940 Units: ug/l

Time:		11:07			11:17			12:20	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	40000	40300	100.8	40000	40300	100.8	40000	40600	101.5
Lead	anr								
Lithium									
Magnesium	anr								
Manganese	2000	1970	98.5	2000	2000	100.0	2000	2000	100.0
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47940 Units: ug/l

Time:		11:07			11:17			12:20	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47940 Units: ug/l

Time:		13:15			14:10			15:06	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	40000	41200	103.0	40000	40400	101.0	40000	40000	100.0
Lead	anr								
Lithium									
Magnesium	anr								
Manganese	2000	2020	101.0	2000	2010	100.5	2000	2020	101.0
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47940 Units: ug/l

Time:		13:15			14:10			15:06	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47940 Units: ug/l

Time:		15:56			16:47			17:43	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	40000	40700	101.8	40000	39800	99.5	40000	39100	97.8
Lead	anr								
Lithium									
Magnesium	anr								
Manganese	2000	2030	101.5	2000	1970	98.5	2000	1960	98.0
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47940 Units: ug/l

Time:		15:56			16:47			17:43	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47940 Units: ug/l

Time:		18:34			19:05			20:18	
Sample ID:	CCV	CCV9		CCV	CCV10		CCV	CCV11	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	40000	39300	98.3	40000	39800	99.5	40000	40800	102.0
Lead	anr								
Lithium									
Magnesium	anr								
Manganese	2000	1980	99.0	2000	1990	99.5	2000	1960	98.0
Molybdenum									
Nickel	anr								
Phosphorus									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47940 Units: ug/l

Time:		18:34			19:05			20:18	
Sample ID:	CCV	CCV9		CCV	CCV10		CCV	CCV11	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47940 Units: ug/l

Time:		21:13	
Sample ID:	CCV	CCV12	
Metal	True	Results	% Rec
Aluminum	anr		
Antimony	anr		
Arsenic	anr		
Barium	anr		
Beryllium	anr		
Bismuth			
Boron			
Cadmium	anr		
Calcium	anr		
Chromium	anr		
Cobalt	anr		
Copper	anr		
Iron	40000	40300	100.8
Lead	anr		
Lithium			
Magnesium	anr		
Manganese	2000	1960	98.0
Molybdenum			
Nickel	anr		
Phosphorus			
Potassium	anr		
Selenium	anr		
Silicon			
Silver	anr		
Sodium	anr		
Strontium			
Sulfur			
Thallium	anr		
Tin			
Titanium			
Tungsten			
Vanadium	anr		
Zinc	anr		

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47940 Units: ug/l

Time:		21:13	
Sample ID:	CCV	CCV12	
Metal	True	Results	% Rec
Zirconium			

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 90 to 110 % Recovery Run ID: MA47940 Units: ug/l

Time:		11:48			11:54	
Sample ID:	HSTD	HSTD1		HSTD	HSTD2	
Metal	True	Results	% Rec	True	Results	% Rec
Aluminum						
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Bismuth						
Boron						
Cadmium	anr					
Calcium						
Chromium	anr					
Cobalt	anr					
Copper	anr					
Iron				200000	199000	99.5
Lead	anr					
Lithium						
Magnesium						
Manganese	8000	7860	98.3			
Molybdenum						
Nickel	anr					
Phosphorus						
Potassium						
Selenium	anr					
Silicon						
Silver	anr					
Sodium						
Strontium						
Sulfur						
Thallium	anr					
Tin						
Titanium						
Tungsten						
Vanadium	anr					
Zinc	anr					

HIGH STANDARD CHECK SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 90 to 110 % Recovery Run ID: MA47940 Units: ug/l

Time:		11:48			11:54	
Sample ID:	HSTD	HSTD1		HSTD	HSTD2	
Metal	True	Results	% Rec	True	Results	% Rec
Zirconium						

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: CRI 80-120% CRIA 80-120% Run ID: MA47940 Units: ug/l

Time:				11:27		12:10	
Sample ID:	CRI	CRIA	CRID	CRI1		CRID2	
Metal	True	True	True	Results	% Rec	Results	% Rec
Aluminum	200	500	100	anr			
Antimony	6.0	20	3.0	anr			
Arsenic	8.0	20	3.0	anr			
Barium	200		4.0	anr			
Beryllium	2.0		1.0	anr			
Bismuth	20						
Boron	100		10				
Cadmium	3.0		1.0	anr			
Calcium	5000	2000	1000	anr			
Chromium	10		2.0	anr			
Cobalt	50		3.0	anr			
Copper	10		2.0	anr			
Iron	100	500		111	111.0		
Lead	3.0	20	2.5	anr			
Lithium	50						
Magnesium	5000	2000	100	anr			
Manganese	15		3.0	15.9	106.0	2.90	96.7
Molybdenum	20						
Nickel	10		4.0	anr			
Phosphorus	50						
Potassium	5000		2000	anr			
Selenium	10	20	5.0	anr			
Silicon	200						
Silver	5.0		2.0	anr			
Sodium	5000		1000	anr			
Strontium	10						
Sulfur	50						
Thallium	10		2.0	anr			
Tin	10						
Titanium	10						
Tungsten	50						
Vanadium	50		2.0	anr			
Zinc	20		10	anr			

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: CRI 80-120% CRIA 80-120% Run ID: MA47940 Units: ug/l

Time:				11:27		12:10	
Sample ID:	CRI	CRIA	CRID	CRI1		CRID2	
Metal	True	True	True	Results	% Rec	Results	% Rec
Zirconium	10						

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 80 to 120 % Recovery Run ID: MA47940 Units: ug/l

Time:			11:37		11:43	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1	
Metal	True	True	Results	% Rec	Results	% Rec
Aluminum	500000	500000	532000	106.4	538000	107.6
Antimony		1000	3.40*(a)		1070	107.0
Arsenic		1000	0.400		1090	109.0
Barium		500	0.300		517	103.4
Beryllium		500	-0.100		500	100.0
Bismuth		500	-11.4*(b		526	105.2
Boron		500	2.50		500	100.0
Cadmium		1000	0.700		1060	106.0
Calcium	400000	400000	399000	99.8	402000	100.5
Chromium		500	0.700		487	97.4
Cobalt		500	-0.200		484	96.8
Copper		500	1.70		520	104.0
Iron	200000	200000	199000	99.5	202000	101.0
Lead		1000	0.300		947	94.7
Lithium		500	-8.90		536	107.2
Magnesium	500000	500000	536000	107.2	534000	106.8
Manganese		500	-0.100		509	101.8
Molybdenum		500	-1.50		498	99.6
Nickel		1000	-0.100		978	97.8
Phosphorus		500	-3.30		480	96.0
Potassium			-51.3		-38.3	
Selenium		1000	-2.70		1030	103.0
Silicon		500	-14.7		513	102.6
Silver		1000	0.200		1140	114.0
Sodium			-5.30		-6.10	
Strontium		500	0.200		519	103.8
Sulfur		500	-11.0		491	98.2
Thallium		1000	-0.500		967	96.7
Tin		500	0.100		487	97.4
Titanium		500	-0.300		508	101.6
Tungsten		500	0.900		495	99.0
Vanadium		500	0.700		492	98.4
Zinc		1000	1.90		965	96.5

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: SD121019M1L.ICP Date Analyzed: 12/10/19 Methods: SW846 6010D
QC Limits: 80 to 120 % Recovery Run ID: MA47940 Units: ug/l

Time:			11:37		11:43	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1	
Metal	True	True	Results	% Rec	Results	% Rec
Zirconium		500	2.10		516	103.2

(*) Outside of QC limits
(anr) Analyte not requested
(a) No AQ samples reported for this element in the area bracketed by this QC.
(b) No samples reported for this element in the area bracketed by this QC.

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Dilution Factor	PS Recov	Comments
09:04	MA47956-STD1	1		See rerun, sample intro not stable.
09:09	MA47956-STD2	1		See rerun, sample intro not stable.
09:14	MA47956-STD3	1		See rerun, sample intro not stable.
09:27	MA47956-STD4	1		STDB
09:32	MA47956-STD5	1		STDC
09:37	MA47956-STD6	1		STDD
09:43	MA47956-STD7	1		STDE
09:48	MA47956-STD8	1		STDF
09:53	MA47956-STD9	1		STDG
09:58	MA47956-STD10	1		STDH
10:03	MA47956-STD11	1		STDI
10:08	MA47956-STD12	1		STDJ
10:15	MA47956-STD13	1		STDA
10:21	MA47956-ICVA1	1		Good results, but use the rerun
10:25	MA47956-ICVA2	1		
10:31	MA47956-ICV1	1		60ppb Al.
10:41	MA47956-ICB1	1		
10:46	MA47956-CCVA1	1		
10:51	MA47956-CCB1	1		
10:56	ZZZZZZ	1		
11:01	MA47956-CRI1	1		
11:08	MA47956-ICSA1	1		
11:13	MA47956-ICSAB1	1		
11:18	ZZZZZZ	1		
11:23	MA47956-CCVA2	1		
11:30	MA47956-CCB2	1		
11:35	ZZZZZZ	2		
11:40	MP18775A-MB1	2		To reanalysis with SUNOCOQC
11:45	MP18775A-B2	2		To reanalysis with SUNOCOQC
11:50	MP18781-MB1	2		
11:55	MP18781-B2	2		
12:00	ZZZZZZ	2		
12:05	ZZZZZZ	2		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Dilution Factor	PS Recov	Comments
12:10	ZZZZZZ	2		
12:15	ZZZZZZ	2		
12:20	MA47956-CCVA3	1		
12:25	MA47956-CCB3	1		
12:30	ZZZZZZ	2		
12:35	ZZZZZZ	2		
12:40	ZZZZZZ	2		
12:46	ZZZZZZ	2		
12:50	ZZZZZZ	2		
12:56	ZZZZZZ	2		
13:02	MA47956-CCVA4	1		
13:07	MA47956-CCB4	1		
13:12	ZZZZZZ	2		
13:18	MP18781-S3	2		
13:23	MP18781-S4	2		
13:28	JC99822-1	2		
13:33	MP18781-SD1	10		
13:38	MP18781-PS1	2		
13:43	ZZZZZZ	2		
13:48	ZZZZZZ	2		
13:53	ZZZZZZ	2		
13:58	MA47956-CCVA5	1		
14:03	MA47956-CCB5	1		
14:08	ZZZZZZ	2		
14:13	ZZZZZZ	2		
14:18	ZZZZZZ	2		
14:23	ZZZZZZ	2		
14:28	ZZZZZZ	2		
14:33	MA47956-CCVA6	1		
14:38	MA47956-CCB6	1		
14:43	ZZZZZZ	2		
14:48	ZZZZZZ	2		
14:53	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Dilution Factor	PS Recov	Comments
15:02	MP18803A-MB1	1		
15:07	MP18803A-MB2	1		
15:12	MP18803A-B2	1		
15:17	MP18803A-B3	25		
15:22	MP18803A-S3	1		
15:27	MP18803A-S4	1		
15:32	MA47956-CCVA7	1		Sb out
15:38	MA47956-CCB7	1		
15:43	JC99883-1	1		(sample used for QC only; not part of login JC99822)
15:53	ZZZZZZ	1		
15:58	ZZZZZZ	1		
16:03	ZZZZZZ	1		
16:13	ZZZZZZ	1		
16:18	ZZZZZZ	1		
16:23	ZZZZZZ	1		
16:30	ZZZZZZ	1		
16:36	ZZZZZZ	1		
16:43	ZZZZZZ	1		
16:48	MA47956-CCVA8	1		
16:53	MA47956-CCB8	1		
16:58	ZZZZZZ	1		
17:03	ZZZZZZ	1		
17:08	MP18786-S1	20		
17:13	MP18786-S2	20		
17:18	ZZZZZZ	20		
17:23	JC99834-1	20		(sample used for QC only; not part of login JC99822)
17:28	ZZZZZZ	2		
17:33	ZZZZZZ	2		
17:38	MA47956-CCVA9	1		
17:43	MA47956-CCB9	1		
17:50	ZZZZZZ	2		
17:55	MP18774-S1	20		
18:01	MP18774-S2	20		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Dilution Factor	PS Recov	Comments
18:06	JC99601-1	20		(sample used for QC only; not part of login JC99822)
18:11	MP18774-SD1	100		
18:16	ZZZZZZ	2		
18:21	ZZZZZZ	2		
18:26	ZZZZZZ	2		
18:31	ZZZZZZ	20		
18:36	MA47956-CCVA10	1		
18:41	MA47956-CCB10	1		
18:46	MP18781-S3	20		As
18:51	MP18781-S4	20		As
18:56	JC99822-1	20		As
19:01	MP18781-SD1	100		As
19:06	MP18781-PS1	20		Not needed
---------->	Last reportable sample/prep for job JC99822			
19:11	MA47956-CCVA11	1		
19:16	MA47956-CCB11	1		
---------->	Last reportable CCB for job JC99822			
19:21	ZZZZZZ	2		
19:26	ZZZZZZ	2		
19:31	ZZZZZZ	2		
19:36	ZZZZZZ	2		
19:41	ZZZZZZ	2		
19:46	ZZZZZZ	2		
19:51	ZZZZZZ	2		
19:56	MA47956-CCVA12	1		
20:01	MA47956-CCB12	1		
20:06	ZZZZZZ	2		
20:11	ZZZZZZ	2		
20:16	ZZZZZZ	2		
20:21	ZZZZZZ	2		
20:26	ZZZZZZ	2		
20:31	ZZZZZZ	2		
20:36	ZZZZZZ	2		
20:41	ZZZZZZ	2		
20:46	ZZZZZZ	2		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Dilution Factor	PS Recov	Comments
20:51	JC99822-2	2		Empty cup.
20:56	MA47956-CCVA13	1		
21:01	MA47956-CCB13	1		
21:06	MP18803A-S3	5		
21:11	MP18803A-S4	5		
21:16	JC99883-1	5		(sample used for QC only; not part of login JC99822)
21:21	ZZZZZZ	5		
21:26	ZZZZZZ	5		
21:31	ZZZZZZ	5		
21:36	MA47956-CCVA14	1		
21:41	MA47956-CCB14	1		
21:46	MP18784A-MB1	5		
21:51	MP18784A-B2	5		
21:56	MP18784A-S3	5		Pb=500ppb, Need PS for Sb
22:01	MP18784A-S4	5		Pb=500ppb, Need PS for Sb
22:06	JC99677-2Q	5		(sample used for QC only; not part of login JC99822)
22:11	MP18784A-SD1	25		Pb=500ppb, Need PS for Sb
22:16	MA47956-CCVA15	1		
22:21	MA47956-CCB15	1		
22:26	ZZZZZZ	5		
22:31	ZZZZZZ	5		
22:36	ZZZZZZ	5		
22:41	MA47956-CCVA16	1		
22:46	MA47956-CCB16	1		

Refer to raw data for calibration curve and standards.

REPORTED ELEMENTS SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Element: Dilution	As
10:21	MA47956-ICVA1	1	Good results, but use the rerun
10:25	MA47956-ICVA2	1	X
10:31	MA47956-ICV1	1	
10:41	MA47956-ICB1	1	X
10:46	MA47956-CCVA1	1	X
10:51	MA47956-CCB1	1	X
10:56	ZZZZZZ	1	
11:01	MA47956-CRI1	1	X
11:08	MA47956-ICSA1	1	X
11:13	MA47956-ICSAB1	1	X
11:18	ZZZZZZ	1	
11:23	MA47956-CCVA2	1	X
11:30	MA47956-CCB2	1	X
11:35	ZZZZZZ	2	
11:40	MP18775A-MB1	2	To reanalysis with SUNOCOQC
11:45	MP18775A-B2	2	To reanalysis with SUNOCOQC
11:50	MP18781-MB1	2	X
11:55	MP18781-B2	2	X
12:00	ZZZZZZ	2	
12:05	ZZZZZZ	2	
12:10	ZZZZZZ	2	
12:15	ZZZZZZ	2	
12:20	MA47956-CCVA3	1	X
12:25	MA47956-CCB3	1	X
12:30	ZZZZZZ	2	
12:35	ZZZZZZ	2	
12:40	ZZZZZZ	2	
12:46	ZZZZZZ	2	
12:50	ZZZZZZ	2	
12:56	ZZZZZZ	2	
13:02	MA47956-CCVA4	1	X
13:07	MA47956-CCB4	1	X
13:12	ZZZZZZ	2	
		Element:	As

REPORTED ELEMENTS SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Element: Dilution	As	
13:18	MP18781-S3	2		
13:23	MP18781-S4	2		
13:28	JC99822-1	2		
13:33	MP18781-SD1	10		
13:38	MP18781-PS1	2		
13:43	ZZZZZZ	2		
13:48	ZZZZZZ	2		
13:53	ZZZZZZ	2		
13:58	MA47956-CCVA5	1	X	
14:03	MA47956-CCB5	1	X	
14:08	ZZZZZZ	2		
14:13	ZZZZZZ	2		
14:18	ZZZZZZ	2		
14:23	ZZZZZZ	2		
14:28	ZZZZZZ	2		
14:33	MA47956-CCVA6	1	X	
14:38	MA47956-CCB6	1	X	
14:43	ZZZZZZ	2		
14:48	ZZZZZZ	2		
14:53	ZZZZZZ	1		
15:02	MP18803A-MB1	1	X	
15:07	MP18803A-MB2	1	X	
15:12	MP18803A-B2	1	X	
15:17	MP18803A-B3	25	X	
15:22	MP18803A-S3	1		
15:27	MP18803A-S4	1		
15:32	MA47956-CCVA7	1	X	
15:38	MA47956-CCB7	1	X	
15:43	JC99883-1	1		(a)
15:53	ZZZZZZ	1		
15:58	ZZZZZZ	1		
16:03	ZZZZZZ	1		
16:13	ZZZZZZ	1		
		Element:	As	

REPORTED ELEMENTS SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Element: Dilution	As
16:18	ZZZZZZ	1	
16:23	ZZZZZZ	1	
16:30	ZZZZZZ	1	
16:36	ZZZZZZ	1	
16:43	ZZZZZZ	1	
16:48	MA47956-CCVA8	1	X
16:53	MA47956-CCB8	1	X
16:58	ZZZZZZ	1	
17:03	ZZZZZZ	1	
17:08	MP18786-S1	20	
17:13	MP18786-S2	20	
17:18	ZZZZZZ	20	
17:23	JC99834-1	20	(a)
17:28	ZZZZZZ	2	
17:33	ZZZZZZ	2	
17:38	MA47956-CCVA9	1	X
17:43	MA47956-CCB9	1	X
17:50	ZZZZZZ	2	
17:55	MP18774-S1	20	
18:01	MP18774-S2	20	
18:06	JC99601-1	20	(a)
18:11	MP18774-SD1	100	
18:16	ZZZZZZ	2	
18:21	ZZZZZZ	2	
18:26	ZZZZZZ	2	
18:31	ZZZZZZ	20	
18:36	MA47956-CCVA10	1	X
18:41	MA47956-CCB10	1	X
18:46	MP18781-S3	20	X
18:51	MP18781-S4	20	X
18:56	JC99822-1	20	X
19:01	MP18781-SD1	100	X
19:06	MP18781-PS1	20	
		Element:	As

REPORTED ELEMENTS SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Element: Dilution	As	
19:11	MA47956-CCVA11	1	X	
19:16	MA47956-CCB11	1	X	
19:21	ZZZZZZ	2		
19:26	ZZZZZZ	2		
19:31	ZZZZZZ	2		
19:36	ZZZZZZ	2		
19:41	ZZZZZZ	2		
19:46	ZZZZZZ	2		
19:51	ZZZZZZ	2		
19:56	MA47956-CCVA12	1	X	
20:01	MA47956-CCB12	1	X	
20:06	ZZZZZZ	2		
20:11	ZZZZZZ	2		
20:16	ZZZZZZ	2		
20:21	ZZZZZZ	2		
20:26	ZZZZZZ	2		
20:31	ZZZZZZ	2		
20:36	ZZZZZZ	2		
20:41	ZZZZZZ	2		
20:46	ZZZZZZ	2		
20:51	JC99822-2	2	Empty cup.	
20:56	MA47956-CCVA13	1	X	
21:01	MA47956-CCB13	1	X	
21:06	MP18803A-S3	5	X	
21:11	MP18803A-S4	5	X	
21:16	JC99883-1	5	X (a)	
21:21	ZZZZZZ	5		
21:26	ZZZZZZ	5		
21:31	ZZZZZZ	5		
21:36	MA47956-CCVA14	1	X	
21:41	MA47956-CCB14	1	X	
21:46	MP18784A-MB1	5	X	
21:51	MP18784A-B2	5	X	
		Element:	As	

REPORTED ELEMENTS SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Element: Dilution	As	
21:56	MP18784A-S3	5	X	
22:01	MP18784A-S4	5	X	
22:06	JC99677-2Q	5		(a)
22:11	MP18784A-SD1	25	X	
22:16	MA47956-CCVA15	1	X	
22:21	MA47956-CCB15	1	X	
22:26	ZZZZZZ	5		
22:31	ZZZZZZ	5		
22:36	ZZZZZZ	5		
22:41	MA47956-CCVA16	1	X	
22:46	MA47956-CCB16	1	X	

(a) Sample used for QC only; not part of login JC99822.

Element: As

INTERNAL STANDARD SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4	Istd#5	Istd#6	Istd#7	Istd#8
09:04	MA47956-STD1	No results reported for the elements associated with this internal standard.							
09:09	MA47956-STD2	No results reported for the elements associated with this internal standard.							
09:14	MA47956-STD3	No results reported for the elements associated with this internal standard.							
09:27	MA47956-STD4	98.236	98.07	103.268	102.896	97.544	102.148	101.3	97.293
09:32	MA47956-STD5	99.805	98.398	100.239	99.407	98.679	100.443	99.789	98.783
09:37	MA47956-STD6	98.911	98.603	98.01	98.529	98.565	99.351	98.749	98.504
09:43	MA47956-STD7	98.499	98.12	98.787	98.438	99.019	99.293	97.694	98.363
09:48	MA47956-STD8	95.644	97.477	99.29	99.314	98.481	99.014	97.387	98.246
09:53	MA47956-STD9	96.88	97.691	99.809	100.648	98.384	100.161	97.943	98.044
09:58	MA47956-STD10	97.317	96.995	98.107	99.052	97.571	99.142	97.92	98.299
10:03	MA47956-STD11	97.868	97.091	96.529	95.648	96.567	97.772	95.11	95.857
10:08	MA47956-STD12	97.126	96.304	97.812	96.2	95.915	97.752	93.078	94.773
10:15	MA47956-STD13	100	100	100	100	100	100	100	100
10:21	MA47956-ICVA1	No results reported for the elements associated with this internal standard.							
10:25	MA47956-ICVA2	101.7	101.736	100.919	99.694	102.568	101.881	97.862	102.936
10:31	MA47956-ICV1	94.124	94.25	97.253	91.947	95.879	98.403	91.201	95.987
10:41	MA47956-ICB1	103.79	101.92	102.685	102.105	100.913	103.617	100.612	101.714
10:46	MA47956-CCVA1	104.803	104.397	103.807	102.133	104.058	104.28	100.733	104.477
10:51	MA47956-CCB1	104.949	102.276	101.314	101.442	102.731	101.86	99.568	102.444
10:56	ZZZZZZ	94.995	95.469	97.545	91.175	96.483	98.402	89.337	96.198
11:01	MA47956-CRI1	106.258	103.268	101.866	101.052	103.553	102.214	100.062	103.048
11:08	MA47956-ICSA1	87.057	88.21	90.883	89.606	95.494	93.859	88.312	86.115
11:13	MA47956-ICSAB1	88.261	91.487	91.97	93.102	98.426	97.346	92.456	90.011
11:18	ZZZZZZ	84.982	86.291	84.345	88.994	89.714	89.595	89.718	89.347
11:23	MA47956-CCVA2	88.622	90.772	89.778	92.306	94.022	95.153	92.313	94.161
11:30	MA47956-CCB2	90.7	91.093	91.535	93.239	94.179	93.79	93.853	93.562
11:35	ZZZZZZ	91.625	90.435	88.241	94.314	96.105	97.968	105.144	96.919
11:40	MP18775A-MB1	No results reported for the elements associated with this internal standard.							
11:45	MP18775A-B2	No results reported for the elements associated with this internal standard.							
11:50	MP18781-MB1	101.231	98.898	93.208	103.338	106.514	104.176	110.271	107.269
11:55	MP18781-B2	104.786	103.619	96.673	108.209	109.656	108.277	114.743	110.274
12:00	ZZZZZZ	99.952	102.527	94.816	104.763	108.953	105.148	109.21	107.943
12:05	ZZZZZZ	103.274	105.018	96.314	105.232	108.572	106.095	108.283	108.155

INTERNAL STANDARD SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4	Istd#5	Istd#6	Istd#7	Istd#8
12:10	ZZZZZZ	101.832	103.944	95.518	106.47	109.607	107.195	111.258	109.295
12:15	ZZZZZZ	107.945	108.737	98.187	109.508	116.702	109.571	115.532	116.085
12:20	MA47956-CCVA3	112.48	116.62	105.123	109.296	116.609	109.085	106.631	116.648
12:25	MA47956-CCB3	110.985	113.47	105.152	110.34	113.805	109.192	108.87	114.044
12:30	ZZZZZZ	103.687	104.047	94.438	104.289	111.236	106.254	109.737	109.05
12:35	ZZZZZZ	103.305	105.922	96.651	106.993	112.187	107.488	110.295	111.692
12:40	ZZZZZZ	102.926	105.281	96.215	108.007	110.699	107.011	109.625	111.307
12:46	ZZZZZZ	105.765	107.167	98.139	109.652	112.473	109.537	113.989	112.724
12:50	ZZZZZZ	95.173	99.485	90.342	95.23	102.495	98.748	94.292	103.602
12:56	ZZZZZZ	89.94	94.145	86.844	89.949	97.957	93.012	90.402	97.895
13:02	MA47956-CCVA4	96.936	98.646	92.077	96.569	100.182	96.887	96.099	100.97
13:07	MA47956-CCB4	98.426	98.808	92.263	97.902	99.649	98.063	96.513	99.592
13:12	ZZZZZZ	84.524	89.254	82.051	86.374	93.666	89.114	84.069	92.709
13:18	MP18781-S3	86.288	86.962	82.015	95.628	98.201	96.026	98.186	96.081
13:23	MP18781-S4	92.263	93.097	85.169	98.879	103.013	98.733	101.081	101.347
13:28	JC99822-1	95.568	95.276	85.8	98.483	105.282	100.186	100.349	102.745
13:33	MP18781-SD1	101.241	102.931	93.888	100.98	105.483	100.571	100.429	105.144
13:38	MP18781-PS1	99.237	98.914	90.911	102.803	107.049	102.219	103.293	105.767
13:43	ZZZZZZ	84.324	92.077	86.649	87.741	93.249	92.406	82.627	93.085
13:48	ZZZZZZ	80.065	85.615	81.743	91.528	90.235	89.906	89.505	90.116
13:53	ZZZZZZ	84.576	87.121	80.811	95.278	93.108	90.934	94.432	93.596
13:58	MA47956-CCVA5	91.136	93.723	89.267	97.139	97.219	95.309	96.277	97.902
14:03	MA47956-CCB5	91.977	94.385	89.581	97.543	97.528	94.301	97.131	97.222
14:08	ZZZZZZ	84.38	90.544	83.499	89.523	93.14	90.65	85.308	93.182
14:13	ZZZZZZ	81.39	88.146	81.613	92.875	92.56	90.705	90.825	92.778
14:18	ZZZZZZ	88.998	90.612	83.939	97.173	100.779	96.849	98.505	100.936
14:23	ZZZZZZ	90.064	91.746	85.276	99.753	100.414	98.151	100.246	100.679
14:28	ZZZZZZ	89.917	92.755	85.571	92.843	101.43	99.248	94.448	101.907
14:33	MA47956-CCVA6	90.362	92.923	87.881	92.47	95.772	93.471	91.452	97.669
14:38	MA47956-CCB6	90.284	91.65	86.277	92.163	94.214	94.235	92.177	94.961
14:43	ZZZZZZ	91.898	91.218	84.915	95.53	101.543	96.977	97.788	101.623
14:48	ZZZZZZ	88.774	90.573	82.648	93.014	98.07	93.766	93.473	98.269
14:53	ZZZZZZ	91.596	93.768	88.168	92.906	96.703	93.635	92.049	97.364

INTERNAL STANDARD SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4	Istd#5	Istd#6	Istd#7	Istd#8
15:02	MP18803A-MB1	89.941	90.203	87.776	92.517	93.059	93.866	90.776	93.857
15:07	MP18803A-MB2	90.573	91.563	88.444	92.324	93.518	92.017	91.83	93.759
15:12	MP18803A-B2	89.621	91.887	88.841	91.761	94.689	93.574	90.852	95.487
15:17	MP18803A-B3	90	91.355	89.776	89.326	94.558	95.122	88.413	95.404
15:22	MP18803A-S3	106.689	127.537	!a131.186	!a106.997	113.078	117.406	92.459	112.628
15:27	MP18803A-S4	102.368	124.007	127.931	!a108.138	109	113.691	92.062	109.856
15:32	MA47956-CCVA7	108.419	115.966	111.016	101.225	113.327	112.66	97.54	114.134
15:38	MA47956-CCB7	81.803	84.636	85.597	86.314	87.079	89.391	84.507	87.497
15:43	JC99883-1	94.018	112.833	125.399	!a93.461	100.99	110.939	81.748	100.997
15:53	ZZZZZZ	77.507	84.533	86.244	86.021	83.897	89.886	82.686	84.172
15:58	ZZZZZZ	92.341	112.353	118.804	103.843	101.411	109.868	91.511	100.668
16:03	ZZZZZZ	98.732	121.759	121.708	105.214	107.268	112.586	93.406	106.022
16:13	ZZZZZZ	85.326	103.093	107.907	99.936	97.132	105.329	92.442	93.363
16:18	ZZZZZZ	96.33	116.501	126.459	!a108.947	104.445	114.385	93.993	104.764
16:23	ZZZZZZ	100.045	125.152	!a129.592	!a115.782	109.857	119.245	99.468	110.279
16:30	ZZZZZZ	102.141	123.294	124.041	113.958	108.991	114.712	97.578	107.921
16:36	ZZZZZZ	97.857	111.565	115.431	106.397	104.019	111.601	97.551	103.817
16:43	ZZZZZZ	91.208	95.839	94.237	93.762	97.992	99.295	91.282	98.529
16:48	MA47956-CCVA8	83.415	89.07	88.962	90.514	91.932	94.064	87.719	92.034
16:53	MA47956-CCB8	84.381	89.188	88.645	91.219	91.905	94.01	89.982	92.063
16:58	ZZZZZZ	88.11	92.955	92.27	93.814	96.361	97.575	90.621	95.907
17:03	ZZZZZZ	87.591	93.324	92.726	92.063	96.349	97.167	90.255	97.816
17:08	MP18786-S1	87.579	94.364	94.298	90.631	97.13	101.877	89.869	97.485
17:13	MP18786-S2	87.556	94.081	94.732	89.542	97.447	100.369	88.983	96.68
17:18	ZZZZZZ	87.256	94.116	95.486	89.022	97.415	101.041	88.302	97.966
17:23	JC99834-1	87	94.246	95.521	89.012	97.414	101.114	88.277	97.093
17:28	ZZZZZZ	No results reported for the elements associated with this internal standard.							
17:33	ZZZZZZ	86.711	89.823	86.116	92.83	100.564	101.231	97.108	101.038
17:38	MA47956-CCVA9	88.723	95.635	94.861	92.438	98.419	99.51	90.181	98.318
17:43	MA47956-CCB9	89.148	94.171	93.454	93.784	95.864	98.327	92.114	97.418
17:50	ZZZZZZ	89.883	92.193	88.194	95.513	107.691	106.736	98.956	107.962
17:55	MP18774-S1	92.518	99.087	97.177	93.632	101.36	102.039	92.442	101.519
18:01	MP18774-S2	91.035	96.832	95.382	92.297	100.004	101.54	90.23	99.755

INTERNAL STANDARD SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4	Istd#5	Istd#6	Istd#7	Istd#8
18:06	JC99601-1	90.91	96.198	95.142	91.322	97.861	99.334	91.411	98.584
18:11	MP18774-SD1	90.536	95.241	96.746	90.804	97.672	100.666	89.776	98.532
18:16	ZZZZZZ	86.625	87.093	85.918	93.628	101.639	102.134	98.239	101.327
18:21	ZZZZZZ	89.758	91.914	86.199	94.706	102.503	100.298	98.033	102.185
18:26	ZZZZZZ	90.809	91.68	84.812	95.213	100.632	97.775	97.982	100.451
18:31	ZZZZZZ	93.402	97.764	95.812	93.723	99.926	100.979	92.29	100.238
18:36	MA47956-CCVA10	89.422	94.035	91.667	91.905	95.421	94.907	89.01	96.841
18:41	MA47956-CCB10	87.898	89.175	90.75	91.372	92.302	93.906	90.045	92.84
18:46	MP18781-S3	90.485	94.717	93.058	94.872	96.775	98.588	92.834	97.457
18:51	MP18781-S4	89.835	93.475	93.021	92.117	96.638	99.108	90.907	96.204
18:56	JC99822-1	89.77	94.894	93.176	92.611	97.24	97.81	90.521	96.861
19:01	MP18781-SD1	89.355	93.838	94.852	89.658	95.686	100.515	88.939	96.467
19:06	MP18781-PS1	89.691	94.777	93.761	90.918	97.569	98.482	89.759	97.225
19:11	MA47956-CCVA11	90.448	94.778	91.749	93.026	97.684	97.364	90.346	97.682
19:16	MA47956-CCB11	90.458	94.79	90.22	92.451	96.246	95.875	90.161	96.327
19:21	ZZZZZZ	85.217	89.738	84.623	92.401	102.226	100.258	96.76	102.008
19:26	ZZZZZZ	83.428	92.463	86.023	92.637	100.325	97.45	94.752	99.476
19:31	ZZZZZZ	82.612	89.201	84.216	91.413	95.415	96.718	91.616	96.19
19:36	ZZZZZZ	83.662	88.907	84.701	86.826	95.888	95.61	88.451	95.342
19:41	ZZZZZZ	83.301	87.89	78.138	90.818	93.349	89.453	91.752	94.19
19:46	ZZZZZZ	83.747	88.832	81.226	91.382	96.395	93.236	93.785	95.135
19:51	ZZZZZZ	83.285	88.076	82.402	90.997	96.483	92.996	92.984	96.826
19:56	MA47956-CCVA12	86.522	90.578	87.368	89.775	93.791	93.021	87.17	93.788
20:01	MA47956-CCB12	85.512	87.466	86.032	87.216	90.799	91.236	85.678	91.078
20:06	ZZZZZZ	84.359	86.34	80.805	89.481	95.116	92.772	91.407	95.873
20:11	ZZZZZZ	83.956	86.424	81.348	90.272	96.053	93.554	92.307	96.059
20:16	ZZZZZZ	83.199	87.967	82.262	90.268	96.763	94.173	92.172	94.704
20:21	ZZZZZZ	84.961	89.108	81.081	89.658	96.323	94.026	92.362	95.864
20:26	ZZZZZZ	85.033	88.801	81.234	90.402	96.082	93.571	91.603	95.89
20:31	ZZZZZZ	83.324	87.356	80.052	89.241	94.709	91.968	90.386	95.34
20:36	ZZZZZZ	85.562	86.26	80.407	90.083	94.173	92.321	93.173	94.821
20:41	ZZZZZZ	84.891	87.335	80.109	90.57	96.545	93.485	92.646	96.478
20:46	ZZZZZZ	85.82	87.589	80.573	89.988	94.764	92.123	90.799	95.478

INTERNAL STANDARD SUMMARY

Login Number: JC99822
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Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4	Istd#5	Istd#6	Istd#7	Istd#8
20:51	JC99822-2	No results reported for the elements associated with this internal standard.							
20:56	MA47956-CCVA13	86.544	90.068	88.851	89.387	93.203	93.258	87.038	93.014
21:01	MA47956-CCB13	85.111	88.002	85.519	86.346	90.353	90.719	84.922	90.465
21:06	MP18803A-S3	87.017	96.891	103.21	107.603	94.791	104.433	97.517	95.413
21:11	MP18803A-S4	91.583	102.938	105.684	99.546	100.657	105.702	91.774	100.434
21:16	JC99883-1	88.213	98.868	102.892	95.131	95.911	102.434	88.736	95.69
21:21	ZZZZZZ	83.721	91.204	88.302	89.26	89.998	88.986	83.74	89.791
21:26	ZZZZZZ	86.45	94.11	92.712	90.527	91.538	94.048	85.052	91.842
21:31	ZZZZZZ	82.96	90.454	88.986	88.65	89.421	91.522	84.365	89.057
21:36	MA47956-CCVA14	82.257	85.787	85.229	86.489	87.721	87.944	83.994	88.169
21:41	MA47956-CCB14	83.231	85.296	84.362	87.801	86.6	88.073	85.043	87.06
21:46	MP18784A-MB1	84.176	86.274	84.128	87.284	89.09	88.672	86.017	88.235
21:51	MP18784A-B2	83.932	86.321	83.886	87.959	88.537	88.243	86.071	88.956
21:56	MP18784A-S3	82.725	89.213	87.104	87.951	89.855	89.418	84.335	87.741
22:01	MP18784A-S4	84.171	90.434	87.373	90.871	91.646	90.621	86.617	88.649
22:06	JC99677-2Q	84.29	89.764	87.04	91.51	90.01	90.126	86.779	88.599
22:11	MP18784A-SD1	83.119	85.887	82.853	86.827	87.52	86.787	84.084	86.766
22:16	MA47956-CCVA15	82.589	86.701	84.872	87.252	87.921	88.861	84.221	88.647
22:21	MA47956-CCB15	81.928	84.245	81.04	84.888	85.225	85.875	82.702	85.84
22:26	ZZZZZZ	85.447	90.399	87.589	90.214	91.357	89.406	87.015	89.409
22:31	ZZZZZZ	84.541	95.58	93.98	97.646	93.121	94.745	90.646	89.35
22:36	ZZZZZZ	84.138	86.783	81.703	84.005	96.852	92.173	88.035	87.298
22:41	MA47956-CCVA16	75.243	77.84	76.72	81.971	79.646	80.663	80.335	79.718
22:46	MA47956-CCB16	75.383	76.913	74.974	81.311	78.912	79.268	78.653	78.668

! = Outside limits.

Istd#	Parameter	Limits	CCV/CCB Limits
Istd#1	Lithium	60-125 %	60-125 %
Istd#2	Scandium (45-1)	60-125 %	60-125 %
Istd#3	Scandium (45-2)	60-125 %	60-125 %
Istd#4	Scandium (45-3)	60-125 %	60-125 %
Istd#5	Germanium (72-1)	60-125 %	60-125 %
Istd#6	Germanium (72-2)	60-125 %	60-125 %
Istd#7	Germanium (72-3)	60-125 %	60-125 %
Istd#8	Germanium (74-1)	60-125 %	60-125 %

(a) No samples reported for the elements associated with this internal standard.

INTERNAL STANDARD SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#9	Istd#10	Istd#11	Istd#12	Istd#13	Istd#14	Istd#15	Istd#16
09:04	MA47956-STD1	No results reported for the elements associated with this internal standard.							
09:09	MA47956-STD2	No results reported for the elements associated with this internal standard.							
09:14	MA47956-STD3	No results reported for the elements associated with this internal standard.							
09:27	MA47956-STD4	102.931	101.165	96.671	99.916	99.179	97.717	102.914	97.209
09:32	MA47956-STD5	100.189	100.011	98.359	99.318	99.418	98.387	100.247	98.883
09:37	MA47956-STD6	99.005	99.006	99.802	98.516	99.762	98.994	99.042	99.132
09:43	MA47956-STD7	99.157	98.17	98.246	98.967	99.184	98.446	99.118	99.618
09:48	MA47956-STD8	99.917	97.668	98.186	98.232	98.777	98.116	98.75	99.98
09:53	MA47956-STD9	99.891	98.597	97.414	98.583	99.139	98.176	100.035	98.784
09:58	MA47956-STD10	99.182	98.757	97.327	97.566	99.046	97.266	99.165	97.454
10:03	MA47956-STD11	97.29	94.21	94.439	95.373	95.349	95.713	97.031	96.88
10:08	MA47956-STD12	96.646	93.282	93.52	94.079	94.007	94.309	96.288	96.009
10:15	MA47956-STD13	100	100	100	100	100	100	100	100
10:21	MA47956-ICVA1	No results reported for the elements associated with this internal standard.							
10:25	MA47956-ICVA2	101.158	98.194	99.732	99.01	97.066	101.462	99.749	103.437
10:31	MA47956-ICV1	96.944	91.251	95.63	95.356	93.073	96.734	98.368	96.641
10:41	MA47956-ICB1	102.163	100.047	101.016	101.966	100.616	101.169	102.498	101.11
10:46	MA47956-CCVA1	104.468	99.249	102.188	101.132	98.291	103.244	102.622	105.03
10:51	MA47956-CCB1	102.062	99.124	102.441	101.222	100.228	103.226	101.298	102.321
10:56	ZZZZZZ	97.287	89.346	96.597	95.211	91.789	97.205	98.907	95.481
11:01	MA47956-CRI1	101.995	99.65	102.838	101.234	101.05	103.381	101.17	102.812
11:08	MA47956-ICSA1	87.291	83.383	82.004	82.922	81.074	79.784	80.818	90.252
11:13	MA47956-ICSAB1	90.885	86.241	84.809	85.507	83.712	83.024	82.211	94.04
11:18	ZZZZZZ	89.721	89.56	91.635	90.924	93.581	93.701	91.771	96.012
11:23	MA47956-CCVA2	93.434	91.116	93.095	93.374	93.027	95.904	95.071	98.552
11:30	MA47956-CCB2	94.1	93.279	94.72	95.221	96.828	95.938	96.081	97.151
11:35	ZZZZZZ	95.567	104.517	94.46	93.497	97.371	95.434	93.006	97.987
11:40	MP18775A-MB1	No results reported for the elements associated with this internal standard.							
11:45	MP18775A-B2	No results reported for the elements associated with this internal standard.							
11:50	MP18781-MB1	102.758	109.052	99.411	98.104	103.59	102.632	95.389	104.016
11:55	MP18781-B2	106.507	114.509	102.198	100.031	104.521	104.094	97.486	106.823
12:00	ZZZZZZ	102.472	108.346	95.886	94.54	98.88	101.122	94.517	105.227
12:05	ZZZZZZ	105.678	106.242	98.896	96.893	98.804	103.057	96.164	107.092

INTERNAL STANDARD SUMMARY

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Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#9	Istd#10	Istd#11	Istd#12	Istd#13	Istd#14	Istd#15	Istd#16
12:10	ZZZZZZ	105.244	110.172	98.408	98.295	102.121	102.954	95.846	106.831
12:15	ZZZZZZ	109.169	114.975	106.366	103.766	109.421	108.936	98.499	109.883
12:20	MA47956-CCVA3	107.175	106.713	109.906	106.128	106.049	112.899	102.659	113.253
12:25	MA47956-CCB3	108.725	108.208	110.683	107.979	109.556	112.917	103.825	115.422
12:30	ZZZZZZ	104.124	107.257	97.759	96.082	98.995	101.713	93.603	105.875
12:35	ZZZZZZ	107.627	108.626	100.311	99.214	102.462	104.571	96.208	108.282
12:40	ZZZZZZ	106.28	108.948	98.619	97.017	101.489	103.536	94.9	108.189
12:46	ZZZZZZ	108.504	112.732	103.794	101.976	108.507	106.559	97.382	107.989
12:50	ZZZZZZ	97.612	93.03	90.39	87.119	86.784	96.779	88.187	100.945
12:56	ZZZZZZ	93.4	89.181	86.18	82.946	83.534	91.901	84.939	96.582
13:02	MA47956-CCVA4	96.17	95.638	98.107	94.824	96.31	100.69	94.203	102.767
13:07	MA47956-CCB4	95.555	96.265	99.75	96.57	100.31	101.812	95.44	101.786
13:12	ZZZZZZ	88.263	83.539	80.717	78.057	78.988	87.334	81.605	93.739
13:18	MP18781-S3	93.878	95.823	87.315	87.633	93.948	91.772	86.144	97.965
13:23	MP18781-S4	96.898	99.393	90.821	90.272	97.011	95.97	88.061	101.644
13:28	JC99822-1	96.89	98.569	93.712	91.4	97.697	98.019	88.947	102.51
13:33	MP18781-SD1	99.534	100.002	102.195	98.915	100.665	105.641	97.031	106.602
13:38	MP18781-PS1	100.169	101.048	95.622	94.391	98.581	101.458	91.548	104.358
13:43	ZZZZZZ	90.415	82.297	80.752	78.003	75.306	87.692	83.603	93.862
13:48	ZZZZZZ	88.76	88.795	80.838	80.322	84.092	87.432	83.715	94.449
13:53	ZZZZZZ	90.474	93.796	87.257	85.773	92.802	92.122	85.511	98.191
13:58	MA47956-CCVA5	94.225	95.271	96.187	93.029	97.423	99.094	93.418	102.049
14:03	MA47956-CCB5	95.081	96.706	97.779	95.474	99.498	100.494	94.715	101.287
14:08	ZZZZZZ	88.527	84.104	80.985	78.458	79.325	88.434	82.077	94.325
14:13	ZZZZZZ	89.473	90.814	84.52	82.454	86.619	90.36	84.601	96.756
14:18	ZZZZZZ	96.409	98.226	93.96	91.68	98.824	97.94	89.543	101.008
14:23	ZZZZZZ	96.651	99.731	92.165	90.23	97.947	97.082	89.59	101.376
14:28	ZZZZZZ	98.175	93.648	93.614	92.001	93.632	98.266	91.39	102.464
14:33	MA47956-CCVA6	92.797	91.819	94.668	91.502	93.338	98.798	91.983	101.055
14:38	MA47956-CCB6	91.525	91.309	94.914	92.742	95.555	98.116	91.849	99.162
14:43	ZZZZZZ	95.808	96.486	93.023	90.552	96.644	97.159	88.864	100.273
14:48	ZZZZZZ	92.268	92.776	86.922	86.044	90.58	91.99	85.543	97.566
14:53	ZZZZZZ	93.447	91.547	97.04	93.521	94.866	99.466	93.142	101.116

INTERNAL STANDARD SUMMARY

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Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#9	Istd#10	Istd#11	Istd#12	Istd#13	Istd#14	Istd#15	Istd#16
15:02	MP18803A-MB1	92.361	90.123	93.204	92.241	93.438	95.118	92.644	95.476
15:07	MP18803A-MB2	91.414	90.683	94.885	92.101	94.125	97.248	92.575	97.431
15:12	MP18803A-B2	91.98	90.201	93.979	91.486	92.131	97.294	92.434	99.852
15:17	MP18803A-B3	94.23	87.134	93.359	91.874	89.662	97.086	94.229	97.711
15:22	MP18803A-S3	115.417	92.193	96.323	93.428	80.253	101.097	102.979	99.156
15:27	MP18803A-S4	112.231	91.726	94.488	91.645	79.487	98.85	101.291	97.146
15:32	MA47956-CCVA7	111.005	97.734	108.234	102.891	95.369	109.472	106.297	105.209
15:38	MA47956-CCB7	89.067	84.05	88.185	88.028	86.973	89.485	90.642	90.42
15:43	JC99883-1	108.526	81.076	87.948	90.344	69.661	93.19	101.898	92.259
15:53	ZZZZZZ	87.976	82.455	81.304	82.61	80.044	85.638	89.856	88.072
15:58	ZZZZZZ	107.177	90.33	88.234	88.688	78.725	92.298	98.622	92.604
16:03	ZZZZZZ	110.391	91.672	93.935	91.544	80.631	98.836	102.355	96.81
16:13	ZZZZZZ	100.125	88.203	85.238	87.399	80.447	90.751	96.829	92.622
16:18	ZZZZZZ	112.118	92.682	91.84	91.887	79.499	95.525	103.804	93.702
16:23	ZZZZZZ	115.852	99.157	94.259	93.622	86.043	98.687	105.005	96.197
16:30	ZZZZZZ	112.011	96.63	95.084	93.104	85.487	99.813	103.929	97.59
16:36	ZZZZZZ	109.849	96.521	93.807	94.968	87.051	99.207	105.007	98.541
16:43	ZZZZZZ	97.954	90.569	98.114	95.147	92.435	99.796	98.776	97.309
16:48	MA47956-CCVA8	92.078	87.341	90.872	89.983	87.191	93.533	93.491	95.6
16:53	MA47956-CCB8	93.165	88.525	91.938	91.387	91.126	94.267	94.15	93.414
16:58	ZZZZZZ	95.896	90.267	95.594	94.427	92.461	97.99	97.228	96.658
17:03	ZZZZZZ	96.798	90.61	95.754	93.31	90.482	97.719	96.316	98.644
17:08	MP18786-S1	100.02	88.854	95.067	93.394	88.215	98.663	99.694	96.336
17:13	MP18786-S2	99.765	88.105	94.185	93.769	87.379	97.471	99.776	95.058
17:18	ZZZZZZ	99.182	88.097	94.637	93.727	87.218	98.414	99.526	96.217
17:23	JC99834-1	99.898	87.483	94.536	93.77	87.657	98.466	100.165	96.494
17:28	ZZZZZZ	No results reported for the elements associated with this internal standard.							
17:33	ZZZZZZ	100.905	96.397	91.77	90.265	90.814	94.251	90.815	97.115
17:38	MA47956-CCVA9	97.962	89.972	95.679	93.538	88.95	98.964	97.46	98.641
17:43	MA47956-CCB9	96.127	91.096	96.406	94.272	92.076	98.801	97.435	97.267
17:50	ZZZZZZ	105.805	97.678	94.527	92.389	94.574	96.647	92.485	96.936
17:55	MP18774-S1	100.839	91.381	98.861	96.035	91.418	101.315	100.344	99.51
18:01	MP18774-S2	99.878	89.757	97.055	94.943	89.651	99.97	99.216	97.942

INTERNAL STANDARD SUMMARY

Login Number: JC99822
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Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#9	Istd#10	Istd#11	Istd#12	Istd#13	Istd#14	Istd#15	Istd#16
18:06	JC99601-1	98.315	89.355	95.955	93.604	89.976	98.994	97.796	96.683
18:11	MP18774-SD1	99.065	88.566	95.588	94.418	88.506	98.531	99.564	94.67
18:16	ZZZZZZ	101.519	97.08	88.521	89.665	92.709	91.403	90.289	98.299
18:21	ZZZZZZ	99.502	97.231	92.66	89.869	93.248	96.325	90.286	98.408
18:26	ZZZZZZ	96.898	96.797	92.52	89.949	93.71	96.317	89.163	98.203
18:31	ZZZZZZ	100.555	91.979	98.308	95.344	92.461	101.851	99.391	99.782
18:36	MA47956-CCVA10	94.801	89.469	93.843	91.381	89.46	97.265	94.299	98.063
18:41	MA47956-CCB10	93.297	88.855	91.527	92.454	90.731	93.697	94.855	92.642
18:46	MP18781-S3	96.629	92.224	93.986	92.078	92.874	97.571	96.453	96.404
18:51	MP18781-S4	97.376	90.027	94.38	92.656	89.518	97.298	96.702	96.803
18:56	JC99822-1	97.408	90.012	95.198	92.871	89.429	97.969	96.57	95.996
19:01	MP18781-SD1	97.7	87.41	93.874	93.069	87.754	97.01	97.443	94.379
19:06	MP18781-PS1	96.959	89.472	94.652	92.4	88.832	97.523	96.796	95.237
19:11	MA47956-CCVA11	95.155	89.056	94.038	91.77	89.072	96.605	94.182	97.357
19:16	MA47956-CCB11	94.473	89.263	95.096	91.871	91.22	97.535	94.015	102.701
19:21	ZZZZZZ	98.731	94.195	85.739	83.984	85.557	90.749	86.063	93.678
19:26	ZZZZZZ	96.585	93.111	86.58	83.978	85.002	92.758	86.873	95.303
19:31	ZZZZZZ	93.81	91.652	83.291	82.299	83.609	89.513	85.441	93.519
19:36	ZZZZZZ	93.015	86.289	83.366	79.491	77.834	88.534	82.578	92.816
19:41	ZZZZZZ	88.397	90.587	84.874	78.533	84.806	89.203	79.312	93.002
19:46	ZZZZZZ	93.006	91.658	84.926	82.835	84.701	89.319	83.297	93.878
19:51	ZZZZZZ	92.766	91.591	85.001	82.638	84.19	90.003	84.016	94.027
19:56	MA47956-CCVA12	91.922	87.225	90.93	87.864	85.941	94.591	90.91	95.504
20:01	MA47956-CCB12	90.539	85.439	90.929	87.731	87.024	92.917	90.105	92.476
20:06	ZZZZZZ	92.233	90.159	85.248	82.07	84.351	89.038	83.316	92.952
20:11	ZZZZZZ	92.253	90.832	85.638	82.575	85.593	89.904	83.581	93.505
20:16	ZZZZZZ	93.072	91.413	83.928	81.559	84.184	88.249	82.715	92.031
20:21	ZZZZZZ	91.22	90.784	84.832	82.255	85.085	89.315	82.42	92.453
20:26	ZZZZZZ	92.454	90.513	84.81	82.355	84.53	89.679	82.807	92.989
20:31	ZZZZZZ	91.622	90.458	84.584	81.624	83.926	88.754	81.861	92.765
20:36	ZZZZZZ	91.109	92.261	87.899	85.259	90.177	91.904	84.908	92.874
20:41	ZZZZZZ	93.025	93.182	88.995	85.625	89.212	93.448	85.98	93.481
20:46	ZZZZZZ	91.577	90.315	86.375	83.548	87	91.706	84.581	93.342

INTERNAL STANDARD SUMMARY

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Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#9	Istd#10	Istd#11	Istd#12	Istd#13	Istd#14	Istd#15	Istd#16
20:51	JC99822-2	No results reported for the elements associated with this internal standard.							
20:56	MA47956-CCVA13	91.681	86.241	89.149	87.572	84.825	93.108	90.899	93.581
21:01	MA47956-CCB13	89.211	84.481	89.071	87.021	86.081	92.381	88.452	90.894
21:06	MP18803A-S3	102.949	96.115	85.845	89.496	91.465	91.441	97.212	91.228
21:11	MP18803A-S4	103.765	91.104	90.292	89.625	83.461	96.178	97.717	94.671
21:16	JC99883-1	99.413	87.883	86.782	87.061	80.593	91.913	95.681	90.51
21:21	ZZZZZZ	87.347	82.924	82.907	79.972	78.835	88.215	85.401	88.577
21:26	ZZZZZZ	92.907	84.286	85.098	83.531	79.903	89.016	88.908	88.598
21:31	ZZZZZZ	89.446	82.885	82.179	80.953	79.38	87.347	86.596	88.423
21:36	MA47956-CCVA14	87.383	82.957	85.107	83.541	82.385	88.519	86.457	89.042
21:41	MA47956-CCB14	87.035	84.076	86.701	85.235	84.576	88.866	87.333	88.024
21:46	MP18784A-MB1	87.83	85.144	87.118	84.699	85.144	89.606	86.72	88.49
21:51	MP18784A-B2	87.554	85.029	85.862	84.852	85.105	89.266	87.36	89.824
21:56	MP18784A-S3	87.06	82.368	85.644	83.838	81.919	89.078	86.522	90.388
22:01	MP18784A-S4	87.266	84.941	87.45	85.315	84.358	90.206	87.494	91.625
22:06	JC99677-2Q	87.731	84.243	87.042	84.964	84.555	90.318	87.81	91.403
22:11	MP18784A-SD1	85.442	83.107	86.026	81.501	82.778	89.269	85.415	88.166
22:16	MA47956-CCVA15	87.448	83.927	86.101	84.189	83.733	89.282	87.058	89.688
22:21	MA47956-CCB15	84.541	82.812	86.081	83.088	83.937	88.566	84.636	87.024
22:26	ZZZZZZ	87.551	84.37	87.54	84.345	84.599	90.629	86.931	90.498
22:31	ZZZZZZ	89.354	85.531	86.614	85.147	83.926	89.245	88.071	90.847
22:36	ZZZZZZ	84.686	81.018	84.533	80.943	79.659	87.821	83.523	90.993
22:41	MA47956-CCVA16	80.453	79.981	78.514	78.373	80.026	82.01	80.427	84.835
22:46	MA47956-CCB16	78.871	78.487	79.284	78.012	80.364	82.493	79.567	83.232

! = Outside limits.

Istd#	Parameter	Limits	CCV/CCB Limits
Istd#9	Germanium (74-2)	60-125 %	60-125 %
Istd#10	Germanium (74-3)	60-125 %	60-125 %
Istd#11	Rhodium (103-1)	60-125 %	60-125 %
Istd#12	Rhodium (103-2)	60-125 %	60-125 %
Istd#13	Rhodium (103-3)	60-125 %	60-125 %
Istd#14	Indium (115-1)	60-125 %	60-125 %
Istd#15	Indium (115-2)	60-125 %	60-125 %
Istd#16	Terbium (159-1)	60-125 %	60-125 %

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Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#17	Istd#18	Istd#19	Istd#20	Istd#21	Istd#22
09:04	MA47956-STD1	No results reported for the elements associated with this internal standard.					
09:09	MA47956-STD2	No results reported for the elements associated with this internal standard.					
09:14	MA47956-STD3	No results reported for the elements associated with this internal standard.					
09:27	MA47956-STD4	101.004	98.865	96.665	100.568	96.917	100.335
09:32	MA47956-STD5	99.457	99.298	98.021	99.595	99.484	100.056
09:37	MA47956-STD6	99.17	99.697	98.044	98.965	99.092	99.961
09:43	MA47956-STD7	99.488	100.059	99.197	99.374	100.297	100.085
09:48	MA47956-STD8	99.675	100.214	100.019	99.151	100.343	100.215
09:53	MA47956-STD9	99.596	100.296	98.587	99.825	98.119	100.17
09:58	MA47956-STD10	99.132	101.102	97.69	98.896	97.259	99.226
10:03	MA47956-STD11	98.471	98.65	96.643	97.789	94.87	95.637
10:08	MA47956-STD12	98.279	98.259	95.204	97.983	92.84	94.544
10:15	MA47956-STD13	100	100	100	100	100	100
10:21	MA47956-ICVA1	No results reported for the elements associated with this internal standard.					
10:25	MA47956-ICVA2	101.462	100.144	103.533	102.008	100.309	99.724
10:31	MA47956-ICV1	96.548	93.61	96.231	96.943	96.752	97.17
10:41	MA47956-ICB1	100.488	99.192	100.117	101.303	99.619	101.214
10:46	MA47956-CCVA1	102.816	100.346	104.173	102.954	102.091	100.188
10:51	MA47956-CCB1	100.343	99.777	102.128	100.953	101.285	100.614
10:56	ZZZZZZ	95.871	92.561	95.051	96.308	96.438	96.309
11:01	MA47956-CRI1	100.502	100.298	102.139	100.797	101.759	100.579
11:08	MA47956-ICSA1	90.804	89.677	89.712	91.344	83.589	84.181
11:13	MA47956-ICSAB1	92.521	92.399	93.253	93.53	86.353	86.394
11:18	ZZZZZZ	93.568	95.513	95.905	93.957	96.148	95.32
11:23	MA47956-CCVA2	97.14	96.975	97.866	98.099	98.044	96.108
11:30	MA47956-CCB2	96.278	97.34	96.945	97.515	97.521	97.785
11:35	ZZZZZZ	95.708	98.808	97.808	96.032	97.995	97.211
11:40	MP18775A-MB1	No results reported for the elements associated with this internal standard.					
11:45	MP18775A-B2	No results reported for the elements associated with this internal standard.					
11:50	MP18781-MB1	98.229	104.295	104.123	99.114	102.029	97.81
11:55	MP18781-B2	100.743	105.945	106.732	101.634	102.391	99.202
12:00	ZZZZZZ	98.626	103.302	103.715	100.412	97.504	93.314
12:05	ZZZZZZ	101.018	103.816	107.771	102.935	99.172	96.555

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Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#17	Istd#18	Istd#19	Istd#20	Istd#21	Istd#22
12:10	ZZZZZZ	100.333	105.249	106.079	101.889	100.659	97.595
12:15	ZZZZZZ	101.054	107.889	109.055	101.678	105.512	100.284
12:20	MA47956-CCVA3	104.606	105.958	112.951	105.744	108.343	102.657
12:25	MA47956-CCB3	102.611	106.142	110.109	104.348	107.92	103.156
12:30	ZZZZZZ	98.584	103.067	106.512	99.264	99.095	94.576
12:35	ZZZZZZ	100.79	106.068	107.753	102.695	100.429	96.842
12:40	ZZZZZZ	99.055	105.044	107.412	101.047	99.263	94.403
12:46	ZZZZZZ	100.543	107.422	107.948	101.72	104.509	99.624
12:50	ZZZZZZ	92.993	93.959	100.371	94.174	88.646	84.605
12:56	ZZZZZZ	90.041	91.616	97.036	91.929	85.463	81.614
13:02	MA47956-CCVA4	97.18	99.616	102.518	98.661	99.918	95.689
13:07	MA47956-CCB4	96.479	99.873	101.108	97.509	101.012	97.336
13:12	ZZZZZZ	87.697	88.74	94.377	89.175	81.524	78.155
13:18	MP18781-S3	92.846	100.322	98.496	94.689	93.441	90.993
13:23	MP18781-S4	94.312	101.791	101.889	95.926	96.659	92.258
13:28	JC99822-1	94.687	102.643	103.029	97.027	97.375	92.543
13:33	MP18781-SD1	98.819	101.984	107.151	100.141	104.586	99.432
13:38	MP18781-PS1	96.91	102.601	105.413	99.016	98.394	94.418
13:43	ZZZZZZ	87.582	85.038	93.186	89.567	78.196	75.536
13:48	ZZZZZZ	89.629	93.608	93.973	91.644	84.909	83.024
13:53	ZZZZZZ	92.337	99.786	99.828	95.635	93.686	90.882
13:58	MA47956-CCVA5	97.484	100.472	102.565	99.213	99.776	96.753
14:03	MA47956-CCB5	95.404	99.901	100.516	96.971	100.16	97.061
14:08	ZZZZZZ	87.715	89.833	94.306	89.162	81.071	77.213
14:13	ZZZZZZ	90.842	95.37	99.352	93.538	89.435	85.999
14:18	ZZZZZZ	93.965	101.794	101.256	95.179	98.875	93.97
14:23	ZZZZZZ	95.282	102.881	102.272	97.76	97.486	94.088
14:28	ZZZZZZ	95.801	97.654	103.87	98.549	98.745	95.651
14:33	MA47956-CCVA6	95.712	97.388	101.827	96.969	97.891	94.728
14:38	MA47956-CCB6	93.199	95.95	99.028	93.867	98.503	94.242
14:43	ZZZZZZ	92.93	99.92	100.609	95.112	96.949	92.964
14:48	ZZZZZZ	91.602	97.667	97.833	93.204	91.53	87.531
14:53	ZZZZZZ	94.135	96.531	100.527	95.514	100.056	96.125

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Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#17	Istd#18	Istd#19	Istd#20	Istd#21	Istd#22
15:02	MP18803A-MB1	92.728	94.055	95.248	93.467	96.099	94.543
15:07	MP18803A-MB2	93.276	95.674	97.872	94.517	97.16	94.669
15:12	MP18803A-B2	94.704	95.309	99.189	95.701	97.446	94.796
15:17	MP18803A-B3	94.416	92.541	97.926	95.528	97.297	96.277
15:22	MP18803A-S3	97.013	84.502	98.726	97.77	79.379	79.116
15:27	MP18803A-S4	95.766	83.776	96.082	96.759	77.657	78.037
15:32	MA47956-CCVA7	102.884	97.028	103.932	103.838	97.88	98.841
15:38	MA47956-CCB7	89.586	88.954	89.727	90.181	89.662	90.447
15:43	JC99883-1	95.257	73.192	90.99	96.133	74.23	77.419
15:53	ZZZZZZ	90.872	87.182	87.141	91.73	81.773	85.955
15:58	ZZZZZZ	93.853	82.99	91.98	95.332	75.574	77.883
16:03	ZZZZZZ	97.202	85.938	96.066	98.89	79.345	80.894
16:13	ZZZZZZ	95.478	87.344	97.589	102.416	79.053	82.852
16:18	ZZZZZZ	95.116	83.258	92.879	96.112	76.226	78.018
16:23	ZZZZZZ	97.727	89.35	95.191	98.519	77.627	79.766
16:30	ZZZZZZ	98.124	89.584	96.974	98.703	79.925	82.051
16:36	ZZZZZZ	100.296	91.866	97.408	100.901	84.817	87.89
16:43	ZZZZZZ	96.041	93.027	96.87	97.142	96.343	96.085
16:48	MA47956-CCVA8	94.236	91.286	94.531	96.059	92.506	92.676
16:53	MA47956-CCB8	92.451	91.887	93.784	94.117	93.329	93.321
16:58	ZZZZZZ	94.906	92.129	96.565	96.122	95.543	95.825
17:03	ZZZZZZ	96.084	93.754	98.009	97.435	95.894	95.303
17:08	MP18786-S1	95.052	90.162	95.595	96.649	94.157	94.958
17:13	MP18786-S2	95.781	89.237	94.006	96.511	93.563	94.594
17:18	ZZZZZZ	94.992	89.227	95.587	96.003	93.765	94.774
17:23	JC99834-1	95.375	88.882	95.742	96.747	93.527	95.074
17:28	ZZZZZZ	No results reported for the elements associated with this internal standard.					
17:33	ZZZZZZ	93.358	94.151	97.221	94.212	93.72	92.347
17:38	MA47956-CCVA9	96.661	91.318	98.176	98.038	94.334	94.912
17:43	MA47956-CCB9	94.602	91.802	95.623	96.06	94.711	95.368
17:50	ZZZZZZ	93.66	95.26	96.875	95.051	93.936	93.379
17:55	MP18774-S1	96.863	91.991	98.317	97.864	96.755	96.985
18:01	MP18774-S2	95.818	91.416	96.212	97.069	95.22	96.125

INTERNAL STANDARD SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#17	Istd#18	Istd#19	Istd#20	Istd#21	Istd#22
18:06	JC99601-1	94.76	90.241	94.95	95.366	95.034	94.959
18:11	MP18774-SD1	94.548	88.455	94.378	94.948	94.058	95.139
18:16	ZZZZZZ	92.127	94.822	92.116	92.756	90.211	91.335
18:21	ZZZZZZ	93.502	96.081	97.862	94.686	95.623	92.916
18:26	ZZZZZZ	92.254	96.477	97.772	93.9	95.833	92.47
18:31	ZZZZZZ	95.833	93.192	98.636	96.961	96.58	96.793
18:36	MA47956-CCVA10	94.184	92.19	97.497	95.327	93.701	92.378
18:41	MA47956-CCB10	92.991	90.356	91.906	93.605	91.291	93.394
18:46	MP18781-S3	93.94	98.386	95.438	94.882	94.81	94.275
18:51	MP18781-S4	93.772	90.459	95.677	94.913	94.23	94.443
18:56	JC99822-1	93.966	90.026	95.192	94.569	94.515	94.444
19:01	MP18781-SD1	93.239	87.703	92.29	94.563	93.152	93.96
19:06	MP18781-PS1	93.756	89.687	94.265	94.853	93.61	94.499
19:11	MA47956-CCVA11	94.306	90.601	96.385	95.027	92.9	92.221
19:16	MA47956-CCB11	91.863	90.114	94.468	92.329	93.349	91.593
19:21	ZZZZZZ	89.29	91.117	93.15	90.802	85.256	83.032
19:26	ZZZZZZ	90.238	91.25	94.606	92.348	86.096	83.628
19:31	ZZZZZZ	89.788	90.721	94.761	92.181	82.661	82.312
19:36	ZZZZZZ	87.299	84.408	91.912	89.014	80.751	78.753
19:41	ZZZZZZ	83.615	90.127	92.393	84.193	84.777	79.453
19:46	ZZZZZZ	87.84	90.188	94.048	89.089	85.325	82.498
19:51	ZZZZZZ	88.338	89.507	93.943	89.699	85.375	83.141
19:56	MA47956-CCVA12	90.819	88.674	94.731	92.048	90.74	89.329
20:01	MA47956-CCB12	88.405	87.186	91.19	88.942	89.762	88.428
20:06	ZZZZZZ	86.945	88.577	92.705	88.313	86.86	83.433
20:11	ZZZZZZ	86.964	89.783	93.805	88.848	86.61	83.518
20:16	ZZZZZZ	87.067	88.721	91.788	88.165	82.754	80.765
20:21	ZZZZZZ	87.056	88.542	92.118	88.506	84.062	81.95
20:26	ZZZZZZ	86.907	88.842	92.812	88.68	84.562	81.6
20:31	ZZZZZZ	87.333	90.23	91.677	88.377	84.484	82.267
20:36	ZZZZZZ	87.038	91.619	92.768	88.224	90.037	86.633
20:41	ZZZZZZ	88.024	91.165	93.137	89.116	89.756	87.095
20:46	ZZZZZZ	87.483	90.947	92.416	89.366	87.994	85.246

INTERNAL STANDARD SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47956
Parameters: As

Time	Sample Description	Istd#17	Istd#18	Istd#19	Istd#20	Istd#21	Istd#22
20:51	JC99822-2	No results reported for the elements associated with this internal standard.					
20:56	MA47956-CCVA13	90.453	86.778	93.385	91.291	89.134	88.743
21:01	MA47956-CCB13	87.199	86.265	89.999	87.932	88.309	87.253
21:06	MP18803A-S3	93.887	95.845	89.814	94.941	80.6	85.182
21:11	MP18803A-S4	94.274	87.142	93.399	95.85	82.934	85.057
21:16	JC99883-1	91.299	83.545	88.291	92.081	79.158	82.179
21:21	ZZZZZZ	84.834	83.609	87.316	86.154	77.855	77.552
21:26	ZZZZZZ	88.157	83.671	87.541	88.64	78.914	79.947
21:31	ZZZZZZ	86.646	83.966	87.775	87.94	78.623	79.302
21:36	MA47956-CCVA14	86.596	84.761	88.023	87.281	84.433	84.976
21:41	MA47956-CCB14	85.872	84.526	86.97	87.099	86.295	86.202
21:46	MP18784A-MB1	85.439	85.317	87.504	86.324	87.852	86.513
21:51	MP18784A-B2	86.817	86.49	89.14	88.245	86.415	85.908
21:56	MP18784A-S3	87.962	84.693	94.293	93.097	87.179	86.692
22:01	MP18784A-S4	88.637	86.939	94.539	94.328	87.563	87.252
22:06	JC99677-2Q	88.19	86.53	94.914	93.353	87.688	87.331
22:11	MP18784A-SD1	83.207	83.484	88.262	84.397	86.515	83.706
22:16	MA47956-CCVA15	87.206	85.694	89.019	88.458	85.355	85.305
22:21	MA47956-CCB15	84.007	84.102	86.145	84.966	84.99	84.242
22:26	ZZZZZZ	86.881	86.566	93.576	91.997	88.327	86.439
22:31	ZZZZZZ	89.397	86.968	98.909	100.307	84.622	86.149
22:36	ZZZZZZ	87	85.593	112.4	109.644	82.872	82.013
22:41	MA47956-CCVA16	82.528	83.564	84.617	83.829	81.363	81.812
22:46	MA47956-CCB16	79.69	81.93	82.629	80.885	81.704	80.83

! = Outside limits.

LEGEND:			CCV/CCB
Istd#	Parameter	Limits	Limits
Istd#17	Terbium (159-2)	60-125 %	60-125 %
Istd#18	Terbium (159-3)	60-125 %	60-125 %
Istd#19	Holmium (165-1)	60-125 %	60-125 %
Istd#20	Holmium (165-2)	60-125 %	60-125 %
Istd#21	Bismuth (209-1)	60-125 %	60-125 %
Istd#22	Bismuth (209-2)	60-125 %	60-125 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
QC Limits: result < 1/2 RL Run ID: MA47956 Units: ug/l

Time:				10:41		10:51		11:30	
Sample ID:				ICB1		CCB1		CCB2	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Aluminum	25	.28	20						
Antimony	2.0	.094	1.5						
Arsenic	0.50	.013	1.0	-0.00389	<1.5	0.0151	<1.5	0.000207	<1.5
Barium	1.0	.008	0.50						
Beryllium	0.50	.004	0.25						
Boron	25	.65	20						
Cadmium	0.50	.004	2.0						
Calcium	250	6.1	50						
Chromium	1.0	.014	3.0						
Cobalt	0.50	.002	0.25						
Copper	2.0	.021	4.0						
Iron	25	.43	13						
Lead	0.50	.009	1.0						
Magnesium	250	.15	130						
Manganese	1.0	.007	1.0						
Molybdenum	1.0	.015	0.50						
Nickel	1.0	.017	3.0						
Potassium	250	.71	50						
Selenium	0.50	.072	0.50						
Silver	0.50	.004	0.50						
Sodium	250	1	100						
Strontium	5.0	.003	5.0						
Thallium	0.50	.004	0.50						
Tin	5.0	.071	2.5						
Titanium	1.0	.035	1.0						
Vanadium	1.0	.009	1.0						
Zinc	5.0	.029	7.5						

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
QC Limits: result < 1/2 RL Run ID: MA47956 Units: ug/l

Time: / Sample ID:				12:25 CCB3		13:07 CCB4		14:03 CCB5	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Aluminum	25	.28	20						
Antimony	2.0	.094	1.5						
Arsenic	0.50	.013	1.0	0.00318	<1.5	0.00538	<1.5	0.0148	<1.5
Barium	1.0	.008	0.50						
Beryllium	0.50	.004	0.25						
Boron	25	.65	20						
Cadmium	0.50	.004	2.0						
Calcium	250	6.1	50						
Chromium	1.0	.014	3.0						
Cobalt	0.50	.002	0.25						
Copper	2.0	.021	4.0						
Iron	25	.43	13						
Lead	0.50	.009	1.0						
Magnesium	250	.15	130						
Manganese	1.0	.007	1.0						
Molybdenum	1.0	.015	0.50						
Nickel	1.0	.017	3.0						
Potassium	250	.71	50						
Selenium	0.50	.072	0.50						
Silver	0.50	.004	0.50						
Sodium	250	1	100						
Strontium	5.0	.003	5.0						
Thallium	0.50	.004	0.50						
Tin	5.0	.071	2.5						
Titanium	1.0	.035	1.0						
Vanadium	1.0	.009	1.0						
Zinc	5.0	.029	7.5						

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
QC Limits: result < 1/2 RL Run ID: MA47956 Units: ug/l

Time: / Sample ID:				14:38 CCB6		15:38 CCB7		16:53 CCB8	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Aluminum	25	.28	20						
Antimony	2.0	.094	1.5						
Arsenic	0.50	.013	1.0	0.0111	<1.5	0.00475	<1.5	0.00476	<1.0
Barium	1.0	.008	0.50						
Beryllium	0.50	.004	0.25						
Boron	25	.65	20						
Cadmium	0.50	.004	2.0						
Calcium	250	6.1	50						
Chromium	1.0	.014	3.0						
Cobalt	0.50	.002	0.25						
Copper	2.0	.021	4.0						
Iron	25	.43	13						
Lead	0.50	.009	1.0						
Magnesium	250	.15	130						
Manganese	1.0	.007	1.0						
Molybdenum	1.0	.015	0.50						
Nickel	1.0	.017	3.0						
Potassium	250	.71	50						
Selenium	0.50	.072	0.50						
Silver	0.50	.004	0.50						
Sodium	250	1	100						
Strontium	5.0	.003	5.0						
Thallium	0.50	.004	0.50						
Tin	5.0	.071	2.5						
Titanium	1.0	.035	1.0						
Vanadium	1.0	.009	1.0						
Zinc	5.0	.029	7.5						

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
QC Limits: result < 1/2 RL Run ID: MA47956 Units: ug/l

Time: / Sample ID:				17:43 CCB9		18:41 CCB10		19:16 CCB11	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Aluminum	25	.28	20						
Antimony	2.0	.094	1.5						
Arsenic	0.50	.013	1.0	0.0180	<1.0	-0.00362	<1.5	0.0216	<1.5
Barium	1.0	.008	0.50						
Beryllium	0.50	.004	0.25						
Boron	25	.65	20						
Cadmium	0.50	.004	2.0						
Calcium	250	6.1	50						
Chromium	1.0	.014	3.0						
Cobalt	0.50	.002	0.25						
Copper	2.0	.021	4.0						
Iron	25	.43	13						
Lead	0.50	.009	1.0						
Magnesium	250	.15	130						
Manganese	1.0	.007	1.0						
Molybdenum	1.0	.015	0.50						
Nickel	1.0	.017	3.0						
Potassium	250	.71	50						
Selenium	0.50	.072	0.50						
Silver	0.50	.004	0.50						
Sodium	250	1	100						
Strontium	5.0	.003	5.0						
Thallium	0.50	.004	0.50						
Tin	5.0	.071	2.5						
Titanium	1.0	.035	1.0						
Vanadium	1.0	.009	1.0						
Zinc	5.0	.029	7.5						

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
QC Limits: 90 to 110 % Recovery Run ID: MA47956 Units: ug/l

Time:		10:25			10:31			10:46	
Sample ID:	ICVA	ICVA2		ICV	ICV1		CCVA	CCVA1	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum									
Antimony	anr								
Arsenic	60	59.9	99.8				50	50.9	101.8
Barium									
Beryllium	anr								
Boron									
Cadmium	anr								
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	anr								
Magnesium									
Manganese	anr								
Molybdenum									
Nickel									
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium									
Zinc									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
QC Limits: 90 to 110 % Recovery Run ID: MA47956 Units: ug/l

Time:		11:23			12:20			13:02	
Sample ID:	CCVA	CCVA2		CCVA	CCVA3		CCVA	CCVA4	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum									
Antimony	anr								
Arsenic	50	53.0	106.0	50	52.1	104.2	50	52.5	105.0
Barium									
Beryllium	anr								
Boron									
Cadmium	anr								
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	anr								
Magnesium									
Manganese	anr								
Molybdenum									
Nickel									
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium									
Zinc									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
QC Limits: 90 to 110 % Recovery Run ID: MA47956 Units: ug/l

Time:		13:58			14:33			15:32	
Sample ID:	CCVA	CCVA5		CCVA	CCVA6		CCVA	CCVA7	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum									
Antimony	anr								
Arsenic	50	52.3	104.6	50	51.8	103.6	50	49.8	99.6
Barium									
Beryllium	anr								
Boron									
Cadmium	anr								
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	anr								
Magnesium									
Manganese	anr								
Molybdenum									
Nickel									
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium									
Zinc									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
QC Limits: 90 to 110 % Recovery Run ID: MA47956 Units: ug/l

Time:		16:48			17:38			18:36	
Sample ID:	CCVA	CCVA8		CCVA	CCVA9		CCVA	CCVA10	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum									
Antimony	anr								
Arsenic	50	51.9	103.8	50	51.0	102.0	50	51.0	102.0
Barium									
Beryllium	anr								
Boron									
Cadmium	anr								
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	anr								
Magnesium									
Manganese	anr								
Molybdenum									
Nickel									
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium									
Zinc									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
QC Limits: 90 to 110 % Recovery Run ID: MA47956 Units: ug/l

Time:		19:11	
Sample ID:	CCVA	CCVA11	
Metal	True	Results	% Rec
Aluminum			
Antimony	anr		
Arsenic	50	51.5	103.0
Barium			
Beryllium	anr		
Boron			
Cadmium	anr		
Calcium			
Chromium			
Cobalt			
Copper			
Iron			
Lead	anr		
Magnesium			
Manganese	anr		
Molybdenum			
Nickel			
Potassium	anr		
Selenium	anr		
Silver	anr		
Sodium	anr		
Strontium			
Thallium	anr		
Tin			
Titanium			
Vanadium			
Zinc			

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
QC Limits: 80 to 120 % Recovery Run ID: MA47956 Units: ug/l

Time:			11:01	
Sample ID:	CRI	CRIA	CRI1	
Metal	True	True	Results	% Rec
Aluminum	25	25		
Antimony	2.0	0.25	anr	
Arsenic	0.50	0.50	0.497	99.4
Barium	1.0	0.50		
Beryllium	0.50	0.25	anr	
Boron	25	2.5		
Cadmium	0.50	0.25	anr	
Calcium	250	125		
Chromium	1.0	2.0		
Cobalt	0.50	0.25		
Copper	2.0	2.0		
Iron	25	25		
Lead	0.50	0.25	anr	
Magnesium	250	125		
Manganese	1.0	0.25	anr	
Molybdenum	1.0	0.50		
Nickel	1.0	2.0		
Potassium	250	125	anr	
Selenium	0.50	0.50	anr	
Silver	0.50	1.0	anr	
Sodium	250	125	anr	
Strontium	5.0	0.50		
Thallium	0.50	0.25	anr	
Tin	5.0	0.50		
Titanium	1.0	0.50		
Vanadium	1.0	2.0		
Zinc	5.0	2.0		

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121219M1L.CSV Date Analyzed: 12/12/19 Methods: EPA 200.8, SW846 6020B
QC Limits: 80 to 120 % Recovery Run ID: MA47956 Units: ug/l

Time:			11:08		11:13	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1	
Metal	True	True	Results	% Rec	Results	% Rec
Aluminum	100000	100000	91200	91.2	90200	90.2
Antimony			0.129		0.144	
Arsenic		20	0.0484		20.1	100.5
Barium			0.174		0.191	
Beryllium			-0.0000885		0.000658	
Boron		50	1.13		49.4	98.8
Cadmium		20	-0.181		20.1	100.5
Calcium	100000	100000	89800	89.8	89500	89.5
Chromium		20	0.232		19.8	99.0
Cobalt		20	0.167		19.1	95.5
Copper		20	-0.250		17.7	88.5
Iron	100000	100000	85800	85.8	86400	86.4
Lead			0.0988		0.0905	
Magnesium	100000	100000	85200	85.2	85600	85.6
Manganese		20	0.373		20.0	100.0
Molybdenum	2000	2000	2000	100.0	2000	100.0
Nickel		20	0.483		18.5	92.5
Potassium	100000	100000	91700	91.7	93200	93.2
Selenium		20	0.0879		21.0	105.0
Silver		20	0.0299		20.9	104.5
Sodium	100000	100000	83600	83.6	84600	84.6
Strontium	2000	2000	1970	98.5	2020	101.0
Thallium			0.00412		0.00334	
Tin	2000	2000	1840	92.0	1910	95.5
Titanium	2000	2000	1710	85.5	1720	86.0
Vanadium		20	-0.0904		20.3	101.5
Zinc		20	-0.169		17.1	85.5

(*) Outside of QC limits
(anr) Analyte not requested

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121619M1L.CSV Date Analyzed: 12/16/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47968
Parameters: As

Time	Sample Description	Dilution Factor	PS Recov	Comments
09:31	MA47968-STD1	1		See rerun, analytical problems
09:36	MA47968-STD2	1		See rerun, analytical problems
09:41	MA47968-STD3	1		See rerun, analytical problems
09:46	MA47968-STD4	1		STDB
09:51	MA47968-STD5	1		STDC
09:56	MA47968-STD6	1		STDD
10:01	MA47968-STD7	1		STDE
10:06	MA47968-STD8	1		STDF
10:11	MA47968-STD9	1		STDG
10:16	MA47968-STD10	1		STDH
10:21	MA47968-STD11	1		STDI
10:26	MA47968-STD12	1		STDJ
10:32	MA47968-STD13	1		STDA
10:40	MA47968-ICVA1	1		
10:45	MA47968-ICV1	1		60ppb Al.
10:51	MA47968-ICB1	1		
10:56	MA47968-CCVA1	1		
11:01	MA47968-CCB1	1		
11:06	MA47968-CRI1	1		
11:14	MA47968-ICSA1	1		
11:19	MA47968-ICSAB1	1		
11:24	ZZZZZZ	1		
11:29	MA47968-CCVA2	1		
11:34	MA47968-CCB2	1		
11:45	ZZZZZZ	2		
11:51	ZZZZZZ	2		
11:55	ZZZZZZ	5		
12:08	ZZZZZZ	1		
12:13	ZZZZZZ	5		
12:18	ZZZZZZ	5		
12:24	ZZZZZZ	25		
12:37	ZZZZZZ	2		
12:42	ZZZZZZ	2		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121619M1L.CSV Date Analyzed: 12/16/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47968
Parameters: As

	Time	Sample Description	Dilution Factor	PS Recov	Comments
	12:47	MA47968-CCVA3	1		
	12:52	MA47968-CCB3	1		
	12:57	JC99822-2	50		
---------->		Last reportable sample/prep for job JC99822			
	13:02	ZZZZZZ	1		
	13:07	ZZZZZZ	1		
	13:13	ZZZZZZ	2		
	13:17	ZZZZZZ	5		
	13:23	ZZZZZZ	1		
	13:28	ZZZZZZ	2		
	13:33	ZZZZZZ	5		
	13:38	MA47968-CCVA4	1		
	13:43	MA47968-CCB4	1		
---------->		Last reportable CCB for job JC99822			
	13:48	MP18787-MB1	2		
	14:00	MP18787-B1	2		
	14:05	MP18787-S1	2		
	14:10	MP18787-S2	2		
	14:15	JC99838-7	2		(sample used for QC only; not part of login JC99822)
	14:20	MP18787-SD1	10		
	14:26	ZZZZZZ	2		
	14:31	ZZZZZZ	2		
	14:41	ZZZZZZ	1		
	14:46	MA47968-CCVA5	1		
	14:58	MA47968-CCB5	1		
	15:04	ZZZZZZ	2		
	15:09	ZZZZZZ	2		
	15:14	ZZZZZZ	2		
	15:19	ZZZZZZ	2		
	15:24	MP18787-S1	10		Ca
	15:29	MP18787-S2	10		Ca
	15:34	JC99838-7	10		(sample used for QC only; not part of login JC99822)
	15:39	MP18787-SD1	50		Ca
	15:44	ZZZZZZ	10		
	15:50	MA47968-CCVA6	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121619M1L.CSV Date Analyzed: 12/16/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47968
Parameters: As

Time	Sample Description	Dilution Factor	PS Recov	Comments
16:14	MA47968-CCB6	1		
16:22	ZZZZZZ	10		
16:27	ZZZZZZ	20		
16:32	ZZZZZZ	200		
16:37	ZZZZZZ	50		
16:42	ZZZZZZ	20		
16:47	ZZZZZZ	100		
16:52	ZZZZZZ	20		
16:57	ZZZZZZ	20		
17:02	ZZZZZZ	20		
17:18	MA47968-CCVA7	1		
17:26	MA47968-CCB7	1		
18:02	ZZZZZZ	25		
18:07	ZZZZZZ	10		
18:12	MA47968-CCVA8	1		
18:17	MA47968-CCB8	1		
18:22	MP18789A-MB1	2		
18:27	ZZZZZZ	2		
18:32	MP18789A-B2	2		
18:37	MP18789A-S3	2		
18:42	MP18789A-S4	2		
18:47	MA47968-CCVA9	1		
18:52	MA47968-CCB9	1		
18:57	JC99663-2	2		(sample used for QC only; not part of login JC99822)
19:02	MP18789A-SD1	2		
19:07	ZZZZZZ	2		
19:12	ZZZZZZ	2		
19:17	ZZZZZZ	2		
19:22	ZZZZZZ	2		
19:27	ZZZZZZ	2		
19:32	ZZZZZZ	2		
19:37	ZZZZZZ	2		
19:42	MA47968-CCVA10	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121619M1L.CSV Date Analyzed: 12/16/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47968
Parameters: As

Time	Sample Description	Dilution Factor	PS Recov	Comments
19:47	MA47968-CCB10	1		
19:52	ZZZZZZ	2		
19:57	ZZZZZZ	2		
20:02	ZZZZZZ	2		
20:07	ZZZZZZ	2		
20:12	ZZZZZZ	2		
20:17	ZZZZZZ	2		
20:22	ZZZZZZ	2		
20:27	MA47968-CCVA11	1		
20:32	MA47968-CCB11	1		
20:37	MP18816-MB1	1		
20:42	MP18816-B1	1		
20:47	MP18816-S1	1		
20:52	MP18816-S2	1		
20:57	MA47968-CCVA12	1		
21:02	MA47968-CCB12	1		
21:07	JC99655-1	1		(sample used for QC only; not part of login JC99822)
21:12	ZZZZZZ	1		
21:17	ZZZZZZ	1		
21:23	ZZZZZZ	1		
21:28	ZZZZZZ	1		
21:33	ZZZZZZ	1		
21:38	ZZZZZZ	1		
21:43	ZZZZZZ	1		
21:48	ZZZZZZ	1		
21:53	ZZZZZZ	1		
21:58	MA47968-CCVA13	1		
22:03	MA47968-CCB13	1		
22:08	ZZZZZZ	1		
22:13	ZZZZZZ	1		
22:18	ZZZZZZ	1		

Refer to raw data for calibration curve and standards.

REPORTED ELEMENTS SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121619M1L.CSV Date Analyzed: 12/16/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47968
Parameters: As

Time	Sample Description	Element: Dilution	As
10:40	MA47968-ICVA1	1	X
10:45	MA47968-ICV1	1	
10:51	MA47968-ICB1	1	X
10:56	MA47968-CCVA1	1	X
11:01	MA47968-CCB1	1	X
11:06	MA47968-CRI1	1	X
11:14	MA47968-ICSA1	1	X
11:19	MA47968-ICSAB1	1	X
11:24	ZZZZZZ	1	
11:29	MA47968-CCVA2	1	X
11:34	MA47968-CCB2	1	X
11:45	ZZZZZZ	2	
11:51	ZZZZZZ	2	
11:55	ZZZZZZ	5	
12:08	ZZZZZZ	1	
12:13	ZZZZZZ	5	
12:18	ZZZZZZ	5	
12:24	ZZZZZZ	25	
12:37	ZZZZZZ	2	
12:42	ZZZZZZ	2	
12:47	MA47968-CCVA3	1	X
12:52	MA47968-CCB3	1	X
12:57	JC99822-2	50	X
13:02	ZZZZZZ	1	
13:07	ZZZZZZ	1	
13:13	ZZZZZZ	2	
13:17	ZZZZZZ	5	
13:23	ZZZZZZ	1	
13:28	ZZZZZZ	2	
13:33	ZZZZZZ	5	
13:38	MA47968-CCVA4	1	X
13:43	MA47968-CCB4	1	X
13:48	MP18787-MB1	2	
		Element:	As

REPORTED ELEMENTS SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121619M1L.CSV Date Analyzed: 12/16/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47968
Parameters: As

Time	Sample Description	Element: Dilution	As	
14:00	MP18787-B1	2		
14:05	MP18787-S1	2		
14:10	MP18787-S2	2		
14:15	JC99838-7	2		(a)
14:20	MP18787-SD1	10		
14:26	ZZZZZZ	2		
14:31	ZZZZZZ	2		
14:41	ZZZZZZ	1		
14:46	MA47968-CCVA5	1	X	
14:58	MA47968-CCB5	1	X	
15:04	ZZZZZZ	2		
15:09	ZZZZZZ	2		
15:14	ZZZZZZ	2		
15:19	ZZZZZZ	2		
15:24	MP18787-S1	10		
15:29	MP18787-S2	10		
15:34	JC99838-7	10		(a)
15:39	MP18787-SD1	50		
15:44	ZZZZZZ	10		
15:50	MA47968-CCVA6	1	X	
16:14	MA47968-CCB6	1	X	
16:22	ZZZZZZ	10		
16:27	ZZZZZZ	20		
16:32	ZZZZZZ	200		
16:37	ZZZZZZ	50		
16:42	ZZZZZZ	20		
16:47	ZZZZZZ	100		
16:52	ZZZZZZ	20		
16:57	ZZZZZZ	20		
17:02	ZZZZZZ	20		
17:18	MA47968-CCVA7	1	X	
17:26	MA47968-CCB7	1	X	
18:02	ZZZZZZ	25		
		Element:	As	

REPORTED ELEMENTS SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121619M1L.CSV Date Analyzed: 12/16/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47968
Parameters: As

Time	Sample Description	Element: Dilution	As	
18:07	ZZZZZZ	10		
18:12	MA47968-CCVA8	1	X	
18:17	MA47968-CCB8	1	X	
18:22	MP18789A-MB1	2	X	
18:27	ZZZZZZ	2		
18:32	MP18789A-B2	2	X	
18:37	MP18789A-S3	2	X	
18:42	MP18789A-S4	2	X	
18:47	MA47968-CCVA9	1	X	
18:52	MA47968-CCB9	1	X	
18:57	JC99663-2	2	X	(a)
19:02	MP18789A-SD1	2	X	
19:07	ZZZZZZ	2		
19:12	ZZZZZZ	2		
19:17	ZZZZZZ	2		
19:22	ZZZZZZ	2		
19:27	ZZZZZZ	2		
19:32	ZZZZZZ	2		
19:37	ZZZZZZ	2		
19:42	MA47968-CCVA10	1	X	
19:47	MA47968-CCB10	1	X	
19:52	ZZZZZZ	2		
19:57	ZZZZZZ	2		
20:02	ZZZZZZ	2		
20:07	ZZZZZZ	2		
20:12	ZZZZZZ	2		
20:17	ZZZZZZ	2		
20:22	ZZZZZZ	2		
20:27	MA47968-CCVA11	1	X	
20:32	MA47968-CCB11	1	X	
20:37	MP18816-MB1	1		
20:42	MP18816-B1	1		
20:47	MP18816-S1	1		
		Element:	As	

REPORTED ELEMENTS SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121619M1L.CSV Date Analyzed: 12/16/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47968
Parameters: As

Time	Sample Description	Element: Dilution	As	
20:52	MP18816-S2	1		
20:57	MA47968-CCVA12	1	X	
21:02	MA47968-CCB12	1	X	
21:07	JC99655-1	1		(a)
21:12	ZZZZZZ	1		
21:17	ZZZZZZ	1		
21:23	ZZZZZZ	1		
21:28	ZZZZZZ	1		
21:33	ZZZZZZ	1		
21:38	ZZZZZZ	1		
21:43	ZZZZZZ	1		
21:48	ZZZZZZ	1		
21:53	ZZZZZZ	1		
21:58	MA47968-CCVA13	1	X	
22:03	MA47968-CCB13	1	X	
22:08	ZZZZZZ	1		
22:13	ZZZZZZ	1		
22:18	ZZZZZZ	1		

(a) Sample used for QC only; not part of login JC99822.

Element: As

INTERNAL STANDARD SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121619M1L.CSV Date Analyzed: 12/16/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47968
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4	Istd#5	Istd#6	Istd#7	Istd#8
09:31	MA47968-STD1	No results reported for the elements associated with this internal standard.							
09:36	MA47968-STD2	No results reported for the elements associated with this internal standard.							
09:41	MA47968-STD3	No results reported for the elements associated with this internal standard.							
09:46	MA47968-STD4	100.769	100.03	99.474	98.32	99.706	99.74	99.231	100.115
09:51	MA47968-STD5	100.483	100.476	99.297	96.64	100.101	99.779	98.253	99.115
09:56	MA47968-STD6	101.028	99.762	98.933	96.298	98.902	98.24	98.079	99.696
10:01	MA47968-STD7	99.932	99.657	99.441	95.838	99.189	98.946	96.546	99.554
10:06	MA47968-STD8	97.263	98.361	98.816	97.111	98.356	99.766	96.905	98.613
10:11	MA47968-STD9	97.145	98.357	100.231	96.452	97.295	100.511	96.677	98.004
10:16	MA47968-STD10	99.381	99.507	102.108	96.731	99.331	102.517	97.24	99.961
10:21	MA47968-STD11	98.515	99.537	101.258	97.666	97.046	102.277	96.91	97.683
10:26	MA47968-STD12	96.828	98.985	102.016	97.602	97.945	101.133	95.815	97.658
10:32	MA47968-STD13	100	100	100	100	100	100	100	100
10:40	MA47968-ICVA1	103.408	107.959	109.055	104.085	107.383	107.276	102.121	106.961
10:45	MA47968-ICV1	105.644	108.015	109.582	99.874	106.98	108.858	99.447	106.744
10:51	MA47968-ICB1	102.954	104.167	103.292	101.038	104.118	103.072	99.914	102.957
10:56	MA47968-CCVA1	104.051	106.481	104.572	100.838	106.344	102.664	99.015	105.915
11:01	MA47968-CCB1	103.603	104.933	101.804	98.984	104.055	102.436	98.428	104.406
11:06	MA47968-CRI1	104.568	106.448	102.284	99.055	105.323	102.018	99.054	104.776
11:14	MA47968-ICSA1	97.005	101.399	100.082	99.76	99.702	97.025	95.127	97.327
11:19	MA47968-ICSAB1	94.393	100.952	97.502	100.05	99.479	95.165	94.798	97.054
11:24	ZZZZZZ	95.861	100.54	95.428	99.79	101.867	96.349	99.551	100.653
11:29	MA47968-CCVA2	96.819	102.766	97.019	100.996	103.211	97.671	99.418	102.667
11:34	MA47968-CCB2	96.1	101.45	95.835	100.06	102.683	96.516	99.58	101.813
11:45	ZZZZZZ	98.702	102.72	100.177	103.957	102.664	101.266	102.94	102.582
11:51	ZZZZZZ	99.62	105.352	100.818	103.98	106.145	101.828	102.39	105.509
11:55	ZZZZZZ	100.593	105.331	100.751	104.094	106.94	100.982	103.132	105.559
12:08	ZZZZZZ	100.131	104.255	102.292	104.852	104	102.049	103.381	104.16
12:13	ZZZZZZ	101.145	105.969	101.268	104.958	105.642	101.721	103.47	105.413
12:18	ZZZZZZ	100.208	106.295	101.511	105.103	106.936	101.876	103.763	106.38
12:24	ZZZZZZ	104.67	110.829	106.596	105.677	111.039	107.617	105.385	108.834
12:37	ZZZZZZ	94.114	99.813	97.525	106.31	102.141	99.433	104.756	101.456
12:42	ZZZZZZ	95.507	102.78	97.27	106.259	104.856	99.065	103.757	104.644

INTERNAL STANDARD SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121619M1L.CSV Date Analyzed: 12/16/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47968
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4	Istd#5	Istd#6	Istd#7	Istd#8
12:47	MA47968-CCVA3	100.194	108.876	103.251	105.78	108.52	103.421	102.819	108.055
12:52	MA47968-CCB3	100.544	107.169	101.701	105.077	107.456	102.369	102.786	107.115
12:57	JC99822-2	104.093	109.785	105.869	102.375	109.824	106.888	102.392	109.329
13:02	ZZZZZZ	100.097	105.626	100.493	104.389	106.761	101.306	102.205	105.943
13:07	ZZZZZZ	100.336	105.96	100.814	103.562	105.639	99.889	101.806	105.561
13:13	ZZZZZZ	101.29	108.096	104.249	101.883	108.054	102.872	101.871	106.683
13:17	ZZZZZZ	102.239	107.597	104.682	102.087	107.564	104.542	100.881	107.07
13:23	ZZZZZZ	98.33	106.138	102.227	103.808	106.766	101.777	101.328	106.142
13:28	ZZZZZZ	92.07	98.861	94.327	101.695	100.024	94.575	99.066	98.948
13:33	ZZZZZZ	96.001	102.721	97.338	100.784	102.764	96.794	98.912	102.012
13:38	MA47968-CCVA4	95.422	102.949	99.399	100.779	103.152	99.486	98.302	102.882
13:43	MA47968-CCB4	97.122	103.43	98.126	102.367	102.927	98.16	101.263	103.098
13:48	MP18787-MB1	93.076	99.663	94.002	102.065	102.138	96.477	101.444	101.456
14:00	MP18787-B1	93.386	100.809	97.99	105.701	101.964	98.384	102.16	101.629
14:05	MP18787-S1	90.789	98.841	93.738	102.428	101.121	95.719	100.554	100.498
14:10	MP18787-S2	90.479	98.188	93.009	104.005	101.155	96.728	101.975	101.173
14:15	JC99838-7	89.78	98.285	93.388	102.825	101.294	95.795	102.109	100.153
14:20	MP18787-SD1	96.21	105.359	99.713	100.165	105.653	99.278	97.533	104.914
14:26	ZZZZZZ	89.003	98.58	95.721	105.673	101.143	97.385	103.11	100.273
14:31	ZZZZZZ	88.892	99.096	93.907	104.228	100.168	95.407	101.339	100.014
14:41	ZZZZZZ	98.911	106.047	103.198	107.235	106.028	102.642	104.464	105.402
14:46	MA47968-CCVA5	95.336	104.229	100.294	104.74	104.165	100.569	101.177	103.873
14:58	MA47968-CCB5	95.916	102.101	101.62	104.649	101.699	100.892	101.059	101.289
15:04	ZZZZZZ	88.118	96.448	92.451	102.02	97.615	94.289	97.827	96.655
15:09	ZZZZZZ	93.048	100.391	95.225	104.16	103.025	98.151	104.044	103.22
15:14	ZZZZZZ	87.905	96.645	87.116	101.261	98.129	89.971	99.185	97.018
15:19	ZZZZZZ	88.842	97.012	90.525	101.311	99.016	93.32	100.213	98.496
15:24	MP18787-S1	95.129	103.63	98.904	103.134	103.296	99.58	100.748	103.517
15:29	MP18787-S2	94.861	102.989	98.274	103.09	102.838	98.587	100.875	102.291
15:34	JC99838-7	93.881	101.956	97.561	102.046	102.372	97.173	100.676	100.992
15:39	MP18787-SD1	94.524	102.278	99.634	99.867	102.492	99.592	98.305	102.016
15:44	ZZZZZZ	89.718	99.418	94.661	97.752	96.785	93.018	94.203	96.644
15:50	MA47968-CCVA6	91.438	99.607	96.068	101.095	99.43	95.92	97.889	98.693

INTERNAL STANDARD SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121619M1L.CSV Date Analyzed: 12/16/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47968
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4	Istd#5	Istd#6	Istd#7	Istd#8
16:14	MA47968-CCB6	92.439	96.929	98.501	102.774	96.646	97.378	99.434	95.819
16:22	ZZZZZZ	88.256	97.882	95.829	97.144	95.498	92.9	93.177	94.578
16:27	ZZZZZZ	93.687	102.76	101.33	102.152	100.773	99.769	97.792	100.504
16:32	ZZZZZZ	98.866	105.093	103.668	101.183	105.316	103.757	99.434	104.51
16:37	ZZZZZZ	97.364	103.325	101.373	100.282	103.885	101.033	98.442	102.816
16:42	ZZZZZZ	94.338	101.012	92.664	98.857	101.49	92.809	97.272	100.357
16:47	ZZZZZZ	96.58	101.12	100.369	98.163	102.002	100.122	97.073	101.798
16:52	ZZZZZZ	94.244	100.597	96.499	97.146	101.026	96.47	95.55	100.488
16:57	ZZZZZZ	93.944	99.607	96.548	97.403	99.994	97.194	95.916	99.276
17:02	ZZZZZZ	93.612	99.013	96.582	97.367	99.154	97.099	96.54	98.054
17:18	MA47968-CCVA7	89.544	96.14	98.121	100.504	95.541	95.48	96.463	95.227
17:26	MA47968-CCB7	91.36	96.548	96.823	100.26	96.685	96.431	97.269	95.841
18:02	ZZZZZZ	93.299	99.711	110.185	104.63	96.797	102.903	97.418	95.598
18:07	ZZZZZZ	90.009	97.502	99.223	98.195	96.474	97.457	93.9	96.137
18:12	MA47968-CCVA8	89.693	96.027	97.149	97.987	96.096	95.624	94.154	95.84
18:17	MA47968-CCB8	89.403	96.392	96.185	98.36	96.828	94.968	95.478	95.973
18:22	MP18789A-MB1	87.934	93.327	92.002	98.067	97.812	94.797	96.069	97.492
18:27	ZZZZZZ	89.889	93.252	90.627	98.505	98.367	94.913	96.426	97.759
18:32	MP18789A-B2	89.062	95.213	90.157	98.241	99.185	94.192	95.812	99.266
18:37	MP18789A-S3	85.062	92.636	88.865	96.067	96.489	91.257	93.362	96.623
18:42	MP18789A-S4	84.464	93.245	87.982	96.225	96.594	91.331	94.052	96.295
18:47	MA47968-CCVA9	93.292	99.833	96.176	99.758	99.322	95.634	96.573	98.557
18:52	MA47968-CCB9	93.583	98.862	95.403	98.449	97.983	94.558	96.387	97.863
18:57	JC99663-2	85.583	92.476	88.012	96.987	96.253	90.665	93.539	95.256
19:02	MP18789A-SD1	91.678	98.053	91.661	97.38	98.18	89.707	95.132	97.124
19:07	ZZZZZZ	82.535	90.132	84.567	92.183	94.222	88.153	90.309	93.11
19:12	ZZZZZZ	81.61	90.855	84.953	95.464	91.456	87.475	92.791	90.48
19:17	ZZZZZZ	85.119	90.335	84.87	95.463	96.083	89.838	95.091	95.069
19:22	ZZZZZZ	82.527	89.472	83.778	94.321	92.829	88.119	92.584	92.305
19:27	ZZZZZZ	81.164	90.244	86.293	97.439	92.873	89.165	93.897	91.943
19:32	ZZZZZZ	82.083	92.166	86.214	98.164	94.908	89.177	93.751	93.766
19:37	ZZZZZZ	80.236	91.299	85.053	99.023	90.408	84.969	93.274	89.384
19:42	MA47968-CCVA10	90.578	98.294	93.019	100.683	97.918	93.631	97.673	97.468

INTERNAL STANDARD SUMMARY

Login Number: JC99822
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Analyst: GT Run ID: MA47968
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4	Istd#5	Istd#6	Istd#7	Istd#8
19:47	MA47968-CCB10	92.116	98.513	94.328	102.233	98.966	93.669	99.279	98.287
19:52	ZZZZZZ	81.801	91.474	86.734	99.352	94.363	88.999	94.182	93.254
19:57	ZZZZZZ	82.234	91.225	84.947	97.445	93.241	88.257	93.421	92.524
20:02	ZZZZZZ	80.721	89.568	84.006	95.438	91.337	86.42	91.15	90.462
20:07	ZZZZZZ	79.142	89.018	84.089	95.742	90.229	86.387	89.948	90.106
20:12	ZZZZZZ	80.346	91.969	84.15	97.914	92.697	87.026	94.613	91.925
20:17	ZZZZZZ	85.22	92.401	84.659	98.924	95.253	89.451	97.338	95.083
20:22	ZZZZZZ	81.749	90.084	85.431	97.46	92.304	87.934	92.443	91.323
20:27	MA47968-CCVA11	91.749	97.91	92.089	99.153	96.895	92.561	95.994	96.392
20:32	MA47968-CCB11	91.75	97.293	91.731	98.529	96.971	92.026	95.721	96.189
20:37	MP18816-MB1	91.867	97.271	92.382	97.974	96.913	92.235	95.665	96.271
20:42	MP18816-B1	91.328	97.462	92.749	97.97	97.24	92.291	94.888	96.956
20:47	MP18816-S1	85.662	97.355	97.482	99.682	92.582	91.801	91.772	92.464
20:52	MP18816-S2	84.576	95.194	89.663	94.017	91.386	86.159	86.368	90.846
20:57	MA47968-CCVA12	83.189	88.235	84.983	94.818	88.108	85.122	91.571	88.6
21:02	MA47968-CCB12	84.524	89.113	84.98	91.705	89.518	85.215	89.507	89.112
21:07	JC99655-1	78.149	86.858	83.771	90.485	83.272	80.929	84.538	82.442
21:12	ZZZZZZ	77.303	87.204	86.711	89.372	81.309	81.361	81.707	80.891
21:17	ZZZZZZ	74.485	82.964	79.849	84.567	78.797	77.828	78.482	78.082
21:23	ZZZZZZ	79.54	81.785	77.429	83.541	82.611	78.705	81.339	81.848
21:28	ZZZZZZ	73.677	81.277	78.841	85.405	77.578	76.321	79.469	77.618
21:33	ZZZZZZ	76.054	85.096	86.35	91.615	80.493	80.432	82.731	79.771
21:38	ZZZZZZ	73.808	81.194	79.123	85.544	78.347	76.535	79.265	77.981
21:43	ZZZZZZ	75.863	84.006	82.953	91.525	80.665	79.773	84.725	80.347
21:48	ZZZZZZ	76.917	84.1	79.459	83.3	81.995	78.172	79.232	81.815
21:53	ZZZZZZ	76.871	87.595	86.459	90.346	80.262	81.546	81.474	78.898
21:58	MA47968-CCVA13	78.944	83.235	78.623	86.424	84.288	79.3	84.932	84.22
22:03	MA47968-CCB13	79.218	81.978	75.265	86.683	83.456	76.414	84.38	83.09
22:08	ZZZZZZ	79.156	81.915	78.142	85.557	83.833	79.743	84.612	82.9
22:13	ZZZZZZ	80.68	81.829	78.473	86.448	82.935	79.457	84.318	82.645
22:18	ZZZZZZ	80.648	82.373	78.788	85.405	83.339	80.294	83.316	83.057

! = Outside limits.

Istd#	Parameter	Limits	CCV/CCB Limits
Istd#1	Lithium	60-125 %	60-125 %

INTERNAL STANDARD SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
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Analyst: GT Run ID: MA47968
Parameters: As

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4	Istd#5	Istd#6	Istd#7	Istd#8

Istd#8	Scandium (45-1)	60-125 %	60-125 %
Istd#3	Scandium (45-2)	60-125 %	60-125 %
Istd#4	Scandium (45-3)	60-125 %	60-125 %
Istd#5	Germanium (72-1)	60-125 %	60-125 %
Istd#6	Germanium (72-2)	60-125 %	60-125 %
Istd#7	Germanium (72-3)	60-125 %	60-125 %
Istd#8	Germanium (74-1)	60-125 %	60-125 %

INTERNAL STANDARD SUMMARY

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Parameters: As

Time	Sample Description	Istd#9	Istd#10	Istd#11	Istd#12	Istd#13	Istd#14	Istd#15	Istd#16
09:31	MA47968-STD1	No results reported for the elements associated with this internal standard.							
09:36	MA47968-STD2	No results reported for the elements associated with this internal standard.							
09:41	MA47968-STD3	No results reported for the elements associated with this internal standard.							
09:46	MA47968-STD4	100.235	99.645	99.272	100.363	100.259	100.156	99.689	101.044
09:51	MA47968-STD5	99.762	98.238	98.992	99.659	101.062	99.35	99.386	100.476
09:56	MA47968-STD6	98.698	98.183	98.422	99.792	100.607	99.416	98.29	98.952
10:01	MA47968-STD7	99.896	97.016	99.608	99.174	100.102	99.61	98.517	99.227
10:06	MA47968-STD8	99.807	97.276	98.309	99.086	99.563	99.161	98.699	97.802
10:11	MA47968-STD9	99.597	97.499	97.154	99.194	98.54	98.323	99.777	99.205
10:16	MA47968-STD10	101.974	98.157	98.144	99.406	98.668	98.325	100.973	99.838
10:21	MA47968-STD11	101.491	97.263	96.773	98.617	97.169	98.286	100.436	99.982
10:26	MA47968-STD12	101.173	96.494	94.784	97.573	96.127	96.723	98.881	98.868
10:32	MA47968-STD13	100	100	100	100	100	100	100	100
10:40	MA47968-ICVA1	106.499	101.264	103.965	102.008	96.712	105.833	106.065	105.721
10:45	MA47968-ICV1	106.737	99.082	104.613	103.649	95.549	105.634	108.453	104.027
10:51	MA47968-ICB1	101.885	99.711	102.845	100.867	98.591	103.991	102.635	104.004
10:56	MA47968-CCVA1	102.518	99.628	103.276	101.104	97.178	105.005	102.742	105.061
11:01	MA47968-CCB1	101.093	98.531	104.696	100.629	99.291	104.768	100.875	106.355
11:06	MA47968-CRI1	101.93	98.885	104.349	101.559	99.456	105.379	102.121	104.957
11:14	MA47968-ICSA1	94.983	93.139	90.943	88.481	86.605	90.031	86.793	102.571
11:19	MA47968-ICSAB1	93.533	93.29	91.936	88.858	87.001	91.901	85.636	103.076
11:24	ZZZZZZ	96.281	99.934	102.423	98.873	100.551	104.614	97.525	108.256
11:29	MA47968-CCVA2	97.445	100.066	101.97	97.993	99.018	105.833	98.069	107.734
11:34	MA47968-CCB2	96.195	99.594	103.126	99.186	101.67	105.5	98.104	108.147
11:45	ZZZZZZ	100.667	102.484	103.805	102.053	102.469	105.055	102.077	110.696
11:51	ZZZZZZ	100.923	102.222	106.029	103.171	102.73	109.912	104.129	109.773
11:55	ZZZZZZ	100.707	102.395	106.617	102.651	103.119	108.374	101.493	111.143
12:08	ZZZZZZ	101.985	103.159	104.593	102.627	102.28	106.44	103.082	111.41
12:13	ZZZZZZ	101.16	103.92	106.166	103.364	102.663	107.949	102.453	110.072
12:18	ZZZZZZ	101.347	103.33	105.935	102.576	101.697	108.454	101.771	111.726
12:24	ZZZZZZ	105.019	103.671	108.708	103.962	101.646	110.023	105.288	113.939
12:37	ZZZZZZ	99.312	104.684	100.289	99.14	102.532	102.411	98.513	110.816
12:42	ZZZZZZ	98.683	104.237	102.501	99.281	101.694	105.067	97.836	110.656

INTERNAL STANDARD SUMMARY

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Analyst: GT Run ID: MA47968
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Time	Sample Description	Istd#9	Istd#10	Istd#11	Istd#12	Istd#13	Istd#14	Istd#15	Istd#16
12:47	MA47968-CCVA3	102.831	104.046	106.266	102.052	101.01	108.867	102.111	112.39
12:52	MA47968-CCB3	101.561	103.836	106.695	102.676	103.648	108.144	101.335	112.666
12:57	JC99822-2	106.787	102.737	107.81	104.524	101.82	110.397	105.155	112.603
13:02	ZZZZZZ	101.176	102.96	106.029	101.953	103.26	107.848	100.657	110.842
13:07	ZZZZZZ	100.583	102.427	105.682	101.566	102.411	106.72	100.032	109.736
13:13	ZZZZZZ	103.309	101.957	106.89	102.472	100.35	107.728	101.732	110.677
13:17	ZZZZZZ	104.09	100.865	105.778	102.096	99.796	149.035 !	128.627	109.628
13:23	ZZZZZZ	101.611	100.806	104.294	100.152	99.055	106.494	100.514	108.876
13:28	ZZZZZZ	94.985	99.77	98.137	95.045	98.58	101.273	93.565	108.394
13:33	ZZZZZZ	96.677	99.208	101.504	97.702	98.597	111.83	103.64	109.139
13:38	MA47968-CCVA4	98.586	99.051	100.743	97.157	96.938	103.484	97.618	108.141
13:43	MA47968-CCB4	98.533	100.524	102.737	98.882	100.294	104.987	97.618	108.146
13:48	MP18787-MB1	96.776	101.217	99.334	96.369	100.494	101.666	93.636	108.682
14:00	MP18787-B1	98.793	102.217	98.399	97.045	98.516	101.21	96.669	110.73
14:05	MP18787-S1	95.723	101.299	95.688	92.477	96.515	100.032	91.814	107.773
14:10	MP18787-S2	95.773	102.238	96.223	93.291	97.269	99.941	92.224	108.722
14:15	JC99838-7	95.687	102.426	95.395	93.319	98.025	100.249	92.682	108.373
14:20	MP18787-SD1	99.307	97.962	103.089	99.526	97.01	107.292	98.877	111.933
14:26	ZZZZZZ	98.092	103.106	95.19	94.103	97.709	100.146	93.769	109.262
14:31	ZZZZZZ	95.065	100.719	93.104	90.549	95.169	98.222	90.937	107.91
14:41	ZZZZZZ	102.685	103.966	105.26	102.143	102.441	106.284	100.925	113.881
14:46	MA47968-CCVA5	99.293	101.632	101.592	98.841	97.783	103.955	98.297	110.459
14:58	MA47968-CCB5	100.626	101.742	101.549	100.011	98.885	103.075	100.315	111.34
15:04	ZZZZZZ	93.921	97.447	91.216	89.028	92.323	96.62	90.501	107.093
15:09	ZZZZZZ	98.258	103.334	100.119	97.901	101.889	103.004	94.719	110.57
15:14	ZZZZZZ	88.534	99.367	92.364	86.57	95.813	97.51	85.301	107.072
15:19	ZZZZZZ	92.946	99.654	93.706	90.478	96.05	98.571	89.283	108.68
15:24	MP18787-S1	99.097	101.652	102.011	98.751	99.405	104.863	98.402	111.146
15:29	MP18787-S2	98.414	101.025	100.87	97.851	98.953	103.995	96.988	110.771
15:34	JC99838-7	96.508	100.112	99.911	96.432	98.59	103.623	96.291	110.224
15:39	MP18787-SD1	98.53	99.4	100.506	97.388	97.222	104.133	98.202	109.784
15:44	ZZZZZZ	92.483	94.516	92.734	89.376	89.117	97.044	91.525	107.468
15:50	MA47968-CCVA6	94.924	98.496	97.774	94.599	95.642	100.884	94.808	109.084

INTERNAL STANDARD SUMMARY

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Parameters: As

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16:14	MA47968-CCB6	97.158	99.144	96.798	96.011	96.704	98.027	96.953	110.415
16:22	ZZZZZZ	92.519	92.361	90.037	87.588	87.016	95.508	91.876	108.433
16:27	ZZZZZZ	99.292	97.279	96.656	94.135	91.458	101.432	97.714	109.752
16:32	ZZZZZZ	102.624	98.583	102.376	98.859	95.558	105.496	101.721	111.394
16:37	ZZZZZZ	100.659	98.509	101.234	97.718	95.391	103.704	100.009	109.826
16:42	ZZZZZZ	92.149	97.97	98.756	89.984	95.002	101.866	92.158	107.936
16:47	ZZZZZZ	99.678	96.922	99.86	96.618	94.725	102.015	98.906	108.73
16:52	ZZZZZZ	96.031	95.013	97.962	94.644	94.417	100.907	95.019	108.307
16:57	ZZZZZZ	95.887	96.154	97.829	94.282	94.388	100.489	96.347	107.7
17:02	ZZZZZZ	95.943	95.611	96.874	94.391	93.959	100.394	95.462	107.014
17:18	MA47968-CCVA7	95.944	96.67	93.98	92.837	91.816	96.498	95.712	107.087
17:26	MA47968-CCB7	95.61	96.659	96.206	94.96	94.514	98.172	95.477	107.459
18:02	ZZZZZZ	103.043	97.124	89.812	91.743	85.154	94.622	100.47	110.311
18:07	ZZZZZZ	97.202	93.874	92.417	90.898	86.754	97.118	96.841	106.64
18:12	MA47968-CCVA8	95.133	94.588	94.2	92.61	90.487	97.555	95.385	105.465
18:17	MA47968-CCB8	95.302	95.669	96.506	93.654	93.581	98.631	94.985	107.451
18:22	MP18789A-MB1	95.316	96.167	93.824	92.28	94.268	96.172	90.738	106.359
18:27	ZZZZZZ	94.74	96.309	93.944	91.168	95.073	96.154	89.643	105.722
18:32	MP18789A-B2	93.594	95.665	93.627	90.297	94.239	95.98	88.867	105.625
18:37	MP18789A-S3	90.951	94.429	88.027	85.528	89.283	92.447	85.227	103.959
18:42	MP18789A-S4	90.966	94.034	87.916	84.879	89.216	92.088	84.935	104.112
18:47	MA47968-CCVA9	94.879	96.224	96.927	93.972	94.501	99.557	93.567	108.865
18:52	MA47968-CCB9	93.789	97.473	98.013	94.783	96.207	99.915	92.977	108.235
18:57	JC99663-2	90.271	93.452	87.596	84.743	89.532	92.716	85.398	105.104
19:02	MP18789A-SD1	90.316	95.347	95.317	89.526	93.062	98.79	89.346	106.866
19:07	ZZZZZZ	87.269	90.161	84.721	82.028	86.504	89.827	81.779	102.516
19:12	ZZZZZZ	86.409	91.904	84.882	83.589	89.867	89.363	82.854	103.266
19:17	ZZZZZZ	90.132	94.875	90.154	87.908	93.813	92.944	84.28	104.325
19:22	ZZZZZZ	86.998	92.197	83.657	81.557	88.496	89.266	81.187	103.166
19:27	ZZZZZZ	88.762	93.951	83.677	82.891	89.297	90.103	83.682	103.738
19:32	ZZZZZZ	88.841	94.31	85.353	83.336	89.443	92.264	83.576	105.846
19:37	ZZZZZZ	85.229	92.269	83.466	81.367	87.616	89.263	80.77	103.325
19:42	MA47968-CCVA10	93.015	98	95.828	91.853	95.55	99.16	91.102	108.572

INTERNAL STANDARD SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121619M1L.CSV Date Analyzed: 12/16/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47968
Parameters: As

Time	Sample Description	Istd#9	Istd#10	Istd#11	Istd#12	Istd#13	Istd#14	Istd#15	Istd#16
19:47	MA47968-CCB10	92.876	99.251	97.838	94.233	98.869	99.672	92.798	109.754
19:52	ZZZZZZ	89.658	94.603	86.371	83.93	90.112	92.022	84.289	105.122
19:57	ZZZZZZ	88.039	93.397	85.606	82.632	89.22	90.175	83.929	103.772
20:02	ZZZZZZ	85.725	91.472	83.08	79.9	86.579	89.08	80.78	103.865
20:07	ZZZZZZ	86.459	89.952	81.095	78.803	83.375	87.326	81.046	103.054
20:12	ZZZZZZ	86.056	93.762	84.768	81.772	89.056	90.245	81.421	104.366
20:17	ZZZZZZ	89.233	97.681	91.52	88.265	97.146	94.449	85.176	106.548
20:22	ZZZZZZ	86.753	93.273	83.409	81.548	88.347	89.17	82.158	104.897
20:27	MA47968-CCVA11	91.586	95.859	94.98	91.157	93.795	98.834	90.015	110.301
20:32	MA47968-CCB11	91.323	95.844	96.057	92.079	96.305	99.161	90.923	109.246
20:37	MP18816-MB1	92.271	95.689	96.23	92.29	95.322	98.897	91.784	109.664
20:42	MP18816-B1	91.828	94.985	95.382	90.806	93.319	98.822	90.714	108.546
20:47	MP18816-S1	91.49	91.687	86.378	84.773	83.962	93.304	89.421	105.466
20:52	MP18816-S2	85.91	86.488	85.364	79.966	80.411	91.76	84.499	105.889
20:57	MA47968-CCVA12	85.019	92.189	88.098	84.61	90.052	91.337	85.082	103.305
21:02	MA47968-CCB12	84.609	89.344	89.011	86.021	89.235	92.052	85.66	103.765
21:07	JC99655-1	79.802	83.918	77.931	75.103	77.865	84.275	79.287	98.576
21:12	ZZZZZZ	81.38	80.878	75.424	74.09	72.766	82.033	79.965	96.022
21:17	ZZZZZZ	77.045	78.826	73.423	71.106	71.794	80.118	76.499	94.153
21:23	ZZZZZZ	78.224	80.598	82.048	78.69	80.819	84.388	79.105	96.869
21:28	ZZZZZZ	75.839	79.186	73.352	70.883	73.826	79.5	75.467	93.293
21:33	ZZZZZZ	80.468	82.566	73.913	73.81	75.343	81.819	79.626	95.445
21:38	ZZZZZZ	75.937	79.98	73.313	70.682	73.326	79.899	75.611	94.89
21:43	ZZZZZZ	79.868	83.924	75.574	73.336	76.895	81.478	77.877	95.524
21:48	ZZZZZZ	77.685	79.675	77.389	73.439	73.807	83.398	78.005	97.839
21:53	ZZZZZZ	79.781	80.283	73.635	71.81	71.706	80.204	77.394	94.204
21:58	MA47968-CCVA13	79.096	84.599	83.12	79.097	82.288	86.378	80.193	97.538
22:03	MA47968-CCB13	76.691	84.574	84.124	76.596	83.272	86.068	77.35	98.295
22:08	ZZZZZZ	79.005	83.691	83.127	79.822	83.469	85.834	80.474	98.795
22:13	ZZZZZZ	79.309	83.783	83.723	79.878	83.025	85.869	80.645	98.125
22:18	ZZZZZZ	79.855	83.096	83.413	80.625	83.493	85.903	81.38	98.337

! = Outside limits.

LEGEND:			CCV/CCB
Istd#	Parameter	Limits	Limits
Istd#9	Germanium (74-2)	60-125 %	60-125 %

INTERNAL STANDARD SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121619M1L.CSV Date Analyzed: 12/16/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47968
Parameters: As

Time	Sample Description	Istd#9	Istd#10	Istd#11	Istd#12	Istd#13	Istd#14	Istd#15	Istd#16

Istd#16 Germanium (74-3)	60-125 %	60-125 %
Istd#11 Rhodium (103-1)	60-125 %	60-125 %
Istd#12 Rhodium (103-2)	60-125 %	60-125 %
Istd#13 Rhodium (103-3)	60-125 %	60-125 %
Istd#14 Indium (115-1)	60-125 %	60-125 %
Istd#15 Indium (115-2)	60-125 %	60-125 %
Istd#16 Terbium (159-1)	60-125 %	60-125 %

INTERNAL STANDARD SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121619M1L.CSV Date Analyzed: 12/16/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47968
Parameters: As

Time	Sample Description	Istd#17	Istd#18	Istd#19	Istd#20	Istd#21	Istd#22
09:31	MA47968-STD1	No results reported for the elements associated with this internal standard.					
09:36	MA47968-STD2	No results reported for the elements associated with this internal standard.					
09:41	MA47968-STD3	No results reported for the elements associated with this internal standard.					
09:46	MA47968-STD4	100.004	100.091	99.202	99.254	99.355	99.97
09:51	MA47968-STD5	100.062	100.564	99.437	99.378	99.177	99.24
09:56	MA47968-STD6	99.164	100.864	99.305	99.184	99.319	99.19
10:01	MA47968-STD7	99.491	101.073	100.376	99.338	99.534	99.816
10:06	MA47968-STD8	99.715	99.762	99.732	99.619	100.143	100.121
10:11	MA47968-STD9	99.869	99.411	98.172	99.018	97.518	99.095
10:16	MA47968-STD10	100.326	99.003	98.316	99.918	97.798	99.775
10:21	MA47968-STD11	101.253	99.14	98.506	100.824	96.435	98.507
10:26	MA47968-STD12	100.854	99.882	98.013	100.212	93.664	96.593
10:32	MA47968-STD13	100	100	100	100	100	100
10:40	MA47968-ICVA1	105.017	99.152	106.407	105	102.46	101.575
10:45	MA47968-ICV1	103.43	95.54	103.694	102.739	102.68	102.421
10:51	MA47968-ICB1	101.625	98.99	103.079	101.269	102.264	101.496
10:56	MA47968-CCVA1	103.376	99.913	106.126	103.906	102.478	100.863
11:01	MA47968-CCB1	100.584	101.453	103.815	100.506	103.192	100.392
11:06	MA47968-CRI1	100.987	99.767	104.089	100.991	103.188	100.534
11:14	MA47968-ICSA1	95.959	95.078	99.312	96.226	91.261	87.768
11:19	MA47968-ICSAB1	95.76	95.658	102.903	96.719	93.173	87.834
11:24	ZZZZZZ	99.87	107.617	106.443	100.42	105.817	100.709
11:29	MA47968-CCVA2	101.93	104.907	107.955	101.812	104.714	100.03
11:34	MA47968-CCB2	99.655	107.485	105.966	99.688	105.141	100.39
11:45	ZZZZZZ	102.196	107.385	106.707	102.582	105.709	102.279
11:51	ZZZZZZ	102.579	108.582	108.924	102.581	108.282	102.785
11:55	ZZZZZZ	101.843	108.456	107.693	102.469	107.87	102.693
12:08	ZZZZZZ	102.844	108.375	106.546	103.712	106.279	102.797
12:13	ZZZZZZ	102.812	105.537	108.946	102.923	109.356	103.499
12:18	ZZZZZZ	103.269	106.167	110.245	103.363	107.245	101.52
12:24	ZZZZZZ	105.127	106.273	115.598	110.059	109.734	104.561
12:37	ZZZZZZ	99.822	105.559	105.421	100.783	103.973	99.444
12:42	ZZZZZZ	101.641	109.39	110.148	102.036	106.264	99.05

INTERNAL STANDARD SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121619M1L.CSV Date Analyzed: 12/16/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47968
Parameters: As

Time	Sample Description	Istd#17	Istd#18	Istd#19	Istd#20	Istd#21	Istd#22
12:47	MA47968-CCVA3	104.371	109.217	112.398	105.198	107.649	101.715
12:52	MA47968-CCB3	101.862	107.759	109.057	102.075	108.031	101.553
12:57	JC99822-2	103.72	108.306	108.999	103.985	108.216	104.351
13:02	ZZZZZZ	100.79	103.687	107.878	101.231	106.691	101.014
13:07	ZZZZZZ	100.943	107.292	107.361	100.972	106.054	100.439
13:13	ZZZZZZ	101.203	106.15	106.802	101.093	106.371	101.009
13:17	ZZZZZZ	101.435	100.721	105.934	101.199	104.664	100.584
13:23	ZZZZZZ	101.908	102.19	107.499	102.179	105.296	99.95
13:28	ZZZZZZ	97.645	107.086	105.33	97.52	101.572	95.528
13:33	ZZZZZZ	99.016	106.989	106.501	99.294	103.626	96.931
13:38	MA47968-CCVA4	99.738	101.063	106.351	100.276	101.456	96.902
13:43	MA47968-CCB4	98.179	101.275	105.447	97.62	103.963	96.997
13:48	MP18787-MB1	96.047	108.624	104.416	96.401	102.325	94.826
14:00	MP18787-B1	99.61	107.61	105.874	99.455	101.154	96.791
14:05	MP18787-S1	96.661	107.796	105.701	97.531	100.326	93.109
14:10	MP18787-S2	97.029	108.091	105.803	97.327	99.929	92.77
14:15	JC99838-7	96.316	108.826	104.222	96.63	101.009	93.098
14:20	MP18787-SD1	99.476	104.866	108.031	99.628	105.627	98.501
14:26	ZZZZZZ	97.958	106.567	105.436	98.559	99.434	94.085
14:31	ZZZZZZ	95.821	108.21	105.008	96.137	95.621	88.779
14:41	ZZZZZZ	100.619	109.233	106.666	100.547	104.626	99.758
14:46	MA47968-CCVA5	100.016	107.74	108.139	100.77	102.672	97.041
14:58	MA47968-CCB5	99.817	100.849	103.248	99.392	101.664	98.694
15:04	ZZZZZZ	94.683	103.474	103.728	95.817	94.287	88.706
15:09	ZZZZZZ	97.63	109.705	106.041	97.958	104.044	97.054
15:14	ZZZZZZ	89.921	107.874	104.654	91.636	98.763	87.077
15:19	ZZZZZZ	93.909	109.105	105.184	95.532	99.33	91.527
15:24	MP18787-S1	98.873	106.255	106.925	98.821	104.411	97.521
15:29	MP18787-S2	98.292	104.945	106.545	98.557	103.247	97.364
15:34	JC99838-7	96.586	104.765	106.184	97.069	103.096	96.035
15:39	MP18787-SD1	96.929	99.844	104.784	97.152	102.89	97.001
15:44	ZZZZZZ	94.775	94.88	102.538	95.626	95.16	88.375
15:50	MA47968-CCVA6	97.268	103.386	104.148	97.461	100.095	94.57

INTERNAL STANDARD SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121619M1L.CSV Date Analyzed: 12/16/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47968
Parameters: As

Time	Sample Description	Istd#17	Istd#18	Istd#19	Istd#20	Istd#21	Istd#22
16:14	MA47968-CCB6	96.465	95.775	100.418	97.386	98.83	96.277
16:22	ZZZZZZ	94.61	93.438	102.527	95.315	92.528	87.535
16:27	ZZZZZZ	99.096	95.521	105.417	99.438	98.982	93.411
16:32	ZZZZZZ	100.034	96.65	106.779	100.225	104.085	99.372
16:37	ZZZZZZ	98.654	95.933	104.116	98.928	103	98.74
16:42	ZZZZZZ	95.501	96.25	103.861	91.687	101.276	89.985
16:47	ZZZZZZ	97.329	98.181	103.505	97.392	101.685	97.153
16:52	ZZZZZZ	95.353	101.558	102.901	95.507	100.595	95.142
16:57	ZZZZZZ	96.325	95.624	102.75	96.251	100.719	94.959
17:02	ZZZZZZ	95.582	98.403	101.922	95.77	99.767	94.736
17:18	MA47968-CCVA7	96.393	94.008	100.222	96.254	96.501	93.955
17:26	MA47968-CCB7	94.783	94.039	100.361	94.928	99.15	94.532
18:02	ZZZZZZ	98.985	89.541	99.496	99.818	89.7	90.494
18:07	ZZZZZZ	96.249	91.176	100.585	96.502	94.915	91.699
18:12	MA47968-CCVA8	95.893	92.881	101.994	96.246	97.741	93.549
18:17	MA47968-CCB8	94.264	93.656	100.95	94.637	98.564	93.884
18:22	MP18789A-MB1	92.698	95.344	100.006	92.617	97.591	90.947
18:27	ZZZZZZ	91.812	104.055	100.004	91.787	97.116	90.169
18:32	MP18789A-B2	92.245	100.388	100.369	92.587	95.841	89.779
18:37	MP18789A-S3	90.649	98.374	99.052	91.0545	91.094	84.701
18:42	MP18789A-S4	89.718	94.956	98.712	90.819	90.763	83.913
18:47	MA47968-CCVA9	95.596	96.246	103.318	96.082	98.175	92.051
18:52	MA47968-CCB9	92.905	102.868	101.991	93.084	98.777	92.195
18:57	JC99663-2	89.538	94.803	98.01	89.789	90.687	83.777
19:02	MP18789A-SD1	91.048	95.63	101.365	91.198	97.783	88.338
19:07	ZZZZZZ	86.934	96.744	96.331	87.73	88.522	81.411
19:12	ZZZZZZ	88.263	98.732	99.431	91.621	90.4	84.945
19:17	ZZZZZZ	88.621	107.471	98.205	88.411	94.53	86.485
19:22	ZZZZZZ	86.711	94.228	95.021	87.026	87.842	80.883
19:27	ZZZZZZ	88.717	108.597	97.063	88.946	87.487	81.539
19:32	ZZZZZZ	89.077	108.066	99.053	90.177	89.541	82.761
19:37	ZZZZZZ	87.299	99.875	98.397	89.442	86.692	80.066
19:42	MA47968-CCVA10	94.149	109.929	102.843	93.649	97.138	90.255

INTERNAL STANDARD SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121619M1L.CSV Date Analyzed: 12/16/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47968
Parameters: As

Time	Sample Description	Istd#17	Istd#18	Istd#19	Istd#20	Istd#21	Istd#22
19:47	MA47968-CCB10	92.613	110.448	100.638	93.477	98.873	91.745
19:52	ZZZZZZ	88.956	109.32	98.132	89.438	89.418	82.462
19:57	ZZZZZZ	88.068	103.138	96.6	88.612	88.321	81.527
20:02	ZZZZZZ	86.035	94.054	95.95	87.364	86.566	79.052
20:07	ZZZZZZ	85.952	91.939	95.583	87.696	83.239	77.004
20:12	ZZZZZZ	87.299	108.31	100.596	91.033	89.848	82.162
20:17	ZZZZZZ	88.795	111.419	98.144	88.703	94.861	86.929
20:22	ZZZZZZ	87.742	99.139	96.739	88.731	85.45	79.415
20:27	MA47968-CCVA11	93.139	109.211	101.569	93.832	97.501	90.109
20:32	MA47968-CCB11	91.605	109.024	100.491	92.213	97.97	90.986
20:37	MP18816-MB1	91.831	104.2	100.386	91.727	97.959	91.121
20:42	MP18816-B1	92.594	103.748	101.13	92.602	96.765	90.322
20:47	MP18816-S1	93.291	91.947	98.096	94.208	86.634	82.904
20:52	MP18816-S2	88.473	88.794	98.324	88.969	86.285	78.856
20:57	MA47968-CCVA12	88.339	94.261	95.965	88.735	91.657	86.115
21:02	MA47968-CCB12	86.465	90.69	93.89	87.207	92.239	86.431
21:07	JC99655-1	83.145	85.808	90.383	83.228	79.111	74.426
21:12	ZZZZZZ	82.227	80.355	87.527	82.827	73.916	70.356
21:17	ZZZZZZ	79.584	79.453	85.887	79.708	75.438	70.337
21:23	ZZZZZZ	79.879	82.443	87.083	79.712	85.794	79.82
21:28	ZZZZZZ	78.196	81.339	85.241	79.129	75.313	70.244
21:33	ZZZZZZ	82.002	83.404	86.803	82.262	73.715	70.213
21:38	ZZZZZZ	79.049	81.785	85.611	79.91	75.373	70.535
21:43	ZZZZZZ	80.787	83.401	86.861	81.275	76.455	71.967
21:48	ZZZZZZ	81.441	81.444	89.827	82.779	78.873	73.167
21:53	ZZZZZZ	79.453	78.185	86.048	80.028	72.322	67.514
21:58	MA47968-CCVA13	82.496	86.24	89.599	83.431	85.886	80.462
22:03	MA47968-CCB13	78.132	84.838	88.001	78.567	86.592	77.696
22:08	ZZZZZZ	81.364	85.17	88.49	82.053	86.83	81.131
22:13	ZZZZZZ	81.896	84.914	88.232	81.855	87.051	81.463
22:18	ZZZZZZ	81.803	85.143	87.85	82.278	86.596	81.85

! = Outside limits.

Istd#	Parameter	Limits	CCV/CCB Limits
Istd#17	Terbium (159-2)	60-125 %	60-125 %

INTERNAL STANDARD SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121619M1L.CSV Date Analyzed: 12/16/19 Methods: EPA 200.8, SW846 6020B
Analyst: GT Run ID: MA47968
Parameters: As

Time	Sample Description	Istd#17	Istd#18	Istd#19	Istd#20	Istd#21	Istd#22

Istd#22 Terbium (159-3)	60-125 %	60-125 %
Istd#19 Holmium (165-1)	60-125 %	60-125 %
Istd#20 Holmium (165-2)	60-125 %	60-125 %
Istd#21 Bismuth (209-1)	60-125 %	60-125 %
Istd#22 Bismuth (209-2)	60-125 %	60-125 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121619M1L.CSV Date Analyzed: 12/16/19 Methods: EPA 200.8, SW846 6020B
QC Limits: result < 1/2 RL Run ID: MA47968 Units: ug/l

Time:				10:51		11:01		11:34	
Sample ID:				ICB1		CCB1		CCB2	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Aluminum	25	.28	20						
Antimony	2.0	.094	1.5						
Arsenic	0.50	.013	1.0	-0.00137	<1.5	-0.00608	<1.5	-0.00788	<1.5
Barium	1.0	.008	0.50						
Beryllium	0.50	.004	0.25						
Boron	25	.65	20						
Cadmium	0.50	.004	2.0						
Calcium	250	6.1	50						
Chromium	1.0	.014	3.0						
Cobalt	0.50	.002	0.25						
Copper	2.0	.021	4.0						
Iron	25	.43	13						
Lead	0.50	.009	1.0						
Magnesium	250	.15	130						
Manganese	1.0	.007	1.0						
Molybdenum	1.0	.015	0.50						
Nickel	1.0	.017	3.0						
Potassium	250	.71	50						
Selenium	0.50	.072	0.50						
Silver	0.50	.004	0.50						
Sodium	250	1	100						
Strontium	5.0	.003	5.0						
Thallium	0.50	.004	0.50						
Tin	5.0	.071	2.5						
Titanium	1.0	.035	1.0						
Vanadium	1.0	.009	1.0						
Zinc	5.0	.029	7.5						

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121619M1L.CSV Date Analyzed: 12/16/19 Methods: EPA 200.8, SW846 6020B
QC Limits: result < 1/2 RL Run ID: MA47968 Units: ug/l

Time: / Sample ID:				12:52 CCB3		13:43 CCB4	
Metal	RL	IDL	LOD	raw	final	raw	final
Aluminum	25	.28	20				
Antimony	2.0	.094	1.5				
Arsenic	0.50	.013	1.0	-0.00323	<1.5	0.0151	<1.5
Barium	1.0	.008	0.50				
Beryllium	0.50	.004	0.25				
Boron	25	.65	20				
Cadmium	0.50	.004	2.0				
Calcium	250	6.1	50				
Chromium	1.0	.014	3.0				
Cobalt	0.50	.002	0.25				
Copper	2.0	.021	4.0				
Iron	25	.43	13				
Lead	0.50	.009	1.0				
Magnesium	250	.15	130				
Manganese	1.0	.007	1.0				
Molybdenum	1.0	.015	0.50				
Nickel	1.0	.017	3.0				
Potassium	250	.71	50				
Selenium	0.50	.072	0.50				
Silver	0.50	.004	0.50				
Sodium	250	1	100				
Strontium	5.0	.003	5.0				
Thallium	0.50	.004	0.50				
Tin	5.0	.071	2.5				
Titanium	1.0	.035	1.0				
Vanadium	1.0	.009	1.0				
Zinc	5.0	.029	7.5				

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121619M1L.CSV Date Analyzed: 12/16/19 Methods: EPA 200.8, SW846 6020B
QC Limits: 90 to 110 % Recovery Run ID: MA47968 Units: ug/l

Time:		10:40			10:45			10:56	
Sample ID:	ICVA	ICVA1		ICV	ICV1		CCVA	CCVA1	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony									
Arsenic	60	60.9	101.5				50	50.8	101.6
Barium	anr								
Beryllium									
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin	anr								
Titanium									
Vanadium	anr								
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121619M1L.CSV Date Analyzed: 12/16/19 Methods: EPA 200.8, SW846 6020B
QC Limits: 90 to 110 % Recovery Run ID: MA47968 Units: ug/l

Time:		11:29			12:47			13:38	
Sample ID:	CCVA	CCVA2		CCVA	CCVA3		CCVA	CCVA4	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony									
Arsenic	50	52.4	104.8	50	51.7	103.4	50	50.9	101.8
Barium	anr								
Beryllium									
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin	anr								
Titanium									
Vanadium	anr								
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121619M1L.CSV Date Analyzed: 12/16/19 Methods: EPA 200.8, SW846 6020B
QC Limits: 80 to 120 % Recovery Run ID: MA47968 Units: ug/l

Time:			11:06	
Sample ID:	CRI	CRIA	CRI1	
Metal	True	True	Results	% Rec
Aluminum	25	25	anr	
Antimony	2.0	0.25		
Arsenic	0.50	0.50	0.479	95.8
Barium	1.0	0.50	anr	
Beryllium	0.50	0.25		
Boron	25	2.5		
Cadmium	0.50	0.25	anr	
Calcium	250	125	anr	
Chromium	1.0	2.0	anr	
Cobalt	0.50	0.25	anr	
Copper	2.0	2.0	anr	
Iron	25	25	anr	
Lead	0.50	0.25	anr	
Magnesium	250	125	anr	
Manganese	1.0	0.25	anr	
Molybdenum	1.0	0.50		
Nickel	1.0	2.0	anr	
Potassium	250	125	anr	
Selenium	0.50	0.50	anr	
Silver	0.50	1.0	anr	
Sodium	250	125	anr	
Strontium	5.0	0.50		
Thallium	0.50	0.25	anr	
Tin	5.0	0.50	anr	
Titanium	1.0	0.50		
Vanadium	1.0	2.0	anr	
Zinc	5.0	2.0	anr	

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

File ID: XA121619M1L.CSV Date Analyzed: 12/16/19 Methods: EPA 200.8, SW846 6020B
QC Limits: 80 to 120 % Recovery Run ID: MA47968 Units: ug/l

Time:			11:14		11:19	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1	
Metal	True	True	Results	% Rec	Results	% Rec
Aluminum	100000	100000	90200	90.2	89400	89.4
Antimony			0.141		0.118	
Arsenic		20	0.0441		19.2	96.0
Barium			0.198		0.187	
Beryllium			-0.000672		-0.000870	
Boron		50	0.497		51.1	102.2
Cadmium		20	-0.256		19.3	96.5
Calcium	100000	100000	91500	91.5	92400	92.4
Chromium		20	0.244		19.7	98.5
Cobalt		20	0.174		19.2	96.0
Copper		20	-0.0443		18.0	90.0
Iron	100000	100000	84000	84.0	84700	84.7
Lead			0.0714		0.0872	
Magnesium	100000	100000	86400	86.4	86500	86.5
Manganese		20	0.338		19.8	99.0
Molybdenum	2000	2000	2030	101.5	2030	101.5
Nickel		20	0.499		18.7	93.5
Potassium	100000	100000	91200	91.2	91200	91.2
Selenium		20	0.0811		20.1	100.5
Silver		20	0.0221		20.1	100.5
Sodium	100000	100000	86000	86.0	87000	87.0
Strontium	2000	2000	2010	100.5	2020	101.0
Thallium			0.00175		0.00319	
Tin	2000	2000	1970	98.5	2010	100.5
Titanium	2000	2000	1690	84.5	1710	85.5
Vanadium		20	0.0117		19.9	99.5
Zinc		20	0.195		17.2	86.0

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781
Matrix Type: AQUEOUS

Methods: SW846 6020B
Units: ug/l

Prep Date: 12/10/19

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	.55	32		
Antimony	4.0	.19	1.7		
Arsenic	3.0	.026	.94	0.37	<3.0
Barium	2.0	.016	.73		
Beryllium	1.0	.008	.15		
Boron	50	1.3	14		
Cadmium	6.0	.008	.17		
Calcium	500	12	64		
Chromium	8.0	.028	.62		
Cobalt	1.0	.004	.17		
Copper	10	.042	1.9		
Iron	50	.86	19		
Lead	3.0	.018	.52		
Magnesium	500	.3	46		
Manganese	4.0	.014	.63		
Molybdenum	2.0	.03	.45		
Nickel	8.0	.034	.95		
Potassium	500	1.4	68		
Selenium	2.0	.14	.55		
Silver	2.0	.008	.16		
Sodium	500	2.1	140		
Strontium	20	.006	2.4		
Thallium	2.0	.008	.17		
Tin	10	.14	2.6		
Titanium	4.0	.07	1.6		
Vanadium	3.0	.018	1.8		
Zinc	20	.058	5.4		

Associated samples MP18781: JC99822-1, JC99822-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781
Matrix Type: AQUEOUS

Methods: SW846 6020B
Units: ug/l

Prep Date: 12/10/19

Metal	JC99822-1 Original	MS	Spikelot MP6020AQ3%	Rec	QC Limits
Aluminum					
Antimony					
Arsenic	1640	1690	80	62.5 (a)	75-125
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead	anr				
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP18781: JC99822-1, JC99822-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781 Methods: SW846 6020B
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 12/10/19

Metal	JC99822-1 Original	MSD	Spikelot MP6020AQ3%	Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	1640	1720	80	100.0	1.8	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead	anr					
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP18781: JC99822-1, JC99822-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781
Matrix Type: AQUEOUS

Methods: SW846 6020B
Units: ug/l

Prep Date: 12/10/19

Metal	BSP Result	Spikelot MP6020AQ3%	Rec	QC Limits
Aluminum				
Antimony				
Arsenic	72.6	80	90.8	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	anr			
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP18781: JC99822-1, JC99822-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781
Matrix Type: AQUEOUS

Methods: SW846 6020B
Units: ug/l

Prep Date: 12/10/19

Metal	JC99822-1 Original	SDL 2:10	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	1640	1600	2.5	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	anr			
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP18781: JC99822-1, JC99822-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

POST DIGESTATE SPIKE SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781
Matrix Type: AQUEOUS

Methods: SW846 6020B
Units: ug/l

Prep Date: 12/10/19

Metal	Sample ml	Final ml	JC99822-1 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony										
Barium										
Beryllium										
Boron										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Magnesium										
Manganese										
Molybdenum										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Vanadium										
Zinc										

Associated samples MP18781: JC99822-1, JC99822-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781A
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 12/10/19

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	14	46		
Antimony	6.0	1.3	4.7		
Arsenic	5.0	1.5	2.8		
Barium	200	.3	13		
Beryllium	2.0	.1	.5		
Bismuth	20	3.3	4		
Boron	200	.8	63		
Cadmium	3.0	.1	1		
Calcium	5000	2.3	99		
Chromium	10	.5	2		
Cobalt	50	.4	2.6		
Copper	10	.8	5.9		
Iron	100	4.4	32	2.8	<100
Lead	5.0	1.1	1.8		
Lithium	50	4.4	7.3		
Magnesium	5000	14	140		
Manganese	15	.1	1.4	0.0	<15
Molybdenum	20	.7	3.6		
Nickel	10	.3	1.7		
Phosphorus	50	2.4	18		
Potassium	10000	140	200		
Selenium	10	1.8	4.9		
Silicon	200	2.2	100		
Silver	10	.5	1.9		
Sodium	10000	34	570		
Strontium	10	.1	1		
Sulfur	100	9.8	45		
Thallium	10	1.3	1.8		
Tin	10	.9	3.7		
Titanium	10	.3	2.5		
Tungsten	100	3.9	40		
Vanadium	50	.3	1.8		
Zinc	20	1.3	6.9		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781A
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 12/10/19

Metal	RL	IDL	MDL	MB raw	final
Zirconium	10	.2	4.1		

Associated samples MP18781A: JC99822-1, JC99822-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781A
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 12/10/19

Metal	JC99822-1 Original	MS	Spikelot MPSPK2	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium	anr				
Beryllium					
Bismuth					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron	65900	88700	25000	91.2	75-125
Lead					
Lithium					
Magnesium	anr				
Manganese	1920	3730	2000	90.5	75-125
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium					
Strontium					
Sulfur					
Thallium					
Tin					
Titanium					
Tungsten					
Vanadium					
Zinc					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781A
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 12/10/19

Metal	JC99822-1 Original MS	Spikelot MPSPK2	% Rec	QC Limits
Zirconium				

Associated samples MP18781A: JC99822-1, JC99822-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781A
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 12/10/19

Metal	JC99822-1 Original	MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium	anr					
Beryllium						
Bismuth						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron	65900	91600	25000	102.8	3.2	20
Lead						
Lithium						
Magnesium	anr					
Manganese	1920	3760	2000	92.0	0.8	20
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium						
Strontium						
Sulfur						
Thallium						
Tin						
Titanium						
Tungsten						
Vanadium						
Zinc						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781A
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 12/10/19

Metal	JC99822-1 Original MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Zirconium					

Associated samples MP18781A: JC99822-1, JC99822-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781A
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 12/10/19

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium	anr			
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron	25900	25000	103.6	80-120
Lead				
Lithium				
Magnesium	anr			
Manganese	1890	2000	94.5	80-120
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781A
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 12/10/19

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Zirconium				

Associated samples MP18781A: JC99822-1, JC99822-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781A
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 12/10/19

Metal	JC99822-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium	anr			
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron	65900	66200	0.5	0-10
Lead				
Lithium				
Magnesium	anr			
Manganese	1920	2030	5.9	0-10
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc				

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781A
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 12/10/19

Metal	JC99822-1 Original SDL 1:5	%DIF	QC Limits
Zirconium			

Associated samples MP18781A: JC99822-1, JC99822-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

POST DIGESTATE SPIKE SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781A
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 12/10/19

Metal	Sample ml	Final ml	JC99822-1 Raw	JC99822-1 Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Bismuth										
Boron										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron	19.25	20	65900	63428.75	84160	0.1	5000	25000	82.9	80-120
Lead										
Lithium										
Magnesium										
Manganese	19.25	20	1920	1848	3487	0.2	200	2000	82.0	80-120
Molybdenum										
Nickel										
Phosphorus										
Potassium										
Selenium										
Silicon										
Silver										
Sodium										
Strontium										
Sulfur										
Thallium										
Tin										
Titanium										
Tungsten										
Vanadium										
Zinc										

POST DIGESTATE SPIKE SUMMARY

Login Number: JC99822
Account: SCMAW - Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

QC Batch ID: MP18781A
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 12/10/19

Metal	Sample ml	Final ml	JC99822-1 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Zirconium										

Associated samples MP18781A: JC99822-1, JC99822-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

Instrument Detection Limits

Job Number: JC99822
Account: SCMAW Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

Instrument ID: AGICPMS1 **Effective Date:** 01/31/19

Analyte	IDL ug/l
Aluminum	.045
Aluminum	.276
Antimony	.094
Arsenic	.12
Arsenic	.013
Barium	.008
Beryllium	.004
Boron	.648
Cadmium	.007
Cadmium	.004
Calcium	6.11
Chromium	.036
Chromium	.014
Cobalt	.0041
Cobalt	.002
Copper	.1044
Copper	.021
Iron	1.21
Iron	.432
Lead	.009
Magnesium	.033
Magnesium	.152
Manganese	.006
Manganese	.007
Molybdenum	.015
Nickel	.046
Nickel	.017
Potassium	.506
Potassium	.707
Selenium	.503
Selenium	.072
Silver	.004
Sodium	.357
Sodium	1.037
Strontium	.003
Thallium	.004
Tin	.025
Tin	.071
Titanium	.035
Titanium	.035
Vanadium	.112
Vanadium	.009
Zinc	.041
Zinc	.029

Instrument Detection Limits

Job Number: JC99822
Account: SCMAW Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

Instrument ID: AGICPMS1 **Effective Date:** 01/31/19

Analyte	IDL ug/l

The above applies to the following instrument runs:
MA47956,MA47968

Instrument Detection Limits

Job Number: JC99822
Account: SCMAW Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

Instrument ID: SSTRACE4 **Effective Date:** 01/16/19

Analyte	IDL ug/l
Aluminum	13.7
Antimony	1.3
Arsenic	1.5
Barium	.3
Beryllium	.1
Bismuth	3.3
Boron	.8
Cadmium	.1
Calcium	2.3
Chromium	.5
Cobalt	.4
Copper	.8
Iron	4.4
Lead	1.1
Lithium	4.4
Magnesium	13.6
Manganese	.1
Molybdenum	.7
Nickel	.3
Phosphorus	2.4
Potassium	135.6
Selenium	1.8
Silicon	2.2
Silver	.5
Sodium	33.9
Sulfur	9.8
Strontium	.1
Thallium	1.3
Tin	.9
Titanium	.3
Tungsten	3.9
Vanadium	.3
Zinc	1.3
Zirconium	.2

The above applies to the following instrument runs:
MA47940

Instrument Linear Ranges

Job Number: JC99822
Account: SCMAW Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

Instrument ID: AGICPMS1 **Effective Date:** 09/10/18

Analyte	Linear Range ug/l
Aluminum	10000
Aluminum	10000
Antimony	100
Arsenic	100
Arsenic	100
Barium	100
Beryllium	100
Boron	200
Cadmium	100
Cadmium	100
Calcium	10000
Chromium	100
Chromium	100
Cobalt	100
Cobalt	100
Copper	100
Copper	100
Iron	10000
Iron	10000
Lithium	100
Lead	100
Magnesium	10000
Magnesium	10000
Manganese	100
Manganese	100
Molybdenum	100
Nickel	100
Nickel	100
Potassium	10000
Potassium	10000
Selenium	400
Selenium	400
Silver	100
Sodium	10000
Sodium	10000
Strontium	100
Thallium	100
Tin	100
Tin	100
Titanium	100
Titanium	100
Tungsten	100
Uranium	100
Vanadium	100
Vanadium	100
Zinc	100

Instrument Linear Ranges

Job Number: JC99822
Account: SCMAW Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

Instrument ID: AGICPMS1 **Effective Date:** 09/10/18

Analyte	Linear Range ug/l
Zinc	100

The above applies to the following instrument runs:
MA47956,MA47968

Instrument Linear Ranges

Job Number: JC99822
Account: SCMAW Sovereign Consulting
Project: Shepley's Hill (SHL), Devens, MA

Instrument ID: SSTRACE4 **Effective Date:** 08/22/19

Analyte	Linear Range ug/l
Aluminum	300000
Antimony	8000
Arsenic	8000
Barium	8000
Beryllium	8000
Bismuth	8000
Boron	8000
Cadmium	8000
Calcium	200000
Cerium	8000
Chromium	8000
Cobalt	8000
Copper	8000
Iron	200000
Lead	8000
Lithium	8000
Magnesium	300000
Manganese	8000
Molybdenum	8000
Nickel	8000
Palladium	8000
Phosphorus	8000
Potassium	200000
Selenium	8000
Silicon	25000
Silver	625
Sodium	200000
Sulfur	100000
Strontium	8000
Thallium	8000
Tin	8000
Titanium	8000
Tungsten	8000
Vanadium	8000
Zinc	8000
Zirconium	8000

The above applies to the following instrument runs:
MA47940

Metals Analysis

Raw Data

Zoom In ▶ Zoom Out

Sample Name: STDA Acquired: 12/10/2019 10:46:53 Type: Cal
Method: SGS No Vlave3(v335) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0023**	**-.0001**	**.0004**	**-.0001**	**-.0000**	**.0023**	**.0001**	**.0003**	**-.0002**
Stddev	.0003	.0000	.0001	.0001	.0000	.0000	.0000	.0001	.0000
%RSD	11.26	8.020	35.85	60.28	45.33	1.878	18.41	14.69	.7145
#1	.0021	-.0001	.0003	-.0001	-.0000	.0022	.0001	.0004	-.0002
#2	.0026	-.0001	.0003	-.0001	-.0000	.0023	.0001	.0004	-.0002
#3	.0021	-.0002	.0006	-.0002	-.0001	.0023	.0001	.0003	-.0002

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0000**	**.0001**	**-.0003**	**-.0000**	**.0001**	**.0003**	**-.0000**	**.0002**	**.0047**
Stddev	.0000	.0001	.0001	.0000	.0001	.0000	.0001	.0001	.0000
%RSD	67.32	49.47	16.03	55.73	66.93	8.288	971.1	63.44	.9741
#1	.0000	.0001	-.0003	-.0000	.0002	.0003	.0001	.0001	.0048
#2	.0000	.0001	-.0003	-.0000	.0002	.0003	-.0001	.0001	.0047
#3	.0001	.0002	-.0003	-.0001	.0000	.0002	-.0001	.0004	.0047

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0001**	**-.0000**	**.0004**	**-.0025**	**.0004**	**-.0003**	**.0018**	**.0001**	**-.0014**
Stddev	.0000	.0000	.0003	.0002	.0000	.0000	.0002	.0001	.0001
%RSD	72.95	63.45	60.45	8.054	9.894	11.81	10.27	43.06	8.345
#1	.0001	-.0000	.0003	-.0025	.0005	-.0003	.0020	.0001	-.0013
#2	.0001	-.0000	.0003	-.0027	.0004	-.0002	.0017	.0002	-.0015
#3	.0000	-.0000	.0008	-.0023	.0004	-.0003	.0017	.0001	-.0015

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0001**	**.0001**	**-.0002**	**-.0012**	**-.0000**	**-.0001**	**-.0058**	**.0000**
Stddev	.0000	.0001	.0000	.0001	.0001	.0003	.0000	.0000
%RSD	33.95	180.5	12.12	5.821	226.6	219.4	.6490	1010.
#1	.0001	-.0000	-.0002	-.0013	-.0001	-.0001	-.0058	.0000
#2	.0001	.0001	-.0002	-.0013	.0000	-.0005	-.0059	.0000
#3	.0001	.0000	-.0003	-.0012	-.0000	.0001	-.0058	-.0000

◀ Zoom In ▶ Zoom Out

Sample Name: STDA Acquired: 12/10/2019 10:46:53 Type: Cal
Method: SGS No Vlave3(v335) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**279040.**	**32697.**	**8423.1**	**15047.**
Stddev	1780.	194.	86.7	150.
%RSD	.63804	.59257	1.0296	.99541
#1	277710.	32503.	8336.0	14904.
#2	281060.	32698.	8424.0	15035.
#3	278340.	32891.	8509.4	15203.

◀ Zoom In ▶ Zoom Out

Sample Name: STDB Acquired: 12/10/2019 10:52:01 Type: Cal
Method: SGS No Vlave3(v335) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4.916**	**7.469**	**3.265**	**2.097**	**.3160**	**.7307**	**1.851**	**1.527**	**.0473**
Stddev	.012	.021	.010	.006	.0027	.0063	.015	.004	.0005
%RSD	.2489	.2812	.3142	.2846	.8508	.8582	.7911	.2658	1.040
#1	4.911	7.454	3.274	2.099	.3131	.7234	1.835	1.530	.0467
#2	4.907	7.460	3.267	2.102	.3164	.7343	1.858	1.530	.0476
#3	4.930	7.493	3.254	2.090	.3184	.7343	1.861	1.523	.0476

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.4279**	**3.316**	**.2848**	**.1774**	**.5682**	**.2363**	**.4365**	**1.892**	**3.765**
Stddev	.0034	.013	.0004	.0005	.0017	.0009	.0013	.008	.018
%RSD	.7909	.3810	.1485	.2924	.3021	.3652	.3073	.4087	.4878
#1	.4243	3.316	.2849	.1771	.5687	.2357	.4379	1.889	3.760
#2	.4284	3.329	.2851	.1780	.5695	.2373	.4364	1.886	3.750
#3	.4310	3.304	.2843	.1771	.5662	.2359	.4352	1.901	3.785

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2.690**	**.3324**	**1.243**	**4.121**	**.6669**	**2.209**	**1.645**	**.5063**	**10.82**
Stddev	.009	.0005	.003	.012	.0020	.006	.005	.0017	.08
%RSD	.3363	.1519	.2666	.2843	.3031	.2806	.2820	.3343	.7547
#1	2.686	.3318	1.243	4.120	.6690	2.210	1.649	.5063	10.84
#2	2.683	.3326	1.240	4.110	.6669	2.214	1.644	.5079	10.73
#3	2.700	.3328	1.246	4.133	.6650	2.202	1.640	.5045	10.89

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.4204**	**1.047**	**.9317**	**.1230**	**.6054**	**1.259**	**.1905**	**.0820**
Stddev	.0029	.003	.0073	.0006	.0012	.002	.0007	.0006
%RSD	.6990	.3258	.7783	.4732	.2040	.1649	.3469	.7765
#1	.4172	1.047	.9237	.1234	.6065	1.257	.1911	.0813
#2	.4210	1.051	.9337	.1232	.6057	1.260	.1907	.0823
#3	.4230	1.044	.9378	.1223	.6041	1.262	.1898	.0825

◀ Zoom In ▶ Zoom Out

Sample Name: STDB Acquired: 12/10/2019 10:52:01 Type: Cal
Method: SGS No Vlave3(v335) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**265340.**	**32013.**	**7878.4**	**13551.**
Stddev	1730.	83.	19.9	34.
%RSD	.65187	.25774	.25314	.24873
#1	267170.	31949.	7864.4	13533.
#2	265120.	32106.	7869.5	13531.
#3	263730.	31985.	7901.2	13590.

Zoom In Zoom Out

Sample Name: CCVCONF Acquired: 12/10/2019 10:57:06 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.005**	**2.018**	**2.022**	**1.992**	**1.996**	**1.942**	**2.021**	**2.016**	**.2435**
Stddev	.004	.004	.001	.002	.014	.013	.015	.003	.0012
%RSD	.1757	.1818	.0424	.0781	.6761	.6727	.7237	.1413	.4884
#1	2.008	2.022	2.023	1.993	2.010	1.957	2.033	2.017	.2449
#2	2.007	2.019	2.022	1.992	1.995	1.936	2.025	2.018	.2430
#3	2.001	2.015	2.021	1.990	1.983	1.933	2.005	2.013	.2426
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.976**	**2.029**	**1.982**	**2.025**	**2.005**	**1.976**	**1.990**	**39.59**	**40.28**
Stddev	.012	.004	.004	.007	.004	.008	.003	.03	.05
%RSD	.6076	.1934	.1880	.3480	.2034	.3995	.1294	.0651	.1134
#1	1.988	2.034	1.985	2.030	2.010	1.985	1.988	39.56	40.33
#2	1.976	2.028	1.978	2.028	2.003	1.969	1.993	39.61	40.26
#3	1.964	2.026	1.982	2.017	2.003	1.976	1.989	39.59	40.26
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.33**	**39.71**	**39.67**	**39.84**	**1.993**	**2.016**	**4.877**	**2.031**	**2.034**
Stddev	.05	.10	.06	.01	.002	.004	.003	.002	.002
%RSD	.1355	.2566	.1531	.0371	.1198	.1737	.0600	.0833	.1066
#1	40.39	39.83	39.74	39.85	1.994	2.020	4.879	2.032	2.035
#2	40.30	39.69	39.66	39.85	1.990	2.014	4.878	2.029	2.035
#3	40.29	39.63	39.62	39.82	1.994	2.013	4.874	2.030	2.032
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CCVCONF Acquired: 12/10/2019 10:57:06 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.982**	**1.980**	**1.980**	**1.941**	**1.982**	**1.994**	**1.979**	**1.969**
Stddev	.011	.003	.012	.004	.001	.004	.006	.008
%RSD	.5493	.1626	.6038	.2102	.0421	.2132	.3097	.3905
#1	1.992	1.983	1.993	1.943	1.982	1.998	1.984	1.977
#2	1.982	1.978	1.978	1.936	1.981	1.994	1.981	1.968
#3	1.971	1.977	1.969	1.943	1.981	1.989	1.972	1.962
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**272840.**	**32217.**	**8065.5**	**13947.**
Stddev	1567.	102.	9.4	13.
%RSD	.57422	.31556	.11693	.09612
#1	271420.	32188.	8058.8	13932.
#2	272580.	32330.	8076.3	13958.
#3	274520.	32133.	8061.5	13951.

Zoom In Zoom Out

Sample Name: CCBCONF Acquired: 12/10/2019 11:02:05 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**.0001**	**.0003**	**.0002**	**.0004**	**.0003**	**.0000**	**.0000**	**-.0001**
Stddev	.0002	.0000	.0002	.0000	.0002	.0002	.0000	.0002	.0001
%RSD	1094.	22.24	59.84	22.22	42.21	75.04	92.58	1028.	65.80
#1	-.0003	.0001	.0005	.0002	.0003	.0004	-.0000	-.0002	-.0000
#2	.0001	.0001	.0002	.0002	.0003	.0005	.0001	.0002	-.0002
#3	.0001	.0001	.0002	.0003	.0006	.0000	.0001	.0000	-.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0001**	**-.0000**	**-.0007**	**.0006**	**-.0000**	**.0006**	**-.0036**	**.0030**
Stddev	.0001	.0001	.0013	.0008	.0002	.0011	.0004	.0108	.0010
%RSD	75.30	106.5	4266.	108.4	34.64	23610.	72.42	297.4	34.31
#1	-.0000	-.0000	-.0002	-.0007	.0004	-.0004	.0011	-.0113	.0040
#2	-.0003	-.0000	-.0012	.0000	.0006	-.0008	.0002	-.0084	.0019
#3	-.0002	-.0001	.0014	-.0016	.0009	.0012	.0006	.0087	.0030
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0081**	**.0452**	**.0187**	**.0040**	**.0000**	**.0009**	**.0006**	**-.0000**
Stddev	.0019	.0183	.0097	.0044	.0006	.0001	.0003	.0003	.0001
%RSD	1088.	227.8	21.36	23.54	15.82	284.1	32.75	45.27	150.8
#1	.0017	-.0261	.0550	.0229	.0047	.0001	.0010	.0007	.0000
#2	.0007	-.0086	.0449	.0192	.0037	.0000	.0011	.0007	-.0001
#3	-.0019	.0106	.0357	.0141	.0036	-.0000	.0006	.0003	-.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: CCBCONF Acquired: 12/10/2019 11:02:05 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0003**	**.0001**	**-.0017**	**-.0002**	F **.0023**	**.0008**	**-.0036**
Stddev	.0001	.0004	.0001	.0013	.0014	.0007	.0011	.0031
%RSD	95.40	124.4	229.1	75.47	902.1	28.21	138.2	85.65
#1	-.0000	.0007	.0000	-.0007	.0014	.0026	-.0005	-.0024
#2	-.0001	-.0001	-.0001	-.0013	-.0006	.0016	.0014	-.0072
#3	-.0002	.0005	.0002	-.0032	-.0012	.0028	.0016	-.0014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
High Limit						.0023		
Low Limit						-.0023		

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**280180.**	**32382.**	**8297.2**	**14942.**
Stddev	3403.	135.	69.2	112.
%RSD	1.2147	.41805	.83447	.75147
#1	277580.	32233.	8261.4	14884.
#2	278930.	32418.	8253.2	14872.
#3	284030.	32497.	8377.0	15072.

Zoom In Zoom Out

Sample Name: ICV 5 Acquired: 12/10/2019 11:07:16 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.950**	**1.966**	**1.968**	**1.938**	**1.971**	**1.971**	**1.968**	**1.935**	**.2570**
Stddev	.001	.002	.003	.003	.009	.010	.017	.002	.0027
%RSD	.0508	.1075	.1647	.1301	.4528	.5161	.8660	.1028	1.060
#1	1.951	1.966	1.972	1.940	1.981	1.979	1.987	1.936	.2596
#2	1.949	1.964	1.965	1.939	1.970	1.975	1.954	1.935	.2573
#3	1.950	1.968	1.968	1.935	1.963	1.960	1.964	1.932	.2542
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.944**	**1.974**	**1.969**	**1.937**	**1.950**	**1.991**	**1.966**	**39.28**	**40.35**
Stddev	.005	.002	.006	.004	.002	.003	.004	.06	.12
%RSD	.2348	.1213	.3107	.2032	.0766	.1243	.1841	.1642	.2877
#1	1.949	1.976	1.975	1.939	1.950	1.994	1.970	39.30	40.42
#2	1.943	1.975	1.969	1.933	1.951	1.990	1.964	39.32	40.40
#3	1.941	1.972	1.963	1.940	1.948	1.989	1.964	39.20	40.21
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.25**	**39.30**	**40.03**	**39.90**	**1.983**	**1.960**	**5.009**	**1.967**	**1.983**
Stddev	.09	.02	.16	.14	.004	.001	.011	.003	.002
%RSD	.2161	.0437	.3954	.3485	.2064	.0685	.2239	.1499	.0815
#1	40.30	39.31	40.14	39.99	1.987	1.961	5.022	1.971	1.985
#2	40.30	39.30	40.11	39.97	1.982	1.959	5.004	1.965	1.984
#3	40.15	39.28	39.85	39.74	1.979	1.959	5.001	1.966	1.982
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ICV 5 Acquired: 12/10/2019 11:07:16 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.949**	**1.903**	**1.936**	**1.936**	**1.967**	**2.001**	**1.924**	F **.6691**
Stddev	.005	.003	.007	.006	.004	.002	.004	.0654
%RSD	.2833	.1475	.3641	.3215	.2260	.0878	.1807	9.772
#1	1.955	1.906	1.943	1.942	1.972	2.002	1.928	.6006
#2	1.947	1.900	1.937	1.930	1.964	2.000	1.921	.6757
#3	1.945	1.902	1.929	1.937	1.966	1.999	1.923	.7309
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
Value								2.000
Range								-5.000%

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**271370.**	**32150.**	**8040.7**	**13963.**
Stddev	1484.	182.	20.5	33.
%RSD	.54689	.56734	.25535	.23397
#1	269670.	32148.	8017.9	13933.
#2	272000.	31969.	8046.6	13959.
#3	272430.	32334.	8057.7	13998.

Zoom In Zoom Out

Sample Name: ICB Acquired: 12/10/2019 11:12:14 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	F **.0002**	**.0001**	**.0001**	**.0003**	**.0005**	**.0001**	**.0001**	**.0001**
Stddev	.0001	.0000	.0000	.0002	.0001	.0001	.0000	.0001	.0002
%RSD	188.9	13.08	24.18	310.9	46.13	19.03	7.250	192.3	215.6
#1	-.0000	.0002	.0001	.0001	.0002	.0004	.0001	-.0001	.0001
#2	-.0000	.0001	.0001	.0003	.0005	.0006	.0001	.0000	-.0001
#3	.0002	.0002	.0001	-.0002	.0003	.0006	.0001	.0002	.0002
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		.0001							
Low Limit		-.0001							

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**-.0001**	**.0002**	**-.0004**	**.0004**	**.0004**	**.0007**	**-.0063**	**.0058**
Stddev	.0003	.0001	.0009	.0008	.0003	.0019	.0013	.0068	.0017
%RSD	145.4	122.3	369.0	221.2	79.75	500.7	176.6	109.0	29.11
#1	-.0006	-.0001	.0012	.0001	.0000	-.0004	-.0004	-.0074	.0056
#2	-.0002	-.0001	-.0005	-.0013	.0007	.0026	.0021	-.0125	.0076
#3	.0001	.0000	.0001	.0001	.0006	-.0010	.0004	.0011	.0042
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0016**	**-.0116**	**.0484**	**.0194**	**.0036**	**.0001**	**.0003**	**.0001**	**.0000**
Stddev	.0031	.0085	.0120	.0006	.0007	.0001	.0004	.0002	.0000
%RSD	197.4	73.85	24.73	3.123	20.21	264.1	127.7	176.8	111.7
#1	.0022	-.0052	.0617	.0187	.0038	.0002	-.0001	-.0001	.0001
#2	.0043	-.0082	.0449	.0199	.0042	-.0001	.0006	.0004	.0000
#3	-.0018	-.0213	.0386	.0194	.0028	.0001	.0004	.0002	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ICB Acquired: 12/10/2019 11:12:14 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0021**	**.0002**	**-.0001**	**-.0000**	**.0023**	**-.0004**	**.0005**
Stddev	.0001	.0007	.0001	.0016	.0010	.0004	.0011	.0017
%RSD	87.07	33.87	36.25	1460.	3326.	16.99	291.6	339.5
#1	.0002	.0018	.0003	-.0016	-.0012	.0024	.0007	.0009
#2	-.0000	.0028	.0002	.0017	.0004	.0018	-.0004	.0020
#3	.0003	.0015	.0002	-.0004	.0007	.0026	-.0015	-.0013
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**280570.**	**32291.**	**8258.5**	**14906.**
Stddev	426.	46.	52.3	81.
%RSD	.15185	.14274	.63300	.54192
#1	280630.	32339.	8317.0	14994.
#2	280970.	32286.	8242.0	14888.
#3	280120.	32248.	8216.4	14835.

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 11:17:26 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.002**	**2.020**	**2.029**	**1.985**	**1.994**	**1.944**	**1.999**	**2.002**	**.2424**
Stddev	.003	.002	.001	.004	.025	.025	.025	.004	.0029
%RSD	.1456	.0723	.0489	.1959	1.281	1.305	1.245	.1740	1.177
#1	2.003	2.019	2.028	1.986	1.978	1.929	1.993	2.004	.2409
#2	2.005	2.019	2.028	1.988	1.980	1.929	1.978	2.004	.2406
#3	1.999	2.022	2.030	1.981	2.023	1.973	2.027	1.998	.2457
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.965**	**2.027**	**1.976**	**1.997**	**1.987**	**1.967**	**1.986**	**39.79**	**40.36**
Stddev	.024	.003	.002	.015	.005	.008	.004	.02	.11
%RSD	1.223	.1683	.1125	.7344	.2662	.4016	.2012	.0527	.2752
#1	1.953	2.023	1.975	1.980	1.987	1.959	1.986	39.78	40.33
#2	1.950	2.030	1.979	2.002	1.992	1.965	1.982	39.78	40.26
#3	1.993	2.027	1.975	2.009	1.982	1.975	1.990	39.81	40.48
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.26**	**39.63**	**39.67**	**39.84**	**1.991**	**2.016**	**4.867**	**2.038**	**2.038**
Stddev	.07	.13	.04	.04	.004	.002	.006	.001	.001
%RSD	.1767	.3163	.1053	.1096	.1789	.1061	.1234	.0623	.0501
#1	40.23	39.55	39.66	39.82	1.989	2.014	4.861	2.038	2.037
#2	40.21	39.56	39.71	39.89	1.988	2.017	4.868	2.036	2.039
#3	40.34	39.77	39.63	39.81	1.995	2.018	4.872	2.039	2.038
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 11:17:26 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.960**	**1.977**	**1.969**	**1.943**	**1.993**	**1.992**	**1.985**	**1.953**
Stddev	.021	.003	.023	.006	.004	.006	.003	.024
%RSD	1.088	.1532	1.170	.3146	.2085	.2965	.1479	1.210
#1	1.948	1.973	1.956	1.942	1.988	1.995	1.982	1.938
#2	1.947	1.978	1.955	1.937	1.994	1.995	1.988	1.941
#3	1.985	1.979	1.996	1.949	1.996	1.985	1.985	1.980
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**273060.**	**31970.**	**7992.9**	**13909.**
Stddev	3441.	59.	12.0	27.
%RSD	1.2603	.18409	.15044	.19363
#1	275100.	32031.	7979.1	13883.
#2	274990.	31965.	8001.4	13909.
#3	269080.	31914.	7998.1	13937.

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 11:22:26 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	F **.0002**	**.0002**	**.0003**	**.0004**	**.0003**	**.0001**	**.0001**	**-.0002**
Stddev	.0001	.0000	.0001	.0001	.0004	.0001	.0000	.0001	.0001
%RSD	315.4	18.09	34.15	21.08	104.5	47.74	17.36	95.75	27.42
#1	.0002	.0002	.0001	.0004	.0005	.0004	.0001	.0001	-.0003
#2	-.0000	.0002	.0003	.0003	-.0001	.0002	.0001	.0002	-.0002
#3	-.0000	.0001	.0002	.0002	.0007	.0002	.0001	-.0000	-.0002
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		.0001							
Low Limit		-.0001							

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0001**	**.0004**	**-.0005**	**.0001**	**-.0008**	**-.0003**	**-.0110**	**.0057**
Stddev	.0001	.0001	.0003	.0008	.0006	.0014	.0006	.0030	.0014
%RSD	46.94	148.7	67.33	169.4	705.0	173.2	184.8	27.59	23.86
#1	-.0001	.0002	.0006	.0003	.0008	-.0004	-.0010	-.0145	.0061
#2	-.0002	.0000	.0004	-.0004	-.0005	-.0024	.0003	-.0092	.0068
#3	-.0003	.0000	.0001	-.0014	-.0000	.0004	-.0003	-.0094	.0042
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0023**	**-.0011**	**.0381**	**.0198**	**.0042**	**.0002**	**.0006**	**.0004**	**.0000**
Stddev	.0005	.0074	.0139	.0017	.0010	.0001	.0013	.0003	.0001
%RSD	20.36	671.5	36.48	8.680	22.61	52.61	230.5	76.88	202.8
#1	.0029	.0019	.0328	.0217	.0053	.0003	-.0008	.0004	-.0000
#2	.0021	.0043	.0539	.0195	.0034	.0002	.0018	.0006	.0002
#3	.0020	-.0095	.0277	.0183	.0041	.0001	.0007	.0001	-.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 11:22:26 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0005**	**.0002**	**.0029**	**.0008**	F **.0027**	**.0012**	**-.0009**
Stddev	.0002	.0009	.0000	.0018	.0011	.0002	.0009	.0024
%RSD	92.55	167.5	23.90	63.31	137.5	6.633	75.37	257.2
#1	-.0000	.0012	.0002	.0014	.0012	.0029	.0002	-.0032
#2	.0003	.0008	.0002	.0049	.0016	.0026	.0016	.0016
#3	.0003	-.0005	.0001	.0023	-.0004	.0025	.0019	-.0012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
High Limit						.0023		
Low Limit						-.0023		

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**282120.**	**32421.**	**8336.1**	**15035.**
Stddev	1347.	69.	128.3	215.
%RSD	.47736	.21261	1.5390	1.4300
#1	282740.	32369.	8455.5	15243.
#2	280570.	32499.	8200.4	14813.
#3	283040.	32395.	8352.2	15050.

Zoom In Zoom Out

Sample Name: CRI Acquired: 12/10/2019 11:27:37 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2045**	**.0021**	**.0032**	**.0487**	**.0107**	**.0107**	**.0159**	**.0100**
Stddev	.0003	.0000	.0001	.0002	.0001	.0003	.0000	.0001
%RSD	.1488	1.039	2.512	.5047	.6794	2.692	.0796	.7490
#1	.2042	.0021	.0031	.0490	.0106	.0105	.0159	.0100
#2	.2048	.0021	.0033	.0485	.0108	.0110	.0159	.0100
#3	.2046	.0021	.0031	.0486	.0107	.0106	.0158	.0101
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0050**	**.0505**	**.0210**	**.0074**	**.0089**	**.0027**	**.0098**	**.0067**
Stddev	.0003	.0002	.0001	.0009	.0009	.0005	.0014	.0008
%RSD	6.460	.4211	.3024	12.50	9.954	17.08	14.27	11.45
#1	.0052	.0504	.0209	.0064	.0094	.0031	.0082	.0073
#2	.0046	.0507	.0210	.0077	.0079	.0022	.0106	.0071
#3	.0051	.0503	.0211	.0082	.0094	.0028	.0106	.0059
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2057**	**5.431**	**.1114**	**5.290**	**5.324**	**5.331**	**.1011**	**.0213**
Stddev	.0061	.003	.0016	.025	.022	.017	.0002	.0001
%RSD	2.982	.0519	1.471	.4708	.4130	.3144	.2184	.5727
#1	.2076	5.429	.1103	5.310	5.323	5.319	.1014	.0213
#2	.2107	5.431	.1106	5.299	5.303	5.324	.1011	.0211
#3	.1988	5.435	.1132	5.262	5.347	5.350	.1009	.0213
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Zoom In Zoom Out

Sample Name: CRI Acquired: 12/10/2019 11:27:37 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1825**	**.0116**	**.0103**	**.0103**	**.0526**	**.0104**	**.0525**	F **.0240**
Stddev	.0006	.0003	.0001	.0000	.0010	.0001	.0016	.0006
%RSD	.3217	2.733	.6797	.3470	1.925	.8318	2.983	2.379
#1	.1828	.0113	.0102	.0103	.0537	.0103	.0524	.0236
#2	.1818	.0115	.0104	.0103	.0525	.0105	.0542	.0238
#3	.1828	.0119	.0103	.0104	.0517	.0104	.0511	.0247
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
Value								.0200
Range								20.00%

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.0571**	**.0485**	F **-.0003**
Stddev	.0005	.0014	.0017
%RSD	.8255	2.924	621.8
#1	.0574	.0501	-.0019
#2	.0565	.0481	-.0005
#3	.0573	.0473	.0016
Check ?	Chk Pass	Chk Pass	Chk Fail
Value			.2000
Range			-20.00%

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**278850.**	**32369.**	**8197.2**	**14765.**
Stddev	1263.	71.	7.5	26.
%RSD	.45279	.22086	.09097	.17275
#1	278650.	32290.	8195.4	14765.
#2	277700.	32388.	8190.7	14740.
#3	280200.	32429.	8205.3	14791.

Zoom In Zoom Out

Sample Name: CRID Acquired: 12/10/2019 11:32:42 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **.0050**	F **.0020**	F **.0023**	F **.0037**	F **.0033**	**.0009**	F **.0040**	F **.0050**	**.0000**
Stddev	.0001	.0000	.0001	.0001	.0002	.0001	.0000	.0001	.0002
%RSD	2.613	.7447	5.931	3.932	5.247	13.82	.5643	1.254	397.3
#1	.0050	.0020	.0022	.0038	.0034	.0008	.0041	.0049	.0003
#2	.0048	.0020	.0022	.0036	.0031	.0009	.0040	.0051	-.0001
#3	.0050	.0020	.0024	.0039	.0032	.0010	.0040	.0050	.0000
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Fail	Chk Fail	None	Chk Fail	Chk Fail	None
Value	.0040	.0010	.0010	.0030	.0020		.0030	.0040	
Range	20.00%	20.00%	20.00%	20.00%	20.00%		20.00%	20.00%	

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **.0025**	**.0113**	**.0033**	**.0023**	**.0016**	**.0056**	**.0013**	**.1151**	**1.091**
Stddev	.0001	.0001	.0004	.0007	.0007	.0007	.0005	.0046	.005
%RSD	5.802	.9813	11.02	28.37	44.76	12.68	35.71	4.035	.4284
#1	.0024	.0112	.0037	.0020	.0016	.0064	.0013	.1204	1.095
#2	.0027	.0112	.0029	.0019	.0024	.0054	.0009	.1131	1.086
#3	.0025	.0114	.0033	.0030	.0009	.0050	.0019	.1118	1.093
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
Value	.0020								
Range	20.00%								

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0210**	**.1186**	**2.092**	**1.076**	**.0026**	**.0010**	**.0029**	**.0017**	**.0009**
Stddev	.0016	.0082	.005	.002	.0007	.0002	.0012	.0005	.0000
%RSD	7.530	6.946	.2194	.2135	27.68	18.76	41.69	27.14	4.345
#1	.0220	.1258	2.091	1.074	.0020	.0012	.0023	.0012	.0009
#2	.0192	.1203	2.096	1.078	.0025	.0010	.0043	.0018	.0010
#3	.0219	.1096	2.087	1.076	.0034	.0008	.0021	.0021	.0009
Check ?	None	Chk Pass	Chk Pass	Chk Pass	None	None	None	None	None
Value									
Range									

Zoom In Zoom Out

Sample Name: CRID Acquired: 12/10/2019 11:32:42 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0008**	**.0010**	**.0011**	**-.0021**	**.0005**	**.0011**	**.0003**	F **.0012**
Stddev	.0002	.0001	.0001	.0021	.0004	.0004	.0005	.0006
%RSD	21.34	9.184	13.10	97.28	82.82	40.86	140.7	48.58
#1	.0006	.0011	.0010	-.0035	.0006	.0009	.0004	.0006
#2	.0009	.0011	.0013	.0003	.0000	.0016	-.0002	.0011
#3	.0009	.0009	.0011	-.0031	.0007	.0007	.0008	.0017
Check ?	None	None	None	None	None	None	None	Chk Fail
Value								.0040
Range								-20.00%

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**281140.**	**32236.**	**8195.1**	**14815.**
Stddev	535.	253.	2.1	6.
%RSD	.19021	.78523	.02611	.03815
#1	280860.	31950.	8192.7	14814.
#2	281750.	32432.	8195.6	14809.
#3	280790.	32324.	8196.9	14821.

Zoom In Zoom Out

Sample Name: ICSA Acquired: 12/10/2019 11:37:50 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**-.0001**	**.0007**	**-.0002**	**.0007**	**.0017**	**-.0001**	**-.0001**	**.0002**
Stddev	.0002	.0000	.0001	.0000	.0003	.0001	.0002	.0004	.0002
%RSD	51.67	36.39	17.55	16.86	40.10	6.798	375.9	696.3	86.05
#1	.0003	-.0001	.0006	-.0002	.0007	.0016	.0002	.0004	.0001
#2	.0005	-.0001	.0008	-.0002	.0009	.0018	-.0002	-.0003	.0001
#3	.0002	-.0002	.0008	-.0002	.0004	.0018	-.0001	-.0003	.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0007**	**.0019**	**.0004**	**-.0005**	**.0003**	**-.0027**	**.0034**	**531.8**	**399.4**
Stddev	.0001	.0003	.0005	.0009	.0008	.0024	.0035	2.4	2.9
%RSD	17.29	14.38	126.6	183.4	235.0	90.29	104.3	.4482	.7217
#1	.0007	.0023	-.0000	-.0014	-.0006	-.0015	.0070	529.1	398.1
#2	.0008	.0018	.0003	-.0006	.0008	-.0011	.0031	533.5	402.7
#3	.0005	.0017	.0010	.0004	.0009	-.0054	-.0000	532.9	397.4
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**198.9**	**536.1**	**-.0513**	**-.0053**	**.0025**	**-.0015**	**-.0147**	**.0001**	**.0002**
Stddev	.6	.2	.0069	.0089	.0014	.0002	.0009	.0004	.0001
%RSD	.3209	.0353	13.52	168.3	57.00	16.20	5.850	353.5	28.43
#1	199.1	536.2	-.0592	.0048	.0009	-.0012	-.0146	.0004	.0002
#2	199.4	536.2	-.0481	-.0118	.0034	-.0016	-.0139	.0003	.0001
#3	198.1	535.9	-.0465	-.0089	.0033	-.0017	-.0156	-.0003	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ICSA Acquired: 12/10/2019 11:37:50 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0009**	**.0021**	**-.0110**	**-.0114**	**-.0089**	**-.0033**	**.0701**
Stddev	.0002	.0009	.0001	.0016	.0021	.0006	.0022	.0022
%RSD	70.35	100.7	2.770	14.78	18.07	6.723	67.56	3.196
#1	-.0003	.0004	.0021	-.0120	-.0102	-.0090	-.0033	.0726
#2	-.0000	.0004	.0020	-.0119	-.0101	-.0083	-.0010	.0681
#3	-.0004	.0020	.0021	-.0091	-.0137	-.0095	-.0055	.0696
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**254930.**	**31237.**	**7546.4**	**12638.**
Stddev	1714.	114.	9.2	8.
%RSD	.67229	.36601	.12147	.06159
#1	256000.	31140.	7541.3	12638.
#2	252950.	31207.	7540.9	12630.
#3	255830.	31363.	7557.0	12646.

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 12/10/2019 11:43:05 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5167**	**.5003**	**1.063**	**.4837**	**.4872**	**.5200**	**.5088**	**.9781**	**1.143**
Stddev	.0004	.0013	.001	.0006	.0044	.0035	.0032	.0018	.008
%RSD	.0801	.2570	.1069	.1322	.9125	.6707	.6376	.1849	.7242
#1	.5172	.5018	1.064	.4843	.4911	.5234	.5120	.9793	1.151
#2	.5166	.4996	1.064	.4837	.4883	.5202	.5089	.9789	1.144
#3	.5164	.4995	1.062	.4830	.4823	.5164	.5055	.9760	1.134
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4918**	**.9653**	**1.091**	**.9667**	**.9471**	**1.027**	**1.072**	**537.6**	**402.1**
Stddev	.0032	.0007	.003	.0027	.0018	.003	.002	4.4	1.6
%RSD	.6501	.0775	.3042	.2748	.1925	.2603	.1973	.8242	.4041
#1	.4947	.9649	1.088	.9636	.9490	1.028	1.072	538.3	403.0
#2	.4923	.9661	1.092	.9680	.9468	1.024	1.074	532.8	403.0
#3	.4883	.9647	1.094	.9685	.9454	1.028	1.070	541.6	400.2
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**202.1**	**533.9**	**-.0383**	**-.0061**	**.5003**	**.4982**	**.5127**	**.4874**	**.5191**
Stddev	.5	.4	.0097	.0048	.0003	.0005	.0022	.0009	.0005
%RSD	.2234	.0779	25.42	78.63	.0558	.1045	.4261	.1937	.0935
#1	202.5	534.3	-.0485	-.0051	.5002	.4985	.5126	.4881	.5196
#2	201.6	533.5	-.0291	-.0113	.5000	.4985	.5106	.4863	.5187
#3	202.1	533.8	-.0372	-.0018	.5006	.4976	.5150	.4877	.5188
Check ?	Chk Pass	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ICSAB Acquired: 12/10/2019 11:43:05 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5078**	**.4946**	**.5162**	**.4910**	**.5261**	**.5362**	**.4795**	F **.0689**
Stddev	.0034	.0018	.0037	.0020	.0006	.0005	.0007	.0025
%RSD	.6752	.3734	.7240	.4084	.1189	.0846	.1490	3.642
#1	.5109	.4965	.5193	.4927	.5258	.5360	.4788	.0711
#2	.5084	.4945	.5173	.4914	.5268	.5367	.4802	.0695
#3	.5041	.4928	.5121	.4888	.5256	.5359	.4795	.0662
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
Value								.5000
Range								-20.00%

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**256640.**	**31247.**	**7591.9**	**12740.**
Stddev	1852.	94.	3.5	12.
%RSD	.72143	.30156	.04642	.09788
#1	254760.	31173.	7591.8	12736.
#2	256700.	31353.	7588.5	12730.
#3	258460.	31215.	7595.5	12754.

Zoom In Zoom Out

Sample Name: HSTD Acquired: 12/10/2019 11:48:13 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.870**	**7.878**	**7.464**	**7.867**	**8.076**	**7.664**	**7.855**	**7.855**	**.5749**
Stddev	.082	.039	.012	.020	.023	.051	.034	.023	.0011
%RSD	1.042	.4907	.1653	.2577	.2830	.6726	.4382	.2963	.1942
#1	7.775	7.922	7.468	7.887	8.099	7.667	7.885	7.877	.5762
#2	7.920	7.863	7.474	7.869	8.077	7.611	7.863	7.856	.5744
#3	7.914	7.849	7.450	7.846	8.053	7.714	7.817	7.831	.5741
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.911**	**8.226**	**7.943**	**7.985**	**7.976**	**7.816**	**7.983**	**-.1214**	**-.1460**
Stddev	.025	.034	.015	.029	.025	.019	.016	.0053	.0047
%RSD	.3191	.4159	.1847	.3648	.3148	.2429	.1974	4.385	3.203
#1	7.935	8.259	7.953	8.015	8.002	7.822	7.983	-.1219	-.1481
#2	7.914	8.229	7.950	7.984	7.975	7.831	7.999	-.1265	-.1493
#3	7.884	8.191	7.926	7.957	7.952	7.795	7.967	-.1159	-.1407
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0762**	**-.0392**	**.2585**	**.0935**	**7.812**	**8.092**	**24.33**	**8.375**	**7.981**
Stddev	.0028	.0090	.0229	.0037	.015	.026	.06	.026	.093
%RSD	3.632	23.08	8.865	3.958	.1884	.3268	.2267	.3075	1.161
#1	.0733	-.0321	.2837	.0951	7.813	8.104	24.34	8.397	7.916
#2	.0764	-.0494	.2390	.0962	7.827	8.110	24.39	8.381	7.940
#3	.0788	-.0360	.2528	.0893	7.797	8.061	24.28	8.347	8.087
Check ?	None	None	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: HSTD Acquired: 12/10/2019 11:48:13 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.892**	**8.339**	**7.803**	**95.19**	**8.001**	**8.114**	**7.701**	**7.987**
Stddev	.043	.018	.022	.21	.014	.011	.029	.028
%RSD	.5414	.2138	.2767	.2233	.1797	.1367	.3791	.3521
#1	7.934	8.348	7.820	95.35	7.999	8.110	7.710	8.015
#2	7.894	8.351	7.811	95.27	8.016	8.126	7.725	7.986
#3	7.849	8.319	7.779	94.95	7.988	8.105	7.668	7.959
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**281860.**	**32400.**	**8263.7**	**15005.**
Stddev	1052.	147.	13.8	33.
%RSD	.37316	.45397	.16738	.21690
#1	280700.	32504.	8252.7	14968.
#2	282140.	32463.	8259.1	15015.
#3	282750.	32231.	8279.2	15031.

Zoom In Zoom Out

Sample Name: HSTD Acquired: 12/10/2019 11:54:04 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0005**	**.0007**	**-.0000**	**.0006**	**.0038**	**.0004**	**.0002**	**.0002**
Stddev	.0001	.0000	.0001	.0001	.0001	.0003	.0001	.0004	.0007
%RSD	28.00	9.875	8.755	1206.	13.70	7.296	33.13	262.2	436.1
#1	.0005	.0005	.0008	.0001	.0007	.0038	.0003	.0000	-.0006
#2	.0003	.0004	.0007	-.0002	.0005	.0041	.0003	-.0002	.0005
#3	.0003	.0005	.0006	-.0000	.0007	.0035	.0005	.0007	.0005
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**.0014**	**-.0003**	**-.0024**	**-.0018**	**.0012**	**-.0001**	**314.2**	**203.3**
Stddev	.0001	.0002	.0007	.0008	.0015	.0019	.0008	1.0	1.2
%RSD	16.48	11.28	197.3	32.81	82.86	165.7	1332.	.3077	.5988
#1	.0006	.0013	-.0001	-.0024	-.0001	-.0009	.0009	313.6	203.0
#2	.0006	.0014	-.0011	-.0016	-.0024	.0029	-.0004	315.3	204.6
#3	.0004	.0016	.0002	-.0031	-.0030	.0015	-.0007	313.6	202.2
Check ?	None	None	None	None	None	None	None	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**199.4**	**320.7**	**212.7**	**206.5**	**.0079**	**-.0006**	**-.0054**	**-.0002**	**.0002**
Stddev	.2	.4	.1	.5	.0007	.0003	.0004	.0016	.0000
%RSD	.0819	.1119	.0696	.2567	9.065	43.30	7.098	730.5	30.88
#1	199.3	320.3	212.6	206.8	.0086	-.0003	-.0056	.0007	.0002
#2	199.6	321.0	212.9	206.9	.0072	-.0006	-.0049	-.0021	.0001
#3	199.5	320.7	212.6	205.9	.0080	-.0009	-.0056	.0007	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None	None	None	None
Value									
Range									

Zoom In Zoom Out

Sample Name: HSTD Acquired: 12/10/2019 11:54:04 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0028**	**.0029**	**.0000**	**-.0107**	**.0118**	**-.0018**	**.0673**
Stddev	.0002	.0023	.0001	.0053	.0010	.0020	.0023	.0033
%RSD	160.8	82.17	1.755	590300.	8.950	16.59	127.8	4.957
#1	-.0001	.0031	.0028	-.0043	-.0118	.0140	.0002	.0711
#2	.0001	.0049	.0029	.0059	-.0102	.0104	-.0014	.0648
#3	-.0003	.0004	.0029	-.0016	-.0102	.0109	-.0044	.0661
Check ?	None	None	None	None	None	None	None	None
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**257430.**	**31137.**	**7653.7**	**12792.**
Stddev	1152.	96.	12.6	11.
%RSD	.44745	.30926	.16472	.08590
#1	257220.	31056.	7639.5	12780.
#2	256390.	31244.	7658.2	12795.
#3	258670.	31113.	7663.4	12802.

Zoom In Zoom Out

Sample Name: FECONF Acquired: 12/10/2019 11:59:33 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**-.0001**	**.0003**	**-.0001**	**.0002**	**.0013**	**.0009**	**-.0000**
Stddev	.0001	.0000	.0000	.0003	.0000	.0003	.0003	.0003
%RSD	85.39	44.30	8.369	322.9	13.92	20.98	26.75	563.0
#1	-.0001	-.0001	.0003	-.0003	.0002	.0014	.0007	-.0002
#2	-.0003	-.0001	.0003	.0003	.0002	.0010	.0012	.0003
#3	-.0000	-.0001	.0002	-.0002	.0002	.0016	.0010	-.0002

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0002**	**-.0006**	**-.0017**	F **-.0031**	**-.0017**	**.0013**	**-.0006**
Stddev	.0009	.0004	.0001	.0004	.0001	.0008	.0022	.0009
%RSD	521.1	181.7	10.27	25.91	2.800	45.40	163.1	148.9
#1	-.0004	.0002	-.0006	-.0012	-.0032	-.0013	-.0008	-.0017
#2	.0012	-.0002	-.0005	-.0021	-.0031	-.0013	.0013	-.0002
#3	-.0003	.0005	-.0007	-.0018	-.0031	-.0027	.0036	.0001

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0066**	**-.0195**	F **202.4**	**-.0525**	**.0751**	**.0605**	**.0037**	**.0007**
Stddev	.0040	.0015	2.0	.0131	.0170	.0007	.0003	.0001
%RSD	61.37	7.572	.9780	25.04	22.60	1.094	7.740	20.06
#1	-.0019	-.0207	200.2	-.0638	.0556	.0611	.0040	.0009
#2	-.0092	-.0200	203.9	-.0555	.0830	.0598	.0036	.0007
#3	-.0086	-.0178	203.2	-.0381	.0868	.0605	.0035	.0006

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**.0021**	**-.0001**	**-.0002**	**.0021**	**.0016**	**-.0016**	**-.0075**
Stddev	.0004	.0003	.0000	.0001	.0009	.0002	.0012	.0002
%RSD	68.74	13.12	51.25	33.48	40.53	14.50	74.31	2.467
#1	.0005	.0018	-.0001	-.0002	.0030	.0014	-.0021	-.0074
#2	.0011	.0024	-.0000	-.0001	.0013	.0019	-.0026	-.0073
#3	.0003	.0020	-.0001	-.0002	.0021	.0015	-.0003	-.0077

Zoom In Zoom Out

Sample Name: FECONF Acquired: 12/10/2019 11:59:33 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.0034**	**-.0073**	**.0681**
Stddev	.0011	.0003	.0023
%RSD	32.12	3.966	3.435
#1	.0026	-.0076	.0706
#2	.0029	-.0074	.0677
#3	.0046	-.0070	.0659

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**282410.**	**32343.**	**8312.1**	**15080.**
Stddev	802.	79.	12.5	12.
%RSD	.28401	.24352	.15035	.08285
#1	281490.	32432.	8318.4	15085.
#2	282950.	32313.	8320.3	15089.
#3	282790.	32284.	8297.8	15066.

Zoom In Zoom Out

Sample Name: CRCONF Acquired: 12/10/2019 12:04:48 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0000**	**.0007**	**-.0007**	F **10.59**	**.0002**	**-.0000**	**.0002**	**.0001**
Stddev	.0001	.0000	.0002	.0001	.08	.0001	.0000	.0001	.0001
%RSD	508.4	32.20	26.97	16.15	.7771	52.90	145.9	65.57	52.21
#1	.0000	.0001	.0008	-.0007	10.69	.0004	-.0001	.0003	.0002
#2	-.0001	.0000	.0005	-.0006	10.54	.0001	.0000	.0000	.0002
#3	.0002	.0000	.0008	-.0008	10.55	.0003	-.0000	.0002	.0001

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0132**	**.0053**	**-.0005**	**-.0002**	**-.0011**	**.0005**	**-.0044**	**-.0039**	**.0049**
Stddev	.0003	.0000	.0011	.0003	.0006	.0008	.0017	.0038	.0022
%RSD	2.264	.7704	197.3	158.7	49.95	163.3	39.60	98.47	45.66
#1	.0135	.0052	-.0007	.0001	-.0010	.0009	-.0063	-.0083	.0030
#2	.0131	.0053	.0006	-.0001	-.0007	-.0005	-.0040	-.0016	.0044
#3	.0129	.0053	-.0016	-.0005	-.0018	.0011	-.0029	-.0017	.0073

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0264**	**-.0178**	**.0385**	**.0363**	**.0044**	**.0007**	**.0033**	**.0009**	**.0001**
Stddev	.0007	.0131	.0068	.0012	.0003	.0000	.0004	.0002	.0001
%RSD	2.676	73.81	17.77	3.273	6.885	6.124	13.20	25.05	56.88
#1	.0272	-.0026	.0460	.0351	.0047	.0006	.0030	.0007	.0002
#2	.0261	-.0255	.0371	.0375	.0043	.0007	.0031	.0009	.0001
#3	.0258	-.0252	.0325	.0364	.0042	.0007	.0037	.0012	.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0007**	**.0046**	**-.0012**	**-.0028**	**.0006**	**.0029**	**-.0026**	**-.0001**
Stddev	.0004	.0000	.0001	.0017	.0005	.0009	.0005	.0012
%RSD	50.84	1.041	8.593	60.11	87.85	31.00	20.15	821.1
#1	-.0011	.0045	-.0011	-.0041	.0012	.0040	-.0020	.0008
#2	-.0006	.0046	-.0013	-.0009	.0002	.0025	-.0029	-.0015
#3	-.0004	.0045	-.0012	-.0033	.0003	.0023	-.0029	.0002

Zoom In Zoom Out

Sample Name: CRCONF Acquired: 12/10/2019 12:04:48 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**284570.**	**32958.**	**8205.8**	**14980.**
Stddev	1215.	168.	7.6	23.
%RSD	.42708	.51042	.09284	.15105
#1	283400.	33030.	8200.1	14964.
#2	285820.	33077.	8214.5	15006.
#3	284480.	32765.	8202.9	14969.

Zoom In Zoom Out

Sample Name: crid Acquired: 12/10/2019 12:10:07 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0037**	**.0010**	**.0009**	**.0027**	**.0023**	**.0004**	**.0029**	**.0035**	**.0000**
Stddev	.0002	.0001	.0001	.0001	.0002	.0001	.0000	.0000	.0003
%RSD	5.732	5.443	8.927	2.623	9.590	30.73	1.691	1.108	1274.
#1	.0039	.0009	.0010	.0026	.0021	.0003	.0028	.0035	.0001
#2	.0035	.0009	.0010	.0028	.0022	.0004	.0029	.0035	.0003
#3	.0036	.0010	.0008	.0027	.0026	.0006	.0029	.0035	-.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0019**	**.0098**	**.0027**	F **.0005**	**-.0003**	F **.0038**	**.0000**	**.0845**	**1.009**
Stddev	.0003	.0001	.0005	.0005	.0009	.0007	.0010	.0037	.003
%RSD	16.23	.8321	17.09	85.82	330.6	17.56	39950.	4.410	.2751
#1	.0016	.0098	.0022	.0010	-.0012	.0045	.0004	.0885	1.012
#2	.0022	.0099	.0027	.0001	.0004	.0038	.0008	.0812	1.010
#3	.0018	.0097	.0031	.0006	.0001	.0032	-.0012	.0837	1.006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	None	Chk Fail	None	Chk Pass	Chk Pass
Value				.0020		.0050			
Range				-20.00%		-20.00%			

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0029**	**.0895**	**1.979**	**1.013**	**.0036**	**-.0000**	**-.0002**	**.0005**	**-.0001**
Stddev	.0011	.0063	.013	.003	.0005	.0001	.0002	.0008	.0001
%RSD	37.01	7.019	.6672	.3025	14.26	344.4	103.1	139.1	70.62
#1	.0018	.0950	1.995	1.009	.0030	-.0001	-.0000	.0012	-.0001
#2	.0029	.0826	1.973	1.013	.0040	-.0000	-.0004	-.0003	-.0001
#3	.0039	.0908	1.971	1.015	.0038	.0001	-.0001	.0006	-.0000
Check ?	None	Chk Pass	Chk Pass	Chk Pass	None	None	None	None	None
Value									
Range									

Zoom In Zoom Out

Sample Name: crid Acquired: 12/10/2019 12:10:07 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0004**	**.0001**	**-.0037**	**-.0003**	**.0013**	**-.0010**	F **.0017**
Stddev	.0001	.0006	.0001	.0007	.0016	.0009	.0003	.0008
%RSD	45.82	160.6	176.9	18.96	579.1	68.80	29.95	49.84
#1	-.0002	-.0003	.0002	-.0038	-.0018	.0004	-.0013	.0017
#2	-.0001	.0006	-.0000	-.0043	.0014	.0021	-.0008	.0025
#3	-.0002	.0008	.0000	-.0029	-.0004	.0013	-.0009	.0008
Check ?	None	None	None	None	None	None	None	Chk Fail
Value								.0040
Range								-20.00%

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**285130.**	**32524.**	**8364.8**	**15065.**
Stddev	1904.	56.	12.5	13.
%RSD	.66787	.17311	.14908	.08809
#1	286940.	32470.	8378.4	15076.
#2	285320.	32583.	8361.9	15069.
#3	283150.	32519.	8354.0	15050.

Zoom In Zoom Out

Sample Name: ASCONF Acquired: 12/10/2019 12:15:16 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0001**	**.0002**	**.0001**	**.0006**	**.0006**	**.0000**	**-.0000**
Stddev	.0002	.0000	.0003	.0000	.0003	.0001	.0000	.0002
%RSD	184.6	14.51	186.5	16.95	51.85	13.12	130.0	543.4
#1	-.0003	.0001	.0003	.0001	.0010	.0006	-.0000	.0002
#2	.0001	.0001	.0003	.0001	.0003	.0005	.0000	-.0002
#3	-.0001	.0001	-.0002	.0001	.0005	.0007	.0000	-.0001

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**-.0002**	**-.0021**	**5.187**	F **-.0023**	**-.0007**	**-.0014**	**.0004**
Stddev	.0002	.0001	.0000	.015	.0003	.0007	.0008	.0004
%RSD	73.15	25.90	1.274	.2819	14.69	95.00	55.15	83.09
#1	.0003	-.0002	-.0020	5.171	-.0019	.0001	-.0016	.0008
#2	.0005	-.0002	-.0021	5.200	-.0024	-.0009	-.0005	.0001
#3	.0001	-.0003	-.0021	5.190	-.0026	-.0012	-.0020	.0003

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0114**	**.0651**	**.0022**	**.0017**	**.0191**	**.0381**	**.0033**	**-.0001**
Stddev	.0108	.0018	.0006	.0078	.0102	.0035	.0003	.0002
%RSD	95.05	2.748	25.78	470.5	53.39	9.228	10.24	260.8
#1	-.0043	.0639	.0026	.0028	.0186	.0342	.0033	.0001
#2	-.0060	.0642	.0015	-.0066	.0092	.0410	.0030	-.0002
#3	-.0239	.0671	.0023	.0088	.0296	.0391	.0036	-.0001

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0014**	**.0007**	**.0001**	**-.0002**	**.0027**	**.0003**	**.0067**	**-.0011**
Stddev	.0005	.0002	.0000	.0002	.0003	.0001	.0009	.0010
%RSD	36.04	20.81	13.14	130.0	10.06	36.61	13.88	92.48
#1	.0017	.0008	.0001	.0001	.0030	.0004	.0058	-.0002
#2	.0018	.0008	.0001	-.0003	.0025	.0002	.0077	-.0009
#3	.0008	.0006	.0001	-.0002	.0026	.0002	.0065	-.0022

Zoom In Zoom Out

Sample Name: ASCONF Acquired: 12/10/2019 12:15:16 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.0007**	**-.0013**	**.0010**
Stddev	.0005	.0016	.0003
%RSD	76.53	126.6	30.00
#1	.0002	-.0024	.0012
#2	.0007	.0006	.0006
#3	.0012	-.0020	.0010

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**286780.**	**32949.**	**8400.4**	**15176.**
Stddev	597.	153.	15.8	22.
%RSD	.20803	.46405	.18853	.14581
#1	286100.	32926.	8417.5	15201.
#2	287210.	32809.	8386.3	15161.
#3	287030.	33112.	8397.2	15165.

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 12:20:23 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.009**	**2.014**	**2.029**	**1.978**	**1.989**	**1.955**	**2.001**	**1.984**	**.2424**
Stddev	.001	.003	.006	.007	.018	.018	.012	.008	.0023
%RSD	.0591	.1678	.3039	.3636	.9064	.9331	.5887	.3925	.9288
#1	2.010	2.017	2.035	1.985	1.980	1.951	1.992	1.992	.2421
#2	2.008	2.011	2.023	1.971	2.009	1.976	2.015	1.976	.2448
#3	2.008	2.015	2.031	1.979	1.977	1.940	1.997	1.985	.2403
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.960**	**2.015**	**1.977**	**1.872**	**1.975**	**1.946**	**1.960**	**40.29**	**40.85**
Stddev	.015	.007	.006	.013	.007	.008	.007	.07	.11
%RSD	.7795	.3743	.3180	.6753	.3570	.4314	.3737	.1676	.2624
#1	1.954	2.022	1.980	1.871	1.980	1.956	1.966	40.33	40.94
#2	1.977	2.007	1.970	1.885	1.967	1.943	1.952	40.22	40.73
#3	1.948	2.017	1.981	1.860	1.978	1.940	1.963	40.33	40.87
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.59**	**40.00**	**40.20**	**40.21**	**1.967**	**1.999**	**4.835**	**2.035**	**2.050**
Stddev	.07	.08	.06	.05	.007	.007	.018	.007	.002
%RSD	.1838	.2057	.1512	.1260	.3749	.3471	.3721	.3381	.1191
#1	40.67	40.06	40.18	40.25	1.973	2.006	4.850	2.042	2.052
#2	40.52	39.90	40.16	40.16	1.958	1.992	4.815	2.028	2.047
#3	40.60	40.03	40.27	40.24	1.969	2.000	4.839	2.035	2.050
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 12:20:23 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.947**	**1.961**	**1.955**	**1.924**	**1.990**	**1.995**	**1.964**	**1.949**
Stddev	.010	.007	.016	.002	.008	.000	.002	.011
%RSD	.5051	.3579	.8202	.1164	.4060	.0183	.1220	.5469
#1	1.945	1.968	1.951	1.923	1.995	1.995	1.962	1.944
#2	1.958	1.954	1.972	1.927	1.981	1.994	1.962	1.961
#3	1.938	1.961	1.941	1.922	1.995	1.994	1.966	1.941
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**276500.**	**32121.**	**8090.4**	**14131.**
Stddev	2382.	52.	30.4	54.
%RSD	.86145	.16325	.37572	.38141
#1	278180.	32103.	8066.8	14082.
#2	273780.	32180.	8124.7	14189.
#3	277560.	32080.	8079.7	14122.

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 12:25:22 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	F **.0002**	**.0003**	**-.0001**	**.0006**	**.0005**	**.0001**	**.0000**	**-.0000**
Stddev	.0002	.0000	.0001	.0002	.0002	.0003	.0000	.0001	.0000
%RSD	247.3	25.97	35.88	389.8	29.88	54.55	35.65	869.0	470.5
#1	-.0003	.0001	.0002	-.0003	.0004	.0009	.0002	-.0002	.0000
#2	.0000	.0002	.0002	.0001	.0008	.0003	.0001	.0001	-.0000
#3	.0000	.0001	.0004	.0000	.0006	.0005	.0001	.0001	-.0000
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		.0001							
Low Limit		-.0001							

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0000**	**-.0005**	**-.0003**	**.0002**	**-.0013**	**.0008**	**-.0059**	**.0088**
Stddev	.0002	.0001	.0004	.0007	.0006	.0009	.0008	.0040	.0018
%RSD	2578.	288.4	82.44	196.1	354.8	67.93	91.24	67.90	19.92
#1	-.0003	.0001	-.0008	.0003	.0006	-.0023	.0015	-.0096	.0072
#2	.0001	.0001	-.0000	-.0003	-.0006	-.0008	.0010	-.0017	.0107
#3	.0002	-.0001	-.0007	-.0010	.0005	-.0008	.0000	-.0062	.0085
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0019**	**-.0140**	**.0175**	**.0278**	**.0035**	**.0002**	**.0004**	**.0002**	**.0001**
Stddev	.0007	.0082	.0132	.0072	.0005	.0002	.0006	.0002	.0000
%RSD	34.36	58.62	75.32	26.04	14.01	82.45	159.2	93.89	38.55
#1	.0017	-.0117	.0206	.0288	.0035	.0000	-.0001	.0002	.0001
#2	.0013	-.0231	.0289	.0344	.0040	.0003	.0002	.0000	.0001
#3	.0026	-.0072	.0031	.0201	.0030	.0002	.0010	.0004	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 12:25:22 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0006**	**.0002**	**-.0006**	**-.0003**	F **.0025**	**.0002**	**.0013**
Stddev	.0002	.0003	.0001	.0016	.0003	.0007	.0016	.0028
%RSD	77.24	44.29	38.35	252.1	99.26	26.13	642.3	226.7
#1	.0004	.0004	.0002	.0004	-.0007	.0022	.0002	-.0020
#2	.0003	.0005	.0002	-.0025	-.0002	.0021	-.0013	.0034
#3	.0000	.0009	.0001	.0002	-.0001	.0033	.0019	.0023
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
High Limit						.0023		
Low Limit						-.0023		

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**285140.**	**33107.**	**8409.4**	**15177.**
Stddev	2193.	157.	48.8	81.
%RSD	.76896	.47306	.57993	.53364
#1	283740.	33288.	8394.8	15152.
#2	287670.	33018.	8463.8	15268.
#3	284020.	33015.	8369.6	15112.

Zoom In Zoom Out

Sample Name: mp18736-mb1conf Acquired: 12/10/2019 12:30:32 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0001**	**.0002**	**.0001**	**.0015**	**.0013**	**.0002**	**.0004**	**.0001**
Stddev	.0002	.0000	.0001	.0001	.0001	.0003	.0000	.0003	.0001
%RSD	187.5	30.29	34.08	46.19	10.09	19.25	13.89	87.84	100.4
#1	.0000	.0002	.0002	.0001	.0014	.0015	.0002	.0001	.0002
#2	.0003	.0001	.0001	.0002	.0014	.0010	.0002	.0003	.0002
#3	-.0001	.0001	.0002	.0001	.0016	.0014	.0002	.0007	-.0000

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0023**	**.0009**	**-.0006**	**.0002**	**.0005**	**.0002**	**.0015**	**.0662**
Stddev	.0001	.0001	.0004	.0007	.0005	.0006	.0010	.0018	.0015
%RSD	58.08	5.928	49.43	108.1	257.5	120.8	611.0	117.5	2.223
#1	-.0004	.0022	.0006	-.0002	-.0003	.0011	-.0000	.0012	.0672
#2	-.0001	.0025	.0007	-.0003	.0004	-.0001	-.0007	-.0001	.0645
#3	-.0002	.0022	.0014	-.0014	.0005	.0006	.0012	.0034	.0668

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0173**	**-.0079**	**.0319**	**.0953**	**.0032**	**.0003**	**.0069**	**.0183**	**.0003**
Stddev	.0001	.0063	.0058	.0009	.0005	.0000	.0005	.0007	.0001
%RSD	.8243	79.90	18.26	.9890	15.24	14.67	7.889	3.790	16.22
#1	.0174	-.0121	.0350	.0964	.0033	.0003	.0072	.0182	.0004
#2	.0172	-.0006	.0252	.0946	.0036	.0003	.0063	.0177	.0003
#3	.0172	-.0110	.0355	.0949	.0026	.0003	.0073	.0190	.0003

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**.0009**	**.0002**	**.0147**	**-.0001**	**.0009**	**.0182**	**-.0002**
Stddev	.0001	.0004	.0001	.0010	.0011	.0009	.0005	.0015
%RSD	16.74	39.78	30.58	6.657	1203.	107.0	2.705	899.5
#1	.0008	.0010	.0003	.0147	-.0008	.0005	.0177	.0003
#2	.0006	.0005	.0002	.0156	-.0007	.0019	.0187	-.0019
#3	.0006	.0012	.0003	.0137	.0012	.0001	.0181	.0011

Zoom In Zoom Out

Sample Name: mp18736-mb1conf Acquired: 12/10/2019 12:30:32 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**285950.**	**33191.**	**8351.2**	**15118.**
Stddev	820.	75.	15.7	45.
%RSD	.28666	.22552	.18821	.30057
#1	285240.	33241.	8336.8	15075.
#2	286840.	33105.	8348.9	15114.
#3	285760.	33228.	8368.0	15166.

Zoom In Zoom Out

Sample Name: mp18736-b1conf Acquired: 12/10/2019 12:35:39 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.919**	**1.923**	**1.929**	**1.889**	**1.895**	**1.869**	**1.924**	**1.898**
Stddev	.001	.001	.002	.004	.011	.011	.014	.002
%RSD	.0360	.0735	.1105	.2022	.6013	.5799	.7148	.1011
#1	1.919	1.922	1.928	1.887	1.907	1.878	1.936	1.900
#2	1.918	1.925	1.932	1.893	1.884	1.857	1.909	1.898
#3	1.920	1.924	1.928	1.887	1.895	1.872	1.928	1.896

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2397**	**1.870**	**1.937**	**1.929**	**1.934**	**1.911**	**1.885**	**1.939**
Stddev	.0013	.010	.002	.005	.008	.003	.007	.002
%RSD	.5607	.5436	.1031	.2742	.4233	.1449	.3637	.1179
#1	.2412	1.880	1.937	1.923	1.931	1.913	1.883	1.939
#2	.2386	1.860	1.940	1.933	1.943	1.913	1.893	1.942
#3	.2392	1.870	1.936	1.932	1.927	1.908	1.880	1.937

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.40**	**25.85**	**25.78**	**25.38**	**25.49**	**25.64**	**1.847**	**1.988**
Stddev	.06	.07	.06	.02	.05	.05	.004	.004
%RSD	.2171	.2562	.2494	.0644	.2073	.1812	.2312	.2071
#1	25.36	25.80	25.74	25.39	25.49	25.67	1.844	1.985
#2	25.38	25.83	25.75	25.38	25.44	25.59	1.852	1.992
#3	25.46	25.93	25.85	25.36	25.55	25.67	1.845	1.986

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0249**	**2.028**	**1.952**	**1.907**	**1.528**	**1.908**	F **-.0571**	**.0139**
Stddev	.0008	.003	.002	.011	.004	.012	.0006	.0006
%RSD	3.397	.1682	.1001	.5826	.2449	.6190	1.101	4.636
#1	.0247	2.027	1.951	1.919	1.528	1.919	-.0578	.0143
#2	.0242	2.031	1.952	1.897	1.532	1.895	-.0568	.0142
#3	.0258	2.024	1.955	1.907	1.525	1.910	-.0567	.0132

Zoom In Zoom Out

Sample Name: mp18736-b1conf Acquired: 12/10/2019 12:35:39 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.0009**	**1.844**	**-.0019**
Stddev	.0007	.004	.0005
%RSD	74.36	.2031	27.40
#1	.0011	1.841	-.0024
#2	.0015	1.848	-.0019
#3	.0002	1.842	-.0013

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**280880.**	**32823.**	**8197.7**	**14436.**
Stddev	1444.	90.	10.4	7.
%RSD	.51392	.27565	.12654	.04939
#1	279480.	32895.	8208.7	14441.
#2	282370.	32853.	8196.2	14440.
#3	280790.	32722.	8188.2	14428.

Zoom In Zoom Out

Sample Name: mp18736-s1 Acquired: 12/10/2019 12:40:35 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.746**	**1.973**	**2.018**	**2.012**	**2.206**	**1.986**	**4.409**	**2.153**	**.2532**
Stddev	.003	.003	.001	.002	.002	.005	.009	.004	.0008
%RSD	.1204	.1245	.0575	.1119	.0858	.2409	.2109	.1849	.3048
#1	2.742	1.973	2.017	2.012	2.206	1.987	4.419	2.148	.2525
#2	2.747	1.970	2.019	2.015	2.207	1.989	4.401	2.154	.2531
#3	2.748	1.975	2.019	2.011	2.204	1.980	4.407	2.156	.2540

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.276**	**2.528**	**1.992**	**2.015**	**2.384**	**1.902**	**1.067**	**245.9**	**38.55**
Stddev	.005	.006	.008	.014	.005	.013	.008	.5	.06
%RSD	.2045	.2443	.3851	.7062	.1952	.6937	.7681	.2097	.1542
#1	2.278	2.521	1.984	2.002	2.379	1.888	1.058	245.3	38.48
#2	2.279	2.534	1.999	2.030	2.388	1.903	1.072	246.2	38.57
#3	2.271	2.528	1.995	2.013	2.385	1.914	1.071	246.2	38.59

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**230.0**	**51.77**	**44.76**	**27.07**	**1.905**	**2.016**	**4.796**	**2.004**	**2.108**
Stddev	.3	.09	.17	.12	.002	.009	.010	.011	.004
%RSD	.1413	.1780	.3724	.4294	.1094	.4398	.2014	.5560	.1738
#1	229.7	51.78	44.64	26.93	1.903	2.006	4.789	2.000	2.103
#2	229.9	51.67	44.68	27.12	1.907	2.018	4.792	1.996	2.110
#3	230.3	51.85	44.95	27.14	1.906	2.023	4.807	2.017	2.110

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.872**	**1.298**	**1.678**	**1.030**	**.0046**	**.1803**	**4.693**	**.7625**
Stddev	.015	.005	.004	.008	.0039	.0045	.014	.0108
%RSD	.3006	.4173	.2229	.7928	83.70	2.518	.2894	1.422
#1	4.889	1.301	1.681	1.029	.0090	.1753	4.689	.7636
#2	4.862	1.291	1.680	1.039	.0030	.1812	4.681	.7727
#3	4.865	1.301	1.674	1.023	.0018	.1842	4.708	.7511

Zoom In Zoom Out

Sample Name: mp18736-s1 Acquired: 12/10/2019 12:40:35 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**284600.**	**32979.**	**8429.3**	**14651.**
Stddev	348.	78.	8.0	6.
%RSD	.12234	.23555	.09521	.03980
#1	284200.	33010.	8437.3	14658.
#2	284740.	33037.	8429.5	14647.
#3	284850.	32891.	8421.2	14649.

Zoom In Zoom Out

Sample Name: mp18736-s2 Acquired: 12/10/2019 12:45:27 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.586**	**1.865**	**1.905**	**1.898**	**2.088**	**1.866**	**4.023**	**2.018**	**.2385**
Stddev	.006	.005	.011	.010	.010	.007	.016	.006	.0014
%RSD	.2398	.2652	.5539	.5252	.4666	.3913	.3910	.3080	.5990
#1	2.584	1.865	1.902	1.897	2.091	1.861	4.018	2.018	.2400
#2	2.593	1.870	1.895	1.888	2.078	1.862	4.010	2.011	.2372
#3	2.582	1.860	1.916	1.908	2.097	1.874	4.040	2.024	.2384

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.156**	**2.371**	**1.885**	**1.905**	**2.170**	**1.812**	**.9967**	**234.6**	**35.77**
Stddev	.006	.010	.010	.014	.015	.012	.0135	.5	.09
%RSD	.2822	.4165	.5391	.7474	.6756	.6366	1.350	.2093	.2388
#1	2.154	2.372	1.885	1.903	2.176	1.820	1.001	234.5	35.76
#2	2.152	2.360	1.875	1.892	2.153	1.799	.9817	235.2	35.87
#3	2.163	2.380	1.895	1.921	2.181	1.818	1.008	234.2	35.70

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**205.2**	**44.59**	**39.17**	**25.49**	**1.799**	**1.903**	**4.924**	**1.882**	**1.990**
Stddev	.4	.29	.21	.05	.007	.007	.021	.007	.003
%RSD	.1855	.6508	.5352	.1912	.3826	.3506	.4298	.3593	.1584
#1	205.2	44.81	39.12	25.44	1.801	1.906	4.926	1.886	1.988
#2	205.6	44.71	39.40	25.53	1.791	1.895	4.903	1.874	1.994
#3	204.8	44.26	38.99	25.51	1.805	1.907	4.945	1.885	1.989

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.473**	**1.239**	**1.564**	**1.033**	**-.0002**	**.1466**	**4.429**	**.7534**
Stddev	.013	.003	.005	.009	.0031	.0012	.025	.0110
%RSD	.2795	.2512	.3353	.8999	1921.	.8232	.5571	1.455
#1	4.478	1.242	1.565	1.030	-.0009	.1463	4.431	.7589
#2	4.459	1.236	1.558	1.025	-.0028	.1456	4.403	.7407
#3	4.482	1.240	1.568	1.043	.0032	.1480	4.453	.7604

Zoom In Zoom Out

Sample Name: mp18736-s2 Acquired: 12/10/2019 12:45:27 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**286570.**	**33463.**	**8509.7**	**14782.**
Stddev	1109.	154.	37.1	60.
%RSD	.38688	.45916	.43621	.40829
#1	286580.	33380.	8491.4	14752.
#2	287680.	33369.	8552.4	14852.
#3	285460.	33640.	8485.2	14743.

Zoom In Zoom Out

Sample Name: jc99242-17 Acquired: 12/10/2019 12:50:19 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6184**	**.0059**	**.0012**	**.0534**	**.1907**	**.1055**	**2.017**	**.1050**	**.0023**
Stddev	.0005	.0001	.0002	.0004	.0028	.0046	.029	.0010	.0011
%RSD	.0844	2.238	14.54	.7906	1.476	4.378	1.432	.9838	49.87
#1	.6178	.0057	.0010	.0538	.1919	.1041	2.006	.1061	.0010
#2	.6185	.0059	.0014	.0530	.1875	.1017	1.995	.1047	.0028
#3	.6188	.0059	.0013	.0532	.1927	.1106	2.050	.1041	.0031

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2996**	**.4321**	**.0606**	**-.0068**	**.2560**	**.0046**	**-.0007**	**159.5**	**11.01**
Stddev	.0042	.0013	.0022	.0044	.0015	.0078	.0032	.4	.02
%RSD	1.410	.3092	3.621	63.78	.5942	169.9	476.1	.2431	.1692
#1	.2993	.4326	.0597	-.0117	.2569	.0107	.0027	159.9	11.03
#2	.2956	.4331	.0631	-.0055	.2542	-.0041	-.0009	159.2	11.01
#3	.3040	.4306	.0591	-.0033	.2568	.0071	-.0037	159.5	10.99

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**186.4**	**17.72**	**9.671**	**.5809**	**.0464**	**.0047**	**3.482**	**.0234**	**.0840**
Stddev	.5	.04	.031	.0009	.0039	.0004	.010	.0022	.0002
%RSD	.2656	.2392	.3239	.1476	8.390	8.514	.2870	9.460	.2640
#1	187.0	17.72	9.665	.5812	.0449	.0043	3.472	.0222	.0840
#2	186.0	17.68	9.705	.5815	.0508	.0048	3.492	.0259	.0837
#3	186.2	17.76	9.643	.5799	.0435	.0051	3.482	.0220	.0842

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.414**	**.0125**	**.0232**	**1.088**	**-.0103**	**.1370**	**2.548**	**.7462**
Stddev	.037	.0010	.0005	.017	.0058	.0038	.015	.0180
%RSD	1.534	8.207	2.003	1.601	56.06	2.776	.5753	2.416
#1	2.403	.0134	.0227	1.104	-.0037	.1392	2.556	.7510
#2	2.383	.0127	.0235	1.070	-.0128	.1326	2.557	.7263
#3	2.455	.0114	.0234	1.091	-.0143	.1393	2.531	.7615

Zoom In Zoom Out

Sample Name: jc99242-17 Acquired: 12/10/2019 12:50:19 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**285800.**	**33109.**	**8480.7**	**14866.**
Stddev	5587.	4.	5.4	11.
%RSD	1.9548	.01181	.06335	.07363
#1	285670.	33108.	8481.4	14854.
#2	291450.	33105.	8475.1	14867.
#3	280280.	33113.	8485.7	14876.

Zoom In Zoom Out

Sample Name: mp18736-sd1 Acquired: 12/10/2019 12:55:21 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6026**	**.0068**	**.0056**	**.0539**	**.1870**	**.1123**	**1.936**	**.0971**	**.0061**
Stddev	.0038	.0009	.0003	.0027	.0103	.0151	.041	.0042	.0091
%RSD	.6364	12.98	4.699	5.080	5.516	13.44	2.140	4.326	149.9
#1	.5996	.0064	.0053	.0544	.1927	.1169	1.957	.0940	-.0015
#2	.6069	.0061	.0056	.0563	.1933	.1246	1.962	.0955	.0036
#3	.6014	.0078	.0058	.0509	.1751	.0954	1.888	.1019	.0162

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2842**	**.4581**	**.0529**	**-.0240**	**.2316**	**-.0231**	**-.0050**	**154.6**	**11.36**
Stddev	.0036	.0007	.0395	.0145	.0152	.0238	.0393	.4	.06
%RSD	1.268	.1527	74.66	60.13	6.566	103.0	792.3	.2715	.5280
#1	.2815	.4589	.0897	-.0099	.2466	-.0502	.0109	154.9	11.29
#2	.2883	.4577	.0112	-.0234	.2162	-.0132	-.0498	154.1	11.38
#3	.2828	.4576	.0579	-.0388	.2321	-.0058	.0240	154.8	11.40

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**181.9**	**16.92**	**9.299**	**1.131**	**.0811**	**.0172**	**4.163**	**.0378**	**.0828**
Stddev	.3	.05	.333	.018	.0060	.0028	.003	.0027	.0011
%RSD	.1637	.3063	3.582	1.604	7.403	16.40	.0620	7.051	1.310
#1	182.1	16.91	9.683	1.152	.0789	.0152	4.160	.0395	.0816
#2	181.6	16.87	9.094	1.117	.0765	.0204	4.165	.0391	.0837
#3	182.0	16.98	9.119	1.126	.0879	.0159	4.163	.0347	.0831

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.321**	**.0686**	**.0316**	**1.222**	**-.0023**	**.1278**	**2.511**	**.6769**
Stddev	.049	.0094	.0004	.020	.0119	.0242	.033	.0717
%RSD	2.113	13.76	1.335	1.655	509.4	18.93	1.313	10.59
#1	2.346	.0601	.0321	1.233	-.0037	.1263	2.476	.7304
#2	2.352	.0788	.0314	1.235	-.0134	.1527	2.516	.7047
#3	2.264	.0668	.0313	1.199	.0102	.1044	2.541	.5954

Zoom In Zoom Out

Sample Name: mp18736-sd1 Acquired: 12/10/2019 12:55:21 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 25.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**289110.**	**33110.**	**8398.0**	**15022.**
Stddev	5843.	54.	11.1	17.
%RSD	2.0211	.16306	.13263	.11624
#1	285060.	33063.	8410.2	15041.
#2	286460.	33099.	8388.2	15007.
#3	295810.	33169.	8395.7	15018.

Zoom In Zoom Out

Sample Name: mp18736-ps1 Acquired: 12/10/2019 13:00:26 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.548**	**1.986**	**2.063**	**2.025**	**2.154**	**1.958**	**3.843**	**2.123**	**.2493**
Stddev	.006	.005	.018	.014	.025	.021	.042	.016	.0030
%RSD	.2258	.2307	.8504	.6687	1.161	1.078	1.089	.7698	1.204
#1	2.542	1.981	2.044	2.011	2.179	1.979	3.884	2.108	.2520
#2	2.549	1.987	2.080	2.037	2.129	1.937	3.800	2.140	.2460
#3	2.553	1.990	2.064	2.029	2.153	1.959	3.846	2.120	.2498

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.200**	**2.443**	**2.000**	**2.050**	**2.388**	**1.987**	**1.955**	**168.5**	**35.25**
Stddev	.025	.020	.010	.025	.023	.026	.011	.6	.12
%RSD	1.151	.8219	.5129	1.229	.9741	1.326	.5512	.3343	.3299
#1	2.225	2.422	1.990	2.031	2.365	1.962	1.950	167.9	35.12
#2	2.174	2.463	2.010	2.079	2.412	2.014	1.968	168.6	35.32
#3	2.199	2.444	2.000	2.040	2.386	1.985	1.948	169.1	35.33

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**192.3**	**40.71**	**33.67**	**25.45**	**2.010**	**2.025**	**3.424**	**2.083**	**2.096**
Stddev	.5	.16	.23	.12	.016	.019	.041	.016	.005
%RSD	.2540	.3874	.6957	.4640	.7878	.9497	1.207	.7686	.2205
#1	191.7	40.67	33.40	25.33	1.997	2.006	3.389	2.067	2.092
#2	192.5	40.88	33.78	25.45	2.028	2.045	3.469	2.099	2.096
#3	192.6	40.58	33.82	25.56	2.006	2.023	3.412	2.082	2.101

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.057**	**1.824**	**1.909**	**.9604**	**.0048**	**.1193**	**4.218**	**.6531**
Stddev	.046	.018	.021	.0109	.0049	.0035	.040	.0077
%RSD	1.125	1.002	1.122	1.137	102.5	2.926	.9558	1.186
#1	4.102	1.806	1.929	.9564	.0082	.1161	4.183	.6451
#2	4.011	1.842	1.887	.9520	-.0008	.1230	4.262	.6606
#3	4.057	1.825	1.911	.9727	.0070	.1187	4.209	.6538

Zoom In Zoom Out

Sample Name: mp18736-ps1 Acquired: 12/10/2019 13:00:26 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**289010.**	**33266.**	**8439.2**	**14791.**
Stddev	3057.	88.	57.8	90.
%RSD	1.0579	.26550	.68472	.60924
#1	286180.	33304.	8500.8	14883.
#2	292250.	33165.	8386.2	14702.
#3	288590.	33329.	8430.5	14788.

Zoom In Zoom Out

Sample Name: jc99242-5 Acquired: 12/10/2019 13:05:17 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6036**	**.0068**	**.0014**	**.0579**	**.1695**	**.1239**	**2.596**	**.1111**	**.0014**
Stddev	.0149	.0002	.0008	.0012	.0019	.0024	.019	.0010	.0008
%RSD	2.473	3.643	54.54	1.993	1.133	1.957	.7161	.9008	59.19
#1	.5890	.0066	.0006	.0591	.1693	.1244	2.600	.1101	.0017
#2	.6029	.0070	.0021	.0578	.1677	.1213	2.576	.1121	.0005
#3	.6188	.0068	.0014	.0568	.1715	.1261	2.612	.1111	.0021

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2609**	**.4693**	**.0670**	**-.0044**	**.3732**	**.0032**	**.0019**	**142.6**	**8.283**
Stddev	.0027	.0005	.0042	.0040	.0023	.0027	.0045	3.5	.219
%RSD	1.041	.1164	6.246	90.17	.6044	85.77	229.6	2.433	2.640
#1	.2620	.4697	.0630	-.0003	.3744	.0057	-.0021	139.5	8.081
#2	.2578	.4696	.0666	-.0083	.3746	.0003	.0068	141.9	8.253
#3	.2628	.4687	.0713	-.0047	.3706	.0035	.0011	146.3	8.515

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**156.3**	**15.71**	**8.359**	**.5671**	**.0485**	**.0067**	**3.393**	**.0256**	**.0707**
Stddev	3.8	.42	.244	.0249	.0013	.0009	.013	.0037	.0016
%RSD	2.435	2.658	2.924	4.391	2.645	13.33	.3953	14.57	2.318
#1	152.9	15.26	8.112	.5412	.0498	.0063	3.391	.0222	.0692
#2	155.7	15.78	8.363	.5908	.0483	.0077	3.408	.0250	.0705
#3	160.4	16.09	8.601	.5693	.0473	.0061	3.381	.0296	.0725

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.367**	**.0187**	**.0155**	**1.303**	**-.0088**	**.1127**	**3.191**	**.8717**
Stddev	.016	.0014	.0006	.003	.0033	.0017	.010	.0134
%RSD	.6738	7.524	3.771	.2375	37.07	1.532	.3181	1.539
#1	2.369	.0189	.0148	1.300	-.0050	.1147	3.182	.8824
#2	2.350	.0201	.0157	1.306	-.0109	.1119	3.202	.8567
#3	2.382	.0173	.0159	1.303	-.0104	.1115	3.191	.8760

Zoom In Zoom Out

Sample Name: jc99242-5 Acquired: 12/10/2019 13:05:17 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**291510.**	**33919.**	**8608.0**	**15033.**
Stddev	2610.	253.	10.3	14.
%RSD	.89518	.74445	.11977	.09152
#1	289240.	33948.	8615.5	15048.
#2	294360.	34156.	8596.2	15020.
#3	290940.	33653.	8612.1	15032.

Zoom In Zoom Out

Sample Name: jc99242-6 Acquired: 12/10/2019 13:10:21 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5964**	**.0063**	**.0016**	**.0547**	**.1690**	**.1209**	**2.658**	**.1059**
Stddev	.0005	.0001	.0007	.0010	.0004	.0020	.030	.0012
%RSD	.0886	1.741	46.80	1.758	.2190	1.687	1.148	1.093
#1	.5969	.0063	.0023	.0548	.1693	.1219	2.684	.1060
#2	.5966	.0064	.0008	.0557	.1691	.1223	2.666	.1071
#3	.5959	.0062	.0016	.0538	.1686	.1186	2.624	.1047

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0026**	**.2694**	**.4435**	**.0587**	F **-.0110**	**.2989**	**.0065**	**.0035**
Stddev	.0014	.0033	.0004	.0022	.0054	.0044	.0054	.0046
%RSD	52.76	1.216	.0812	3.779	48.50	1.484	82.31	132.7
#1	.0042	.2715	.4438	.0597	-.0064	.2991	.0034	.0079
#2	.0019	.2710	.4431	.0603	-.0099	.3033	.0034	.0039
#3	.0017	.2656	.4435	.0562	-.0169	.2944	.0127	-.0013

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**141.4**	**10.11**	**160.1**	**16.80**	**8.831**	**.6029**	**.0424**	**.0063**
Stddev	.6	.04	.5	.02	.008	.0081	.0017	.0001
%RSD	.4042	.4129	.3170	.1200	.0894	1.345	3.994	1.612
#1	142.0	10.15	160.6	16.82	8.839	.6026	.0406	.0062
#2	141.3	10.11	160.1	16.81	8.830	.5949	.0440	.0064
#3	140.8	10.06	159.6	16.78	8.824	.6111	.0425	.0062

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.383**	**.0242**	**.0775**	**2.408**	**.0213**	**.0173**	**1.160**	**-.0116**
Stddev	.011	.0019	.0001	.025	.0023	.0005	.010	.0024
%RSD	.3099	8.011	.1802	1.039	10.81	3.064	.8732	20.50
#1	3.375	.0242	.0775	2.429	.0187	.0167	1.156	-.0095
#2	3.395	.0261	.0776	2.414	.0222	.0174	1.172	-.0142
#3	3.381	.0222	.0774	2.380	.0230	.0177	1.153	-.0110

Zoom In Zoom Out

Sample Name: jc99242-6 Acquired: 12/10/2019 13:10:21 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.1073**	**3.024**	**.7674**
Stddev	.0032	.009	.0091
%RSD	2.948	.2871	1.188
#1	.1041	3.020	.7759
#2	.1104	3.034	.7685
#3	.1074	3.018	.7578

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**290550.**	**33480.**	**8567.7**	**15000.**
Stddev	3675.	91.	10.4	4.
%RSD	1.2648	.27266	.12171	.02988
#1	287300.	33454.	8562.2	14995.
#2	289800.	33405.	8561.3	15001.
#3	294540.	33582.	8579.8	15003.

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 13:15:26 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.044**	**2.043**	**2.010**	**1.976**	**1.989**	**1.961**	**2.015**	**1.985**	**.2438**
Stddev	.053	.057	.002	.006	.007	.010	.008	.003	.0007
%RSD	2.587	2.765	.0976	.3263	.3665	.5017	.3926	.1554	.3076
#1	2.001	1.997	2.012	1.977	1.982	1.956	2.006	1.987	.2431
#2	2.104	2.106	2.009	1.981	1.996	1.972	2.016	1.987	.2446
#3	2.028	2.026	2.009	1.968	1.989	1.955	2.022	1.981	.2436
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.965**	**2.005**	**1.978**	**2.024**	**1.977**	**1.976**	**1.971**	**40.77**	**41.34**
Stddev	.006	.007	.004	.007	.003	.006	.003	1.09	1.08
%RSD	.3266	.3471	.1960	.3461	.1492	.3166	.1734	2.667	2.616
#1	1.961	2.010	1.976	2.026	1.980	1.975	1.975	39.84	40.47
#2	1.973	2.008	1.982	2.030	1.977	1.983	1.969	41.96	42.55
#3	1.962	1.997	1.975	2.017	1.974	1.971	1.970	40.49	41.00
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**41.17**	**40.52**	**40.72**	**40.79**	**1.970**	**2.011**	**4.845**	**2.027**	**2.082**
Stddev	1.13	1.09	.96	1.01	.001	.005	.007	.005	.054
%RSD	2.740	2.693	2.361	2.467	.0736	.2386	.1387	.2529	2.573
#1	40.25	39.61	39.99	40.02	1.972	2.015	4.853	2.030	2.038
#2	42.43	41.73	41.81	41.93	1.969	2.012	4.843	2.030	2.142
#3	40.83	40.22	40.36	40.42	1.970	2.006	4.840	2.021	2.066
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 13:15:26 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.951**	**1.972**	**1.963**	**1.930**	**1.973**	**2.020**	**1.930**	**1.952**
Stddev	.005	.003	.007	.007	.004	.052	.005	.011
%RSD	.2503	.1264	.3655	.3449	.2171	2.599	.2795	.5714
#1	1.946	1.974	1.959	1.938	1.975	1.977	1.935	1.944
#2	1.956	1.972	1.971	1.926	1.968	2.078	1.925	1.965
#3	1.951	1.969	1.959	1.927	1.976	2.005	1.928	1.947
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**276060.**	**32101.**	**8191.2**	**14217.**
Stddev	1305.	656.	16.0	27.
%RSD	.47264	2.0431	.19551	.19215
#1	277460.	32624.	8174.6	14191.
#2	274880.	31365.	8192.5	14215.
#3	275840.	32315.	8206.6	14246.

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 13:20:25 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	F **.0002**	**.0002**	**.0001**	**.0003**	**.0006**	**.0001**	**-.0000**	**.0001**
Stddev	.0001	.0000	.0002	.0001	.0001	.0003	.0000	.0001	.0003
%RSD	765.0	13.06	89.42	204.7	45.69	56.22	48.62	308.7	347.1
#1	-.0001	.0002	.0003	-.0000	.0004	.0006	.0000	-.0001	-.0001
#2	-.0000	.0002	.0004	.0002	.0001	.0009	.0001	.0001	.0000
#3	.0002	.0002	-.0000	.0000	.0004	.0003	.0001	-.0002	.0003
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		.0001							
Low Limit		-.0001							

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0001**	**.0003**	**-.0006**	**.0008**	**-.0010**	**.0003**	**-.0081**	**.0106**
Stddev	.0003	.0001	.0008	.0003	.0008	.0009	.0008	.0057	.0009
%RSD	190.0	74.48	232.2	43.10	97.26	92.26	270.6	70.74	8.664
#1	-.0000	.0002	-.0005	-.0008	.0011	-.0007	.0003	-.0059	.0099
#2	.0000	.0001	.0010	-.0003	.0015	-.0002	.0011	-.0038	.0102
#3	-.0004	.0001	.0006	-.0008	-.0001	-.0020	-.0005	-.0146	.0116
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0030**	**-.0141**	**.0383**	**.0195**	**.0026**	**.0000**	**.0003**	**.0003**	**.0002**
Stddev	.0016	.0066	.0316	.0003	.0008	.0003	.0010	.0003	.0000
%RSD	53.97	47.28	82.41	1.541	31.57	5839.	341.0	74.28	14.90
#1	.0038	-.0109	.0153	.0192	.0036	-.0001	.0009	.0002	.0002
#2	.0011	-.0095	.0743	.0198	.0022	-.0002	.0008	.0002	.0001
#3	.0041	-.0217	.0254	.0194	.0022	.0003	-.0009	.0006	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 13:20:25 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**-.0003**	**.0002**	**-.0009**	**-.0006**	**.0014**	**.0013**	**.0013**
Stddev	.0001	.0005	.0001	.0020	.0016	.0011	.0014	.0012
%RSD	10170.	207.9	31.94	222.3	272.5	82.19	108.1	88.36
#1	.0001	.0003	.0001	.0006	.0004	.0027	.0007	.0004
#2	-.0000	-.0007	.0002	-.0031	.0003	.0010	.0003	.0009
#3	-.0001	-.0005	.0003	-.0001	-.0025	.0005	.0029	.0026
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**284450.**	**32519.**	**8371.6**	**15082.**
Stddev	11119.	60.	29.4	45.
%RSD	3.9088	.18439	.35114	.29792
#1	279560.	32582.	8340.4	15031.
#2	276610.	32513.	8398.9	15098.
#3	297170.	32463.	8375.4	15116.

Zoom In Zoom Out

Sample Name: jc99242-7 Acquired: 12/10/2019 13:25:36 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6559**	**.0068**	**.0014**	**.0609**	**.1825**	**.1369**	**2.857**	**.1179**	**.0046**
Stddev	.0004	.0003	.0002	.0005	.0020	.0011	.018	.0012	.0018
%RSD	.0600	4.777	16.06	.8773	1.074	.7913	.6298	1.023	38.36
#1	.6563	.0065	.0011	.0615	.1818	.1362	2.851	.1193	.0038
#2	.6555	.0071	.0015	.0607	.1810	.1362	2.842	.1173	.0066
#3	.6558	.0067	.0015	.0604	.1847	.1381	2.877	.1171	.0034

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2871**	**.5048**	**.0652**	**-.0002**	**.3802**	**.0064**	**-.0059**	**153.4**	**9.751**
Stddev	.0019	.0013	.0049	.0021	.0078	.0085	.0079	.3	.012
%RSD	.6628	.2493	7.558	1139.	2.044	132.7	134.5	.2240	.1274
#1	.2859	.5061	.0709	-.0026	.3723	.0001	-.0006	153.0	9.739
#2	.2860	.5047	.0618	.0004	.3878	.0030	-.0020	153.7	9.764
#3	.2893	.5036	.0631	.0016	.3806	.0161	-.0149	153.5	9.750

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**173.1**	**17.71**	**9.545**	**.6519**	**.0454**	**.0053**	**3.194**	**.0286**	**.0807**
Stddev	.4	.05	.064	.0119	.0029	.0006	.008	.0009	.0002
%RSD	.2195	.2911	.6710	1.819	6.478	10.85	.2375	3.236	.2817
#1	172.7	17.77	9.566	.6491	.0483	.0054	3.200	.0276	.0804
#2	173.5	17.68	9.473	.6418	.0424	.0046	3.197	.0288	.0809
#3	173.1	17.68	9.596	.6650	.0455	.0057	3.185	.0294	.0807

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.626**	**.0063**	**.0162**	**1.301**	**-.0089**	**.1214**	**3.241**	**.8969**
Stddev	.018	.0011	.0002	.004	.0019	.0057	.001	.0052
%RSD	.6653	17.97	1.445	.3043	21.77	4.659	.0274	.5794
#1	2.624	.0050	.0165	1.304	-.0067	.1203	3.240	.8929
#2	2.610	.0072	.0162	1.301	-.0097	.1276	3.240	.8951
#3	2.645	.0067	.0160	1.297	-.0103	.1164	3.242	.9028

Zoom In Zoom Out

Sample Name: jc99242-7 Acquired: 12/10/2019 13:25:36 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**289690.**	**33823.**	**8520.5**	**14910.**
Stddev	1608.	93.	9.8	26.
%RSD	.55519	.27423	.11453	.17238
#1	289420.	33904.	8510.1	14888.
#2	291410.	33722.	8521.9	14903.
#3	288230.	33842.	8529.5	14938.

Zoom In Zoom Out

Sample Name: jc99242-8 Acquired: 12/10/2019 13:30:37 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6599**	**.0080**	**.0013**	**.0766**	**.2334**	**.1412**	**3.232**	**.1412**	**.0035**
Stddev	.0036	.0001	.0003	.0003	.0067	.0044	.092	.0006	.0018
%RSD	.5450	1.385	25.28	.4125	2.876	3.090	2.861	.4047	50.85
#1	.6575	.0079	.0017	.0762	.2269	.1370	3.171	.1412	.0048
#2	.6583	.0081	.0010	.0767	.2403	.1457	3.338	.1406	.0015
#3	.6641	.0079	.0013	.0768	.2330	.1409	3.186	.1418	.0041

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3421**	**.5512**	**.0601**	**-.0000**	**.3486**	**.0068**	**.0019**	**174.8**	**10.95**
Stddev	.0103	.0013	.0009	.0010	.0017	.0064	.0027	.6	.07
%RSD	3.018	.2337	1.467	2033.	.4850	94.25	143.4	.3348	.6244
#1	.3321	.5509	.0609	-.0005	.3505	.0073	-.0006	174.5	10.89
#2	.3527	.5527	.0602	-.0007	.3474	.0002	.0048	174.5	10.92
#3	.3414	.5501	.0591	.0011	.3478	.0129	.0015	175.5	11.02

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**229.1**	**25.59**	**13.71**	**.6257**	**.0420**	**.0053**	**3.160**	**.0230**	**.0887**
Stddev	.9	.11	.09	.0120	.0010	.0004	.010	.0005	.0003
%RSD	.3800	.4452	.6397	1.923	2.430	7.631	.3172	2.140	.3596
#1	228.7	25.46	13.66	.6243	.0411	.0050	3.171	.0226	.0884
#2	228.5	25.67	13.66	.6144	.0431	.0051	3.157	.0236	.0887
#3	230.1	25.65	13.81	.6383	.0417	.0058	3.152	.0229	.0890

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.965**	**.0041**	**.0218**	**1.177**	**-.0108**	**.1560**	**3.488**	**.8802**
Stddev	.092	.0021	.0004	.003	.0010	.0014	.006	.0293
%RSD	3.117	50.48	1.964	.2814	8.888	.8862	.1597	3.327
#1	2.877	.0051	.0213	1.174	-.0119	.1553	3.483	.8507
#2	3.062	.0056	.0222	1.176	-.0101	.1576	3.494	.9093
#3	2.957	.0017	.0218	1.181	-.0105	.1552	3.487	.8806

Zoom In Zoom Out

Sample Name: jc99242-8 Acquired: 12/10/2019 13:30:37 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**290910.**	**34492.**	**8575.6**	**14637.**
Stddev	7664.	58.	3.2	4.
%RSD	2.6344	.16801	.03760	.02817
#1	297640.	34443.	8578.6	14632.
#2	282570.	34556.	8576.1	14640.
#3	292510.	34478.	8572.2	14638.

Zoom In Zoom Out

Sample Name: jc99242-8 Acquired: 12/10/2019 13:35:43 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6754**	**.0080**	**.0021**	**.0762**	**.2410**	**.1452**	**3.365**	**.1417**	**.0049**
Stddev	.0016	.0002	.0003	.0009	.0020	.0006	.008	.0031	.0013
%RSD	.2331	2.049	12.69	1.166	.8150	.3951	.2451	2.162	26.50
#1	.6737	.0080	.0021	.0753	.2389	.1446	3.368	.1395	.0063
#2	.6758	.0082	.0018	.0762	.2429	.1454	3.356	.1405	.0037
#3	.6768	.0078	.0023	.0771	.2411	.1458	3.371	.1452	.0047

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3518**	**.5770**	**.0606**	**-.0014**	**.3512**	**-.0056**	**.0092**	**177.2**	**11.32**
Stddev	.0011	.0076	.0059	.0010	.0046	.0052	.0051	.5	.05
%RSD	.3194	1.321	9.707	75.14	1.319	92.57	55.51	.2680	.3983
#1	.3528	.5717	.0628	-.0003	.3523	-.0025	.0146	176.6	11.28
#2	.3520	.5734	.0540	-.0016	.3461	-.0027	.0046	177.4	11.30
#3	.3506	.5857	.0651	-.0023	.3551	-.0116	.0082	177.5	11.36

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**236.8**	**26.32**	**13.97**	**.6298**	**.0471**	**.0061**	**3.338**	**.0259**	**.0907**
Stddev	.7	.11	.14	.0094	.0025	.0009	.049	.0012	.0002
%RSD	.3037	.4103	.9794	1.500	5.214	14.21	1.456	4.761	.1863
#1	236.1	26.28	13.82	.6255	.0483	.0059	3.309	.0251	.0907
#2	236.9	26.25	14.08	.6407	.0443	.0071	3.310	.0273	.0906
#3	237.5	26.45	14.02	.6233	.0488	.0054	3.394	.0253	.0909

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.008**	**.0059**	**.0233**	**1.189**	**-.0158**	**.1605**	**3.568**	**.8914**
Stddev	.003	.0045	.0006	.015	.0050	.0014	.059	.0077
%RSD	.0911	77.19	2.531	1.242	31.74	.8920	1.641	.8654
#1	3.008	.0054	.0238	1.174	-.0108	.1620	3.531	.8834
#2	3.005	.0016	.0227	1.203	-.0156	.1603	3.538	.8920
#3	3.010	.0107	.0235	1.192	-.0208	.1591	3.636	.8988

Zoom In Zoom Out

Sample Name: jc99242-8 Acquired: 12/10/2019 13:35:43 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**286680.**	**33564.**	**8423.7**	**14753.**
Stddev	566.	100.	97.9	148.
%RSD	.19732	.29891	1.1620	1.0058
#1	286360.	33654.	8476.0	14835.
#2	287330.	33582.	8484.4	14842.
#3	286340.	33456.	8310.8	14582.

Zoom In Zoom Out

Sample Name: jc99242-9 Acquired: 12/10/2019 13:40:43 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5820**	**.0070**	**.0012**	**.0662**	**.2552**	**.1382**	**3.043**	**.1209**	**.0048**
Stddev	.0007	.0002	.0005	.0005	.0022	.0011	.013	.0001	.0006
%RSD	.1207	2.563	39.18	.7433	.8600	.8043	.4255	.0821	11.66
#1	.5823	.0071	.0010	.0665	.2576	.1392	3.058	.1209	.0055
#2	.5812	.0068	.0009	.0665	.2533	.1370	3.040	.1210	.0046
#3	.5825	.0072	.0018	.0656	.2547	.1384	3.032	.1208	.0044

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3147**	**.4384**	**.0513**	**-.0044**	**.2944**	**.0009**	**.0026**	**157.5**	**8.895**
Stddev	.0011	.0003	.0051	.0019	.0005	.0031	.0072	.6	.036
%RSD	.3610	.0601	9.893	43.91	.1743	329.6	279.9	.3549	.4089
#1	.3158	.4383	.0533	-.0058	.2938	.0020	-.0051	157.0	8.868
#2	.3135	.4387	.0551	-.0022	.2946	.0034	.0036	157.3	8.880
#3	.3148	.4382	.0455	-.0053	.2948	-.0026	.0092	158.1	8.936

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**204.5**	**16.34**	**8.669**	**.6383**	**.0432**	**.0056**	**3.262**	**.0236**	**.0768**
Stddev	.5	.10	.081	.0200	.0017	.0007	.011	.0038	.0006
%RSD	.2525	.6246	.9343	3.129	3.914	13.20	.3455	15.89	.8132
#1	204.0	16.26	8.735	.6330	.0442	.0057	3.253	.0193	.0763
#2	204.4	16.45	8.692	.6604	.0413	.0048	3.258	.0257	.0765
#3	205.0	16.30	8.578	.6216	.0442	.0062	3.275	.0259	.0775

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.767**	**.0085**	**.0233**	**1.082**	**-.0171**	**.1053**	**3.078**	**.7566**
Stddev	.007	.0039	.0004	.021	.0064	.0028	.013	.0048
%RSD	.2695	46.63	1.907	1.950	37.39	2.669	.4335	.6368
#1	2.775	.0046	.0238	1.106	-.0244	.1055	3.080	.7619
#2	2.766	.0083	.0229	1.068	-.0133	.1025	3.064	.7557
#3	2.760	.0125	.0232	1.071	-.0135	.1081	3.090	.7524

Zoom In Zoom Out

Sample Name: jc99242-9 Acquired: 12/10/2019 13:40:43 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**286990.**	**33656.**	**8499.2**	**14929.**
Stddev	1598.	162.	6.4	4.
%RSD	.55689	.48145	.07522	.02732
#1	285250.	33795.	8504.7	14925.
#2	287330.	33478.	8492.2	14928.
#3	288400.	33694.	8500.7	14933.

Zoom In Zoom Out

Sample Name: jc99242-10 Acquired: 12/10/2019 13:45:43 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5317**	**.0058**	**.0009**	**.0569**	**.1578**	**.1187**	**2.365**	**.1036**	**.0031**
Stddev	.0148	.0004	.0007	.0005	.0004	.0023	.021	.0004	.0003
%RSD	2.786	7.066	75.62	.8097	.2400	1.976	.8804	.3525	10.34
#1	.5328	.0059	.0001	.0564	.1575	.1172	2.347	.1033	.0032
#2	.5459	.0062	.0014	.0571	.1575	.1175	2.360	.1035	.0028
#3	.5163	.0054	.0013	.0572	.1582	.1214	2.388	.1040	.0034

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2499**	**.4582**	**.0463**	**-.0041**	**.2695**	**.0086**	**.0022**	**132.5**	**8.183**
Stddev	.0026	.0004	.0032	.0048	.0050	.0038	.0054	3.9	.258
%RSD	1.057	.0810	6.824	115.8	1.859	44.19	251.7	2.916	3.154
#1	.2480	.4583	.0494	.0006	.2709	.0043	-.0009	133.3	8.248
#2	.2487	.4578	.0464	-.0089	.2737	.0113	.0084	136.0	8.402
#3	.2529	.4585	.0431	-.0041	.2640	.0103	-.0011	128.4	7.899

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**149.8**	**14.52**	**7.227**	**.5714**	**.0338**	**.0032**	**3.103**	**.0230**	**.0660**
Stddev	4.3	.43	.223	.0463	.0011	.0004	.008	.0028	.0012
%RSD	2.888	2.933	3.082	8.098	3.253	12.08	.2572	12.10	1.886
#1	150.6	14.55	7.340	.5938	.0342	.0035	3.108	.0227	.0665
#2	153.7	14.93	7.370	.6023	.0346	.0028	3.107	.0258	.0669
#3	145.1	14.08	6.970	.5182	.0325	.0033	3.094	.0203	.0646

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.200**	**.0046**	**.0133**	**1.076**	**-.0120**	**.0923**	**2.746**	**.6909**
Stddev	.019	.0021	.0002	.016	.0040	.0089	.004	.0160
%RSD	.8656	45.80	1.837	1.468	33.53	9.634	.1603	2.319
#1	2.181	.0026	.0131	1.077	-.0160	.0944	2.741	.6728
#2	2.200	.0067	.0133	1.092	-.0122	.0999	2.750	.7030
#3	2.219	.0044	.0136	1.060	-.0079	.0825	2.746	.6971

Zoom In Zoom Out

Sample Name: jc99242-10 Acquired: 12/10/2019 13:45:43 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**288390.**	**33844.**	**8465.6**	**14895.**
Stddev	2839.	956.	9.8	20.
%RSD	.98443	2.8257	.11607	.13695
#1	291020.	33683.	8474.6	14910.
#2	288770.	32979.	8455.1	14872.
#3	285380.	34871.	8467.2	14903.

Zoom In Zoom Out

Sample Name: jc99242-11 Acquired: 12/10/2019 13:50:44 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5742**	**.0069**	**.0012**	**.0801**	**.1974**	**.1321**	**3.065**	**.1184**	**.0034**
Stddev	.0017	.0000	.0005	.0001	.0006	.0009	.012	.0004	.0005
%RSD	.2918	.5757	41.04	.1349	.2972	.6447	.3883	.3736	13.70
#1	.5731	.0069	.0006	.0802	.1969	.1327	3.079	.1188	.0031
#2	.5761	.0069	.0015	.0800	.1980	.1325	3.059	.1186	.0031
#3	.5733	.0069	.0014	.0801	.1974	.1311	3.057	.1179	.0039

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3072**	**.5085**	**.0546**	**-.0035**	**.2778**	**.0067**	**.0031**	**160.9**	**7.646**
Stddev	.0010	.0008	.0012	.0044	.0016	.0012	.0024	.4	.013
%RSD	.3416	.1513	2.180	126.8	.5634	18.70	77.59	.2509	.1690
#1	.3084	.5089	.0532	-.0084	.2773	.0054	.0023	160.5	7.637
#2	.3065	.5076	.0553	-.0023	.2796	.0079	.0059	161.3	7.661
#3	.3067	.5090	.0553	.0002	.2766	.0067	.0012	160.9	7.640

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**224.6**	**18.11**	**7.497**	**.4169**	**.0293**	**.0046**	**3.079**	**.0212**	**.0671**
Stddev	.5	.10	.053	.0051	.0005	.0002	.004	.0006	.0003
%RSD	.2099	.5625	.7116	1.215	1.788	4.793	.1332	2.670	.4379
#1	224.1	18.13	7.437	.4187	.0298	.0049	3.075	.0216	.0668
#2	225.1	18.00	7.539	.4112	.0294	.0045	3.080	.0214	.0672
#3	224.6	18.20	7.515	.4209	.0288	.0046	3.082	.0205	.0673

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.349**	**.0026**	**.0196**	**1.077**	**-.0106**	**.1040**	**2.884**	**.7509**
Stddev	.005	.0013	.0002	.001	.0017	.0034	.011	.0028
%RSD	.2308	49.92	1.230	.1279	15.67	3.286	.3896	.3792
#1	2.355	.0018	.0195	1.078	-.0111	.1010	2.872	.7541
#2	2.344	.0040	.0198	1.076	-.0088	.1077	2.885	.7499
#3	2.347	.0019	.0193	1.076	-.0120	.1034	2.894	.7487

Zoom In Zoom Out

Sample Name: jc99242-11 Acquired: 12/10/2019 13:50:44 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**290090.**	**34038.**	**8594.7**	**14788.**
Stddev	1794.	70.	23.4	39.
%RSD	.61827	.20484	.27220	.26183
#1	288030.	34118.	8598.3	14806.
#2	290930.	34008.	8616.1	14815.
#3	291310.	33989.	8569.7	14744.

Zoom In Zoom Out

Sample Name: jc99242-11 Acquired: 12/10/2019 13:55:42 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5857**	**.0071**	**.0011**	**.0808**	**.2031**	**.1351**	**3.120**	**.1193**	**.0054**
Stddev	.0004	.0001	.0008	.0002	.0028	.0007	.026	.0022	.0008
%RSD	.0740	1.247	72.48	.2775	1.362	.5106	.8365	1.827	15.11
#1	.5858	.0072	.0014	.0808	.2062	.1356	3.148	.1184	.0045
#2	.5852	.0071	.0016	.0811	.2010	.1353	3.097	.1178	.0055
#3	.5860	.0070	.0002	.0806	.2021	.1343	3.115	.1218	.0061

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3123**	**.5284**	**.0498**	**-.0044**	**.2738**	**.0043**	**.0039**	**162.9**	**7.984**
Stddev	.0021	.0050	.0097	.0021	.0043	.0030	.0048	.4	.026
%RSD	.6868	.9490	19.56	49.20	1.559	68.34	123.5	.2248	.3244
#1	.3145	.5255	.0390	-.0019	.2757	.0065	-.0009	162.9	8.012
#2	.3102	.5254	.0580	-.0060	.2689	.0010	.0039	162.5	7.962
#3	.3123	.5341	.0525	-.0052	.2768	.0055	.0087	163.2	7.977

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**231.7**	**18.39**	**7.608**	**.4764**	**.0315**	**.0048**	**3.233**	**.0236**	**.0683**
Stddev	.3	.07	.020	.0115	.0024	.0005	.036	.0032	.0003
%RSD	.1349	.3626	.2676	2.422	7.707	10.70	1.130	13.77	.3685
#1	232.0	18.46	7.619	.4641	.0311	.0053	3.210	.0266	.0681
#2	231.4	18.39	7.584	.4870	.0341	.0044	3.214	.0202	.0683
#3	231.9	18.33	7.620	.4782	.0293	.0046	3.275	.0239	.0686

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.362**	**.0092**	**.0210**	**1.090**	**-.0140**	**.1021**	**2.939**	**.7652**
Stddev	.019	.0031	.0002	.009	.0024	.0021	.029	.0036
%RSD	.8233	33.33	1.031	.8042	17.43	2.014	.9839	.4651
#1	2.382	.0119	.0208	1.080	-.0112	.1032	2.925	.7685
#2	2.343	.0059	.0211	1.092	-.0154	.0997	2.920	.7615
#3	2.360	.0099	.0212	1.097	-.0155	.1033	2.972	.7657

Zoom In Zoom Out

Sample Name: jc99242-11 Acquired: 12/10/2019 13:55:42 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**287520.**	**33261.**	**8439.0**	**14833.**
Stddev	2254.	113.	45.5	89.
%RSD	.78405	.34106	.53954	.59820
#1	285340.	33327.	8459.7	14856.
#2	289840.	33327.	8470.6	14908.
#3	287390.	33130.	8386.8	14735.

Zoom In Zoom Out

Sample Name: jc99261-1 Acquired: 12/10/2019 14:00:43 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3910**	**.0021**	**.0000**	**.0401**	**.0253**	**.0829**	**2.085**	**.0232**	**.0029**
Stddev	.0004	.0001	.0005	.0004	.0002	.0008	.008	.0006	.0014
%RSD	.1057	5.296	2191.	1.000	.8472	.9220	.3646	2.467	48.92
#1	.3906	.0020	-.0002	.0399	.0251	.0836	2.091	.0237	.0014
#2	.3912	.0022	.0006	.0399	.0255	.0821	2.077	.0234	.0032
#3	.3913	.0022	-.0004	.0406	.0253	.0831	2.088	.0226	.0042

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0596**	**.2304**	**.0147**	**-.0072**	**.0114**	**.0064**	**.0021**	**25.30**	**58.62**
Stddev	.0012	.0008	.0041	.0026	.0030	.0113	.0016	.06	.11
%RSD	1.969	.3598	27.54	36.17	26.70	175.1	75.83	.2213	.1899
#1	.0602	.2299	.0102	-.0081	.0104	.0031	.0031	25.35	58.74
#2	.0604	.2300	.0180	-.0043	.0148	.0190	.0003	25.24	58.51
#3	.0583	.2314	.0160	-.0092	.0089	-.0028	.0030	25.32	58.60

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**204.0**	**18.08**	**13.68**	**3.234**	**-.0008**	**.0058**	**1.481**	**.0114**	**.1064**
Stddev	.3	.07	.06	.021	.0017	.0006	.005	.0029	.0003
%RSD	.1578	.4125	.4610	.6610	209.6	10.69	.3429	25.65	.2609
#1	204.3	18.13	13.62	3.243	.0003	.0056	1.486	.0137	.1066
#2	203.6	18.13	13.70	3.248	.0001	.0053	1.476	.0081	.1061
#3	204.0	18.00	13.74	3.209	-.0028	.0065	1.481	.0123	.1065

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.307**	**.0044**	**.0272**	**8.668**	**-.0051**	**.0237**	**10.96**	**.9622**
Stddev	.023	.0018	.0001	.007	.0028	.0060	.02	.0111
%RSD	.5242	41.72	.3700	.0845	54.53	25.45	.2175	1.157
#1	4.317	.0030	.0271	8.660	-.0082	.0189	10.93	.9536
#2	4.281	.0065	.0273	8.673	-.0028	.0304	10.98	.9748
#3	4.323	.0037	.0272	8.672	-.0042	.0216	10.97	.9583

Zoom In Zoom Out

Sample Name: jc99261-1 Acquired: 12/10/2019 14:00:43 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**290080.**	**33614.**	**8537.2**	**14931.**
Stddev	1325.	123.	9.3	25.
%RSD	.45681	.36691	.10889	.17042
#1	289530.	33479.	8530.2	14910.
#2	291590.	33720.	8547.8	14959.
#3	289120.	33644.	8533.7	14925.

Zoom In Zoom Out

Sample Name: jc99337-1 Acquired: 12/10/2019 14:05:43 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5710**	**.0085**	**.0006**	**.1395**	**.3392**	**.0562**	**3.493**	**.3452**	**.0026**
Stddev	.0015	.0002	.0004	.0009	.0032	.0014	.033	.0011	.0006
%RSD	.2606	2.194	66.67	.6746	.9408	2.565	.9422	.3143	22.30
#1	.5693	.0087	.0007	.1406	.3383	.0559	3.503	.3453	.0020
#2	.5713	.0085	.0009	.1390	.3427	.0577	3.520	.3461	.0027
#3	.5723	.0083	.0001	.1389	.3365	.0548	3.456	.3440	.0031

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3290**	**.7589**	**.1184**	**-.0037**	**.1644**	**.0096**	**.0032**	**195.8**	**9.364**
Stddev	.0028	.0025	.0023	.0026	.0033	.0046	.0044	1.1	.072
%RSD	.8625	.3358	1.923	70.02	2.010	48.41	139.9	.5381	.7707
#1	.3298	.7603	.1162	-.0066	.1681	.0043	.0007	194.8	9.286
#2	.3314	.7605	.1181	-.0016	.1618	.0114	.0005	196.9	9.429
#3	.3259	.7559	.1207	-.0028	.1633	.0130	.0083	195.6	9.376

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**372.6**	**88.19**	**38.95**	**1.792**	**.2332**	**.0080**	**2.636**	**.0133**	**.0858**
Stddev	2.1	.21	.23	.030	.0016	.0004	.005	.0029	.0006
%RSD	.5682	.2355	.5859	1.697	.6905	4.789	.1940	21.72	.7498
#1	370.7	87.98	38.81	1.757	.2350	.0082	2.632	.0131	.0853
#2	374.9	88.19	39.22	1.813	.2319	.0083	2.642	.0163	.0865
#3	372.3	88.39	38.83	1.806	.2327	.0076	2.634	.0105	.0855

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.180**	**.0043**	**.1022**	**.1309**	**-.0038**	**.5584**	**2.017**	**.3062**
Stddev	.043	.0030	.0007	.0114	.0015	.0014	.005	.0026
%RSD	.8301	70.54	.7028	8.678	37.97	.2577	.2615	.8554
#1	5.183	.0030	.1022	.1266	-.0027	.5568	2.020	.3052
#2	5.221	.0021	.1029	.1224	-.0034	.5593	2.021	.3092
#3	5.135	.0078	.1014	.1438	-.0055	.5592	2.011	.3042

Zoom In Zoom Out

Sample Name: jc99337-1 Acquired: 12/10/2019 14:05:43 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**280480.**	**32734.**	**8321.4**	**14577.**
Stddev	2897.	229.	1.7	2.
%RSD	1.0329	.69857	.02019	.01370
#1	278680.	32955.	8319.5	14577.
#2	278940.	32498.	8322.6	14574.
#3	283820.	32748.	8322.2	14578.

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 14:10:44 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.001**	**2.008**	**2.014**	**1.977**	**1.988**	**1.947**	**2.011**	**1.988**	**.2417**
Stddev	.002	.003	.020	.018	.010	.011	.013	.016	.0008
%RSD	.1047	.1399	.9850	.9057	.5186	.5665	.6215	.7801	.3247
#1	2.000	2.007	2.007	1.974	1.980	1.935	2.005	1.985	.2409
#2	2.000	2.006	1.998	1.961	1.986	1.953	2.004	1.975	.2419
#3	2.003	2.011	2.036	1.996	2.000	1.955	2.026	2.005	.2424
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.958**	**2.013**	**1.978**	**2.012**	**1.976**	**1.974**	**1.971**	**40.19**	**40.79**
Stddev	.012	.020	.023	.019	.017	.019	.023	.09	.09
%RSD	.5901	1.009	1.144	.9259	.8751	.9733	1.170	.2145	.2295
#1	1.948	2.011	1.972	2.009	1.974	1.969	1.964	40.13	40.75
#2	1.957	1.994	1.959	1.995	1.960	1.958	1.952	40.16	40.72
#3	1.971	2.035	2.003	2.032	1.994	1.995	1.996	40.29	40.90
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.43**	**39.87**	**40.00**	**40.09**	**1.968**	**2.010**	**4.843**	**2.039**	**2.042**
Stddev	.07	.01	.07	.14	.019	.023	.051	.028	.005
%RSD	.1795	.0351	.1862	.3369	.9520	1.166	1.063	1.392	.2237
#1	40.39	39.85	39.98	40.05	1.964	2.002	4.830	2.031	2.039
#2	40.39	39.88	39.94	39.99	1.951	1.991	4.799	2.015	2.040
#3	40.51	39.87	40.08	40.25	1.988	2.036	4.900	2.070	2.047
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 14:10:44 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.943**	**1.970**	**1.954**	**1.936**	**1.972**	**1.980**	**1.956**	**1.941**
Stddev	.009	.022	.009	.022	.024	.004	.017	.010
%RSD	.4613	1.144	.4394	1.120	1.215	.2096	.8560	.4958
#1	1.936	1.963	1.946	1.931	1.968	1.976	1.950	1.931
#2	1.940	1.952	1.953	1.918	1.951	1.979	1.943	1.942
#3	1.953	1.995	1.963	1.960	1.999	1.984	1.975	1.951
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**276200.**	**32230.**	**8166.2**	**14188.**
Stddev	1388.	64.	70.6	98.
%RSD	.50256	.19861	.86425	.69421
#1	277230.	32287.	8186.2	14205.
#2	276760.	32161.	8224.6	14278.
#3	274620.	32242.	8087.7	14083.

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 14:15:43 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0001**	**.0002**	**.0001**	**.0003**	**.0006**	**.0000**	**-.0001**	**.0002**
Stddev	.0001	.0000	.0001	.0001	.0003	.0002	.0000	.0003	.0001
%RSD	52.61	36.36	82.61	41.19	103.4	24.85	115.7	260.7	54.63
#1	-.0001	.0001	.0001	.0001	.0002	.0005	-.0000	-.0000	.0002
#2	-.0001	.0001	.0001	.0002	.0000	.0008	.0000	-.0004	.0003
#3	-.0003	.0001	.0003	.0001	.0005	.0005	.0000	.0001	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0001**	**-.0001**	**-.0006**	**.0007**	**-.0008**	**.0002**	**-.0176**	**.0081**
Stddev	.0001	.0000	.0006	.0004	.0010	.0011	.0008	.0026	.0016
%RSD	49.07	47.68	1017.	64.37	131.6	132.3	415.0	14.53	19.46
#1	-.0003	.0001	.0003	-.0010	.0018	-.0010	.0011	-.0177	.0099
#2	-.0004	.0000	-.0007	-.0004	-.0000	.0003	-.0000	-.0150	.0070
#3	-.0001	.0001	.0003	-.0003	.0004	-.0018	-.0005	-.0201	.0073
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0008**	**-.0148**	**.0045**	**.0067**	**.0014**	**.0001**	**.0008**	**.0004**	**-.0000**
Stddev	.0012	.0119	.0316	.0040	.0003	.0001	.0009	.0002	.0000
%RSD	155.1	80.35	702.6	60.20	22.92	81.20	108.7	57.46	241.6
#1	-.0000	-.0022	.0276	.0052	.0015	.0000	.0008	.0006	-.0000
#2	.0022	-.0257	-.0315	.0112	.0017	.0001	-.0001	.0001	-.0000
#3	.0002	-.0164	.0174	.0036	.0011	.0002	.0016	.0005	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 14:15:43 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**.0004**	**.0002**	**.0017**	**-.0003**	**.0001**	**-.0017**	**-.0034**
Stddev	.0001	.0009	.0001	.0027	.0009	.0009	.0018	.0010
%RSD	12590.	255.6	68.46	155.0	268.4	1303.	108.4	29.29
#1	.0001	.0011	.0002	.0021	-.0014	-.0007	-.0034	-.0045
#2	-.0001	-.0006	.0001	.0042	.0001	-.0001	.0003	-.0026
#3	.0000	.0006	.0003	-.0011	.0003	.0010	-.0020	-.0031
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**286410.**	**32637.**	**8511.2**	**15296.**
Stddev	2724.	64.	256.7	416.
%RSD	.95092	.19517	3.0161	2.7215
#1	286800.	32648.	8806.6	15776.
#2	283510.	32568.	8385.3	15077.
#3	288920.	32694.	8341.8	15034.

Zoom In Zoom Out

Sample Name: jc99337-1conf Acquired: 12/10/2019 14:20:54 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6005**	**.0094**	**.0020**	**.1483**	**.3604**	**.0666**	**3.663**	**.3640**	**.0043**
Stddev	.0017	.0002	.0013	.0008	.0021	.0038	.021	.0036	.0021
%RSD	.2811	2.236	63.96	.5147	.5948	5.754	.5868	.9885	48.47
#1	.6024	.0095	.0034	.1475	.3621	.0688	3.674	.3640	.0022
#2	.5991	.0096	.0011	.1487	.3580	.0622	3.639	.3675	.0063
#3	.6001	.0092	.0015	.1488	.3610	.0688	3.678	.3603	.0045

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3443**	**.8082**	**.1169**	**-.0073**	**.1678**	**-.0069**	**-.0017**	**202.8**	**10.39**
Stddev	.0034	.0034	.0085	.0055	.0063	.0304	.0059	.2	.00
%RSD	.9924	.4210	7.228	75.89	3.767	440.4	338.0	.1058	.0431
#1	.3478	.8049	.1267	-.0015	.1747	-.0410	.0006	202.6	10.39
#2	.3410	.8117	.1120	-.0126	.1665	.0029	-.0085	203.0	10.40
#3	.3442	.8082	.1121	-.0078	.1622	.0174	.0026	202.8	10.39

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**396.4**	**92.24**	**40.70**	**2.185**	**.2549**	**.0113**	**3.061**	**.0173**	**.0917**
Stddev	.8	.49	.06	.049	.0040	.0017	.013	.0045	.0005
%RSD	.2141	.5299	.1399	2.220	1.564	14.95	.4147	25.98	.5382
#1	395.5	91.69	40.74	2.192	.2553	.0112	3.073	.0200	.0911
#2	397.1	92.38	40.73	2.133	.2507	.0096	3.063	.0196	.0920
#3	396.8	92.64	40.64	2.229	.2586	.0130	3.048	.0121	.0920

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.380**	**.0196**	**.1113**	**.3187**	**-.0071**	**.5931**	**2.087**	**.3007**
Stddev	.033	.0121	.0017	.0015	.0122	.0093	.020	.0141
%RSD	.6064	61.65	1.560	.4597	173.2	1.571	.9380	4.703
#1	5.382	.0158	.1123	.3181	-.0209	.5828	2.086	.3170
#2	5.346	.0099	.1093	.3176	.0025	.5956	2.068	.2910
#3	5.411	.0331	.1122	.3203	-.0028	.6009	2.107	.2942

Zoom In Zoom Out

Sample Name: jc99337-1conf Acquired: 12/10/2019 14:20:54 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**284020.**	**32798.**	**8387.8**	**14772.**
Stddev	1539.	93.	5.4	24.
%RSD	.54180	.28402	.06497	.16503
#1	283510.	32905.	8392.3	14785.
#2	285750.	32737.	8381.8	14744.
#3	282790.	32752.	8389.4	14787.

Zoom In Zoom Out

Sample Name: jc99337-2 Acquired: 12/10/2019 14:25:56 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9359**	**.0100**	**.0007**	**.0982**	**.2098**	**.0734**	**13.84**	**.2104**	**.0027**
Stddev	.0003	.0001	.0001	.0001	.0011	.0002	.06	.0003	.0003
%RSD	.0335	.6750	20.34	.0897	.5059	.2656	.4585	.1470	9.317
#1	.9356	.0100	.0009	.0983	.2103	.0733	13.77	.2100	.0030
#2	.9362	.0100	.0006	.0982	.2085	.0733	13.89	.2105	.0025
#3	.9361	.0101	.0007	.0982	.2104	.0737	13.88	.2106	.0028

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2992**	**.6336**	**.1279**	**-.0015**	**.3956**	**.0041**	**.0008**	**192.3**	**16.24**
Stddev	.0016	.0020	.0018	.0018	.0023	.0012	.0043	.2	.02
%RSD	.5295	.3099	1.386	119.8	.5753	29.07	526.9	.1275	.1507
#1	.2982	.6352	.1281	-.0005	.3978	.0049	-.0020	192.5	16.27
#2	.2985	.6343	.1260	-.0035	.3933	.0027	-.0014	192.1	16.23
#3	.3010	.6314	.1295	-.0004	.3956	.0047	.0058	192.4	16.23

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**234.0**	**43.94**	**15.46**	**.8642**	**.1113**	**.0055**	**3.384**	**.0202**	**.1194**
Stddev	.2	.14	.05	.0099	.0014	.0004	.007	.0010	.0000
%RSD	.1065	.3123	.3249	1.141	1.299	8.084	.2054	5.153	.0258
#1	234.3	44.09	15.48	.8542	.1116	.0059	3.391	.0196	.1194
#2	233.8	43.84	15.49	.8647	.1097	.0057	3.383	.0195	.1195
#3	233.9	43.88	15.40	.8739	.1125	.0050	3.377	.0214	.1194

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.551**	**.0083**	**.0172**	**1.086**	**-.0051**	**.3326**	**3.833**	**.4685**
Stddev	.016	.0011	.0002	.003	.0015	.0017	.003	.0033
%RSD	.6397	13.05	.9003	.3145	30.48	.5183	.0791	.7140
#1	2.535	.0090	.0170	1.084	-.0034	.3344	3.830	.4687
#2	2.551	.0070	.0173	1.090	-.0054	.3324	3.833	.4650
#3	2.568	.0088	.0172	1.084	-.0064	.3309	3.837	.4717

Zoom In Zoom Out

Sample Name: jc99337-2 Acquired: 12/10/2019 14:25:56 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**287310.**	**33563.**	**8499.7**	**14724.**
Stddev	1231.	123.	10.0	12.
%RSD	.42855	.36710	.11811	.08051
#1	288690.	33424.	8488.7	14711.
#2	286910.	33658.	8501.8	14729.
#3	286320.	33608.	8508.5	14733.

Zoom In Zoom Out

Sample Name: jc99337-2 Acquired: 12/10/2019 14:31:05 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9609**	**.0103**	**.0016**	**.1003**	**.2179**	**.0778**	**14.94**	**.2143**	**.0027**
Stddev	.0014	.0003	.0009	.0021	.0004	.0014	.02	.0005	.0011
%RSD	.1416	2.875	57.32	2.095	.1672	1.738	.1617	.2189	41.20
#1	.9599	.0104	.0025	.1007	.2182	.0787	14.96	.2148	.0040
#2	.9604	.0105	.0007	.1021	.2175	.0763	14.96	.2140	.0022
#3	.9625	.0100	.0016	.0980	.2180	.0785	14.92	.2140	.0019

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3118**	**.6557**	**.1310**	**-.0081**	**.4035**	**-.0069**	**.0010**	**195.8**	**16.91**
Stddev	.0028	.0017	.0081	.0021	.0045	.0027	.0017	.4	.07
%RSD	.9040	.2612	6.197	26.31	1.113	39.44	170.4	.2285	.4290
#1	.3137	.6561	.1231	-.0105	.4067	-.0100	.0005	195.4	16.83
#2	.3086	.6572	.1393	-.0070	.4053	-.0059	.0029	196.3	16.97
#3	.3131	.6538	.1304	-.0067	.3983	-.0048	-.0004	195.8	16.91

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**243.0**	**45.10**	**15.74**	**.9760**	**.1128**	**.0054**	**3.578**	**.0247**	**.1235**
Stddev	.8	.12	.04	.0075	.0013	.0008	.021	.0012	.0004
%RSD	.3444	.2738	.2453	.7687	1.113	14.88	.6001	4.783	.3513
#1	242.1	44.97	15.73	.9813	.1142	.0045	3.591	.0237	.1230
#2	243.8	45.22	15.78	.9675	.1117	.0060	3.589	.0243	.1239
#3	243.0	45.11	15.70	.9794	.1125	.0058	3.553	.0260	.1235

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.617**	**.0122**	**.0192**	**1.149**	**-.0033**	**.3343**	**3.885**	**.4636**
Stddev	.015	.0059	.0003	.015	.0088	.0024	.025	.0070
%RSD	.5708	48.21	1.648	1.266	269.4	.7094	.6560	1.502
#1	2.628	.0075	.0195	1.165	-.0064	.3341	3.899	.4573
#2	2.600	.0102	.0193	1.143	-.0101	.3321	3.899	.4625
#3	2.624	.0188	.0188	1.138	.0067	.3368	3.855	.4711

Zoom In Zoom Out

Sample Name: jc99337-2 Acquired: 12/10/2019 14:31:05 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**284430.**	**33176.**	**8468.6**	**14873.**
Stddev	1301.	97.	42.3	58.
%RSD	.45730	.29115	.49938	.38686
#1	283190.	33267.	8457.9	14869.
#2	285790.	33074.	8432.7	14818.
#3	284320.	33187.	8515.2	14933.

Zoom In Zoom Out

Sample Name: jc99337-3 Acquired: 12/10/2019 14:36:15 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9405**	**.0118**	**.0010**	**.1386**	**.3046**	**.1449**	**4.619**	**.3391**
Stddev	.0017	.0001	.0002	.0005	.0025	.0009	.049	.0010
%RSD	.1859	.5104	19.82	.3953	.8293	.6211	1.062	.3000
#1	.9406	.0118	.0008	.1380	.3018	.1438	4.564	.3385
#2	.9387	.0118	.0011	.1389	.3067	.1455	4.658	.3385
#3	.9422	.0119	.0011	.1389	.3052	.1452	4.635	.3402

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0013**	**.3610**	**.7433**	**.0396**	F **-.0052**	**.1749**	**.0074**	**.0019**
Stddev	.0011	.0013	.0018	.0019	.0018	.0014	.0020	.0033
%RSD	81.14	.3616	.2420	4.755	34.76	.7967	27.21	173.0
#1	.0023	.3599	.7413	.0397	-.0039	.1764	.0051	.0040
#2	.0002	.3625	.7448	.0376	-.0043	.1736	.0086	-.0019
#3	.0015	.3607	.7437	.0414	-.0072	.1747	.0086	.0035

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**180.8**	**40.75**	**342.3**	**72.65**	**30.81**	**1.554**	**.2061**	**.0098**
Stddev	.7	.16	1.2	.07	.09	.007	.0014	.0006
%RSD	.4031	.3958	.3551	.0997	.2923	.4516	.6690	5.681
#1	181.0	40.82	342.9	72.58	30.84	1.557	.2063	.0095
#2	179.9	40.57	340.9	72.67	30.71	1.546	.2047	.0104
#3	181.3	40.87	343.0	72.72	30.89	1.559	.2074	.0095

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.485**	**.0179**	**.2360**	**4.010**	**.0094**	**.0952**	**.5752**	**-.0097**
Stddev	.003	.0014	.0009	.016	.0002	.0003	.0038	.0031
%RSD	.0889	7.769	.3698	.4024	2.045	.2780	.6585	31.77
#1	3.485	.0166	.2362	3.992	.0096	.0952	.5777	-.0095
#2	3.489	.0194	.2351	4.024	.0093	.0950	.5709	-.0067
#3	3.483	.0176	.2368	4.013	.0094	.0955	.5771	-.0128

Zoom In Zoom Out

Sample Name: jc99337-3 Acquired: 12/10/2019 14:36:15 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.4777**	**3.411**	**.4483**
Stddev	.0006	.004	.0019
%RSD	.1220	.1303	.4172
#1	.4783	3.407	.4502
#2	.4778	3.416	.4465
#3	.4772	3.411	.4484

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**285140.**	**33350.**	**8398.2**	**14505.**
Stddev	1801.	35.	5.2	15.
%RSD	.63159	.10587	.06155	.10093
#1	287160.	33312.	8392.7	14515.
#2	283710.	33382.	8398.9	14488.
#3	284550.	33356.	8403.0	14511.

Zoom In Zoom Out

Sample Name: jc99337-3conf Acquired: 12/10/2019 14:41:22 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9740**	**.0123**	**.0009**	**.1434**	**.3179**	**.1492**	**4.872**	**.3475**	**.0033**
Stddev	.0026	.0003	.0013	.0004	.0050	.0026	.039	.0024	.0023
%RSD	.2710	2.642	140.2	.3024	1.569	1.740	.7990	.6978	69.17
#1	.9734	.0120	.0014	.1432	.3234	.1521	4.916	.3468	.0008
#2	.9769	.0126	.0020	.1432	.3166	.1471	4.854	.3502	.0052
#3	.9718	.0123	-.0006	.1439	.3137	.1485	4.845	.3456	.0039

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3695**	**.7812**	**.0487**	**-.0062**	**.1805**	**.0064**	**-.0032**	**183.9**	**42.63**
Stddev	.0042	.0018	.0068	.0154	.0065	.0113	.0066	.2	.07
%RSD	1.150	.2331	13.95	248.2	3.622	175.3	207.9	.0875	.1651
#1	.3744	.7832	.0409	-.0066	.1769	.0194	.0041	183.8	42.65
#2	.3670	.7808	.0523	-.0215	.1880	.0004	-.0050	184.1	42.69
#3	.3671	.7796	.0530	.0094	.1765	-.0006	-.0087	183.9	42.55

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**361.7**	**75.30**	**31.64**	**1.764**	**.2101**	**.0092**	**3.913**	**.0199**	**.2452**
Stddev	.8	.17	.10	.074	.0054	.0003	.022	.0017	.0005
%RSD	.2287	.2278	.3259	4.187	2.574	2.739	.5541	8.662	.1932
#1	361.7	75.50	31.70	1.703	.2126	.0089	3.926	.0185	.2449
#2	362.6	75.21	31.52	1.743	.2139	.0094	3.926	.0193	.2458
#3	360.9	75.19	31.70	1.846	.2039	.0094	3.888	.0218	.2449

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.054**	**.0172**	**.1024**	**.6210**	**-.0230**	**.4842**	**3.440**	**.4522**
Stddev	.030	.0078	.0010	.0085	.0054	.0030	.008	.0191
%RSD	.7380	45.59	.9628	1.370	23.34	.6153	.2450	4.214
#1	4.085	.0126	.1035	.6192	-.0248	.4836	3.448	.4491
#2	4.051	.0127	.1015	.6303	-.0273	.4875	3.439	.4349
#3	4.025	.0262	.1023	.6136	-.0170	.4816	3.432	.4726

Zoom In Zoom Out

Sample Name: jc99337-3conf Acquired: 12/10/2019 14:41:22 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**290480.**	**33325.**	**8543.6**	**15027.**
Stddev	2338.	127.	16.9	31.
%RSD	.80481	.38161	.19727	.20610
#1	287840.	33314.	8529.5	14998.
#2	291270.	33205.	8539.0	15024.
#3	292310.	33458.	8562.3	15060.

Zoom In Zoom Out

Sample Name: jc99337-4 Acquired: 12/10/2019 14:46:23 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8012**	**.0134**	**.0003**	**.1571**	**.3629**	**.1036**	**3.350**	**.3975**	**.0032**
Stddev	.0032	.0000	.0005	.0007	.0052	.0018	.032	.0014	.0011
%RSD	.4021	.2793	152.8	.4678	1.442	1.761	.9680	.3592	34.41
#1	.7976	.0134	.0006	.1564	.3673	.1044	3.372	.3960	.0020
#2	.8025	.0134	.0005	.1578	.3571	.1015	3.313	.3988	.0035
#3	.8037	.0134	-.0002	.1572	.3644	.1049	3.365	.3978	.0042

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4218**	**.8821**	**.1370**	**-.0035**	**.1914**	**.0129**	**.0018**	**209.9**	**16.14**
Stddev	.0048	.0012	.0025	.0008	.0016	.0023	.0053	.5	.03
%RSD	1.149	.1357	1.836	22.23	.8256	17.61	296.7	.2475	.1566
#1	.4254	.8835	.1389	-.0027	.1926	.0127	.0018	209.3	16.11
#2	.4163	.8814	.1380	-.0038	.1896	.0108	-.0035	210.2	16.15
#3	.4237	.8815	.1341	-.0041	.1920	.0153	.0071	210.3	16.16

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**430.3**	**101.7**	**41.68**	**1.897**	**.2350**	**.0086**	**2.634**	**.0172**	**.1007**
Stddev	.9	.1	.08	.016	.0001	.0008	.001	.0008	.0004
%RSD	.2065	.1471	.2027	.8265	.0487	9.191	.0448	4.575	.4240
#1	429.3	101.6	41.58	1.900	.2351	.0085	2.634	.0163	.1002
#2	431.0	101.9	41.70	1.911	.2350	.0079	2.636	.0174	.1011
#3	430.7	101.7	41.74	1.880	.2349	.0095	2.634	.0179	.1008

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.167**	**.0150**	**.0821**	**.2454**	**-.0108**	**.6581**	**5.299**	**.3468**
Stddev	.032	.0016	.0002	.0061	.0001	.0067	.017	.0034
%RSD	.7570	10.56	.2179	2.500	.9270	1.023	.3286	.9680
#1	4.194	.0148	.0822	.2399	-.0106	.6512	5.317	.3445
#2	4.132	.0136	.0819	.2520	-.0108	.6647	5.296	.3451
#3	4.173	.0167	.0822	.2443	-.0108	.6584	5.283	.3506

Zoom In Zoom Out

Sample Name: jc99337-4 Acquired: 12/10/2019 14:46:23 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 3.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**283050.**	**32947.**	**8401.4**	**14665.**
Stddev	2968.	35.	8.7	6.
%RSD	1.0484	.10601	.10363	.04182
#1	281010.	32914.	8394.7	14659.
#2	286450.	32943.	8411.3	14663.
#3	281680.	32984.	8398.4	14671.

Zoom In Zoom Out

Sample Name: jc99337-4conf Acquired: 12/10/2019 14:51:20 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7496**	**.0127**	**.0016**	**.1480**	**.3426**	**.0976**	**3.133**	**.3731**	**.0056**
Stddev	.0026	.0008	.0007	.0030	.0053	.0039	.025	.0013	.0032
%RSD	.3494	6.112	45.66	2.017	1.560	3.990	.7807	.3387	57.63
#1	.7467	.0122	.0016	.1457	.3447	.1011	3.160	.3729	.0042
#2	.7501	.0124	.0023	.1513	.3465	.0934	3.112	.3720	.0093
#3	.7519	.0136	.0008	.1469	.3365	.0983	3.127	.3745	.0033

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3933**	**.8431**	**.1309**	**-.0088**	**.1717**	**.0066**	**-.0052**	**193.6**	**15.47**
Stddev	.0038	.0020	.0197	.0113	.0039	.0075	.0084	.9	.06
%RSD	.9543	.2412	15.08	127.8	2.270	113.5	162.6	.4801	.4180
#1	.3976	.8433	.1242	.0032	.1743	.0139	-.0127	192.5	15.40
#2	.3910	.8451	.1154	-.0193	.1672	.0069	-.0067	194.4	15.51
#3	.3913	.8410	.1531	-.0105	.1735	-.0010	.0039	193.8	15.51

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**408.0**	**95.22**	**38.76**	**1.917**	**.2250**	**.0080**	**2.921**	**.0170**	**.0940**
Stddev	1.4	.25	.25	.074	.0092	.0007	.010	.0031	.0010
%RSD	.3455	.2647	.6321	3.849	4.076	9.261	.3309	18.40	1.022
#1	406.4	95.51	38.55	1.832	.2255	.0071	2.932	.0196	.0942
#2	409.1	95.07	38.71	1.962	.2338	.0083	2.915	.0180	.0930
#3	408.3	95.09	39.03	1.957	.2155	.0085	2.917	.0135	.0949

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.854**	**.0212**	**.0783**	**.2834**	**-.0146**	**.6144**	**4.913**	**.3052**
Stddev	.025	.0058	.0016	.0248	.0144	.0094	.026	.0048
%RSD	.6379	27.14	2.025	8.734	98.42	1.531	.5228	1.588
#1	3.879	.0251	.0778	.3103	-.0050	.6041	4.917	.3061
#2	3.830	.0239	.0771	.2615	-.0076	.6166	4.937	.2999
#3	3.853	.0146	.0801	.2784	-.0312	.6225	4.886	.3095

Zoom In Zoom Out

Sample Name: jc99337-4conf Acquired: 12/10/2019 14:51:20 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**288390.**	**33120.**	**8481.9**	**14921.**
Stddev	2482.	78.	8.9	11.
%RSD	.86063	.23507	.10532	.07108
#1	285560.	33043.	8483.8	14917.
#2	290200.	33118.	8472.1	14913.
#3	289420.	33199.	8489.7	14933.

Zoom In Zoom Out

Sample Name: jc99337-5 Acquired: 12/10/2019 14:56:23 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.436**	**.0122**	**.0010**	**.0990**	**.2924**	**.1155**	**2.992**	**.2613**	**.0001**
Stddev	.022	.0001	.0002	.0013	.0027	.0011	.014	.0028	.0018
%RSD	1.526	1.078	18.44	1.274	.9064	.9571	.4735	1.072	1459.
#1	1.460	.0123	.0009	.0976	.2953	.1167	3.003	.2586	.0009
#2	1.417	.0121	.0012	.0991	.2917	.1152	2.997	.2612	-.0019
#3	1.431	.0122	.0009	.1002	.2901	.1145	2.976	.2642	.0014

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3830**	**.6138**	**.0521**	**-.0001**	**.2032**	**.0013**	**.0018**	**231.6**	**26.05**
Stddev	.0017	.0048	.0011	.0018	.0040	.0032	.0034	3.9	.41
%RSD	.4562	.7756	2.066	1361.	1.951	248.5	188.5	1.700	1.566
#1	.3846	.6099	.0529	-.0021	.2039	.0007	.0028	235.9	26.49
#2	.3833	.6123	.0509	.0003	.1989	-.0016	-.0020	228.1	25.69
#3	.3812	.6191	.0527	.0015	.2067	.0048	.0047	230.8	25.95

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**266.5**	**61.11**	**25.46**	**1.402**	**.1377**	**.0046**	**4.104**	**.0205**	**.1230**
Stddev	4.3	.88	.33	.040	.0016	.0005	.034	.0017	.0019
%RSD	1.613	1.435	1.288	2.858	1.126	10.28	.8315	8.099	1.574
#1	271.2	61.99	25.81	1.445	.1385	.0051	4.085	.0186	.1251
#2	262.7	60.24	25.16	1.395	.1359	.0043	4.083	.0218	.1214
#3	265.6	61.09	25.40	1.366	.1387	.0044	4.143	.0210	.1224

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.446**	**.0062**	**.0804**	**1.081**	**-.0107**	**.5373**	**3.981**	**.4215**
Stddev	.011	.0017	.0009	.006	.0023	.0067	.023	.0091
%RSD	.4513	27.34	1.066	.5369	21.46	1.241	.5738	2.166
#1	2.452	.0053	.0811	1.081	-.0096	.5447	3.968	.4269
#2	2.452	.0082	.0806	1.075	-.0091	.5317	3.967	.4266
#3	2.433	.0052	.0794	1.086	-.0133	.5355	4.007	.4110

Zoom In Zoom Out

Sample Name: jc99337-5 Acquired: 12/10/2019 14:56:23 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**284410.**	**34087.**	**8443.6**	**14488.**
Stddev	1839.	501.	52.2	101.
%RSD	.64651	1.4690	.61865	.69473
#1	282480.	33576.	8480.7	14559.
#2	284630.	34577.	8466.2	14532.
#3	286140.	34106.	8383.9	14373.

Zoom In Zoom Out

Sample Name: jc99337-5conf Acquired: 12/10/2019 15:01:21 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.331**	**.0113**	**.0008**	**.0873**	**.2678**	**.1058**	**2.706**	**.2324**	**.0033**
Stddev	.003	.0003	.0013	.0014	.0001	.0033	.019	.0022	.0038
%RSD	.2493	2.280	159.7	1.660	.0440	3.087	.6949	.9673	114.1
#1	1.333	.0114	.0019	.0878	.2679	.1022	2.684	.2304	.0075
#2	1.334	.0110	.0010	.0857	.2678	.1084	2.715	.2319	.0001
#3	1.328	.0114	-.0006	.0885	.2677	.1070	2.718	.2349	.0024

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3427**	**.5710**	**.0396**	**-.0018**	**.1847**	**.0048**	**.0034**	**210.7**	**24.47**
Stddev	.0008	.0003	.0062	.0119	.0023	.0093	.0059	.5	.09
%RSD	.2464	.0494	15.57	647.0	1.247	194.5	171.1	.2500	.3576
#1	.3426	.5707	.0376	-.0132	.1831	.0151	.0007	210.7	24.55
#2	.3420	.5711	.0465	-.0028	.1836	.0021	.0101	211.2	24.49
#3	.3436	.5712	.0346	.0105	.1873	-.0029	-.0006	210.2	24.38

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**251.2**	**56.45**	**23.38**	**1.388**	**.1226**	**.0046**	**3.945**	**.0168**	**.1137**
Stddev	.4	.12	.18	.038	.0019	.0002	.004	.0063	.0005
%RSD	.1630	.2143	.7716	2.713	1.518	4.433	.1002	37.35	.4145
#1	251.2	56.31	23.54	1.353	.1228	.0046	3.944	.0104	.1135
#2	251.5	56.52	23.43	1.383	.1206	.0044	3.942	.0229	.1143
#3	250.7	56.53	23.19	1.428	.1243	.0048	3.949	.0172	.1134

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.179**	**.0076**	**.0736**	**1.005**	**-.0062**	**.4827**	**3.562**	**.3680**
Stddev	.023	.0068	.0019	.030	.0108	.0050	.023	.0141
%RSD	1.039	90.34	2.570	3.006	176.3	1.043	.6581	3.819
#1	2.153	.0084	.0715	1.036	-.0171	.4848	3.556	.3662
#2	2.189	.0004	.0743	.9756	.0046	.4864	3.542	.3549
#3	2.195	.0140	.0750	1.004	-.0060	.4770	3.588	.3828

Zoom In Zoom Out

Sample Name: jc99337-5conf Acquired: 12/10/2019 15:01:21 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**290070.**	**33155.**	**8538.5**	**15032.**
Stddev	1430.	75.	28.0	23.
%RSD	.49283	.22729	.32832	.15603
#1	291700.	33069.	8542.9	15045.
#2	289010.	33211.	8564.1	15046.
#3	289510.	33184.	8508.6	15005.

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 15:06:24 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.987**	**1.990**	**2.018**	**1.986**	**1.994**	**1.961**	**2.021**	**1.996**	**.2437**
Stddev	.003	.001	.004	.003	.005	.010	.009	.004	.0008
%RSD	.1407	.0372	.1999	.1269	.2715	.5250	.4311	.1928	.3288
#1	1.986	1.991	2.014	1.984	1.988	1.952	2.015	1.992	.2428
#2	1.984	1.990	2.022	1.989	1.993	1.959	2.018	2.000	.2444
#3	1.990	1.990	2.017	1.987	1.999	1.972	2.031	1.997	.2440
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.970**	**2.019**	**1.989**	**2.038**	**1.988**	**1.988**	**1.977**	**39.67**	**40.31**
Stddev	.006	.002	.002	.001	.006	.002	.005	.05	.10
%RSD	.3106	.0826	.0780	.0629	.2836	.0938	.2727	.1290	.2530
#1	1.965	2.020	1.988	2.037	1.982	1.986	1.970	39.72	40.41
#2	1.969	2.021	1.991	2.039	1.993	1.987	1.980	39.62	40.21
#3	1.977	2.018	1.988	2.037	1.988	1.990	1.979	39.66	40.32
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.02**	**39.68**	**39.71**	**39.74**	**1.972**	**2.019**	**4.857**	**2.041**	**2.020**
Stddev	.07	.04	.02	.06	.005	.001	.010	.000	.001
%RSD	.1851	.0958	.0574	.1472	.2719	.0685	.1980	.0050	.0715
#1	40.07	39.64	39.68	39.78	1.966	2.018	4.846	2.041	2.020
#2	39.93	39.68	39.72	39.68	1.974	2.020	4.865	2.041	2.019
#3	40.04	39.71	39.72	39.77	1.976	2.020	4.860	2.041	2.022
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 15:06:24 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.959**	**1.979**	**1.962**	**1.939**	**1.977**	**1.966**	**1.972**	**1.956**
Stddev	.006	.003	.006	.005	.005	.004	.006	.008
%RSD	.3046	.1623	.3332	.2783	.2468	.2076	.3087	.4017
#1	1.953	1.980	1.956	1.933	1.973	1.961	1.966	1.952
#2	1.958	1.975	1.961	1.942	1.977	1.968	1.979	1.952
#3	1.965	1.981	1.969	1.943	1.982	1.968	1.971	1.965
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**275610.**	**32337.**	**8187.1**	**14192.**
Stddev	911.	73.	6.1	9.
%RSD	.33067	.22574	.07429	.06619
#1	276530.	32253.	8181.4	14184.
#2	275590.	32381.	8186.5	14189.
#3	274700.	32378.	8193.5	14202.

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 15:11:23 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**.0001**	**.0002**	**.0002**	**.0002**	**.0006**	**.0001**	**-.0001**	**-.0001**
Stddev	.0001	.0000	.0002	.0001	.0000	.0002	.0000	.0002	.0002
%RSD	672.0	19.45	111.9	32.20	11.41	43.69	31.37	351.1	301.3
#1	.0000	.0001	.0001	.0002	.0002	.0007	.0000	-.0001	-.0002
#2	.0001	.0001	.0004	.0002	.0002	.0008	.0001	.0002	-.0002
#3	-.0001	.0001	.0000	.0001	.0003	.0003	.0001	-.0003	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0010**	**-.0004**	**-.0003**	**-.0003**	**-.0001**	**.0001**	**-.0075**	**.0078**
Stddev	.0001	.0009	.0005	.0008	.0005	.0016	.0006	.0084	.0014
%RSD	47.02	87.74	140.8	250.2	181.5	2222.	446.0	112.0	18.21
#1	-.0002	.0001	-.0004	.0004	.0000	.0017	-.0006	-.0148	.0084
#2	-.0003	.0009	.0002	-.0012	-.0009	-.0013	.0005	.0017	.0089
#3	-.0001	.0019	-.0009	-.0001	-.0000	-.0006	.0004	-.0093	.0062
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0031**	**-.0091**	**.0147**	**.0087**	**.0015**	**.0002**	**.0002**	**.0004**	**.0001**
Stddev	.0011	.0059	.0066	.0018	.0002	.0001	.0006	.0008	.0000
%RSD	35.97	64.52	44.70	21.11	14.72	71.15	380.4	187.4	58.43
#1	.0029	-.0048	.0099	.0069	.0017	.0000	-.0003	-.0005	.0000
#2	.0021	-.0157	.0221	.0087	.0013	.0002	-.0001	.0007	.0001
#3	.0043	-.0067	.0119	.0105	.0015	.0003	.0009	.0010	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 15:11:23 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0003**	**.0001**	**-.0012**	**.0001**	**.0006**	**-.0018**	**-.0009**
Stddev	.0001	.0005	.0000	.0014	.0008	.0003	.0011	.0016
%RSD	570.5	187.7	25.48	118.7	1145.	45.39	60.87	174.4
#1	-.0001	-.0001	.0001	-.0025	-.0008	.0009	-.0030	-.0027
#2	.0001	.0008	.0001	.0003	.0001	.0003	-.0016	.0005
#3	.0000	.0001	.0001	-.0013	.0009	.0006	-.0008	-.0006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**285260.**	**32623.**	**8409.0**	**15127.**
Stddev	1984.	85.	12.9	31.
%RSD	.69553	.25974	.15367	.20316
#1	283590.	32557.	8400.9	15108.
#2	284750.	32593.	8423.9	15162.
#3	287460.	32718.	8402.1	15111.

Zoom In Zoom Out

Sample Name: jc99337-6 Acquired: 12/10/2019 15:16:33 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9968**	**.0085**	**.0009**	**.1314**	**.3001**	**.0769**	**3.494**	**.3079**	**.0022**
Stddev	.0030	.0001	.0001	.0009	.0029	.0011	.028	.0028	.0009
%RSD	.2977	1.015	5.638	.6578	.9646	1.463	.7939	.9152	41.59
#1	.9935	.0084	.0009	.1304	.3012	.0779	3.508	.3047	.0013
#2	.9975	.0085	.0010	.1320	.3022	.0771	3.511	.3094	.0023
#3	.9993	.0086	.0009	.1318	.2968	.0757	3.462	.3097	.0031

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3853**	**.7069**	**.0482**	**-.0034**	**.1948**	**.0083**	**.0018**	**196.2**	**12.23**
Stddev	.0033	.0052	.0003	.0018	.0027	.0008	.0021	.6	.03
%RSD	.8590	.7288	.5671	52.31	1.402	9.672	115.0	.2814	.2721
#1	.3864	.7010	.0485	-.0016	.1917	.0075	.0029	195.6	12.19
#2	.3879	.7106	.0480	-.0051	.1961	.0084	.0032	196.6	12.24
#3	.3816	.7090	.0480	-.0034	.1967	.0090	-.0006	196.4	12.26

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**339.0**	**74.16**	**29.53**	**1.567**	**.1950**	**.0068**	**3.216**	**.0415**	**.0861**
Stddev	1.0	.32	.09	.005	.0014	.0004	.029	.0007	.0001
%RSD	.2981	.4281	.3063	.2945	.7116	6.112	.8951	1.607	.1397
#1	337.8	73.82	29.43	1.562	.1952	.0072	3.183	.0420	.0863
#2	339.5	74.21	29.60	1.571	.1963	.0065	3.230	.0419	.0861
#3	339.6	74.45	29.56	1.566	.1935	.0066	3.236	.0408	.0860

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.876**	**.0055**	**.1040**	**2.131**	**-.0076**	**.5181**	**3.015**	**.4043**
Stddev	.036	.0015	.0005	.014	.0023	.0028	.017	.0069
%RSD	.9382	27.63	.5011	.6319	29.49	.5495	.5717	1.703
#1	3.889	.0073	.1038	2.116	-.0065	.5159	2.996	.3964
#2	3.904	.0048	.1046	2.141	-.0102	.5170	3.023	.4089
#3	3.835	.0046	.1037	2.136	-.0062	.5213	3.027	.4075

Zoom In Zoom Out

Sample Name: jc99337-6 Acquired: 12/10/2019 15:16:33 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**281710.**	**33108.**	**8249.4**	**14397.**
Stddev	2782.	164.	54.8	85.
%RSD	.98757	.49598	.66419	.58960
#1	280010.	33260.	8312.5	14494.
#2	280210.	32934.	8213.8	14339.
#3	284920.	33130.	8221.9	14357.

Zoom In Zoom Out

Sample Name: jc99337-6conf Acquired: 12/10/2019 15:21:40 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.013**	**.0091**	**-.0002**	**.1313**	**.3100**	**.0807**	**3.624**	**.3104**	**.0026**
Stddev	.002	.0002	.0005	.0017	.0022	.0003	.015	.0027	.0029
%RSD	.1558	1.999	242.5	1.304	.7052	.4020	.4169	.8596	114.6
#1	1.012	.0089	-.0006	.1315	.3121	.0805	3.631	.3112	-.0008
#2	1.015	.0091	-.0003	.1329	.3077	.0805	3.607	.3074	.0048
#3	1.013	.0092	.0003	.1295	.3101	.0811	3.635	.3126	.0037

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3907**	**.7258**	**.0497**	**-.0049**	**.1890**	**.0032**	**.0107**	**196.8**	**12.71**
Stddev	.0028	.0014	.0039	.0021	.0039	.0037	.0104	.5	.03
%RSD	.7082	.1906	7.765	43.75	2.082	113.8	96.62	.2385	.2033
#1	.3919	.7249	.0454	-.0057	.1934	-.0009	.0087	196.3	12.74
#2	.3875	.7251	.0508	-.0065	.1878	.0060	.0015	197.3	12.70
#3	.3926	.7274	.0529	-.0025	.1858	.0046	.0220	196.7	12.69

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**352.8**	**75.51**	**29.84**	**1.690**	**.1940**	**.0084**	**3.484**	**.0428**	**.0872**
Stddev	.5	.14	.23	.041	.0058	.0023	.010	.0053	.0005
%RSD	.1544	.1805	.7603	2.426	2.998	27.38	.2944	12.29	.5434
#1	352.6	75.66	29.60	1.725	.1995	.0058	3.474	.0482	.0870
#2	353.4	75.39	29.86	1.699	.1879	.0099	3.485	.0424	.0878
#3	352.4	75.48	30.05	1.645	.1946	.0096	3.494	.0377	.0869

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.882**	**.0057**	**.1027**	**2.091**	**-.0076**	**.5250**	**2.967**	**.4062**
Stddev	.018	.0075	.0006	.023	.0080	.0053	.005	.0189
%RSD	.4648	131.0	.5826	1.117	105.1	1.005	.1829	4.654
#1	3.891	.0059	.1032	2.064	-.0149	.5282	2.969	.4249
#2	3.861	-.0019	.1027	2.103	-.0088	.5189	2.961	.4067
#3	3.894	.0131	.1021	2.106	.0009	.5280	2.971	.3871

Zoom In Zoom Out

Sample Name: jc99337-6conf Acquired: 12/10/2019 15:21:40 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**286180.**	**32907.**	**8491.9**	**14939.**
Stddev	1275.	25.	15.3	27.
%RSD	.44550	.07593	.17984	.18217
#1	286150.	32904.	8495.1	14954.
#2	287470.	32933.	8505.4	14954.
#3	284920.	32883.	8475.3	14907.

Zoom In Zoom Out

Sample Name: jc99337-7 Acquired: 12/10/2019 15:26:42 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8297**	**.0068**	**.0002**	**.0558**	**.2415**	**.0515**	**.9475**	**.1494**	**.0025**
Stddev	.0020	.0001	.0003	.0007	.0011	.0009	.0033	.0009	.0007
%RSD	.2431	1.160	178.3	1.300	.4447	1.794	.3445	.6071	28.93
#1	.8278	.0068	.0001	.0555	.2423	.0509	.9510	.1484	.0032
#2	.8296	.0067	.0004	.0566	.2403	.0511	.9445	.1501	.0018
#3	.8318	.0067	-.0001	.0552	.2419	.0526	.9469	.1497	.0024

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4027**	**.3278**	**.0434**	**-.0026**	**.1248**	**.0086**	**-.0006**	**200.4**	**12.34**
Stddev	.0012	.0017	.0017	.0015	.0014	.0021	.0005	.4	.03
%RSD	.2997	.5207	3.818	57.13	1.117	24.37	75.56	.1873	.2132
#1	.4031	.3267	.0451	-.0013	.1247	.0081	-.0009	200.1	12.34
#2	.4013	.3297	.0434	-.0042	.1262	.0108	-.0008	200.2	12.31
#3	.4036	.3268	.0417	-.0024	.1234	.0067	-.0001	200.8	12.36

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**294.2**	**36.30**	**17.51**	**1.024**	**.0838**	**.0042**	**3.606**	**.0210**	**.0734**
Stddev	.5	.07	.07	.009	.0012	.0002	.011	.0005	.0003
%RSD	.1667	.2020	.3764	.9012	1.383	4.916	.2978	2.403	.3547
#1	293.8	36.24	17.48	1.023	.0844	.0039	3.598	.0210	.0731
#2	294.0	36.28	17.47	1.015	.0825	.0043	3.618	.0216	.0735
#3	294.7	36.38	17.59	1.033	.0845	.0043	3.603	.0206	.0735

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.099**	**.0101**	**.0765**	**.8987**	**-.0114**	**.3601**	**3.386**	**.3595**
Stddev	.007	.0016	.0003	.0032	.0007	.0044	.012	.0018
%RSD	.3243	15.87	.4430	.3518	6.000	1.211	.3612	.5118
#1	2.106	.0120	.0765	.8960	-.0116	.3561	3.375	.3614
#2	2.092	.0093	.0761	.9022	-.0107	.3595	3.399	.3577
#3	2.099	.0092	.0768	.8980	-.0120	.3648	3.384	.3594

Zoom In Zoom Out

Sample Name: jc99337-7 Acquired: 12/10/2019 15:26:42 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**284940.**	**33691.**	**8438.5**	**14748.**
Stddev	819.	93.	33.7	52.
%RSD	.28740	.27705	.39935	.35312
#1	284170.	33607.	8472.1	14797.
#2	285800.	33674.	8404.7	14693.
#3	284840.	33791.	8438.7	14753.

Zoom In Zoom Out

Sample Name: jc99337-7conf Acquired: 12/10/2019 15:31:42 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8531**	**.0070**	**.0019**	**.0577**	**.2513**	**.0588**	**.9699**	**.1533**	**.0058**
Stddev	.0035	.0005	.0008	.0003	.0047	.0012	.0061	.0027	.0007
%RSD	.4109	6.659	39.02	.4982	1.872	2.015	.6291	1.779	11.64
#1	.8498	.0065	.0018	.0580	.2482	.0579	.9639	.1542	.0052
#2	.8527	.0075	.0028	.0574	.2567	.0601	.9761	.1503	.0065
#3	.8568	.0071	.0013	.0576	.2490	.0583	.9696	.1556	.0057

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4103**	**.3499**	**.0438**	**-.0027**	**.1304**	**.0134**	**-.0053**	**202.7**	**13.12**
Stddev	.0032	.0026	.0119	.0052	.0081	.0070	.0122	.2	.04
%RSD	.7784	.7322	27.21	191.0	6.178	51.95	228.1	.0790	.3215
#1	.4092	.3471	.0533	.0026	.1340	.0067	.0072	202.5	13.07
#2	.4139	.3507	.0478	-.0030	.1212	.0207	-.0061	202.7	13.14
#3	.4078	.3520	.0304	-.0078	.1360	.0129	-.0171	202.8	13.14

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**308.2**	**37.61**	**17.84**	**1.183**	**.0922**	**.0054**	**3.978**	**.0203**	**.0760**
Stddev	.4	.23	.24	.060	.0048	.0002	.010	.0068	.0005
%RSD	.1303	.6089	1.346	5.057	5.258	3.620	.2515	33.45	.6649
#1	307.7	37.35	17.58	1.252	.0943	.0052	3.976	.0181	.0764
#2	308.5	37.67	17.89	1.144	.0867	.0054	3.969	.0279	.0762
#3	308.3	37.80	18.05	1.154	.0957	.0056	3.989	.0148	.0754

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.128**	**.0092**	**.0793**	**.9913**	**-.0081**	**.3624**	**3.437**	**.3837**
Stddev	.007	.0080	.0009	.0078	.0012	.0080	.022	.0025
%RSD	.3272	86.67	1.087	.7857	14.86	2.197	.6508	.6471
#1	2.122	.0027	.0784	.9853	-.0087	.3537	3.428	.3808
#2	2.135	.0181	.0795	1.000	-.0090	.3641	3.462	.3848
#3	2.126	.0068	.0800	.9886	-.0067	.3694	3.420	.3854

Zoom In Zoom Out

Sample Name: jc99337-7conf Acquired: 12/10/2019 15:31:42 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**287150.**	**33111.**	**8454.2**	**14990.**
Stddev	1513.	266.	18.2	26.
%RSD	.52699	.80215	.21544	.17184
#1	288310.	33404.	8433.5	14961.
#2	285440.	32886.	8467.5	15011.
#3	287700.	33043.	8461.7	14996.

Zoom In Zoom Out

Sample Name: jc99337-8 Acquired: 12/10/2019 15:36:44 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8700**	**.0079**	**.0011**	**.0652**	**.1913**	**.0554**	**2.668**	**.1467**	**.0040**
Stddev	.0014	.0001	.0003	.0002	.0004	.0004	.010	.0005	.0004
%RSD	.1658	1.302	24.70	.3782	.2171	.6523	.3889	.3395	10.94
#1	.8687	.0080	.0010	.0654	.1918	.0554	2.656	.1464	.0037
#2	.8716	.0078	.0014	.0652	.1911	.0551	2.676	.1464	.0045
#3	.8697	.0080	.0009	.0649	.1910	.0558	2.671	.1473	.0038

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3310**	**.4394**	**.0805**	**-.0013**	**.1893**	**.0072**	**-.0006**	**173.6**	**11.91**
Stddev	.0016	.0007	.0031	.0019	.0016	.0016	.0030	.5	.01
%RSD	.4879	.1666	3.897	151.4	.8678	21.58	537.2	.3075	.0544
#1	.3291	.4388	.0841	-.0018	.1908	.0090	-.0030	173.7	11.91
#2	.3321	.4403	.0783	-.0030	.1875	.0063	.0028	174.1	11.92
#3	.3317	.4392	.0791	.0009	.1896	.0064	-.0015	173.1	11.91

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**243.9**	**32.31**	**12.89**	**.8407**	**.0791**	**.0042**	**3.585**	**.0225**	**.0844**
Stddev	.5	.11	.09	.0100	.0014	.0004	.004	.0006	.0001
%RSD	.2114	.3507	.7290	1.186	1.716	8.383	.1173	2.868	.0738
#1	243.9	32.37	12.84	.8308	.0781	.0043	3.581	.0224	.0845
#2	244.5	32.38	12.99	.8405	.0806	.0045	3.589	.0231	.0844
#3	243.4	32.18	12.83	.8508	.0785	.0038	3.586	.0218	.0843

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.745**	**.0074**	**.0561**	**1.090**	**-.0118**	**.3086**	**3.491**	**.4601**
Stddev	.006	.0012	.0001	.007	.0037	.0010	.013	.0043
%RSD	.3208	15.67	.1134	.6183	31.61	.3329	.3676	.9324
#1	1.739	.0080	.0561	1.096	-.0080	.3098	3.476	.4581
#2	1.750	.0061	.0560	1.092	-.0119	.3078	3.500	.4650
#3	1.744	.0082	.0562	1.083	-.0154	.3084	3.497	.4571

Zoom In Zoom Out

Sample Name: jc99337-8 Acquired: 12/10/2019 15:36:44 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**286870.**	**34018.**	**8441.9**	**14764.**
Stddev	972.	77.	6.4	14.
%RSD	.33871	.22751	.07608	.09348
#1	287770.	33939.	8449.1	14779.
#2	285840.	34021.	8436.7	14752.
#3	287000.	34093.	8439.8	14761.

Zoom In Zoom Out

Sample Name: jc99337-8conf Acquired: 12/10/2019 15:41:45 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8917**	**.0084**	**.0013**	**.0679**	**.1998**	**.0639**	**2.750**	**.1483**	**.0092**
Stddev	.0035	.0003	.0013	.0010	.0031	.0012	.027	.0016	.0001
%RSD	.3950	4.125	98.81	1.526	1.557	1.811	.9822	1.087	1.012
#1	.8952	.0080	-.0001	.0689	.2017	.0650	2.781	.1494	.0091
#2	.8917	.0085	.0023	.0668	.1962	.0641	2.738	.1464	.0092
#3	.8882	.0087	.0017	.0680	.2015	.0627	2.731	.1490	.0093

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3393**	**.4640**	**.0609**	**-.0161**	**.1803**	**.0002**	**-.0022**	**175.5**	**12.63**
Stddev	.0041	.0006	.0112	.0096	.0050	.0116	.0087	.6	.05
%RSD	1.204	.1191	18.31	59.82	2.780	7258.	399.3	.3334	.4089
#1	.3437	.4638	.0534	-.0157	.1824	-.0045	.0078	176.2	12.68
#2	.3357	.4635	.0737	-.0067	.1746	-.0084	-.0063	175.2	12.63
#3	.3384	.4646	.0555	-.0259	.1840	.0134	-.0081	175.2	12.58

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**253.7**	**33.34**	**13.20**	**1.038**	**.0838**	**.0048**	**3.924**	**.0256**	**.0866**
Stddev	1.0	.27	.24	.005	.0044	.0007	.002	.0047	.0008
%RSD	.3819	.8062	1.825	.4492	5.222	14.94	.0582	18.35	.8888
#1	254.7	33.65	12.96	1.035	.0860	.0056	3.923	.0206	.0870
#2	253.4	33.21	13.44	1.043	.0866	.0042	3.923	.0266	.0871
#3	252.9	33.16	13.19	1.035	.0787	.0047	3.927	.0298	.0857

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.771**	**.0046**	**.0586**	**1.163**	**-.0294**	**.3189**	**3.518**	**.4591**
Stddev	.011	.0020	.0016	.013	.0154	.0069	.021	.0122
%RSD	.6298	43.82	2.677	1.153	52.37	2.165	.6067	2.659
#1	1.784	.0068	.0602	1.163	-.0346	.3140	3.497	.4537
#2	1.766	.0040	.0571	1.176	-.0121	.3268	3.540	.4731
#3	1.763	.0029	.0586	1.149	-.0416	.3159	3.517	.4506

Zoom In Zoom Out

Sample Name: jc99337-8conf Acquired: 12/10/2019 15:41:45 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**286030.**	**33396.**	**8461.5**	**15003.**
Stddev	2595.	148.	12.9	3.
%RSD	.90734	.44249	.15244	.01892
#1	283040.	33245.	8475.5	15004.
#2	287400.	33404.	8450.1	15000.
#3	287660.	33540.	8458.8	15006.

Zoom In Zoom Out

Sample Name: jc99337-10 Acquired: 12/10/2019 15:46:49 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9217**	**.0090**	**.0011**	**.0657**	**.2212**	**.0692**	**2.987**	**.1582**	**.0046**
Stddev	.0020	.0000	.0002	.0002	.0017	.0005	.021	.0005	.0003
%RSD	.2169	.0723	19.18	.2788	.7485	.7374	.6981	.3458	6.011
#1	.9198	.0090	.0013	.0659	.2221	.0688	3.007	.1577	.0047
#2	.9214	.0090	.0009	.0658	.2193	.0690	2.965	.1588	.0047
#3	.9238	.0090	.0010	.0655	.2223	.0698	2.987	.1582	.0043

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3764**	**.4322**	**.0612**	**-.0038**	**.1852**	**.0089**	**-.0010**	**190.9**	**10.94**
Stddev	.0024	.0013	.0005	.0002	.0018	.0028	.0016	.7	.04
%RSD	.6292	.3034	.8424	5.244	.9786	31.13	158.8	.3701	.4051
#1	.3783	.4337	.0617	-.0040	.1842	.0097	-.0009	190.3	10.90
#2	.3738	.4315	.0612	-.0039	.1840	.0058	.0006	190.8	10.93
#3	.3772	.4313	.0607	-.0036	.1872	.0112	-.0027	191.7	10.99

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**249.2**	**36.40**	**15.09**	**.9825**	**.0751**	**.0037**	**3.607**	**.0217**	**.0782**
Stddev	.7	.09	.02	.0164	.0008	.0006	.004	.0003	.0002
%RSD	.2646	.2584	.1207	1.670	1.069	17.18	.1063	1.399	.2771
#1	248.6	36.38	15.07	.9699	.0747	.0042	3.608	.0214	.0783
#2	249.0	36.32	15.08	.9767	.0760	.0030	3.603	.0220	.0779
#3	249.9	36.50	15.11	1.001	.0746	.0040	3.611	.0218	.0783

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.015**	**.0082**	**.0663**	**1.290**	**-.0133**	**.3673**	**4.505**	**.4231**
Stddev	.014	.0024	.0004	.005	.0009	.0007	.010	.0034
%RSD	.7016	29.00	.5720	.4001	6.566	.1815	.2218	.7958
#1	2.027	.0098	.0667	1.296	-.0142	.3665	4.516	.4263
#2	1.999	.0055	.0661	1.286	-.0124	.3677	4.497	.4196
#3	2.019	.0094	.0660	1.287	-.0135	.3676	4.502	.4234

Zoom In Zoom Out

Sample Name: jc99337-10 Acquired: 12/10/2019 15:46:49 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**282790.**	**33236.**	**8433.7**	**14737.**
Stddev	1710.	131.	14.5	30.
%RSD	.60478	.39561	.17192	.20591
#1	280980.	33371.	8417.7	14704.
#2	284380.	33230.	8446.0	14745.
#3	283020.	33108.	8437.3	14763.

Zoom In Zoom Out

Sample Name: jc99337-10conf Acquired: 12/10/2019 15:51:49 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9612**	**.0095**	**.0024**	**.0676**	**.2317**	**.0786**	**3.068**	**.1609**	**.0105**
Stddev	.0024	.0002	.0020	.0024	.0010	.0011	.008	.0025	.0007
%RSD	.2506	1.762	83.15	3.590	.4322	1.376	.2734	1.544	6.418
#1	.9637	.0094	.0002	.0691	.2305	.0782	3.077	.1608	.0113
#2	.9609	.0097	.0042	.0648	.2322	.0778	3.061	.1584	.0102
#3	.9590	.0094	.0030	.0689	.2323	.0798	3.066	.1634	.0100

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3848**	**.4634**	**.0573**	**-.0077**	**.1937**	**.0233**	**.0021**	**195.6**	**11.66**
Stddev	.0027	.0019	.0015	.0031	.0077	.0079	.0110	.3	.02
%RSD	.6960	.4156	2.662	40.85	3.960	33.73	526.1	.1343	.1815
#1	.3878	.4655	.0557	-.0044	.1905	.0230	-.0053	195.9	11.68
#2	.3838	.4627	.0588	-.0107	.1882	.0156	.0148	195.4	11.64
#3	.3827	.4619	.0574	-.0079	.2024	.0313	-.0032	195.4	11.66

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**262.7**	**37.55**	**15.41**	**1.113**	**.0827**	**.0033**	**4.056**	**.0208**	**.0817**
Stddev	.3	.36	.10	.010	.0041	.0008	.030	.0021	.0005
%RSD	.1162	.9525	.6234	.9242	5.007	24.96	.7462	10.31	.6434
#1	263.0	37.76	15.51	1.104	.0837	.0041	4.087	.0218	.0823
#2	262.5	37.13	15.32	1.124	.0863	.0024	4.054	.0222	.0815
#3	262.5	37.75	15.39	1.110	.0782	.0034	4.026	.0183	.0813

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.042**	**.0087**	**.0681**	**1.382**	**-.0157**	**.3744**	**4.587**	**.4260**
Stddev	.001	.0046	.0013	.019	.0062	.0049	.006	.0233
%RSD	.0663	52.67	1.881	1.403	39.51	1.301	.1418	5.463
#1	2.042	.0119	.0678	1.404	-.0165	.3781	4.579	.4299
#2	2.041	.0035	.0670	1.369	-.0214	.3763	4.590	.4471
#3	2.043	.0108	.0696	1.373	-.0091	.3689	4.591	.4010

Zoom In Zoom Out

Sample Name: jc99337-10conf Acquired: 12/10/2019 15:51:49 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**285130.**	**32873.**	**8394.3**	**14936.**
Stddev	334.	129.	18.0	8.
%RSD	.11729	.39183	.21404	.05230
#1	284790.	32795.	8376.6	14927.
#2	285450.	33022.	8393.7	14943.
#3	285160.	32802.	8412.5	14936.

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 15:56:53 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.027**	**2.036**	**2.038**	**2.000**	**1.989**	**1.972**	**2.026**	**1.991**	**.2419**
Stddev	.019	.019	.002	.002	.011	.009	.012	.003	.0012
%RSD	.9548	.9369	.0891	.1195	.5517	.4763	.5710	.1325	.4758
#1	2.048	2.058	2.040	2.003	1.990	1.973	2.025	1.994	.2419
#2	2.023	2.029	2.037	1.998	1.977	1.962	2.014	1.991	.2407
#3	2.010	2.022	2.038	1.999	1.999	1.980	2.037	1.989	.2430
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.966**	**2.053**	**2.021**	**2.013**	**1.976**	**2.016**	**1.975**	**40.78**	**41.20**
Stddev	.012	.006	.006	.002	.003	.007	.003	.36	.38
%RSD	.5976	.3020	.2751	.0725	.1331	.3556	.1362	.8850	.9245
#1	1.968	2.060	2.027	2.014	1.979	2.023	1.973	41.19	41.63
#2	1.953	2.049	2.016	2.014	1.976	2.009	1.978	40.63	41.05
#3	1.977	2.050	2.021	2.011	1.973	2.015	1.973	40.51	40.91
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.73**	**40.67**	**40.48**	**40.27**	**1.978**	**2.046**	**4.866**	**2.092**	**2.069**
Stddev	.36	.51	.34	.35	.001	.006	.006	.009	.020
%RSD	.8939	1.261	.8485	.8798	.0233	.3158	.1336	.4136	.9432
#1	41.14	41.26	40.86	40.66	1.977	2.054	4.873	2.101	2.090
#2	40.62	40.40	40.41	40.19	1.978	2.043	4.860	2.084	2.065
#3	40.44	40.35	40.19	39.97	1.978	2.042	4.864	2.090	2.052
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 15:56:53 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.939**	**2.001**	**1.944**	**1.957**	**1.996**	**2.013**	**1.975**	**1.960**
Stddev	.013	.006	.011	.004	.003	.021	.004	.012
%RSD	.6573	.2918	.5757	.1898	.1458	1.038	.1794	.6066
#1	1.943	2.005	1.945	1.960	1.999	2.037	1.976	1.966
#2	1.924	1.995	1.932	1.959	1.993	2.005	1.979	1.947
#3	1.949	2.004	1.954	1.953	1.995	1.998	1.971	1.968
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**275520.**	**31710.**	**8058.0**	**14090.**
Stddev	1680.	262.	24.3	34.
%RSD	.60974	.82691	.30106	.23875
#1	274730.	31407.	8029.9	14053.
#2	277450.	31867.	8072.2	14098.
#3	274380.	31855.	8071.7	14119.

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 16:01:51 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0001**	**.0002**	**.0000**	**.0002**	**.0011**	**.0000**	**-.0000**	**.0004**
Stddev	.0001	.0000	.0001	.0002	.0001	.0003	.0000	.0002	.0002
%RSD	113.6	13.75	74.01	967.2	36.99	30.83	142.8	1080.	52.84
#1	-.0000	.0001	.0002	-.0002	.0003	.0015	.0000	.0001	.0002
#2	-.0002	.0001	.0002	.0002	.0002	.0009	.0001	-.0003	.0006
#3	-.0000	.0001	.0000	.0000	.0001	.0009	.0000	.0001	.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0001**	**.0004**	**-.0007**	**-.0008**	**-.0008**	**.0012**	**-.0087**	**.0111**
Stddev	.0002	.0000	.0004	.0004	.0013	.0007	.0010	.0032	.0018
%RSD	98.24	38.90	89.30	57.29	151.2	79.36	88.19	37.00	16.17
#1	-.0001	.0001	.0009	-.0008	-.0003	-.0007	.0009	-.0112	.0121
#2	-.0005	.0001	.0001	-.0002	-.0023	-.0002	.0023	-.0099	.0090
#3	-.0001	.0001	.0003	-.0009	.0001	-.0016	.0003	-.0051	.0121
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0065**	**.0192**	**.0100**	**.0012**	**.0001**	**.0003**	**.0001**	**-.0000**
Stddev	.0006	.0169	.0101	.0084	.0005	.0002	.0005	.0002	.0001
%RSD	1130.	259.8	52.69	84.61	46.23	328.4	179.3	118.6	438.2
#1	-.0000	-.0001	.0303	.0193	.0009	.0002	.0009	.0003	-.0000
#2	.0005	-.0257	.0105	.0028	.0018	.0002	-.0001	.0001	.0001
#3	-.0007	.0063	.0168	.0079	.0008	-.0002	.0001	-.0000	-.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 16:01:51 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**.0009**	**.0001**	**-.0010**	**.0008**	**-.0000**	**-.0049**	**.0005**
Stddev	.0001	.0005	.0001	.0024	.0008	.0003	.0014	.0010
%RSD	127.4	54.94	97.81	245.7	103.4	658.2	28.92	187.9
#1	-.0001	.0011	.0000	-.0031	.0005	-.0004	-.0066	.0014
#2	.0000	.0004	.0003	.0016	.0001	.0003	-.0041	-.0006
#3	-.0001	.0013	.0001	-.0015	.0018	-.0000	-.0041	.0007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**284600.**	**32071.**	**8372.5**	**15145.**
Stddev	4469.	909.	6.4	11.
%RSD	1.5701	2.8349	.07672	.07140
#1	280140.	32699.	8365.3	15149.
#2	284580.	32487.	8374.8	15133.
#3	289080.	31029.	8377.5	15154.

Zoom In Zoom Out

Sample Name: jc99337-11 Acquired: 12/10/2019 16:07:03 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.342**	**.0112**	**.0010**	**.1144**	**.3129**	**.0735**	**6.066**	**.2829**	**.0062**
Stddev	.004	.0000	.0002	.0003	.0022	.0006	.072	.0010	.0007
%RSD	.2806	.3750	16.50	.2205	.6952	.7964	1.186	.3574	11.29
#1	1.346	.0112	.0010	.1146	.3150	.0738	6.147	.2826	.0064
#2	1.339	.0112	.0011	.1141	.3130	.0738	6.040	.2840	.0068
#3	1.340	.0113	.0008	.1144	.3106	.0728	6.010	.2820	.0054

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3891**	**.6914**	**.3516**	**.0004**	**.1658**	**.0084**	**.0006**	**224.8**	**12.87**
Stddev	.0035	.0012	.0052	.0022	.0022	.0022	.0044	1.1	.07
%RSD	.9063	.1700	1.475	622.6	1.339	26.74	776.2	.4890	.5181
#1	.3927	.6918	.3562	-.0014	.1634	.0105	-.0041	226.1	12.94
#2	.3890	.6924	.3527	.0028	.1679	.0061	.0014	223.9	12.81
#3	.3856	.6901	.3460	-.0004	.1660	.0086	.0044	224.5	12.87

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**331.8**	**70.68**	**31.22**	**1.521**	**.1832**	**.0074**	**3.269**	**.0171**	**.0922**
Stddev	1.5	.11	.17	.015	.0028	.0004	.004	.0008	.0005
%RSD	.4624	.1573	.5311	.9995	1.543	5.374	.1368	4.625	.4891
#1	333.5	70.72	31.40	1.532	.1802	.0077	3.264	.0169	.0927
#2	330.6	70.55	31.08	1.526	.1859	.0075	3.272	.0180	.0918
#3	331.3	70.76	31.18	1.503	.1835	.0069	3.271	.0164	.0919

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.647**	**.0084**	**.0588**	**.4119**	**-.0117**	**.5341**	**3.375**	**.4256**
Stddev	.030	.0015	.0004	.0014	.0025	.0016	.012	.0067
%RSD	.8325	18.26	.6067	.3474	21.01	.2992	.3463	1.566
#1	3.682	.0067	.0592	.4126	-.0127	.5328	3.382	.4296
#2	3.626	.0090	.0589	.4103	-.0135	.5336	3.382	.4293
#3	3.633	.0096	.0585	.4129	-.0089	.5359	3.362	.4179

Zoom In Zoom Out

Sample Name: jc99337-11 Acquired: 12/10/2019 16:07:03 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**283360.**	**33217.**	**8356.0**	**14580.**
Stddev	2277.	78.	12.2	20.
%RSD	.80364	.23430	.14563	.13480
#1	280740.	33159.	8370.0	14602.
#2	284660.	33306.	8350.2	14564.
#3	284700.	33187.	8347.8	14575.

Zoom In Zoom Out

Sample Name: jc99337-11conf Acquired: 12/10/2019 16:12:08 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.358**	**.0119**	**.0019**	**.1174**	**.3165**	**.0810**	**6.222**	**.2891**	**.0104**
Stddev	.004	.0002	.0006	.0005	.0059	.0080	.139	.0023	.0017
%RSD	.2817	1.996	30.86	.4311	1.863	9.821	2.239	.7820	16.00
#1	1.354	.0120	.0019	.1171	.3233	.0897	6.373	.2866	.0103
#2	1.358	.0120	.0025	.1172	.3129	.0742	6.099	.2898	.0088
#3	1.361	.0116	.0013	.1180	.3132	.0789	6.195	.2910	.0121

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3888**	**.7239**	**.3499**	**-.0088**	**.1645**	**.0214**	**.0008**	**223.4**	**13.29**
Stddev	.0114	.0008	.0030	.0055	.0079	.0160	.0083	.6	.04
%RSD	2.926	.1109	.8460	62.90	4.800	74.74	1088.	.2791	.3165
#1	.4015	.7233	.3506	-.0026	.1720	.0265	-.0012	222.7	13.25
#2	.3796	.7248	.3525	-.0104	.1652	.0035	.0099	223.4	13.29
#3	.3853	.7235	.3467	-.0134	.1562	.0342	-.0064	224.0	13.34

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**342.0**	**71.35**	**31.26**	**1.620**	**.1885**	**.0135**	**3.670**	**.0243**	**.0930**
Stddev	.5	.27	.14	.031	.0013	.0003	.006	.0042	.0011
%RSD	.1326	.3843	.4537	1.918	.7107	2.493	.1556	17.30	1.209
#1	341.5	71.60	31.38	1.597	.1877	.0135	3.667	.0250	.0917
#2	342.1	71.06	31.30	1.655	.1877	.0139	3.677	.0281	.0936
#3	342.3	71.40	31.11	1.607	.1900	.0132	3.667	.0198	.0937

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.598**	**.0337**	**.0598**	**1.042**	**-.0170**	**.5342**	**3.382**	**.4131**
Stddev	.080	.0028	.0014	.018	.0066	.0071	.012	.0205
%RSD	2.229	8.305	2.285	1.700	38.64	1.338	.3641	4.963
#1	3.685	.0343	.0613	1.033	-.0094	.5268	3.395	.4230
#2	3.528	.0307	.0588	1.063	-.0204	.5347	3.379	.4268
#3	3.582	.0362	.0593	1.031	-.0213	.5410	3.371	.3895

Zoom In Zoom Out

Sample Name: jc99337-11conf Acquired: 12/10/2019 16:12:08 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**292460.**	**33277.**	**8388.3**	**14864.**
Stddev	7088.	91.	15.5	32.
%RSD	2.4235	.27306	.18500	.21197
#1	284490.	33179.	8371.4	14830.
#2	298070.	33291.	8401.8	14892.
#3	294810.	33359.	8391.8	14871.

Zoom In Zoom Out

Sample Name: mp18771-b1 Acquired: 12/10/2019 16:17:09 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.892**	**1.898**	**1.891**	**1.853**	**1.859**	**1.832**	**1.879**	**1.846**
Stddev	.006	.007	.009	.006	.023	.022	.030	.007
%RSD	.2936	.3702	.4530	.3317	1.241	1.219	1.613	.3930
#1	1.891	1.900	1.893	1.852	1.875	1.845	1.895	1.842
#2	1.897	1.904	1.882	1.847	1.832	1.806	1.844	1.842
#3	1.886	1.890	1.899	1.859	1.870	1.845	1.899	1.855

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2345**	**1.834**	**1.910**	**1.901**	**1.877**	**1.856**	**1.849**	**1.878**
Stddev	.0028	.023	.008	.009	.006	.008	.009	.009
%RSD	1.186	1.265	.4330	.4778	.2967	.4421	.4813	.4631
#1	.2358	1.850	1.905	1.899	1.878	1.854	1.853	1.881
#2	.2313	1.807	1.905	1.894	1.871	1.849	1.839	1.869
#3	.2364	1.844	1.920	1.911	1.882	1.865	1.856	1.886

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.32**	**25.72**	**25.41**	**25.17**	**25.23**	**25.23**	**1.818**	**1.967**
Stddev	.11	.09	.09	.04	.07	.09	.008	.010
%RSD	.4389	.3559	.3428	.1685	.2886	.3622	.4603	.4951
#1	25.35	25.76	25.43	25.19	25.21	25.23	1.820	1.969
#2	25.42	25.79	25.48	25.20	25.31	25.31	1.809	1.957
#3	25.20	25.62	25.31	25.12	25.17	25.13	1.825	1.976

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0294**	**2.025**	**1.933**	**1.855**	**1.505**	**1.855**	F **-.0568**	**.0114**
Stddev	.0005	.008	.007	.021	.009	.023	.0052	.0003
%RSD	1.668	.3903	.3500	1.152	.5863	1.238	9.125	2.539
#1	.0291	2.025	1.934	1.869	1.512	1.870	-.0589	.0117
#2	.0290	2.017	1.939	1.830	1.495	1.829	-.0606	.0111
#3	.0299	2.033	1.926	1.865	1.507	1.867	-.0509	.0114

Zoom In Zoom Out

Sample Name: mp18771-b1 Acquired: 12/10/2019 16:17:09 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**-.0006**	**1.835**	**.0016**
Stddev	.0011	.006	.0012
%RSD	177.8	.3161	78.97
#1	-.0016	1.833	.0016
#2	-.0006	1.830	.0028
#3	.0005	1.841	.0003

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**282990.**	**32412.**	**8237.1**	**14585.**
Stddev	4166.	97.	39.6	58.
%RSD	1.4722	.29829	.48044	.39722
#1	280700.	32472.	8241.7	14602.
#2	287800.	32301.	8274.2	14632.
#3	280460.	32465.	8195.4	14520.

Zoom In Zoom Out

Sample Name: mp18771-mb1 Acquired: 12/10/2019 16:22:05 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0007**	**.0002**	**.0001**	**.0001**	**.0017**	**.0022**	**.0005**	**.0011**	**.0006**
Stddev	.0001	.0000	.0000	.0001	.0002	.0001	.0000	.0002	.0002
%RSD	8.134	15.64	28.74	102.5	9.711	6.475	4.135	14.41	26.35
#1	.0008	.0002	.0002	.0002	.0019	.0024	.0005	.0012	.0004
#2	.0008	.0002	.0001	-.0000	.0016	.0021	.0005	.0010	.0005
#3	.0007	.0001	.0002	.0002	.0017	.0021	.0005	.0010	.0007

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0096**	**-.0009**	**-.0011**	**-.0004**	**-.0000**	**.0003**	**-.0124**	**.0791**
Stddev	.0002	.0002	.0005	.0013	.0006	.0017	.0005	.0023	.0020
%RSD	157.5	2.444	50.09	114.6	153.9	3868.	140.7	18.89	2.573
#1	-.0001	.0097	-.0004	-.0015	-.0011	-.0020	.0008	-.0107	.0776
#2	.0000	.0094	-.0010	.0003	-.0002	.0008	.0004	-.0114	.0814
#3	-.0003	.0098	-.0013	-.0021	.0001	.0011	-.0002	-.0151	.0783

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0322**	**.0054**	**.0194**	**.0859**	**.0250**	**.0007**	**.0382**	**.0186**	**.0003**
Stddev	.0019	.0008	.0227	.0027	.0007	.0002	.0010	.0003	.0000
%RSD	5.947	14.53	117.4	3.127	2.633	24.24	2.595	1.438	6.916
#1	.0305	.0046	.0182	.0887	.0258	.0010	.0382	.0188	.0003
#2	.0317	.0061	-.0028	.0834	.0247	.0006	.0373	.0188	.0003
#3	.0343	.0057	.0426	.0856	.0246	.0007	.0392	.0183	.0004

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**.0032**	**.0004**	**.0125**	**-.0010**	**-.0015**	**.0126**	**.0002**
Stddev	.0002	.0004	.0001	.0012	.0011	.0005	.0015	.0021
%RSD	46.67	11.14	18.36	9.658	108.9	31.77	11.61	1048.
#1	.0006	.0036	.0003	.0111	-.0020	-.0011	.0133	.0025
#2	.0002	.0032	.0005	.0130	-.0013	-.0021	.0109	-.0003
#3	.0004	.0029	.0005	.0134	.0002	-.0014	.0136	-.0016

Zoom In Zoom Out

Sample Name: mp18771-mb1 Acquired: 12/10/2019 16:22:05 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**284360.**	**32612.**	**8362.3**	**15172.**
Stddev	2289.	213.	111.2	172.
%RSD	.80490	.65437	1.3299	1.1330
#1	282050.	32420.	8247.5	14994.
#2	286630.	32842.	8469.5	15338.
#3	284390.	32575.	8370.0	15185.

Zoom In Zoom Out

Sample Name: mp18771-s1 Acquired: 12/10/2019 16:27:12 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.900**	**1.846**	**1.875**	**1.843**	**1.854**	**1.876**	**2.217**	**1.844**	**.2337**
Stddev	.001	.004	.029	.029	.016	.014	.015	.027	.0018
%RSD	.0503	.1948	1.551	1.596	.8454	.7199	.6699	1.484	.7596
#1	1.901	1.849	1.859	1.824	1.836	1.860	2.200	1.830	.2317
#2	1.901	1.848	1.909	1.876	1.865	1.884	2.228	1.876	.2348
#3	1.899	1.842	1.858	1.827	1.861	1.882	2.222	1.827	.2346

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.826**	**2.039**	**1.875**	**1.859**	**1.869**	**1.821**	**1.718**	**46.64**	**27.43**
Stddev	.017	.035	.032	.023	.027	.032	.024	.12	.07
%RSD	.9056	1.700	1.726	1.221	1.446	1.762	1.421	.2645	.2474
#1	1.807	2.016	1.856	1.842	1.852	1.800	1.705	46.74	27.49
#2	1.837	2.079	1.912	1.885	1.900	1.858	1.746	46.67	27.45
#3	1.834	2.022	1.856	1.851	1.854	1.804	1.702	46.50	27.36

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**64.41**	**26.87**	**26.53**	**25.05**	**1.778**	**1.916**	**4.182**	**1.986**	**1.903**
Stddev	.11	.07	.03	.04	.025	.031	.085	.034	.005
%RSD	.1682	.2616	.1225	.1599	1.413	1.639	2.030	1.713	.2424
#1	64.48	26.94	26.55	25.05	1.763	1.895	4.156	1.962	1.906
#2	64.47	26.80	26.56	25.09	1.807	1.952	4.277	2.025	1.905
#3	64.29	26.86	26.50	25.01	1.764	1.901	4.113	1.972	1.897

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.424**	**1.290**	**1.824**	**-.0091**	**.0085**	**.0094**	**2.292**	**.1290**
Stddev	.021	.023	.015	.0037	.0013	.0018	.035	.0014
%RSD	.8595	1.761	.8108	40.83	14.82	18.63	1.540	1.089
#1	2.400	1.282	1.807	-.0060	.0072	.0083	2.269	.1288
#2	2.439	1.315	1.834	-.0081	.0097	.0114	2.333	.1278
#3	2.433	1.272	1.830	-.0132	.0085	.0085	2.274	.1306

Zoom In Zoom Out

Sample Name: mp18771-s1 Acquired: 12/10/2019 16:27:12 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**284110.**	**33081.**	**8262.1**	**14542.**
Stddev	2053.	125.	112.5	184.
%RSD	.72243	.37656	1.3622	1.2628
#1	286480.	33069.	8339.0	14671.
#2	282960.	33211.	8132.9	14332.
#3	282900.	32962.	8314.2	14623.

Zoom In Zoom Out

Sample Name: mp18771-s2 Acquired: 12/10/2019 16:32:08 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.921**	**1.855**	**1.887**	**1.859**	**1.887**	**1.890**	**3.288**	**1.863**	**.2363**
Stddev	.002	.002	.017	.016	.004	.005	.013	.016	.0005
%RSD	.1098	.1263	.9120	.8539	.1900	.2926	.3994	.8420	.2312
#1	1.918	1.852	1.878	1.850	1.888	1.883	3.284	1.855	.2357
#2	1.921	1.856	1.876	1.849	1.889	1.892	3.302	1.853	.2364
#3	1.922	1.856	1.907	1.877	1.882	1.893	3.277	1.881	.2367

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.875**	**2.071**	**1.898**	**1.861**	**1.874**	**1.843**	**1.713**	**62.08**	**27.39**
Stddev	.003	.017	.017	.008	.016	.013	.015	.25	.13
%RSD	.1656	.8270	.8684	.4503	.8503	.7176	.8517	.3994	.4812
#1	1.876	2.062	1.891	1.863	1.864	1.839	1.705	61.80	27.24
#2	1.878	2.060	1.886	1.852	1.865	1.833	1.704	62.16	27.42
#3	1.872	2.091	1.916	1.868	1.892	1.858	1.729	62.27	27.50

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**109.0**	**32.51**	**27.14**	**25.19**	**1.795**	**1.939**	**4.144**	**1.999**	**1.913**
Stddev	.4	.06	.08	.09	.014	.014	.049	.015	.004
%RSD	.3518	.1852	.2923	.3437	.7680	.7162	1.175	.7248	.2377
#1	108.6	32.46	27.06	25.09	1.787	1.932	4.173	1.992	1.908
#2	109.2	32.48	27.15	25.22	1.787	1.929	4.088	1.989	1.914
#3	109.4	32.57	27.21	25.26	1.810	1.955	4.172	2.015	1.916

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.590**	**1.323**	**1.866**	**-.0070**	**.0019**	**.0195**	**2.290**	**.3785**
Stddev	.005	.016	.002	.0043	.0010	.0011	.015	.0009
%RSD	.1899	1.241	.0927	61.20	52.76	5.589	.6687	.2483
#1	2.586	1.310	1.866	-.0119	.0029	.0186	2.285	.3790
#2	2.590	1.319	1.867	-.0038	.0009	.0207	2.277	.3790
#3	2.595	1.342	1.864	-.0054	.0020	.0191	2.307	.3774

Zoom In Zoom Out

Sample Name: mp18771-s2 Acquired: 12/10/2019 16:32:08 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**283840.**	**33007.**	**8277.3**	**14574.**
Stddev	1005.	101.	55.7	89.
%RSD	.35423	.30713	.67262	.60788
#1	283850.	33082.	8309.8	14620.
#2	282830.	33048.	8309.1	14630.
#3	284840.	32892.	8213.0	14471.

Zoom In Zoom Out

Sample Name: jc99645-1 Acquired: 12/10/2019 16:37:05 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0597**	**.0021**	**.0007**	**.0079**	**.0877**	**.0573**	**.4725**	**.0163**	**.0004**
Stddev	.0054	.0002	.0001	.0003	.0043	.0029	.0248	.0004	.0015
%RSD	9.044	7.659	8.504	3.558	4.943	5.140	5.254	2.709	344.1
#1	.0553	.0020	.0008	.0076	.0888	.0576	.4758	.0168	-.0001
#2	.0658	.0023	.0007	.0081	.0830	.0543	.4462	.0159	.0021
#3	.0581	.0020	.0007	.0079	.0914	.0601	.4955	.0163	-.0007

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0451**	**.1776**	**.0111**	**-.0008**	**.0314**	**.0032**	**.0014**	**22.22**	**1.915**
Stddev	.0026	.0010	.0009	.0010	.0006	.0011	.0012	1.99	.167
%RSD	5.735	.5649	7.888	126.8	1.847	33.13	84.92	8.953	8.736
#1	.0459	.1775	.0104	.0003	.0308	.0026	.0026	20.57	1.777
#2	.0422	.1766	.0121	-.0012	.0315	.0045	.0014	24.43	2.101
#3	.0472	.1786	.0108	-.0014	.0320	.0026	.0002	21.66	1.867

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**48.88**	**3.681**	**1.805**	**.4460**	**.0330**	**.0021**	**1.943**	**.0199**	**.0187**
Stddev	4.33	.346	.134	.0337	.0002	.0002	.022	.0003	.0016
%RSD	8.854	9.399	7.398	7.553	.7006	9.969	1.117	1.319	8.471
#1	45.30	3.391	1.690	.4148	.0333	.0022	1.967	.0199	.0175
#2	53.69	4.064	1.951	.4817	.0328	.0019	1.927	.0197	.0205
#3	47.64	3.587	1.773	.4414	.0329	.0022	1.933	.0202	.0182

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7663**	**.0048**	**.0120**	**.0683**	**-.0027**	**.0163**	**.4605**	**.1716**
Stddev	.0419	.0005	.0004	.0045	.0020	.0014	.0012	.0078
%RSD	5.468	10.79	3.234	6.627	74.84	8.718	.2695	4.531
#1	.7716	.0052	.0116	.0632	-.0041	.0157	.4591	.1722
#2	.7220	.0042	.0121	.0717	-.0036	.0180	.4609	.1636
#3	.8053	.0050	.0123	.0701	-.0004	.0153	.4614	.1791

Zoom In Zoom Out

Sample Name: jc99645-1 Acquired: 12/10/2019 16:37:05 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**271260.**	**33471.**	**8530.4**	**15063.**
Stddev	13320.	2399.	51.9	83.
%RSD	4.9106	7.1663	.60893	.55295
#1	269950.	35595.	8535.2	15070.
#2	285180.	30869.	8579.8	15143.
#3	258640.	33950.	8476.2	14977.

Zoom In Zoom Out

Sample Name: mp18771-sd1 Acquired: 12/10/2019 16:42:07 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0658**	**.0024**	**.0008**	**.0084**	**.0864**	**.0571**	**.4548**	**.0162**	**.0033**
Stddev	.0023	.0001	.0006	.0003	.0019	.0048	.0117	.0004	.0008
%RSD	3.459	6.067	79.07	3.457	2.172	8.436	2.579	2.238	22.87
#1	.0645	.0022	.0001	.0081	.0843	.0517	.4413	.0166	.0035
#2	.0644	.0025	.0009	.0087	.0878	.0609	.4625	.0163	.0025
#3	.0684	.0025	.0014	.0083	.0872	.0588	.4606	.0159	.0039

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0427**	**.1986**	**.0113**	**-.0065**	**.0331**	**.0028**	**-.0018**	**24.18**	**2.201**
Stddev	.0013	.0041	.0027	.0057	.0033	.0008	.0028	.47	.037
%RSD	3.125	2.054	24.09	87.91	9.909	29.20	155.0	1.947	1.674
#1	.0411	.2030	.0092	-.0030	.0293	.0019	-.0050	23.90	2.190
#2	.0435	.1979	.0103	-.0034	.0349	.0030	-.0008	23.91	2.171
#3	.0434	.1949	.0143	-.0131	.0351	.0034	.0004	24.72	2.242

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**53.49**	**3.975**	**1.902**	**.5297**	**.0412**	**.0027**	**2.037**	**.0216**	**.0202**
Stddev	1.17	.152	.127	.0079	.0037	.0008	.085	.0024	.0005
%RSD	2.187	3.831	6.658	1.491	8.899	28.18	4.179	11.10	2.650
#1	52.95	3.833	1.927	.5241	.0452	.0021	2.121	.0200	.0199
#2	52.69	3.958	1.764	.5387	.0405	.0024	2.040	.0205	.0200
#3	54.83	4.136	2.014	.5261	.0380	.0036	1.951	.0244	.0208

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7371**	**.0113**	**.0126**	**.0943**	**-.0020**	**.0150**	**.4635**	**.1649**
Stddev	.0169	.0022	.0007	.0109	.0057	.0043	.0080	.0052
%RSD	2.294	19.12	5.503	11.52	288.4	28.86	1.722	3.153
#1	.7186	.0111	.0120	.0817	.0011	.0134	.4652	.1660
#2	.7518	.0092	.0133	.1002	.0016	.0117	.4704	.1592
#3	.7409	.0135	.0124	.1008	-.0086	.0199	.4548	.1694

Zoom In Zoom Out

Sample Name: mp18771-sd1 Acquired: 12/10/2019 16:42:07 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**291750.**	**31709.**	**8407.7**	**15080.**
Stddev	9293.	563.	135.9	209.
%RSD	3.1852	1.7765	1.6160	1.3827
#1	302290.	31884.	8280.8	14882.
#2	284740.	32164.	8391.3	15060.
#3	288210.	31079.	8551.0	15298.

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 16:47:13 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.948**	**1.950**	**1.933**	**1.909**	**1.943**	**1.903**	**1.967**	**1.908**	**.2351**
Stddev	.004	.003	.006	.006	.007	.005	.018	.006	.0004
%RSD	.2080	.1664	.3234	.2910	.3464	.2894	.9429	.2964	.1895
#1	1.950	1.953	1.928	1.906	1.943	1.903	1.946	1.906	.2356
#2	1.944	1.946	1.931	1.906	1.949	1.908	1.981	1.904	.2349
#3	1.951	1.951	1.940	1.916	1.936	1.897	1.975	1.915	.2347
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.912**	**1.953**	**1.916**	**1.932**	**1.895**	**1.907**	**1.882**	**39.75**	**40.30**
Stddev	.008	.007	.007	.007	.005	.005	.008	.10	.10
%RSD	.4100	.3729	.3682	.3627	.2889	.2774	.4214	.2487	.2512
#1	1.909	1.949	1.909	1.935	1.895	1.905	1.878	39.83	40.35
#2	1.921	1.948	1.915	1.937	1.890	1.903	1.877	39.64	40.18
#3	1.906	1.961	1.923	1.924	1.901	1.913	1.891	39.78	40.36
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.78**	**39.43**	**39.56**	**39.41**	**1.882**	**1.944**	**4.672**	**1.981**	**1.990**
Stddev	.10	.12	.11	.14	.008	.006	.017	.009	.004
%RSD	.2399	.3056	.2834	.3608	.4353	.3296	.3690	.4640	.2174
#1	39.84	39.48	39.55	39.48	1.877	1.938	4.656	1.975	1.993
#2	39.67	39.29	39.46	39.24	1.878	1.943	4.669	1.977	1.985
#3	39.84	39.51	39.68	39.49	1.891	1.951	4.690	1.992	1.992
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 16:47:13 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.889**	**1.906**	**1.898**	**1.845**	**1.879**	**1.919**	**1.890**	**1.893**
Stddev	.008	.005	.006	.002	.009	.003	.009	.009
%RSD	.4471	.2452	.3402	.1223	.4769	.1374	.4753	.4680
#1	1.887	1.902	1.900	1.843	1.872	1.918	1.880	1.889
#2	1.899	1.904	1.904	1.848	1.875	1.916	1.896	1.903
#3	1.882	1.911	1.891	1.845	1.889	1.922	1.895	1.887
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**278470.**	**32291.**	**8350.9**	**14502.**
Stddev	1390.	133.	26.1	28.
%RSD	.49905	.41337	.31223	.19388
#1	279590.	32258.	8372.7	14519.
#2	276910.	32438.	8357.9	14516.
#3	278900.	32177.	8322.0	14469.

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 16:52:11 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0001**	**.0002**	**.0001**	**.0004**	**.0009**	**-.0000**	**-.0001**	**.0001**
Stddev	.0001	.0000	.0001	.0003	.0001	.0006	.0000	.0000	.0001
%RSD	67.76	29.97	52.54	394.1	23.59	65.54	66.32	24.00	83.34
#1	-.0002	.0001	.0002	.0005	.0004	.0006	-.0000	-.0001	.0002
#2	-.0000	.0001	.0003	-.0001	.0003	.0016	-.0000	-.0001	.0000
#3	-.0002	.0001	.0001	-.0001	.0005	.0006	-.0000	-.0002	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0003**	**.0001**	**-.0004**	**-.0001**	**-.0005**	**.0000**	**-.0071**	**.0129**
Stddev	.0001	.0001	.0011	.0009	.0012	.0023	.0020	.0030	.0016
%RSD	68.93	25.06	727.7	211.6	1329.	476.1	6641.	41.86	12.44
#1	-.0003	.0004	-.0009	-.0008	.0013	-.0024	.0012	-.0068	.0130
#2	-.0002	.0003	.0001	-.0011	-.0009	-.0013	-.0023	-.0103	.0145
#3	-.0001	.0003	.0012	.0006	-.0006	.0021	.0011	-.0043	.0113
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**-.0067**	**-.0028**	**.0149**	**.0028**	**.0000**	**.0011**	**.0008**	**.0000**
Stddev	.0018	.0087	.0186	.0033	.0005	.0001	.0006	.0004	.0000
%RSD	429.5	128.7	675.4	22.27	18.75	310.5	57.73	51.83	63.64
#1	.0004	-.0159	-.0207	.0158	.0034	-.0000	.0005	.0006	.0000
#2	-.0025	.0012	.0165	.0177	.0025	.0000	.0009	.0005	.0000
#3	.0008	-.0055	-.0041	.0113	.0025	.0001	.0017	.0013	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 16:52:11 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0008**	**.0001**	**.0009**	**.0006**	**.0000**	**-.0047**	**-.0006**
Stddev	.0001	.0006	.0001	.0026	.0005	.0005	.0015	.0012
%RSD	188.9	80.07	69.15	274.7	77.48	1962.	32.86	198.0
#1	.0001	.0015	.0002	.0033	.0007	-.0001	-.0030	.0003
#2	-.0001	.0003	.0000	-.0018	.0001	-.0004	-.0060	-.0002
#3	-.0002	.0006	.0001	.0014	.0009	.0006	-.0050	-.0020
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**283240.**	**32587.**	**8408.5**	**15162.**
Stddev	7811.	33.	24.8	33.
%RSD	2.7579	.09998	.29449	.21689
#1	288280.	32617.	8412.9	15167.
#2	274240.	32592.	8381.8	15126.
#3	287190.	32553.	8430.7	15191.

Zoom In Zoom Out

Sample Name: mp18771-ps1 Acquired: 12/10/2019 16:57:21 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.084**	**2.022**	**2.064**	**2.019**	**2.010**	**1.977**	**2.357**	**2.018**	**.2454**
Stddev	.040	.037	.077	.072	.066	.062	.103	.071	.0069
%RSD	1.931	1.853	3.748	3.566	3.270	3.117	4.364	3.514	2.822
#1	2.041	1.982	2.025	1.979	1.936	1.906	2.240	1.978	.2376
#2	2.120	2.057	2.015	1.976	2.061	2.016	2.433	1.976	.2509
#3	2.090	2.027	2.154	2.103	2.034	2.009	2.398	2.100	.2478

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.944**	**2.224**	**1.999**	**2.009**	**2.161**	**2.028**	**1.970**	**48.27**	**28.09**
Stddev	.066	.086	.077	.076	.077	.075	.074	.99	.50
%RSD	3.384	3.883	3.835	3.781	3.557	3.716	3.780	2.044	1.787
#1	1.869	2.176	1.958	1.974	2.117	1.987	1.932	47.20	27.56
#2	1.994	2.172	1.952	1.957	2.116	1.983	1.922	49.15	28.56
#3	1.968	2.324	2.087	2.097	2.250	2.115	2.055	48.45	28.15

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**73.98**	**29.36**	**27.56**	**26.16**	**2.038**	**2.042**	**2.025**	**2.102**	**2.086**
Stddev	1.35	.48	.47	.47	.075	.080	.088	.085	.040
%RSD	1.821	1.652	1.711	1.809	3.679	3.891	4.369	4.046	1.934
#1	72.56	28.84	27.06	25.65	2.001	2.002	1.982	2.057	2.042
#2	75.24	29.79	28.00	26.58	1.988	1.991	1.967	2.050	2.122
#3	74.15	29.44	27.63	26.25	2.124	2.134	2.127	2.200	2.093

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.543**	**1.959**	**1.874**	**-.0265**	**.0109**	**.0160**	**2.477**	**.1530**
Stddev	.092	.078	.065	.0033	.0018	.0004	.100	.0075
%RSD	3.610	3.972	3.463	12.29	16.28	2.546	4.038	4.875
#1	2.440	1.919	1.801	-.0235	.0095	.0165	2.426	.1446
#2	2.617	1.909	1.922	-.0260	.0129	.0157	2.412	.1588
#3	2.571	2.048	1.901	-.0299	.0103	.0160	2.592	.1555

Zoom In Zoom Out

Sample Name: mp18771-ps1 Acquired: 12/10/2019 16:57:21 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**287870.**	**32213.**	**8136.8**	**14335.**
Stddev	8979.	378.	248.5	410.
%RSD	3.1190	1.1748	3.0540	2.8606
#1	297890.	32592.	8268.6	14564.
#2	280570.	31835.	8291.6	14579.
#3	285150.	32211.	7850.2	13862.

Zoom In Zoom Out

Sample Name: jc99645-1 Acquired: 12/10/2019 17:02:18 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0609**	**.0020**	**.0007**	**.0078**	**.0831**	**.0538**	**.4445**	**.0161**	**.0014**
Stddev	.0006	.0000	.0001	.0005	.0006	.0003	.0016	.0005	.0003
%RSD	.9750	.8206	10.74	6.157	.6689	.5746	.3704	3.258	22.15
#1	.0611	.0021	.0006	.0077	.0837	.0541	.4461	.0162	.0014
#2	.0613	.0020	.0007	.0074	.0827	.0538	.4428	.0155	.0016
#3	.0602	.0020	.0006	.0083	.0827	.0534	.4447	.0165	.0010

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0421**	**.1787**	**.0129**	**.0000**	**.0319**	**.0040**	**.0002**	**22.75**	**1.982**
Stddev	.0001	.0061	.0015	.0009	.0004	.0011	.0011	.21	.016
%RSD	.1877	3.435	11.54	40220.	1.380	28.26	431.9	.9232	.8109
#1	.0422	.1780	.0139	-.0008	.0316	.0052	.0002	22.91	1.998
#2	.0421	.1729	.0135	.0010	.0316	.0029	-.0008	22.83	1.981
#3	.0420	.1851	.0112	-.0002	.0324	.0039	.0013	22.51	1.966

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**50.01**	**3.753**	**1.799**	**.4491**	**.0338**	**.0023**	**1.843**	**.0199**	**.0191**
Stddev	.47	.040	.017	.0049	.0015	.0003	.053	.0010	.0002
%RSD	.9392	1.075	.9177	1.102	4.388	14.08	2.857	5.079	1.116
#1	50.43	3.793	1.806	.4540	.0340	.0027	1.838	.0191	.0192
#2	50.10	3.754	1.811	.4441	.0323	.0022	1.794	.0196	.0192
#3	49.51	3.713	1.780	.4490	.0352	.0021	1.898	.0211	.0189

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7197**	**.0042**	**.0113**	**.0719**	**-.0036**	**.0168**	**.4729**	**.1622**
Stddev	.0050	.0004	.0002	.0032	.0012	.0007	.0175	.0013
%RSD	.6889	9.885	1.379	4.385	35.00	4.192	3.697	.7963
#1	.7223	.0042	.0113	.0684	-.0043	.0174	.4720	.1635
#2	.7140	.0038	.0114	.0729	-.0043	.0160	.4559	.1609
#3	.7228	.0046	.0111	.0745	-.0021	.0168	.4908	.1621

Zoom In Zoom Out

Sample Name: jc99645-1 Acquired: 12/10/2019 17:02:18 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**290000.**	**33095.**	**8422.0**	**14967.**
Stddev	1224.	163.	235.3	411.
%RSD	.42220	.49271	2.7935	2.7461
#1	289080.	32907.	8430.8	14985.
#2	289520.	33183.	8652.7	15369.
#3	291390.	33196.	8182.4	14547.

Zoom In Zoom Out

Sample Name: mp18771-s2 Acquired: 12/10/2019 17:07:19 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.949**	**1.884**	**1.955**	**1.889**	**1.912**	**1.857**	**3.371**	**1.932**	**.2358**
Stddev	.003	.001	.068	.065	.010	.011	.015	.067	.0013
%RSD	.1738	.0522	3.497	3.417	.5162	.5912	.4478	3.469	.5320
#1	1.948	1.883	1.925	1.858	1.901	1.845	3.367	1.900	.2345
#2	1.947	1.884	2.033	1.964	1.914	1.866	3.387	2.009	.2369
#3	1.953	1.885	1.906	1.847	1.920	1.861	3.358	1.887	.2362

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.892**	**2.159**	**1.940**	**1.948**	**1.947**	**1.884**	**1.750**	**62.60**	**27.96**
Stddev	.008	.078	.065	.052	.066	.062	.064	.26	.06
%RSD	.4451	3.595	3.342	2.665	3.393	3.307	3.641	.4195	.2286
#1	1.883	2.119	1.905	1.922	1.914	1.852	1.724	62.35	27.90
#2	1.898	2.249	2.015	2.007	2.024	1.956	1.823	62.58	27.95
#3	1.897	2.110	1.899	1.914	1.905	1.845	1.704	62.87	28.03

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**111.7**	**33.14**	**27.35**	**25.51**	**1.847**	**2.007**	**4.184**	**2.066**	**1.939**
Stddev	.2	.14	.05	.09	.062	.073	.174	.077	.005
%RSD	.1921	.4325	.1781	.3432	3.341	3.632	4.149	3.716	.2625
#1	111.5	32.99	27.29	25.44	1.820	1.974	4.116	2.029	1.934
#2	111.6	33.27	27.37	25.48	1.918	2.091	4.381	2.154	1.937
#3	111.9	33.17	27.38	25.61	1.804	1.956	4.054	2.015	1.944

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.614**	**1.375**	**1.881**	**-.0082**	**-.0007**	**.0189**	**2.342**	**.3809**
Stddev	.018	.052	.011	.0055	.0020	.0006	.088	.0048
%RSD	.6917	3.764	.5846	67.03	287.1	3.331	3.747	1.253
#1	2.593	1.346	1.868	-.0138	-.0006	.0192	2.309	.3822
#2	2.624	1.435	1.885	-.0082	-.0027	.0194	2.442	.3848
#3	2.625	1.345	1.889	-.0028	.0012	.0182	2.276	.3756

Zoom In Zoom Out

Sample Name: mp18771-s2 Acquired: 12/10/2019 17:07:19 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**284980.**	**32762.**	**8216.5**	**14526.**
Stddev	1973.	104.	253.2	410.
%RSD	.69214	.31622	3.0814	2.8222
#1	286760.	32866.	8332.5	14724.
#2	282860.	32760.	7926.1	14055.
#3	285320.	32659.	8391.0	14800.

Zoom In Zoom Out

Sample Name: jc99645-2 Acquired: 12/10/2019 17:12:17 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1338**	**.0017**	**.0005**	**.0121**	**.0705**	**.1582**	**.7361**	**.0500**	**.0018**
Stddev	.0017	.0001	.0003	.0002	.0007	.0020	.0101	.0004	.0003
%RSD	1.286	3.863	53.54	1.944	.9730	1.249	1.372	.8290	18.06
#1	.1358	.0017	.0008	.0121	.0711	.1598	.7427	.0504	.0018
#2	.1332	.0017	.0004	.0118	.0708	.1588	.7410	.0496	.0015
#3	.1325	.0016	.0003	.0122	.0698	.1560	.7244	.0500	.0022

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0659**	**.3031**	**.0210**	**.0001**	**.0402**	**.0005**	**.0022**	**34.37**	**55.46**
Stddev	.0007	.0025	.0011	.0006	.0003	.0018	.0007	.40	.59
%RSD	1.103	.8334	5.121	623.5	.6410	393.9	30.96	1.167	1.070
#1	.0661	.3060	.0222	.0008	.0401	-.0014	.0017	34.80	56.09
#2	.0665	.3012	.0201	-.0005	.0399	.0022	.0019	34.32	55.37
#3	.0651	.3021	.0206	.0000	.0404	.0006	.0029	34.00	54.91

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**69.23**	**6.578**	**3.285**	**1.476**	**.0460**	**.0100**	**2.558**	**.0287**	**.3818**
Stddev	.78	.069	.048	.018	.0005	.0001	.010	.0004	.0041
%RSD	1.126	1.055	1.454	1.256	1.152	1.109	.4026	1.497	1.071
#1	70.10	6.657	3.333	1.497	.0466	.0101	2.568	.0287	.3863
#2	68.99	6.526	3.284	1.470	.0455	.0101	2.558	.0291	.3808
#3	68.60	6.552	3.238	1.461	.0459	.0099	2.547	.0282	.3783

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.441**	**.0033**	**.0185**	**.6538**	**-.0025**	**.0250**	**.7198**	**.1499**
Stddev	.019	.0006	.0002	.0058	.0008	.0002	.0045	.0031
%RSD	1.318	18.12	.9879	.8838	32.21	.7142	.6258	2.086
#1	1.453	.0039	.0186	.6605	-.0016	.0249	.7250	.1524
#2	1.451	.0035	.0186	.6507	-.0030	.0252	.7166	.1510
#3	1.419	.0027	.0183	.6503	-.0030	.0248	.7179	.1464

Zoom In Zoom Out

Sample Name: jc99645-2 Acquired: 12/10/2019 17:12:17 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**285260.**	**32796.**	**8400.1**	**14799.**
Stddev	3834.	247.	49.1	100.
%RSD	1.3440	.75187	.58406	.67690
#1	282560.	32525.	8343.9	14685.
#2	283580.	32857.	8434.1	14875.
#3	289650.	33007.	8422.4	14836.

Zoom In Zoom Out

Sample Name: jc99645-3 Acquired: 12/10/2019 17:17:19 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0296**	**.0008**	**.0002**	**.0035**	**.0190**	**.0774**	**.1576**	**.0100**	**.0007**
Stddev	.0001	.0001	.0001	.0004	.0004	.0017	.0039	.0002	.0002
%RSD	.4801	7.025	41.31	10.35	1.990	2.142	2.446	1.743	27.58
#1	.0296	.0009	.0001	.0037	.0187	.0761	.1536	.0098	.0009
#2	.0297	.0008	.0003	.0031	.0189	.0769	.1581	.0100	.0005
#3	.0294	.0009	.0002	.0038	.0194	.0793	.1612	.0101	.0007

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0365**	**.4136**	**.0070**	**-.0009**	**.0195**	**-.0002**	**.0001**	**8.779**	**.8464**
Stddev	.0009	.0017	.0019	.0008	.0002	.0009	.0008	.044	.0074
%RSD	2.471	.3997	27.45	85.36	.7829	427.8	972.7	.5059	.8699
#1	.0356	.4119	.0066	-.0000	.0197	-.0005	.0008	8.826	.8549
#2	.0365	.4137	.0091	-.0014	.0194	-.0009	-.0008	8.774	.8413
#3	.0374	.4152	.0054	-.0013	.0195	.0008	.0003	8.738	.8431

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**22.27**	**1.213**	**.9579**	**.2547**	**.0235**	**.0007**	**1.200**	**.0166**	**.0142**
Stddev	.07	.012	.0218	.0046	.0004	.0001	.015	.0002	.0001
%RSD	.3089	1.012	2.280	1.799	1.553	19.61	1.243	1.303	.4554
#1	22.33	1.228	.9638	.2593	.0240	.0007	1.217	.0168	.0141
#2	22.29	1.206	.9338	.2501	.0234	.0008	1.197	.0164	.0142
#3	22.19	1.207	.9762	.2547	.0232	.0006	1.188	.0167	.0141

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4290**	**.0015**	**.0073**	**.0370**	**-.0025**	**.0056**	**.2688**	**.1317**
Stddev	.0091	.0011	.0001	.0017	.0008	.0006	.0010	.0022
%RSD	2.123	76.25	1.300	4.576	33.31	9.983	.3560	1.660
#1	.4190	.0002	.0073	.0359	-.0018	.0063	.2699	.1293
#2	.4309	.0024	.0074	.0362	-.0024	.0052	.2685	.1321
#3	.4369	.0018	.0072	.0390	-.0034	.0055	.2680	.1336

Zoom In Zoom Out

Sample Name: jc99645-3 Acquired: 12/10/2019 17:17:19 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**286270.**	**33404.**	**8518.0**	**15167.**
Stddev	5513.	125.	19.9	37.
%RSD	1.9259	.37524	.23371	.24621
#1	288420.	33266.	8534.5	15192.
#2	290370.	33435.	8523.8	15184.
#3	280000.	33511.	8495.9	15124.

Zoom In Zoom Out

Sample Name: jc99722-12 Acquired: 12/10/2019 17:22:22 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.256**	**.0099**	**.0013**	**.1571**	**.3591**	**.1659**	**6.924**	**.3297**
Stddev	.030	.0002	.0002	.0012	.0022	.0012	.052	.0027
%RSD	2.397	2.110	14.47	.7599	.6007	.7038	.7511	.8333
#1	1.290	.0101	.0012	.1559	.3605	.1660	6.961	.3269
#2	1.233	.0097	.0015	.1583	.3566	.1646	6.865	.3324
#3	1.245	.0098	.0011	.1572	.3601	.1670	6.947	.3297

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0024**	**.3790**	**.6773**	**.0187**	F **-.0041**	**.1524**	**.0033**	**.0008**
Stddev	.0008	.0017	.0044	.0017	.0021	.0020	.0020	.0006
%RSD	32.63	.4516	.6525	8.929	51.76	1.282	61.21	78.01
#1	.0030	.3802	.6733	.0200	-.0018	.1502	.0049	.0001
#2	.0015	.3771	.6820	.0168	-.0045	.1537	.0010	.0009
#3	.0027	.3799	.6765	.0192	-.0059	.1534	.0041	.0013

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**197.3**	**15.70**	F **318.8**	**77.15**	**26.43**	**2.989**	**.2243**	**.0063**
Stddev	5.0	.41	6.2	1.96	.66	.068	.0019	.0001
%RSD	2.532	2.602	1.946	2.538	2.487	2.262	.8627	1.190
#1	202.9	16.16	325.0	79.37	27.18	3.065	.2225	.0063
#2	193.3	15.37	312.6	75.65	25.93	2.935	.2263	.0062
#3	195.7	15.57	318.8	76.44	26.18	2.968	.2241	.0064

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.571**	**.0145**	**.1229**	**3.686**	**.0036**	**.1198**	**.2497**	**-.0083**
Stddev	.014	.0004	.0033	.015	.0005	.0006	.0003	.0007
%RSD	.5529	2.705	2.710	.4110	13.80	.4848	.1334	8.503
#1	2.587	.0140	.1266	3.687	.0040	.1200	.2493	-.0076
#2	2.564	.0147	.1202	3.670	.0037	.1191	.2500	-.0084
#3	2.562	.0147	.1219	3.701	.0030	.1202	.2499	-.0090

Zoom In Zoom Out

Sample Name: jc99722-12 Acquired: 12/10/2019 17:22:22 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.4297**	**2.030**	**.3864**
Stddev	.0097	.013	.0021
%RSD	2.266	.6317	.5371
#1	.4405	2.017	.3878
#2	.4216	2.043	.3841
#3	.4271	2.030	.3875

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**291410.**	**34157.**	**8626.9**	**14522.**
Stddev	1354.	776.	43.1	71.
%RSD	.46467	2.2728	.49935	.49070
#1	290630.	33281.	8668.6	14594.
#2	292970.	34759.	8582.5	14451.
#3	290630.	34431.	8629.8	14521.

Zoom In Zoom Out

Sample Name: jc99722-13 Acquired: 12/10/2019 17:27:33 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.430**	**.0103**	**.0014**	**.1453**	**.3115**	**.1365**	**7.490**	**.3370**	**.0010**
Stddev	.007	.0000	.0001	.0011	.0265	.0106	.660	.0026	.0052
%RSD	.5205	.1072	7.382	.7799	8.515	7.770	8.818	.7770	533.8
#1	1.439	.0103	.0013	.1444	.2948	.1300	7.139	.3346	.0041
#2	1.426	.0103	.0013	.1450	.3421	.1487	8.252	.3365	-.0050
#3	1.426	.0103	.0015	.1466	.2976	.1307	7.080	.3398	.0039

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3387**	**.7287**	**.0118**	**-.0004**	**.1547**	**.0038**	**.0005**	**198.6**	**18.09**
Stddev	.0284	.0075	.0014	.0036	.0017	.0015	.0015	1.0	.09
%RSD	8.372	1.031	11.62	836.6	1.070	39.00	314.7	.5080	.4730
#1	.3207	.7231	.0132	-.0008	.1539	.0044	.0017	199.7	18.17
#2	.3714	.7258	.0116	.0033	.1537	.0050	-.0011	197.8	18.00
#3	.3240	.7372	.0105	-.0038	.1567	.0022	.0008	198.2	18.08

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **305.1**	**85.58**	**30.19**	**2.155**	**.2309**	**.0062**	**2.676**	**.0165**	**.1359**
Stddev	2.8	.39	.11	.018	.0034	.0003	.014	.0004	.0009
%RSD	.9286	.4596	.3745	.8500	1.492	4.087	.5224	2.201	.6269
#1	307.5	86.02	30.32	2.175	.2288	.0061	2.660	.0162	.1369
#2	302.0	85.26	30.12	2.150	.2290	.0061	2.682	.0169	.1353
#3	305.8	85.46	30.13	2.140	.2348	.0065	2.686	.0165	.1356

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.013**	**.0057**	**.1104**	**.1613**	**-.0078**	**.4616**	**2.185**	**.3161**
Stddev	.256	.0006	.0085	.0014	.0057	.0021	.020	.0265
%RSD	8.492	9.654	7.704	.8411	73.59	.4628	.9033	8.390
#1	2.858	.0058	.1047	.1623	-.0125	.4638	2.172	.2989
#2	3.308	.0051	.1201	.1619	-.0014	.4615	2.175	.3466
#3	2.872	.0062	.1063	.1598	-.0094	.4596	2.208	.3028

Zoom In Zoom Out

Sample Name: jc99722-13 Acquired: 12/10/2019 17:27:33 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**284150.**	**34721.**	**8522.2**	**14364.**
Stddev	21983.	318.	39.5	75.
%RSD	7.7364	.91487	.46296	.52321
#1	297120.	34394.	8560.7	14440.
#2	258770.	35029.	8524.0	14362.
#3	296570.	34740.	8481.9	14290.

Zoom In Zoom Out

Sample Name: jc99722-17 Acquired: 12/10/2019 17:32:45 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.094**	**.0085**	**.0015**	**.2216**	**.5006**	**.2220**	**7.763**	**.3429**
Stddev	.004	.0000	.0001	.0035	.0079	.0037	.153	.0057
%RSD	.3366	.5510	9.203	1.595	1.585	1.667	1.969	1.671
#1	1.098	.0084	.0014	.2251	.5008	.2209	7.775	.3480
#2	1.091	.0085	.0017	.2217	.5084	.2261	7.909	.3439
#3	1.093	.0085	.0015	.2180	.4925	.2190	7.604	.3367

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0041**	**.5356**	**.5948**	**.0214**	F **-.0041**	**.1287**	**.0061**	**.0000**
Stddev	.0011	.0084	.0100	.0012	.0013	.0015	.0006	.0009
%RSD	26.77	1.563	1.689	5.431	30.88	1.173	9.602	11050.
#1	.0041	.5339	.6040	.0225	-.0056	.1299	.0065	.0006
#2	.0030	.5447	.5963	.0202	-.0033	.1293	.0054	-.0010
#3	.0052	.5282	.5841	.0217	-.0035	.1270	.0064	.0004

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**210.2**	**17.07**	F **334.3**	**62.35**	**19.30**	**4.895**	**.1410**	**.0051**
Stddev	.5	.05	2.6	.37	.06	.006	.0016	.0003
%RSD	.2466	.2698	.7789	.5855	.3326	.1320	1.166	6.469
#1	210.8	17.11	335.8	62.77	19.37	4.902	.1423	.0054
#2	210.1	17.08	331.3	62.22	19.24	4.890	.1416	.0050
#3	209.8	17.02	335.9	62.07	19.31	4.892	.1391	.0048

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.105**	**.0137**	**.1240**	**4.460**	**.0035**	**.1368**	**.2162**	**-.0083**
Stddev	.035	.0007	.0005	.062	.0022	.0020	.0021	.0017
%RSD	1.683	4.770	.3885	1.396	62.64	1.448	.9915	20.49
#1	2.141	.0143	.1245	4.450	.0041	.1366	.2183	-.0074
#2	2.104	.0130	.1236	4.526	.0052	.1389	.2163	-.0072
#3	2.070	.0139	.1238	4.403	.0010	.1349	.2140	-.0102

Zoom In Zoom Out

Sample Name: jc99722-17 Acquired: 12/10/2019 17:32:45 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.3502**	**1.330**	**.4209**
Stddev	.0014	.025	.0072
%RSD	.3931	1.864	1.713
#1	.3510	1.353	.4173
#2	.3487	1.334	.4292
#3	.3510	1.304	.4161

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**288830.**	**34230.**	**8428.3**	**14450.**
Stddev	5289.	108.	99.9	170.
%RSD	1.8313	.31540	1.1858	1.1764
#1	288830.	34146.	8336.9	14288.
#2	283540.	34191.	8413.0	14435.
#3	294110.	34352.	8535.0	14627.

Zoom In Zoom Out

Sample Name: jc99722-18 Acquired: 12/10/2019 17:37:55 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.246**	**.0098**	**.0013**	**.1365**	**.2911**	**.1194**	**6.495**	**.2898**
Stddev	.033	.0002	.0001	.0015	.0055	.0019	.136	.0039
%RSD	2.628	2.505	10.15	1.126	1.877	1.585	2.092	1.341
#1	1.284	.0100	.0013	.1377	.2848	.1173	6.339	.2921
#2	1.222	.0096	.0015	.1370	.2941	.1210	6.587	.2919
#3	1.233	.0096	.0012	.1347	.2944	.1199	6.560	.2853

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0049**	**.2978**	**.6388**	**.0120**	F **-.0038**	**.1953**	**.0057**	**.0015**
Stddev	.0016	.0057	.0086	.0005	.0012	.0021	.0010	.0025
%RSD	33.36	1.915	1.342	4.024	30.85	1.088	17.36	169.8
#1	.0067	.2912	.6424	.0122	-.0050	.1968	.0060	.0037
#2	.0036	.3016	.6450	.0115	-.0038	.1961	.0046	.0019
#3	.0044	.3006	.6291	.0123	-.0026	.1928	.0065	-.0012

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**182.0**	**10.95**	F **282.6**	**70.29**	**25.32**	**1.928**	**.1695**	**.0060**
Stddev	5.0	.28	4.2	1.63	.69	.060	.0021	.0005
%RSD	2.744	2.576	1.480	2.322	2.717	3.100	1.243	8.341
#1	187.7	11.27	286.4	72.15	26.10	1.996	.1708	.0065
#2	178.1	10.74	278.1	69.08	24.80	1.883	.1706	.0057
#3	180.3	10.84	283.3	69.64	25.05	1.905	.1670	.0057

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.468**	**.0157**	**.1290**	**2.766**	**.0048**	**.0954**	**.1395**	**-.0107**
Stddev	.062	.0007	.0035	.056	.0001	.0005	.0010	.0012
%RSD	2.517	4.234	2.751	2.025	2.143	.5211	.6861	10.94
#1	2.505	.0156	.1330	2.702	.0047	.0948	.1386	-.0119
#2	2.504	.0151	.1263	2.795	.0049	.0957	.1405	-.0096
#3	2.397	.0164	.1276	2.802	.0047	.0957	.1392	-.0105

Zoom In Zoom Out

Sample Name: jc99722-18 Acquired: 12/10/2019 17:37:55 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.3781**	**1.173**	**.3187**
Stddev	.0102	.016	.0078
%RSD	2.708	1.341	2.434
#1	.3897	1.180	.3100
#2	.3702	1.184	.3250
#3	.3745	1.155	.3211

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**296150.**	**34452.**	**8684.8**	**14578.**
Stddev	5338.	595.	95.4	162.
%RSD	1.8026	1.7284	1.0987	1.1102
#1	302290.	33795.	8633.4	14502.
#2	293540.	34957.	8626.0	14468.
#3	292610.	34604.	8794.9	14764.

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 17:43:07 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.932**	**1.939**	**1.960**	**1.940**	**1.909**	**1.905**	**1.959**	**1.916**	**.2310**
Stddev	.002	.004	.004	.003	.019	.017	.018	.003	.0017
%RSD	.0908	.2221	.1976	.1331	.9901	.9011	.9273	.1301	.7435
#1	1.932	1.943	1.958	1.938	1.920	1.920	1.962	1.913	.2323
#2	1.934	1.940	1.957	1.939	1.921	1.910	1.976	1.916	.2316
#3	1.930	1.934	1.964	1.943	1.888	1.886	1.940	1.918	.2291
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.893**	**1.994**	**1.975**	**1.947**	**1.900**	**1.969**	**1.889**	**39.41**	**39.84**
Stddev	.017	.004	.002	.011	.002	.009	.005	.10	.07
%RSD	.9099	.1811	.1186	.5440	.0938	.4678	.2893	.2654	.1667
#1	1.904	1.990	1.974	1.941	1.899	1.961	1.887	39.47	39.91
#2	1.903	1.994	1.973	1.941	1.902	1.965	1.885	39.46	39.84
#3	1.873	1.997	1.978	1.959	1.898	1.979	1.895	39.28	39.78
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.14**	**39.65**	**39.19**	**38.57**	**1.898**	**1.989**	**4.719**	**2.045**	**1.977**
Stddev	.05	.05	.07	.04	.006	.006	.010	.004	.004
%RSD	.1265	.1202	.1701	.1026	.3055	.3170	.2095	.1932	.1816
#1	39.18	39.66	39.27	38.62	1.897	1.986	4.712	2.045	1.979
#2	39.16	39.70	39.16	38.55	1.893	1.984	4.715	2.042	1.978
#3	39.09	39.60	39.15	38.55	1.904	1.996	4.731	2.049	1.973
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 17:43:07 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.854**	**1.943**	**1.856**	**1.886**	**1.919**	**1.913**	**1.881**	**1.887**
Stddev	.017	.005	.017	.006	.005	.003	.003	.014
%RSD	.8878	.2480	.9168	.3003	.2595	.1656	.1670	.7573
#1	1.865	1.940	1.866	1.883	1.918	1.915	1.878	1.899
#2	1.861	1.941	1.866	1.883	1.914	1.915	1.879	1.890
#3	1.835	1.949	1.837	1.893	1.924	1.910	1.884	1.871
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**281870.**	**32641.**	**8260.7**	**14433.**
Stddev	2789.	109.	6.1	7.
%RSD	.98938	.33456	.07330	.04945
#1	280870.	32671.	8260.9	14442.
#2	279720.	32520.	8266.7	14430.
#3	285020.	32732.	8254.6	14428.

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 17:48:06 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	F **.0002**	**.0003**	**.0002**	**.0006**	F **.0014**	**.0002**	**-.0001**	**.0004**
Stddev	.0002	.0001	.0001	.0002	.0003	.0001	.0001	.0002	.0002
%RSD	224.7	41.21	22.72	148.0	52.61	5.558	47.67	223.2	58.39
#1	-.0002	.0001	.0003	.0004	.0004	.0014	.0001	-.0002	.0004
#2	-.0003	.0001	.0002	.0001	.0010	.0014	.0003	-.0001	.0002
#3	.0002	.0002	.0003	-.0001	.0004	.0013	.0002	.0001	.0006
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit		.0001				.0013			
Low Limit		-.0001				-.0013			

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0004**	**.0001**	**-.0009**	**-.0005**	**.0007**	**.0001**	**-.0079**	**.0155**
Stddev	.0003	.0001	.0012	.0009	.0005	.0020	.0005	.0058	.0016
%RSD	545.0	18.97	1771.	99.29	104.8	290.5	621.7	73.15	10.27
#1	.0002	.0003	.0012	-.0010	.0001	-.0003	.0006	-.0031	.0138
#2	-.0004	.0004	-.0012	.0000	-.0007	-.0007	-.0003	-.0064	.0157
#3	.0000	.0005	.0002	-.0018	-.0008	.0030	-.0000	-.0143	.0170
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**-.0065**	**.0169**	**.0151**	**.0026**	**.0004**	**.0009**	**.0002**	**.0000**
Stddev	.0011	.0079	.0178	.0057	.0004	.0001	.0007	.0001	.0000
%RSD	3456.	120.3	105.5	37.72	15.75	26.91	79.40	68.84	62.80
#1	.0007	.0018	-.0002	.0101	.0021	.0003	.0001	.0003	.0000
#2	-.0013	-.0139	.0155	.0139	.0027	.0005	.0013	.0003	.0001
#3	.0005	-.0076	.0353	.0213	.0029	.0003	.0012	.0000	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 17:48:06 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0005**	**.0002**	**.0020**	**-.0001**	**-.0006**	**-.0091**	**.0004**
Stddev	.0001	.0002	.0002	.0016	.0011	.0010	.0002	.0021
%RSD	73.12	47.01	65.57	77.72	1138.	166.7	2.725	531.9
#1	.0002	.0007	.0001	.0018	-.0005	-.0002	-.0092	.0018
#2	.0003	.0003	.0003	.0006	.0011	-.0017	-.0093	-.0020
#3	.0000	.0005	.0003	.0037	-.0009	.0001	-.0088	.0014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**288080.**	**33027.**	**8515.9**	**15442.**
Stddev	1554.	43.	20.3	32.
%RSD	.53943	.12920	.23806	.20946
#1	286320.	33008.	8537.9	15470.
#2	288630.	32996.	8497.9	15407.
#3	289280.	33075.	8512.0	15448.

Zoom In Zoom Out

Sample Name: jc99722-19 Acquired: 12/10/2019 17:53:16 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.075**	**.0094**	**.0013**	**.1508**	**.3492**	**.1843**	**6.034**	**.3052**
Stddev	.001	.0001	.0001	.0012	.0200	.0098	.060	.0014
%RSD	.1166	.7126	6.940	.8095	5.732	5.335	.9911	.4652
#1	1.074	.0094	.0013	.1506	.3390	.1792	6.037	.3043
#2	1.076	.0094	.0013	.1497	.3723	.1957	6.092	.3045
#3	1.074	.0093	.0012	.1521	.3363	.1781	5.973	.3069

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0026**	**.3728**	**.6416**	**.0170**	F **-.0024**	**.1470**	**.0055**	**.0002**
Stddev	.0034	.0213	.0035	.0010	.0010	.0014	.0011	.0024
%RSD	132.8	5.722	.5448	5.826	40.79	.9300	20.23	1057.
#1	.0043	.3617	.6391	.0164	-.0035	.1464	.0067	.0029
#2	-.0014	.3974	.6400	.0181	-.0016	.1485	.0045	-.0016
#3	.0048	.3593	.6456	.0163	-.0022	.1459	.0054	-.0006

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**186.0**	**15.48**	F **299.2**	**73.73**	**26.08**	**3.295**	**.2256**	**.0060**
Stddev	.3	.02	1.4	.30	.02	.009	.0006	.0002
%RSD	.1439	.1237	.4809	.4048	.0629	.2875	.2788	3.584
#1	186.3	15.50	297.7	73.42	26.09	3.304	.2249	.0059
#2	185.7	15.47	299.4	74.01	26.09	3.285	.2260	.0062
#3	186.1	15.48	300.5	73.75	26.06	3.297	.2259	.0058

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.466**	**.0145**	**.1138**	**3.484**	**.0021**	**.1120**	**.3554**	**-.0093**
Stddev	.016	.0003	.0002	.200	.0003	.0061	.0018	.0024
%RSD	.6410	2.149	.1712	5.732	14.23	5.444	.5051	26.27
#1	2.477	.0144	.1140	3.380	.0022	.1089	.3555	-.0098
#2	2.448	.0149	.1136	3.714	.0024	.1190	.3535	-.0066
#3	2.473	.0143	.1138	3.357	.0018	.1081	.3571	-.0114

Zoom In Zoom Out

Sample Name: jc99722-19 Acquired: 12/10/2019 17:53:16 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.3981**	**1.911**	**.3508**
Stddev	.0014	.006	.0201
%RSD	.3523	.3083	5.728
#1	.3981	1.906	.3408
#2	.3994	1.910	.3739
#3	.3966	1.918	.3377

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**283100.**	**34327.**	**8565.5**	**14612.**
Stddev	14506.	71.	19.3	33.
%RSD	5.1240	.20713	.22494	.22331
#1	289950.	34391.	8565.1	14617.
#2	266440.	34251.	8585.0	14642.
#3	292910.	34339.	8546.4	14577.

Zoom In Zoom Out

Sample Name: jc99722-20 Acquired: 12/10/2019 17:58:28 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.070**	**.0095**	**.0012**	**.1516**	**.3079**	**.1582**	**6.360**	**.3391**
Stddev	.002	.0000	.0001	.0005	.0025	.0015	.073	.0015
%RSD	.1912	.4657	12.06	.3572	.8061	.9332	1.150	.4283
#1	1.068	.0095	.0011	.1521	.3056	.1581	6.363	.3402
#2	1.072	.0096	.0012	.1515	.3076	.1567	6.285	.3397
#3	1.071	.0095	.0014	.1511	.3105	.1597	6.432	.3375

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0045**	**.3201**	**.7066**	**.0129**	F **-.0043**	**.1461**	**.0029**	**.0006**
Stddev	.0001	.0029	.0028	.0019	.0028	.0015	.0027	.0023
%RSD	1.946	.8982	.3923	15.05	64.73	1.012	92.64	362.8
#1	.0046	.3193	.7087	.0140	-.0052	.1470	.0059	.0030
#2	.0044	.3177	.7078	.0141	-.0065	.1470	.0005	.0004
#3	.0045	.3233	.7035	.0107	-.0012	.1444	.0025	-.0015

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**191.4**	**17.12**	F **310.4**	**85.77**	**28.76**	**2.976**	**.2414**	**.0059**
Stddev	.5	.06	.6	.20	.08	.014	.0008	.0003
%RSD	.2646	.3530	.2023	.2309	.2673	.4669	.3467	5.795
#1	190.8	17.07	311.1	85.55	28.67	2.961	.2422	.0056
#2	191.5	17.12	310.2	85.93	28.80	2.986	.2415	.0062
#3	191.8	17.19	309.9	85.84	28.80	2.982	.2406	.0058

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.444**	**.0164**	**.1246**	**3.055**	**.0023**	**.1073**	**.1597**	**-.0110**
Stddev	.027	.0001	.0003	.029	.0005	.0006	.0024	.0016
%RSD	1.087	.5844	.2653	.9460	20.97	.5478	1.482	14.17
#1	2.474	.0163	.1242	3.056	.0027	.1067	.1574	-.0125
#2	2.431	.0164	.1246	3.025	.0018	.1073	.1622	-.0109
#3	2.426	.0164	.1248	3.083	.0026	.1079	.1596	-.0094

Zoom In Zoom Out

Sample Name: jc99722-20 Acquired: 12/10/2019 17:58:28 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.4719**	**2.132**	**.3226**
Stddev	.0017	.005	.0028
%RSD	.3627	.2151	.8596
#1	.4738	2.136	.3217
#2	.4716	2.134	.3203
#3	.4704	2.127	.3257

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**294880.**	**34581.**	**8560.0**	**14556.**
Stddev	2583.	133.	19.6	28.
%RSD	.87609	.38504	.22935	.19435
#1	295200.	34673.	8545.5	14539.
#2	297290.	34642.	8552.3	14541.
#3	292150.	34428.	8582.3	14589.

Zoom In Zoom Out

Sample Name: jc99722-21 Acquired: 12/10/2019 18:03:39 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.288**	**.0098**	**.0013**	**.1549**	**.3322**	**.1587**	**7.131**	**.3338**
Stddev	.002	.0001	.0002	.0021	.0216	.0089	.582	.0039
%RSD	.1390	1.210	12.37	1.344	6.495	5.638	8.156	1.157
#1	1.287	.0099	.0013	.1527	.3461	.1649	7.481	.3299
#2	1.290	.0098	.0011	.1552	.3431	.1629	7.451	.3340
#3	1.289	.0097	.0014	.1568	.3073	.1485	6.459	.3376

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0068**	**.3640**	**.6922**	**.0168**	F **-.0035**	**.1486**	**.0064**	**-.0000**
Stddev	.0044	.0226	.0078	.0014	.0007	.0020	.0017	.0021
%RSD	65.37	6.218	1.128	8.299	21.04	1.327	26.02	9597.
#1	.0046	.3782	.6835	.0183	-.0044	.1463	.0078	-.0016
#2	.0038	.3759	.6945	.0155	-.0031	.1500	.0046	-.0009
#3	.0119	.3379	.6986	.0166	-.0031	.1495	.0069	.0024

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**198.7**	**17.08**	F **321.1**	**81.11**	**28.60**	**2.406**	**.2386**	**.0063**
Stddev	.3	.01	3.0	.25	.12	.011	.0025	.0003
%RSD	.1760	.0427	.9282	.3111	.4119	.4676	1.038	4.860
#1	198.5	17.07	321.3	80.88	28.51	2.403	.2358	.0066
#2	199.1	17.09	318.0	81.07	28.73	2.418	.2401	.0060
#3	198.5	17.08	324.0	81.38	28.55	2.396	.2400	.0064

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.338**	**.0156**	**.1239**	**3.494**	**.0033**	**.1136**	**.1961**	**-.0137**
Stddev	.024	.0006	.0003	.211	.0003	.0063	.0056	.0033
%RSD	1.032	3.694	.2070	6.039	10.22	5.585	2.845	24.26
#1	2.310	.0150	.1240	3.633	.0031	.1182	.1935	-.0117
#2	2.355	.0162	.1241	3.597	.0032	.1163	.1924	-.0118
#3	2.349	.0156	.1236	3.251	.0037	.1064	.2025	-.0175

Zoom In Zoom Out

Sample Name: jc99722-21 Acquired: 12/10/2019 18:03:39 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.4474**	**2.134**	**.3349**
Stddev	.0003	.025	.0186
%RSD	.0767	1.156	5.553
#1	.4472	2.106	.3469
#2	.4472	2.140	.3442
#3	.4478	2.154	.3135

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**309980.**	**34420.**	**8721.5**	**14775.**
Stddev	26730.	86.	70.5	116.
%RSD	8.6232	.24853	.80860	.78354
#1	293450.	34519.	8798.8	14902.
#2	295670.	34368.	8705.0	14748.
#3	340810.	34373.	8660.7	14675.

Zoom In Zoom Out

Sample Name: jc99722-22 Acquired: 12/10/2019 18:08:49 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.132**	**.0105**	**.0013**	**.1546**	**.4032**	**.1678**	**7.215**	**.3477**
Stddev	.003	.0001	.0002	.0003	.0188	.0066	.343	.0018
%RSD	.2373	.6501	13.61	.1761	4.671	3.935	4.749	.5048
#1	1.129	.0106	.0014	.1549	.4129	.1718	7.412	.3497
#2	1.132	.0105	.0012	.1543	.4153	.1713	7.415	.3468
#3	1.134	.0104	.0015	.1547	.3815	.1601	6.820	.3466

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0039**	**.3593**	**.7050**	**.0166**	F **-.0038**	**.1461**	**.0038**	**.0012**
Stddev	.0037	.0166	.0021	.0004	.0006	.0016	.0011	.0008
%RSD	96.05	4.616	.2996	2.112	14.54	1.080	28.37	70.87
#1	.0014	.3685	.7074	.0162	-.0045	.1478	.0027	.0006
#2	.0021	.3692	.7039	.0167	-.0037	.1460	.0038	.0021
#3	.0082	.3401	.7037	.0169	-.0034	.1447	.0048	.0008

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**199.9**	**16.03**	F **328.8**	**85.32**	**29.51**	**3.458**	**.2451**	**.0060**
Stddev	.3	.02	3.4	.24	.07	.010	.0010	.0000
%RSD	.1290	.0965	1.048	.2780	.2523	.2992	.4194	.0313
#1	199.9	16.01	325.1	85.07	29.44	3.453	.2463	.0060
#2	199.7	16.03	329.4	85.54	29.52	3.452	.2443	.0060
#3	200.2	16.04	332.0	85.35	29.59	3.470	.2448	.0060

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.265**	**.0159**	**.1202**	**3.161**	**.0026**	**.1145**	**.1715**	**-.0114**
Stddev	.029	.0002	.0002	.143	.0010	.0047	.0027	.0026
%RSD	1.287	1.496	.2064	4.515	36.35	4.127	1.574	22.61
#1	2.290	.0161	.1200	3.240	.0037	.1175	.1697	-.0099
#2	2.233	.0157	.1202	3.246	.0018	.1170	.1701	-.0099
#3	2.273	.0158	.1205	2.996	.0024	.1091	.1746	-.0143

Zoom In Zoom Out

Sample Name: jc99722-22 Acquired: 12/10/2019 18:08:49 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.4745**	**2.491**	**.3148**
Stddev	.0026	.008	.0146
%RSD	.5388	.3191	4.642
#1	.4724	2.500	.3239
#2	.4738	2.486	.3226
#3	.4774	2.486	.2980

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**298350.**	**34172.**	**8586.4**	**14516.**
Stddev	12387.	75.	13.8	31.
%RSD	4.1519	.21860	.16062	.21345
#1	290710.	34145.	8570.5	14481.
#2	291690.	34114.	8593.3	14527.
#3	312640.	34256.	8595.3	14540.

Zoom In Zoom Out

Sample Name: jc99722-23 Acquired: 12/10/2019 18:14:00 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.146**	**.0104**	**.0014**	**.1803**	**.4812**	**.2125**	**6.574**	**.3460**
Stddev	.005	.0001	.0002	.0023	.0174	.0065	.205	.0038
%RSD	.4265	1.250	12.21	1.269	3.614	3.068	3.122	1.088
#1	1.150	.0105	.0012	.1804	.4728	.2095	6.472	.3448
#2	1.146	.0103	.0016	.1826	.4696	.2081	6.439	.3502
#3	1.141	.0105	.0013	.1780	.5012	.2200	6.810	.3429

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0014**	**.5620**	**.7403**	**.0164**	F **-.0054**	**.1533**	**.0030**	**-.0010**
Stddev	.0028	.0210	.0068	.0013	.0014	.0013	.0023	.0019
%RSD	203.3	3.739	.9213	7.859	25.12	.8401	74.92	187.0
#1	.0037	.5526	.7384	.0155	-.0054	.1526	.0045	-.0021
#2	.0021	.5473	.7479	.0157	-.0068	.1548	.0004	.0012
#3	-.0017	.5861	.7346	.0178	-.0041	.1525	.0042	-.0021

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**195.6**	**24.86**	F **368.4**	**87.19**	**30.56**	**2.718**	**.3119**	**.0070**
Stddev	.6	.09	5.1	.27	.07	.006	.0044	.0004
%RSD	.3264	.3686	1.371	.3128	.2347	.2289	1.413	6.072
#1	196.3	24.96	372.1	87.50	30.62	2.723	.3118	.0068
#2	195.1	24.78	362.6	87.08	30.56	2.720	.3163	.0074
#3	195.2	24.83	370.4	86.99	30.48	2.711	.3075	.0066

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.825**	**.0161**	**.1392**	**3.822**	**.0029**	**.1239**	**.3002**	**-.0098**
Stddev	.030	.0005	.0006	.138	.0006	.0043	.0051	.0032
%RSD	1.073	3.162	.4119	3.620	22.38	3.486	1.691	32.97
#1	2.812	.0156	.1398	3.760	.0023	.1221	.3035	-.0135
#2	2.860	.0166	.1389	3.725	.0036	.1208	.3027	-.0086
#3	2.804	.0161	.1387	3.980	.0027	.1288	.2943	-.0074

Zoom In Zoom Out

Sample Name: jc99722-23 Acquired: 12/10/2019 18:14:00 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.4513**	**3.381**	**.3222**
Stddev	.0015	.026	.0117
%RSD	.3338	.7571	3.643
#1	.4512	3.381	.3168
#2	.4529	3.406	.3142
#3	.4499	3.355	.3357

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**286130.**	**34126.**	**8484.7**	**14566.**
Stddev	8745.	127.	74.5	115.
%RSD	3.0563	.37344	.87849	.79127
#1	290830.	33985.	8483.0	14578.
#2	291520.	34162.	8411.1	14446.
#3	276040.	34232.	8560.1	14675.

Zoom In Zoom Out

Sample Name: jc99722-24 Acquired: 12/10/2019 18:19:12 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.567**	**.0108**	**.0016**	**.1576**	**.3311**	**.2080**	F **8.367**	**.3643**	**.0033**
Stddev	.005	.0000	.0001	.0017	.0022	.0007	.041	.0036	.0010
%RSD	.2963	.2654	8.062	1.054	.6689	.3180	.4931	.9998	30.59
#1	1.565	.0109	.0017	.1564	.3322	.2086	8.378	.3608	.0029
#2	1.572	.0109	.0015	.1571	.3285	.2073	8.401	.3639	.0045
#3	1.564	.0108	.0017	.1595	.3325	.2079	8.321	.3681	.0026

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3649**	**.7839**	**.0155**	**-.0020**	**.1666**	**.0030**	**.0001**	**206.1**	**26.89**
Stddev	.0023	.0088	.0012	.0011	.0014	.0018	.0004	.6	.06
%RSD	.6436	1.124	7.906	55.96	.8287	60.11	672.4	.3035	.2400
#1	.3667	.7757	.0166	-.0011	.1651	.0046	.0001	206.2	26.91
#2	.3622	.7828	.0142	-.0016	.1679	.0031	-.0004	206.7	26.94
#3	.3657	.7932	.0157	-.0032	.1668	.0011	.0005	205.5	26.82

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **337.7**	**100.2**	**37.01**	**1.822**	**.2956**	**.0070**	**2.641**	**.0170**	**.1361**
Stddev	2.6	.3	.07	.005	.0033	.0003	.039	.0007	.0005
%RSD	.7679	.3118	.1943	.2887	1.110	3.977	1.486	4.213	.3432
#1	337.8	99.89	37.04	1.820	.2929	.0067	2.595	.0167	.1360
#2	340.3	100.5	37.06	1.828	.2947	.0073	2.660	.0165	.1367
#3	335.1	100.1	36.93	1.818	.2993	.0070	2.666	.0178	.1357

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.305**	**.0028**	**.1157**	**.2478**	**-.0104**	**.5379**	**4.564**	**.3002**
Stddev	.018	.0009	.0007	.0054	.0003	.0011	.055	.0008
%RSD	.5589	30.99	.6338	2.161	2.730	.2128	1.197	.2724
#1	3.317	.0037	.1162	.2434	-.0107	.5365	4.516	.2997
#2	3.284	.0026	.1149	.2463	-.0104	.5386	4.552	.2997
#3	3.314	.0020	.1161	.2538	-.0101	.5385	4.623	.3011

Zoom In Zoom Out

Sample Name: jc99722-24 Acquired: 12/10/2019 18:19:12 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**291990.**	**33880.**	**8508.6**	**14444.**
Stddev	1183.	32.	89.4	131.
%RSD	.40501	.09449	1.0510	.90943
#1	290990.	33871.	8593.1	14566.
#2	291700.	33853.	8517.8	14460.
#3	293300.	33915.	8414.9	14305.

Zoom In Zoom Out

Sample Name: jc99722-25 Acquired: 12/10/2019 18:24:25 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.522**	**.0095**	**.0010**	**.1903**	**.4129**	**.2136**	F **8.593**	**.3372**
Stddev	.016	.0001	.0001	.0041	.0063	.0028	.127	.0072
%RSD	1.077	.8582	9.954	2.143	1.520	1.330	1.476	2.137
#1	1.522	.0095	.0010	.1905	.4056	.2104	8.453	.3368
#2	1.538	.0096	.0009	.1861	.4160	.2158	8.628	.3302
#3	1.506	.0095	.0010	.1943	.4169	.2145	8.699	.3446

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0026**	**.4725**	**.6371**	**.0259**	F **-.0020**	**.1477**	F **-.0151**	**.0209**
Stddev	.0013	.0070	.0121	.0005	.0012	.0037	.0015	.0013
%RSD	49.08	1.490	1.899	2.019	59.88	2.525	9.666	6.403
#1	.0035	.4644	.6377	.0256	-.0026	.1505	-.0163	.0194
#2	.0032	.4769	.6247	.0257	-.0006	.1435	-.0135	.0217
#3	.0011	.4761	.6489	.0265	-.0028	.1492	-.0155	.0217

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**205.1**	**20.65**	F **335.3**	**71.04**	**25.02**	**2.714**	**.2420**	**.0062**
Stddev	2.4	.20	3.6	.75	.23	.025	.0057	.0002
%RSD	1.155	.9833	1.068	1.056	.9134	.9053	2.345	2.907
#1	205.3	20.67	334.4	71.05	25.07	2.707	.2422	.0064
#2	207.3	20.85	339.3	71.79	25.23	2.741	.2362	.0061
#3	202.6	20.44	332.3	70.29	24.78	2.694	.2475	.0062

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.852**	**.0126**	**.1262**	**4.477**	**.0028**	**.1305**	**.3037**	**-.0096**
Stddev	.076	.0007	.0014	.064	.0006	.0016	.0032	.0018
%RSD	2.661	5.481	1.104	1.418	20.87	1.208	1.039	18.90
#1	2.867	.0119	.1264	4.403	.0021	.1287	.3039	-.0116
#2	2.770	.0126	.1275	4.517	.0033	.1316	.3004	-.0081
#3	2.919	.0133	.1248	4.509	.0030	.1313	.3067	-.0091

Zoom In Zoom Out

Sample Name: jc99722-25 Acquired: 12/10/2019 18:24:25 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.3862**	**2.451**	**.4047**
Stddev	.0049	.044	.0064
%RSD	1.260	1.802	1.578
#1	.3883	2.461	.3976
#2	.3897	2.403	.4101
#3	.3807	2.489	.4064

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**295110.**	**34114.**	**8757.5**	**14814.**
Stddev	3982.	252.	141.2	227.
%RSD	1.3493	.73962	1.6118	1.5325
#1	299570.	34016.	8743.8	14805.
#2	293820.	33926.	8905.0	15046.
#3	291930.	34401.	8623.7	14592.

Zoom In Zoom Out

Sample Name: jc99722-27 Acquired: 12/10/2019 18:29:36 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.380**	**.0102**	**.0014**	**.1655**	**.3288**	**.1751**	**6.958**	**.3528**
Stddev	.011	.0001	.0000	.0017	.0276	.0144	.585	.0023
%RSD	.7669	.7751	3.397	1.050	8.382	8.230	8.408	.6549
#1	1.392	.0102	.0014	.1665	.2994	.1598	6.356	.3535
#2	1.376	.0102	.0013	.1664	.3329	.1772	6.994	.3546
#3	1.373	.0103	.0014	.1635	.3540	.1884	7.525	.3502

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0073**	**.3601**	**.7425**	**.0172**	F **-.0048**	**.1693**	**.0023**	**.0025**
Stddev	.0052	.0305	.0038	.0018	.0016	.0020	.0038	.0013
%RSD	71.71	8.482	.5155	10.48	33.68	1.162	162.3	50.40
#1	.0130	.3273	.7452	.0179	-.0036	.1699	.0025	.0037
#2	.0061	.3651	.7442	.0152	-.0066	.1710	-.0015	.0012
#3	.0027	.3878	.7381	.0186	-.0041	.1671	.0061	.0026

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**207.3**	**19.50**	F **335.4**	**86.43**	**29.51**	**2.924**	**.2396**	**.0067**
Stddev	1.7	.15	2.3	.56	.20	.024	.0015	.0002
%RSD	.7971	.7669	.6976	.6493	.6665	.8027	.6113	3.062
#1	209.2	19.68	337.1	87.06	29.74	2.951	.2399	.0069
#2	206.6	19.40	332.7	85.97	29.40	2.909	.2408	.0065
#3	206.1	19.43	336.4	86.28	29.39	2.912	.2380	.0068

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.950**	**.0176**	**.1303**	**3.340**	**.0039**	**.1140**	**.2199**	**-.0149**
Stddev	.041	.0007	.0008	.282	.0008	.0087	.0054	.0028
%RSD	2.125	3.720	.5778	8.457	21.47	7.647	2.449	19.04
#1	1.992	.0175	.1312	3.039	.0047	.1048	.2251	-.0182
#2	1.949	.0183	.1298	3.384	.0040	.1151	.2202	-.0139
#3	1.909	.0170	.1300	3.599	.0030	.1222	.2143	-.0128

Zoom In Zoom Out

Sample Name: jc99722-27 Acquired: 12/10/2019 18:29:36 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.4680**	**2.552**	**.3201**
Stddev	.0042	.019	.0261
%RSD	.8869	.7450	8.143
#1	.4728	2.565	.2921
#2	.4655	2.561	.3244
#3	.4657	2.531	.3437

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**313680.**	**33749.**	**8477.1**	**14342.**
Stddev	26955.	167.	19.4	41.
%RSD	8.5933	.49423	.22877	.28708
#1	342970.	33559.	8469.3	14329.
#2	308150.	33872.	8462.7	14308.
#3	289910.	33816.	8499.1	14388.

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 18:34:49 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.922**	**1.926**	**2.005**	**1.977**	**1.954**	**1.919**	**1.975**	**1.963**	**.2350**
Stddev	.031	.033	.004	.008	.012	.014	.016	.008	.0016
%RSD	1.628	1.687	.2163	.4258	.6213	.7266	.8239	.4131	.6838
#1	1.899	1.905	2.003	1.971	1.940	1.902	1.959	1.956	.2332
#2	1.958	1.964	2.003	1.974	1.961	1.926	1.992	1.961	.2358
#3	1.909	1.910	2.010	1.987	1.960	1.927	1.975	1.972	.2362
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.919**	**2.035**	**2.001**	**1.997**	**1.946**	**1.993**	**1.941**	**39.58**	**40.05**
Stddev	.014	.008	.005	.005	.007	.006	.006	.61	.59
%RSD	.7282	.3835	.2712	.2326	.3850	.3283	.2886	1.552	1.462
#1	1.903	2.030	1.997	2.002	1.941	1.988	1.942	39.16	39.70
#2	1.929	2.030	1.998	1.993	1.944	1.990	1.935	40.29	40.72
#3	1.924	2.044	2.007	1.997	1.955	2.000	1.947	39.29	39.72
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.25**	**39.15**	**39.15**	**38.80**	**1.941**	**2.024**	**4.830**	**2.080**	**1.972**
Stddev	.61	.65	.45	.57	.004	.006	.013	.008	.031
%RSD	1.550	1.652	1.155	1.461	.1926	.3183	.2777	.4047	1.561
#1	38.87	38.88	38.84	38.45	1.939	2.023	4.826	2.079	1.950
#2	39.96	39.89	39.67	39.45	1.939	2.018	4.820	2.072	2.007
#3	38.94	38.68	38.94	38.49	1.945	2.031	4.845	2.089	1.959
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 18:34:49 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.879**	**1.979**	**1.895**	**1.922**	**1.957**	**1.890**	**1.951**	**1.892**
Stddev	.013	.007	.012	.007	.004	.033	.004	.014
%RSD	.7053	.3625	.6487	.3873	.1776	1.734	.2218	.7549
#1	1.864	1.975	1.880	1.922	1.954	1.869	1.951	1.876
#2	1.889	1.974	1.902	1.915	1.957	1.928	1.948	1.905
#3	1.884	1.987	1.901	1.929	1.961	1.874	1.956	1.895
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**280470.**	**32550.**	**8189.2**	**14295.**
Stddev	2328.	297.	18.9	33.
%RSD	.83019	.91240	.23061	.22824
#1	283030.	32627.	8198.1	14319.
#2	278480.	32222.	8201.9	14307.
#3	279900.	32802.	8167.5	14258.

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 18:39:48 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0001**	**.0001**	**.0000**	**.0004**	F **.0014**	**.0001**	**.0001**	**.0005**
Stddev	.0001	.0000	.0001	.0001	.0004	.0001	.0000	.0002	.0001
%RSD	44.76	13.11	58.56	262.6	97.13	6.235	52.66	240.1	24.82
#1	-.0002	.0001	.0001	.0001	.0003	.0014	.0000	.0003	.0006
#2	-.0002	.0001	.0001	-.0001	.0001	.0015	.0001	-.0000	.0004
#3	-.0001	.0001	.0000	.0001	.0008	.0013	.0001	-.0001	.0005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit						.0013			
Low Limit						-.0013			

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0004**	**-.0009**	**-.0011**	**.0001**	**-.0008**	**-.0002**	**-.0124**	**.0165**
Stddev	.0002	.0000	.0005	.0019	.0009	.0030	.0010	.0015	.0019
%RSD	58.30	9.872	54.22	169.7	960.9	381.3	598.6	11.90	11.63
#1	-.0006	.0003	-.0014	.0005	.0001	-.0041	-.0012	-.0121	.0168
#2	-.0002	.0004	-.0005	-.0032	.0010	.0015	.0001	-.0111	.0183
#3	-.0003	.0004	-.0007	-.0006	-.0008	.0003	.0007	-.0140	.0145
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0047**	**.0202**	**.0102**	**.0024**	**.0002**	**.0009**	**.0003**	**.0000**
Stddev	.0013	.0153	.0210	.0038	.0003	.0001	.0008	.0003	.0000
%RSD	1248.	324.8	103.7	36.78	12.14	37.11	85.14	84.76	66.80
#1	.0014	-.0187	.0179	.0143	.0027	.0001	.0000	.0004	.0000
#2	.0002	.0116	.0423	.0095	.0024	.0003	.0013	.0005	.0000
#3	-.0012	-.0071	.0005	.0069	.0021	.0002	.0014	.0000	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 18:39:48 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0016**	**.0002**	**-.0022**	**-.0002**	**.0009**	**-.0075**	**.0012**
Stddev	.0001	.0005	.0001	.0006	.0010	.0014	.0019	.0012
%RSD	116.4	30.14	42.82	26.72	502.2	148.9	24.92	105.7
#1	-.0000	.0021	.0001	-.0026	.0007	.0010	-.0091	.0025
#2	.0001	.0015	.0001	-.0015	-.0001	-.0005	-.0080	.0001
#3	.0001	.0012	.0003	-.0026	-.0013	.0023	-.0054	.0008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**281910.**	**32379.**	**8550.2**	**15428.**
Stddev	7150.	52.	146.6	253.
%RSD	2.5364	.16058	1.7151	1.6430
#1	288800.	32343.	8404.9	15184.
#2	274530.	32354.	8698.1	15690.
#3	282410.	32438.	8547.5	15411.

Zoom In Zoom Out

Sample Name: jc99722-28 Acquired: 12/10/2019 18:44:57 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.519**	**.0104**	**.0012**	**.1459**	**.3173**	**.1841**	**6.869**	**.3411**
Stddev	.005	.0000	.0004	.0007	.0013	.0008	.027	.0018
%RSD	.3548	.1700	31.94	.4931	.4138	.4077	.3964	.5168
#1	1.525	.0104	.0011	.1466	.3170	.1840	6.891	.3391
#2	1.517	.0104	.0009	.1452	.3188	.1849	6.877	.3421
#3	1.514	.0104	.0017	.1460	.3162	.1834	6.839	.3422

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0039**	**.3560**	**.7771**	**.0208**	F **-.0042**	**.1545**	F **-.0135**	**.0210**
Stddev	.0003	.0016	.0009	.0012	.0003	.0028	.0017	.0006
%RSD	7.034	.4358	.1104	5.720	8.290	1.783	12.54	2.798
#1	.0042	.3562	.7762	.0211	-.0038	.1516	-.0143	.0216
#2	.0037	.3574	.7779	.0218	-.0044	.1547	-.0116	.0206
#3	.0037	.3543	.7771	.0195	-.0044	.1571	-.0147	.0207

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**202.2**	**45.35**	F **326.1**	**104.2**	**35.29**	**1.957**	**.2665**	**.0066**
Stddev	1.1	.24	1.2	.2	.17	.013	.0009	.0003
%RSD	.5588	.5316	.3532	.2174	.4905	.6841	.3262	4.168
#1	203.3	45.58	326.5	104.5	35.43	1.964	.2661	.0068
#2	202.2	45.37	327.1	104.2	35.35	1.965	.2675	.0063
#3	201.1	45.10	324.9	104.0	35.10	1.942	.2660	.0067

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.526**	**.0176**	**.1608**	**2.907**	**.0025**	**.1044**	**.2841**	**-.0118**
Stddev	.007	.0006	.0008	.015	.0008	.0004	.0029	.0015
%RSD	.2917	3.641	.5041	.5027	33.34	.4306	1.007	12.46
#1	2.533	.0178	.1615	2.909	.0015	.1043	.2828	-.0111
#2	2.519	.0169	.1608	2.921	.0030	.1049	.2874	-.0108
#3	2.527	.0182	.1599	2.892	.0028	.1041	.2821	-.0135

Zoom In Zoom Out

Sample Name: jc99722-28 Acquired: 12/10/2019 18:44:57 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.5523**	**4.386**	**.2775**
Stddev	.0021	.011	.0013
%RSD	.3760	.2423	.4667
#1	.5541	4.378	.2761
#2	.5527	4.398	.2778
#3	.5500	4.381	.2787

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**287610.**	**33215.**	**8423.7**	**14372.**
Stddev	975.	188.	23.2	33.
%RSD	.33905	.56564	.27572	.22943
#1	287470.	33012.	8450.1	14408.
#2	286720.	33249.	8406.3	14344.
#3	288650.	33383.	8414.8	14363.

Zoom In Zoom Out

Sample Name: jc99722-30 Acquired: 12/10/2019 18:50:09 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.410**	**.0086**	**.0015**	**.1362**	**.2588**	**.1257**	F **9.703**	**.3179**
Stddev	.003	.0000	.0003	.0012	.0014	.0005	.034	.0030
%RSD	.2025	.3854	17.54	.8803	.5275	.4026	.3548	.9495
#1	1.411	.0085	.0017	.1376	.2587	.1252	9.665	.3213
#2	1.412	.0086	.0012	.1359	.2574	.1258	9.714	.3163
#3	1.407	.0086	.0014	.1352	.2602	.1262	9.731	.3160

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0048**	**.2674**	**.6911**	**.0080**	F **-.0037**	**.1391**	**.0056**	**.0019**
Stddev	.0007	.0008	.0066	.0017	.0006	.0014	.0020	.0005
%RSD	13.69	.3088	.9515	21.72	15.69	1.004	35.23	23.63
#1	.0047	.2669	.6982	.0064	-.0044	.1407	.0038	.0017
#2	.0054	.2669	.6900	.0099	-.0035	.1382	.0052	.0016
#3	.0041	.2683	.6852	.0078	-.0033	.1384	.0077	.0024

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**174.0**	**14.40**	F **281.8**	**73.90**	**25.26**	**2.174**	**.1934**	**.0055**
Stddev	.6	.06	2.1	.16	.07	.017	.0022	.0002
%RSD	.3376	.4331	.7397	.2164	.2904	.7890	1.158	4.021
#1	173.7	14.37	280.8	73.88	25.22	2.164	.1960	.0054
#2	174.6	14.47	284.1	73.75	25.34	2.193	.1922	.0058
#3	173.5	14.35	280.3	74.06	25.21	2.163	.1921	.0054

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.930**	**.0176**	**.1268**	**2.572**	**.0032**	**.1011**	**.1830**	**-.0121**
Stddev	.028	.0008	.0004	.014	.0013	.0009	.0039	.0009
%RSD	1.435	4.483	.3511	.5387	42.10	.8847	2.110	7.281
#1	1.962	.0184	.1266	2.569	.0037	.1006	.1875	-.0120
#2	1.913	.0168	.1273	2.560	.0041	.1006	.1810	-.0131
#3	1.915	.0177	.1265	2.587	.0016	.1021	.1806	-.0113

Zoom In Zoom Out

Sample Name: jc99722-30 Acquired: 12/10/2019 18:50:09 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.4036**	**1.226**	**.2963**
Stddev	.0025	.014	.0009
%RSD	.6091	1.099	.3140
#1	.4051	1.240	.2973
#2	.4049	1.226	.2955
#3	.4007	1.213	.2960

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**292860.**	**33841.**	**8567.1**	**14625.**
Stddev	1509.	141.	84.7	126.
%RSD	.51537	.41621	.98817	.86078
#1	294090.	33986.	8472.8	14483.
#2	293320.	33705.	8591.8	14667.
#3	291180.	33833.	8636.7	14723.

Zoom In Zoom Out

Sample Name: jc99722-31 Acquired: 12/10/2019 18:55:21 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.029**	**.0104**	**.0013**	**.1530**	**.2848**	**.1341**	F **11.58**	**.3434**
Stddev	.009	.0001	.0001	.0008	.0016	.0008	.02	.0022
%RSD	.4334	.4973	6.747	.5003	.5694	.5601	.1391	.6546
#1	2.036	.0105	.0014	.1530	.2841	.1334	11.59	.3445
#2	2.020	.0104	.0012	.1537	.2867	.1349	11.59	.3449
#3	2.032	.0104	.0013	.1522	.2838	.1340	11.56	.3408

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0044**	**.3131**	**.7212**	**.0109**	F **-.0031**	**.1587**	F **-.0148**	**.0201**
Stddev	.0008	.0016	.0044	.0006	.0006	.0012	.0013	.0012
%RSD	17.24	.5026	.6157	5.096	18.22	.7294	9.054	6.060
#1	.0047	.3124	.7210	.0116	-.0037	.1577	-.0163	.0192
#2	.0036	.3149	.7258	.0107	-.0030	.1600	-.0144	.0196
#3	.0050	.3120	.7169	.0106	-.0026	.1585	-.0138	.0215

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**200.1**	**17.17**	F **319.3**	**77.78**	**30.94**	**2.481**	**.3365**	**.0064**
Stddev	1.0	.11	2.0	.24	.12	.015	.0024	.0003
%RSD	.5210	.6514	.6145	.3126	.3810	.6050	.7238	5.318
#1	200.5	17.20	317.4	77.95	30.98	2.497	.3372	.0064
#2	198.9	17.04	319.1	77.50	30.80	2.467	.3386	.0060
#3	200.8	17.26	321.3	77.88	31.03	2.478	.3338	.0067

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.273**	**.0176**	**.1366**	**2.386**	**.0039**	**.1064**	**.1211**	**-.0125**
Stddev	.018	.0004	.0007	.018	.0005	.0007	.0018	.0014
%RSD	.7781	2.150	.5420	.7690	11.63	.6259	1.520	11.42
#1	2.281	.0178	.1372	2.377	.0040	.1061	.1190	-.0110
#2	2.284	.0179	.1358	2.407	.0035	.1072	.1225	-.0138
#3	2.252	.0172	.1368	2.374	.0044	.1060	.1218	-.0126

Zoom In Zoom Out

Sample Name: jc99722-31 Acquired: 12/10/2019 18:55:21 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.4414**	**1.209**	**.3173**
Stddev	.0017	.006	.0043
%RSD	.3856	.5050	1.342
#1	.4431	1.207	.3154
#2	.4397	1.216	.3221
#3	.4414	1.204	.3143

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**296010.**	**34485.**	**8601.3**	**14569.**
Stddev	1432.	183.	38.7	65.
%RSD	.48383	.53017	.45044	.44721
#1	297660.	34486.	8605.1	14568.
#2	295240.	34667.	8560.8	14504.
#3	295130.	34301.	8638.0	14635.

Zoom In Zoom Out

Sample Name: jc99722-32 Acquired: 12/10/2019 19:00:32 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.278**	**.0102**	**.0012**	**.1659**	**.3549**	**.1542**	**6.208**	**.3752**
Stddev	.005	.0000	.0001	.0007	.0011	.0007	.036	.0017
%RSD	.3607	.3211	5.082	.4503	.3110	.4473	.5759	.4598
#1	1.278	.0102	.0013	.1651	.3547	.1546	6.192	.3733
#2	1.283	.0102	.0012	.1661	.3538	.1534	6.184	.3753
#3	1.274	.0101	.0011	.1666	.3560	.1545	6.249	.3768

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0038**	**.3538**	**.7399**	**.0125**	F **-.0028**	**.1564**	F **-.0151**	**.0212**
Stddev	.0005	.0019	.0021	.0001	.0003	.0015	.0025	.0016
%RSD	13.97	.5428	.2900	1.166	11.33	.9711	16.54	7.598
#1	.0036	.3542	.7381	.0124	-.0025	.1562	-.0139	.0217
#2	.0043	.3517	.7395	.0126	-.0027	.1550	-.0134	.0194
#3	.0033	.3555	.7423	.0123	-.0031	.1580	-.0180	.0225

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**209.8**	**14.12**	F **347.9**	**88.29**	**26.64**	**4.407**	**.2029**	**.0067**
Stddev	.9	.06	1.4	.33	.09	.020	.0015	.0002
%RSD	.4417	.3910	.3879	.3695	.3297	.4535	.7618	3.080
#1	209.6	14.11	349.2	88.53	26.60	4.399	.2036	.0069
#2	210.8	14.18	348.0	88.41	26.74	4.430	.2011	.0065
#3	209.0	14.07	346.5	87.92	26.58	4.393	.2039	.0067

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.939**	**.0185**	**.1345**	**2.728**	**.0018**	**.1226**	**.1028**	**-.0139**
Stddev	.008	.0006	.0006	.014	.0012	.0006	.0031	.0006
%RSD	.4302	3.344	.4147	.5133	66.65	.5147	2.999	4.250
#1	1.933	.0185	.1345	2.735	.0022	.1221	.0993	-.0142
#2	1.936	.0192	.1351	2.712	.0005	.1233	.1041	-.0142
#3	1.949	.0179	.1340	2.736	.0028	.1224	.1051	-.0132

Zoom In Zoom Out

Sample Name: jc99722-32 Acquired: 12/10/2019 19:00:32 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**.4808**	**1.260**	**.3332**
Stddev	.0013	.005	.0040
%RSD	.2804	.3819	1.193
#1	.4814	1.255	.3367
#2	.4818	1.261	.3289
#3	.4793	1.264	.3341

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**295010.**	**34287.**	**8586.9**	**14530.**
Stddev	1213.	141.	18.0	40.
%RSD	.41107	.41048	.20931	.27518
#1	294770.	34187.	8599.8	14568.
#2	296320.	34225.	8594.5	14532.
#3	293930.	34448.	8566.4	14489.

Zoom In Zoom Out

Sample Name: CCV Acquired: 12/10/2019 19:05:44 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.960**	**1.959**	**1.985**	**1.963**	**1.953**	**1.934**	**1.990**	**1.939**	**.2358**
Stddev	.003	.003	.003	.000	.018	.017	.014	.001	.0019
%RSD	.1521	.1677	.1674	.0207	.9067	.8852	.6973	.0605	.7982
#1	1.961	1.961	1.988	1.963	1.935	1.918	1.981	1.941	.2340
#2	1.963	1.961	1.983	1.963	1.955	1.931	1.982	1.939	.2357
#3	1.957	1.955	1.983	1.964	1.970	1.952	2.006	1.939	.2378
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.922**	**2.020**	**2.001**	**1.977**	**1.922**	**1.995**	**1.915**	**40.23**	**40.62**
Stddev	.017	.001	.002	.004	.001	.003	.005	.11	.13
%RSD	.9062	.0600	.1050	.1765	.0750	.1409	.2627	.2688	.3261
#1	1.905	2.019	2.004	1.973	1.923	1.998	1.920	40.27	40.72
#2	1.921	2.019	1.999	1.979	1.920	1.992	1.910	40.31	40.68
#3	1.940	2.021	2.001	1.980	1.922	1.994	1.915	40.11	40.47
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**39.80**	**39.94**	**39.81**	**39.28**	**1.918**	**2.014**	**4.769**	**2.074**	**2.011**
Stddev	.10	.12	.09	.07	.004	.002	.012	.001	.004
%RSD	.2410	.3064	.2137	.1822	.2238	.0829	.2599	.0499	.2022
#1	39.86	40.08	39.87	39.35	1.922	2.016	4.780	2.073	2.013
#2	39.85	39.89	39.84	39.29	1.913	2.013	4.755	2.073	2.015
#3	39.69	39.85	39.71	39.21	1.918	2.013	4.772	2.075	2.007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CCV Acquired: 12/10/2019 19:05:44 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.869**	**1.967**	**1.886**	**1.909**	**1.934**	**1.930**	**1.922**	**1.899**
Stddev	.017	.004	.017	.002	.005	.002	.005	.016
%RSD	.8925	.1787	.9155	.1146	.2841	.0829	.2375	.8305
#1	1.851	1.970	1.868	1.907	1.940	1.929	1.927	1.884
#2	1.870	1.963	1.886	1.911	1.929	1.932	1.921	1.896
#3	1.885	1.968	1.903	1.908	1.933	1.929	1.918	1.915
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**279490.**	**32375.**	**8261.9**	**14432.**
Stddev	2344.	120.	6.7	14.
%RSD	.83877	.36936	.08129	.09819
#1	281520.	32287.	8255.9	14439.
#2	280010.	32326.	8260.7	14415.
#3	276920.	32511.	8269.1	14441.

Zoom In Zoom Out

Sample Name: CCB Acquired: 12/10/2019 19:10:43 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0001**	**.0002**	**.0001**	**.0003**	**.0011**	**.0000**	**.0000**	**.0007**
Stddev	.0000	.0000	.0001	.0002	.0002	.0002	.0000	.0003	.0001
%RSD	14.88	28.95	66.95	292.9	72.55	21.94	77.88	7520.	17.42
#1	-.0002	.0001	.0004	.0001	.0002	.0014	.0000	.0000	.0008
#2	-.0002	.0002	.0001	.0002	.0002	.0010	.0000	-.0004	.0008
#3	-.0002	.0001	.0001	-.0001	.0006	.0010	.0000	.0003	.0006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0003**	**-.0005**	**-.0010**	**-.0003**	**-.0000**	**-.0008**	**-.0063**	**.0183**
Stddev	.0003	.0001	.0005	.0004	.0004	.0009	.0005	.0061	.0036
%RSD	109.3	15.78	107.0	38.01	105.5	2947.	55.52	97.57	19.58
#1	-.0001	.0003	.0001	-.0006	-.0007	-.0010	-.0013	-.0081	.0200
#2	-.0006	.0003	-.0010	-.0010	-.0001	.0001	-.0007	.0006	.0142
#3	-.0001	.0004	-.0006	-.0014	-.0001	.0008	-.0004	-.0112	.0207
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**-.0129**	**.0351**	**.0145**	**.0027**	**.0001**	**.0005**	**.0005**	**-.0000**
Stddev	.0013	.0091	.0103	.0038	.0005	.0001	.0002	.0003	.0000
%RSD	310.5	69.99	29.25	25.98	17.78	76.32	47.72	65.95	32.65
#1	.0005	-.0026	.0367	.0174	.0032	.0001	.0007	.0001	-.0000
#2	.0017	-.0168	.0242	.0102	.0026	.0001	.0005	.0006	-.0000
#3	-.0009	-.0195	.0445	.0159	.0022	.0002	.0003	.0007	-.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: CCB Acquired: 12/10/2019 19:10:43 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0004**	**.0002**	**-.0003**	**.0002**	**.0003**	**-.0113**	**-.0004**
Stddev	.0001	.0004	.0001	.0019	.0003	.0006	.0015	.0006
%RSD	35.68	111.1	56.99	552.7	164.2	212.7	13.32	149.1
#1	-.0005	.0007	.0003	.0001	.0004	-.0003	-.0113	-.0010
#2	-.0003	.0004	.0001	-.0025	.0004	.0003	-.0128	-.0005
#3	-.0002	-.0001	.0003	.0013	-.0002	.0008	-.0098	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**293520.**	**32683.**	**8532.9**	**15444.**
Stddev	3081.	224.	46.6	94.
%RSD	1.0498	.68529	.54595	.60926
#1	290110.	32571.	8560.2	15485.
#2	296100.	32941.	8559.3	15511.
#3	294350.	32536.	8479.1	15337.

Zoom In Zoom Out

Sample Name: SNCONF Acquired: 12/10/2019 19:15:54 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0001**	**.0001**	**-.0000**	**.0003**	**-.0003**	**.0002**	**.0004**	**.0003**
Stddev	.0001	.0001	.0001	.0002	.0002	.0001	.0000	.0000	.0001
%RSD	46.10	80.79	242.1	1199.	73.85	43.88	14.56	2.452	20.98
#1	-.0002	.0002	-.0000	-.0002	.0005	-.0004	.0001	.0004	.0004
#2	-.0001	.0000	.0002	-.0001	.0001	-.0003	.0002	.0003	.0003
#3	-.0004	.0001	-.0000	.0002	.0004	-.0002	.0002	.0004	.0004

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0054**	**-.0003**	**-.0005**	**-.0003**	**.0006**	**-.0057**	**.0042**	**.0857**
Stddev	.0001	.0001	.0003	.0004	.0003	.0017	.0002	.0056	.0009
%RSD	24.56	1.749	96.63	79.43	103.3	285.1	2.990	135.1	1.072
#1	-.0003	.0055	.0000	-.0001	.0000	.0007	-.0059	.0107	.0854
#2	-.0004	.0054	-.0005	-.0006	-.0005	-.0012	-.0057	.0008	.0849
#3	-.0004	.0053	-.0006	-.0008	-.0004	.0022	-.0055	.0010	.0867

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0063**	**-.0170**	**.0621**	**.0157**	**.0012**	**.0001**	**-.0080**	F **10.23**	**.0001**
Stddev	.0010	.0087	.0160	.0066	.0003	.0002	.0004	.22	.0000
%RSD	15.27	51.07	25.78	42.22	24.40	233.7	5.502	2.175	20.15
#1	.0068	-.0139	.0793	.0155	.0009	-.0000	-.0084	10.34	.0001
#2	.0069	-.0103	.0592	.0225	.0011	.0003	-.0075	9.979	.0001
#3	.0052	-.0268	.0477	.0092	.0015	-.0000	-.0079	10.39	.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**-.0130**	**.0006**	**.0079**	**-.0005**	**.0008**	**-.0128**	**.0006**
Stddev	.0001	.0007	.0000	.0035	.0014	.0015	.0005	.0007
%RSD	472.6	5.335	7.295	43.86	298.2	194.1	3.965	119.3
#1	.0001	-.0132	.0006	.0071	-.0021	-.0009	-.0134	.0005
#2	-.0000	-.0123	.0005	.0117	.0004	.0013	-.0128	.0014
#3	-.0001	-.0136	.0006	.0049	.0003	.0019	-.0124	-.0001

Zoom In Zoom Out

Sample Name: SNCONF Acquired: 12/10/2019 19:15:54 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**294150.**	**32400.**	**8696.2**	**15703.**
Stddev	2631.	257.	158.3	253.
%RSD	.89455	.79254	1.8203	1.6082
#1	291950.	32452.	8630.4	15600.
#2	293430.	32121.	8876.8	15990.
#3	297070.	32627.	8581.4	15517.

Zoom In Zoom Out

Sample Name: ticonf Acquired: 12/10/2019 19:21:04 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	F **-.0012**	**-.0001**	**.0008**	**.0010**	**.0016**	**.0001**	**-.0000**
Stddev	.0001	.0001	.0002	.0006	.0003	.0005	.0000	.0001
%RSD	269.2	10.11	159.9	77.13	26.56	31.20	45.20	538.3
#1	-.0002	-.0011	-.0001	.0001	.0008	.0021	.0001	-.0001
#2	-.0000	-.0013	-.0003	.0012	.0009	.0014	.0001	-.0001
#3	.0000	-.0011	.0001	.0011	.0013	.0012	.0000	.0001

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0010**	**-.0009**	**.0002**	**-.0008**	**.0000**	**.0041**	**.0027**	**.0030**
Stddev	.0001	.0002	.0001	.0007	.0004	.0010	.0024	.0008
%RSD	8.332	25.60	29.71	81.80	1311.	24.12	89.50	24.93
#1	.0009	-.0009	.0001	-.0001	.0003	.0030	.0055	.0022
#2	.0011	-.0011	.0002	-.0013	-.0004	.0043	.0012	.0035
#3	.0010	-.0007	.0002	-.0012	.0001	.0050	.0014	.0034

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0036**	**.0776**	**.0094**	**.0899**	**.0071**	**.0128**	**.0023**	**.0001**
Stddev	.0045	.0021	.0006	.0144	.0105	.0039	.0002	.0003
%RSD	124.5	2.750	6.522	16.05	149.0	30.35	8.036	194.3
#1	-.0070	.0791	.0099	.1025	.0059	.0169	.0021	-.0002
#2	-.0052	.0786	.0087	.0929	.0181	.0092	.0024	.0003
#3	.0015	.0752	.0097	.0742	-.0029	.0124	.0023	.0002

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0017**	F **-.0227**	**-.0000**	F **10.03**	**.0010**	**-.0002**	**.0042**	**-.0074**
Stddev	.0027	.0002	.0000	.27	.0010	.0001	.0032	.0032
%RSD	159.2	.8538	124.9	2.666	104.6	67.09	77.13	42.61
#1	-.0048	-.0226	-.0001	10.33	.0016	-.0004	.0049	-.0068
#2	-.0003	-.0229	.0000	9.822	.0015	-.0002	.0071	-.0108
#3	.0000	-.0225	-.0001	9.944	-.0002	-.0001	.0007	-.0046

Zoom In Zoom Out

Sample Name: ticonf Acquired: 12/10/2019 19:21:04 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**-.0009**	**-.0142**	**-.0081**
Stddev	.0007	.0020	.0014
%RSD	73.39	13.89	16.67
#1	-.0007	-.0142	-.0097
#2	-.0017	-.0162	-.0074
#3	-.0004	-.0123	-.0072

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**282600.**	**32012.**	**8462.5**	**15278.**
Stddev	10118.	594.	28.4	60.
%RSD	3.5805	1.8562	.33522	.39244
#1	270930.	31463.	8434.0	15222.
#2	288910.	31930.	8462.6	15270.
#3	287970.	32643.	8490.7	15341.

Zoom In Zoom Out

Sample Name: vconf Acquired: 12/10/2019 19:26:22 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0000**	**.0001**	**.0002**	**-.0004**	**.0028**	**-.0001**	**.0003**	**.0007**
Stddev	.0001	.0000	.0002	.0001	.0002	.0004	.0000	.0001	.0005
%RSD	118.9	175.3	181.8	45.73	52.32	14.15	21.32	31.23	76.74
#1	-.0002	.0000	-.0001	.0003	-.0002	.0030	-.0001	.0003	.0003
#2	-.0002	.0000	.0003	.0001	-.0006	.0023	-.0001	.0002	.0004
#3	.0000	-.0000	.0001	.0001	-.0004	.0030	-.0001	.0004	.0012

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **9.895**	**.0006**	**-.0013**	**-.0002**	**.0003**	**-.0027**	**.0047**	**-.0091**	**.0865**
Stddev	.012	.0001	.0005	.0014	.0010	.0013	.0010	.0047	.0019
%RSD	.1174	11.10	36.31	831.4	321.1	48.14	21.05	51.16	2.142
#1	9.884	.0006	-.0011	.0003	-.0003	-.0036	.0035	-.0091	.0843
#2	9.893	.0005	-.0019	-.0017	.0014	-.0012	.0051	-.0138	.0875
#3	9.907	.0007	-.0011	.0010	-.0003	-.0032	.0053	-.0045	.0876

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0069**	**-.0071**	**.0035**	**.0616**	**.0006**	**-.0020**	**-.0238**	**.0019**	**-.0000**
Stddev	.0019	.0107	.0191	.0054	.0003	.0001	.0002	.0006	.0000
%RSD	28.24	150.5	550.5	8.761	40.97	4.359	.6994	31.05	70.28
#1	.0054	.0035	.0183	.0647	.0009	-.0020	-.0237	.0016	-.0000
#2	.0091	-.0180	.0102	.0554	.0004	-.0020	-.0240	.0025	-.0001
#3	.0061	-.0068	-.0181	.0647	.0006	-.0019	-.0238	.0014	-.0000

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0024**	**-.0002**	**-.0001**	**-.0007**	**-.0004**	**-.0166**	**.0094**
Stddev	.0001	.0002	.0001	.0011	.0003	.0005	.0013	.0025
%RSD	21.60	9.373	51.20	924.2	43.79	119.6	7.820	26.23
#1	.0003	.0026	-.0003	.0000	-.0010	.0000	-.0170	.0086
#2	.0003	.0024	-.0001	-.0012	-.0006	-.0009	-.0177	.0122
#3	.0002	.0021	-.0003	.0009	-.0004	-.0003	-.0152	.0075

Zoom In Zoom Out

Sample Name: vconf Acquired: 12/10/2019 19:26:22 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**286570.**	**31630.**	**8498.8**	**15304.**
Stddev	573.	101.	32.0	71.
%RSD	.19979	.31772	.37598	.46635
#1	286920.	31600.	8510.2	15325.
#2	285910.	31742.	8462.8	15225.
#3	286880.	31548.	8523.6	15363.

Zoom In Zoom Out

Sample Name: siconf Acquired: 12/10/2019 19:31:39 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0001**	**.0001**	**-.0002**	**.0006**	**.0009**	**-.0001**	**.0000**	**.0006**
Stddev	.0002	.0001	.0001	.0001	.0001	.0001	.0000	.0000	.0003
%RSD	176.6	104.3	145.5	37.48	10.35	6.411	37.39	128.8	40.27
#1	.0001	.0001	-.0001	-.0003	.0007	.0010	-.0001	-.0000	.0003
#2	-.0002	.0001	.0001	-.0001	.0006	.0009	-.0001	.0000	.0008
#3	-.0002	-.0000	.0002	-.0003	.0006	.0009	-.0001	.0001	.0008

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0001**	**-.0003**	**-.0004**	**.0009**	**.0014**	**-.0001**	**-.0085**	**.0205**
Stddev	.0001	.0001	.0005	.0005	.0007	.0014	.0009	.0087	.0009
%RSD	41.20	50.70	201.2	125.4	75.99	94.60	705.9	102.7	4.394
#1	-.0002	.0002	-.0001	.0001	.0014	.0010	-.0006	.0006	.0209
#2	-.0003	.0001	.0001	-.0010	.0001	.0004	.0009	-.0167	.0195
#3	-.0002	.0000	-.0009	-.0003	.0012	.0030	-.0007	-.0093	.0211

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0021**	**-.0058**	**.0235**	**.0263**	**.0043**	**.0000**	**9.569**	**.0001**	**-.0001**
Stddev	.0008	.0073	.0214	.0012	.0004	.0000	.061	.0002	.0000
%RSD	38.10	125.9	91.20	4.698	10.19	355.9	.6341	157.9	30.04
#1	.0024	-.0105	.0218	.0252	.0048	-.0000	9.499	.0001	-.0002
#2	.0012	.0026	.0456	.0259	.0044	.0000	9.602	.0004	-.0001
#3	.0028	-.0095	.0030	.0276	.0039	.0000	9.605	-.0001	-.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**-.0004**	**.0002**	**-.0008**	**-.0009**	**-.0020**	**-.0141**	**.0004**
Stddev	.0002	.0008	.0001	.0018	.0019	.0007	.0008	.0029
%RSD	90.79	185.6	29.02	218.9	217.0	32.99	5.983	680.6
#1	-.0000	-.0012	.0002	.0006	.0008	-.0013	-.0134	.0037
#2	-.0003	-.0005	.0001	-.0028	-.0029	-.0026	-.0150	-.0011
#3	-.0002	.0004	.0002	-.0002	-.0005	-.0022	-.0138	-.0014

Zoom In Zoom Out

Sample Name: siconf Acquired: 12/10/2019 19:31:39 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**294390.**	**31979.**	**8565.5**	**15485.**
Stddev	1969.	116.	46.8	59.
%RSD	.66898	.36395	.54607	.37817
#1	292170.	31846.	8619.5	15553.
#2	295080.	32029.	8539.5	15445.
#3	295920.	32062.	8537.6	15458.

Zoom In Zoom Out

Sample Name: moconf Acquired: 12/10/2019 19:36:48 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0003**	**-.0001**	**-.0016**	**.0004**	**-.0020**	**-.0004**	**-.0002**	**.0007**
Stddev	.0001	.0000	.0001	.0001	.0002	.0002	.0000	.0002	.0001
%RSD	41.86	6.150	82.12	4.181	62.47	10.44	6.170	81.58	17.91
#1	-.0002	.0003	-.0003	-.0015	.0006	-.0018	-.0004	-.0000	.0005
#2	-.0005	.0004	-.0001	-.0016	.0003	-.0021	-.0004	-.0003	.0007
#3	-.0003	.0003	-.0001	-.0016	.0002	-.0022	-.0004	-.0004	.0007

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0013**	**.0007**	**.0006**	**.0010**	**.0018**	**.0002**	**.0555**	**.0170**
Stddev	.0003	.0000	.0003	.0002	.0014	.0002	.0001	.0121	.0013
%RSD	209.2	3.522	41.30	30.20	145.2	12.35	71.72	21.75	7.790
#1	-.0001	-.0013	.0009	.0007	.0002	.0021	.0003	.0635	.0159
#2	-.0004	-.0013	.0004	.0004	.0002	.0017	.0001	.0416	.0185
#3	.0001	-.0013	.0008	.0007	.0026	.0017	.0001	.0614	.0167

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0579**	**-.0826**	**.0244**	**.0290**	F **9.955**	**-.0434**	**.0006**	**-.0001**
Stddev	.0005	.0068	.0124	.0043	.0006	.043	.0014	.0009	.0000
%RSD	611.6	11.75	14.98	17.45	2.021	.4330	3.297	149.9	26.41
#1	-.0004	-.0656	-.0963	.0232	.0296	9.994	-.0439	.0016	-.0001
#2	.0006	-.0556	-.0722	.0209	.0287	9.963	-.0445	.0001	-.0001
#3	.0000	-.0526	-.0794	.0292	.0285	9.909	-.0418	.0000	-.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0033**	**.0048**	**-.0016**	**-.0050**	**.0010**	**-.0016**	**-.0153**	**-.0033**
Stddev	.0002	.0014	.0001	.0018	.0003	.0009	.0006	.0005
%RSD	6.641	29.36	4.366	36.60	30.18	55.06	3.927	16.43
#1	-.0035	.0036	-.0016	-.0062	.0011	-.0024	-.0158	-.0032
#2	-.0031	.0064	-.0015	-.0029	.0013	-.0017	-.0154	-.0028
#3	-.0033	.0045	-.0016	-.0059	.0007	-.0006	-.0146	-.0039

Zoom In Zoom Out

Sample Name: moconf Acquired: 12/10/2019 19:36:48 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**294370.**	**31890.**	**8505.4**	**15390.**
Stddev	1272.	120.	36.8	58.
%RSD	.43200	.37504	.43230	.37726
#1	295800.	31782.	8471.1	15334.
#2	293360.	31869.	8500.8	15386.
#3	293960.	32019.	8544.3	15450.

Zoom In Zoom Out

Sample Name: mnconf Acquired: 12/10/2019 19:41:54 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0002**	**-.0000**	**-.0000**	**.0009**	**.0010**	F **9.661**	**.0005**	**.0009**
Stddev	.0001	.0000	.0000	.0001	.0002	.0001	.092	.0001	.0002
%RSD	189.3	9.138	214.7	227.8	22.06	10.49	.9528	10.00	26.03
#1	.0000	.0002	-.0001	.0001	.0010	.0009	9.583	.0005	.0010
#2	-.0000	.0002	.0000	-.0001	.0011	.0011	9.763	.0005	.0012
#3	-.0002	.0002	-.0000	-.0001	.0007	.0009	9.638	.0006	.0007

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0016**	**-.0000**	**.0013**	**-.0014**	**-.0003**	**-.0016**	**-.0006**	**-.0087**	**.0276**
Stddev	.0002	.0001	.0011	.0014	.0006	.0004	.0002	.0079	.0035
%RSD	11.60	214.1	84.62	95.41	209.5	24.02	26.85	90.92	12.66
#1	.0017	-.0000	.0026	-.0029	.0004	-.0019	-.0008	-.0060	.0308
#2	.0018	.0001	.0006	-.0003	-.0009	-.0012	-.0005	-.0025	.0281
#3	.0014	-.0002	.0008	-.0010	-.0004	-.0016	-.0005	-.0176	.0238

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0031**	**-.0457**	**-.0484**	**.0200**	**.0002**	**.0005**	**.0016**	**.0003**	**-.0001**
Stddev	.0016	.0135	.0103	.0063	.0006	.0000	.0006	.0003	.0000
%RSD	50.57	29.50	21.24	31.69	290.6	9.241	39.47	85.80	25.76
#1	-.0024	-.0496	-.0453	.0263	.0004	.0005	.0023	.0006	-.0001
#2	-.0021	-.0307	-.0401	.0137	.0008	.0005	.0012	.0000	-.0000
#3	-.0050	-.0567	-.0599	.0199	-.0005	.0006	.0012	.0003	-.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0023**	**.0002**	**-.0070**	**.0006**	**-.0014**	**-.0793**	**-.0042**
Stddev	.0002	.0005	.0000	.0010	.0009	.0009	.0003	.0018
%RSD	49.55	20.29	17.51	14.45	153.6	62.19	.4356	43.37
#1	-.0004	.0018	.0002	-.0061	.0016	-.0015	-.0793	-.0024
#2	-.0001	.0028	.0002	-.0081	.0004	-.0023	-.0790	-.0060
#3	-.0004	.0024	.0002	-.0069	-.0002	-.0005	-.0797	-.0042

Zoom In Zoom Out

Sample Name: mnconf Acquired: 12/10/2019 19:41:54 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**289330.**	**31662.**	**8479.5**	**15268.**
Stddev	2750.	90.	13.1	26.
%RSD	.95036	.28372	.15423	.16770
#1	292100.	31599.	8492.0	15297.
#2	286600.	31765.	8465.9	15249.
#3	289300.	31622.	8480.6	15259.

Zoom In Zoom Out

Sample Name: sconf Acquired: 12/10/2019 19:47:12 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0000**	**.0003**	**-.0001**	**.0007**	**.0007**	**.0001**	**-.0003**
Stddev	.0002	.0000	.0001	.0001	.0001	.0003	.0000	.0001
%RSD	133.5	146.5	23.30	118.8	11.23	39.18	44.12	24.76
#1	.0000	.0000	.0004	-.0000	.0008	.0007	.0001	-.0004
#2	-.0001	-.0000	.0003	-.0001	.0007	.0009	.0001	-.0003
#3	-.0003	.0001	.0003	-.0002	.0008	.0004	.0001	-.0002

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0002**	**.0019**	**-.0013**	F **-.0027**	**-.0007**	**-.0006**	**-.0001**
Stddev	.0002	.0001	.0002	.0009	.0001	.0003	.0002	.0009
%RSD	105.1	44.31	8.203	66.60	2.954	37.42	38.61	747.4
#1	.0005	-.0001	.0020	-.0003	-.0027	-.0004	-.0008	-.0005
#2	.0002	-.0003	.0017	-.0018	-.0026	-.0009	-.0004	.0009
#3	-.0000	-.0002	.0019	-.0018	-.0027	-.0008	-.0005	-.0008

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0028**	**.0395**	**.0027**	**-.0080**	**.0011**	**.0207**	**.0005**	**.0001**
Stddev	.0047	.0021	.0016	.0065	.0364	.0051	.0003	.0001
%RSD	167.4	5.199	61.31	80.87	3370.	24.52	59.10	46.78
#1	-.0033	.0405	.0027	-.0006	.0081	.0259	.0009	.0002
#2	-.0073	.0371	.0043	-.0126	-.0384	.0204	.0004	.0001
#3	.0021	.0408	.0010	-.0107	.0335	.0158	.0003	.0002

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0093**	**.0011**	**-.0000**	**-.0001**	**.0011**	**.0004**	**92.05**	**-.0010**
Stddev	.0002	.0005	.0000	.0002	.0011	.0001	1.41	.0012
%RSD	2.389	47.95	198.4	137.7	104.2	24.89	1.527	117.2
#1	.0095	.0010	-.0000	-.0000	-.0001	.0003	93.52	-.0004
#2	.0091	.0016	.0000	-.0000	.0021	.0005	90.71	-.0024
#3	.0092	.0006	-.0000	-.0003	.0012	.0003	91.93	-.0003

Zoom In Zoom Out

Sample Name: sconf Acquired: 12/10/2019 19:47:12 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**-.0000**	**-.0125**	**-.0010**
Stddev	.0004	.0020	.0014
%RSD	2740.	15.97	138.0
#1	-.0003	-.0112	-.0003
#2	-.0003	-.0148	-.0001
#3	.0005	-.0114	-.0026

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**290850.**	**31354.**	**8392.3**	**15219.**
Stddev	1339.	132.	99.9	191.
%RSD	.46049	.42168	1.1901	1.2549
#1	290690.	31324.	8288.8	15020.
#2	289600.	31239.	8488.1	15400.
#3	292260.	31498.	8400.1	15236.

Zoom In Zoom Out

Sample Name: cuconf Acquired: 12/10/2019 19:52:19 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0001**	**.0002**	**.0000**	**.0002**	F **9.190**	**-.0000**	**-.0001**	**.0008**
Stddev	.0000	.0000	.0002	.0001	.0003	.141	.0000	.0001	.0000
%RSD	18.04	30.33	100.6	494.4	145.5	1.535	175.3	79.97	2.899
#1	-.0002	.0002	-.0000	-.0001	.0001	9.286	-.0000	-.0001	.0008
#2	-.0003	.0001	.0002	.0000	-.0000	9.256	.0000	-.0002	.0008
#3	-.0002	.0001	.0003	.0001	.0005	9.028	-.0000	-.0000	.0007

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0008**	**-.0013**	**-.0009**	**-.0013**	**.0033**	**-.0001**	**-.0006**	**-.0088**	**.0356**
Stddev	.0003	.0001	.0012	.0005	.0008	.0021	.0003	.0047	.0024
%RSD	33.94	7.163	136.1	39.33	23.22	1927.	56.29	52.68	6.630
#1	-.0009	-.0014	.0004	-.0013	.0034	-.0016	-.0002	-.0124	.0381
#2	-.0010	-.0013	-.0011	-.0008	.0025	-.0010	-.0008	-.0105	.0334
#3	-.0005	-.0013	-.0020	-.0018	.0040	.0023	-.0007	-.0036	.0354

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0092**	**-.0220**	**.0598**	**.0176**	**-.0001**	**.0001**	**.0025**	**-.0000**	**-.0001**
Stddev	.0012	.0056	.0232	.0040	.0004	.0001	.0016	.0003	.0000
%RSD	12.65	25.30	38.81	22.66	324.2	198.4	65.14	973.5	23.74
#1	-.0097	-.0160	.0601	.0136	.0003	.0000	.0027	-.0001	-.0001
#2	-.0100	-.0229	.0829	.0216	-.0002	-.0000	.0039	.0003	-.0001
#3	-.0079	-.0270	.0365	.0177	-.0004	.0002	.0007	-.0003	-.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0012**	**-.0001**	**.0003**	**.0010**	**-.0006**	**-.0013**	**-.0484**	**-.0002**
Stddev	.0001	.0004	.0001	.0009	.0007	.0006	.0022	.0015
%RSD	11.31	641.4	23.40	89.64	118.6	44.60	4.533	627.9
#1	-.0011	.0004	.0002	.0009	.0002	-.0013	-.0476	-.0014
#2	-.0013	-.0002	.0004	.0002	-.0012	-.0019	-.0508	.0015
#3	-.0013	-.0004	.0003	.0020	-.0009	-.0007	-.0466	-.0008

Zoom In Zoom Out

Sample Name: cuconf Acquired: 12/10/2019 19:52:19 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**292310.**	**32094.**	**8509.5**	**15329.**
Stddev	1576.	39.	37.2	70.
%RSD	.53910	.12282	.43748	.45360
#1	291210.	32068.	8551.0	15402.
#2	291600.	32139.	8498.0	15322.
#3	294110.	32074.	8479.3	15264.

Zoom In Zoom Out

Sample Name: coconf Acquired: 12/10/2019 19:57:38 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0000**	**-.0005**	F **9.624**	**.0003**	**.0016**	**-.0001**	**.0011**	**.0007**
Stddev	.0001	.0000	.0001	.038	.0001	.0003	.0000	.0003	.0003
%RSD	136.4	46.12	20.94	.3916	29.80	18.66	12.27	25.26	51.36
#1	.0000	.0000	-.0006	9.620	.0002	.0012	-.0001	.0013	.0010
#2	-.0001	.0000	-.0004	9.588	.0004	.0018	-.0001	.0008	.0007
#3	-.0002	.0000	-.0005	9.664	.0002	.0017	-.0001	.0011	.0003

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0004**	**-.0018**	**.0008**	**.0004**	**-.0035**	**-.0008**	**-.0191**	**.0164**
Stddev	.0000	.0001	.0003	.0000	.0005	.0004	.0011	.0037	.0013
%RSD	39.39	15.69	16.56	5.572	133.5	12.77	139.1	19.57	7.858
#1	-.0002	.0003	-.0020	.0008	.0000	-.0034	-.0011	-.0163	.0151
#2	-.0001	.0004	-.0020	.0007	.0009	-.0031	.0004	-.0175	.0177
#3	-.0001	.0005	-.0015	.0008	.0002	-.0040	-.0016	-.0233	.0163

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**-.0194**	**-.0230**	**.0198**	**-.0011**	**.0000**	**-.0023**	**.0001**	**-.0001**
Stddev	.0014	.0069	.0092	.0012	.0000	.0000	.0003	.0003	.0001
%RSD	403.5	35.64	40.13	6.156	2.907	187.7	14.07	192.8	96.45
#1	-.0003	-.0223	-.0321	.0194	-.0011	.0001	-.0023	.0004	-.0002
#2	.0020	-.0243	-.0233	.0188	-.0010	.0000	-.0026	-.0001	-.0000
#3	-.0006	-.0115	-.0136	.0211	-.0011	-.0000	-.0019	.0001	-.0000

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**-.0011**	**.0001**	**-.0025**	**.0382**	**-.0010**	**-.0131**	**.0061**
Stddev	.0003	.0009	.0001	.0024	.0006	.0009	.0016	.0021
%RSD	93.74	82.49	99.33	95.16	1.635	87.63	11.87	34.98
#1	-.0003	-.0005	.0002	-.0048	.0378	-.0019	-.0135	.0078
#2	-.0000	-.0007	.0000	-.0001	.0379	-.0001	-.0144	.0037
#3	-.0005	-.0022	.0001	-.0026	.0389	-.0010	-.0113	.0067

Zoom In Zoom Out

Sample Name: coconf Acquired: 12/10/2019 19:57:38 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**288250.**	**32381.**	**8559.2**	**15480.**
Stddev	5309.	46.	26.4	43.
%RSD	1.8416	.14092	.30830	.27972
#1	291590.	32364.	8554.5	15479.
#2	291030.	32346.	8587.7	15524.
#3	282130.	32433.	8535.5	15437.

Zoom In Zoom Out

Sample Name: niconf Acquired: 12/10/2019 20:02:46 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0006**	**.0004**	**.0003**	**.0005**	**.0015**	**-.0003**	F **9.807**	**.0005**
Stddev	.0000	.0000	.0001	.0001	.0003	.0002	.0000	.038	.0003
%RSD	30.73	4.669	35.42	31.77	57.44	11.06	9.436	.3855	60.51
#1	-.0001	.0006	.0004	.0003	.0002	.0013	-.0002	9.764	.0002
#2	-.0001	.0005	.0002	.0004	.0006	.0016	-.0003	9.829	.0009
#3	-.0002	.0006	.0005	.0002	.0007	.0017	-.0003	9.829	.0004

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0002**	**.0013**	**-.0004**	**.0014**	**-.0004**	**-.0019**	**-.0068**	**.0342**
Stddev	.0001	.0000	.0007	.0007	.0007	.0018	.0009	.0015	.0006
%RSD	21.80	14.52	55.90	182.4	50.32	435.9	47.08	21.57	1.881
#1	-.0003	.0002	.0005	.0001	.0017	-.0025	-.0014	-.0062	.0335
#2	-.0003	.0002	.0019	-.0012	.0006	.0007	-.0014	-.0084	.0346
#3	-.0004	.0002	.0016	-.0001	.0020	.0006	-.0030	-.0057	.0346

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0040**	**-.0125**	**.0662**	**.0196**	**-.0004**	**.0001**	**.0038**	**-.0000**	**-.0000**
Stddev	.0017	.0152	.0050	.0049	.0003	.0001	.0005	.0005	.0000
%RSD	42.12	121.9	7.524	25.15	65.99	52.31	13.76	3529.	26.54
#1	.0022	-.0272	.0614	.0153	-.0005	.0001	.0043	.0005	-.0000
#2	.0056	.0032	.0713	.0185	-.0007	.0001	.0033	-.0003	-.0000
#3	.0043	-.0133	.0659	.0250	-.0001	.0002	.0038	-.0003	-.0000

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**.0030**	**.0004**	**-.0018**	**-.0010**	**-.0013**	**-.0017**	**-.0024**
Stddev	.0002	.0003	.0002	.0031	.0011	.0007	.0008	.0014
%RSD	52.35	8.986	42.07	171.8	109.8	53.15	46.34	56.39
#1	.0005	.0031	.0004	-.0045	-.0015	-.0006	-.0008	-.0017
#2	.0002	.0031	.0006	-.0025	.0003	-.0020	-.0018	-.0015
#3	.0006	.0027	.0003	.0016	-.0019	-.0014	-.0023	-.0040

Zoom In Zoom Out

Sample Name: niconf Acquired: 12/10/2019 20:02:46 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**288430.**	**31999.**	**8450.6**	**15354.**
Stddev	2026.	115.	38.9	65.
%RSD	.70250	.35982	.46032	.42268
#1	289770.	31943.	8495.5	15428.
#2	286100.	31922.	8427.4	15327.
#3	289420.	32131.	8428.8	15307.

Zoom In Zoom Out

Sample Name: alconf Acquired: 12/10/2019 20:07:54 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0001**	**-.0000**	**-.0001**	**.0005**	**.0006**	**-.0004**	**-.0004**	**.0007**
Stddev	.0001	.0000	.0002	.0001	.0003	.0001	.0000	.0002	.0001
%RSD	46.64	55.57	478.4	63.89	63.16	17.72	5.330	48.72	12.12
#1	-.0003	.0001	-.0002	-.0002	.0008	.0007	-.0004	-.0002	.0006
#2	-.0002	.0001	.0001	-.0002	.0004	.0006	-.0004	-.0004	.0007
#3	-.0001	.0000	.0001	-.0000	.0002	.0005	-.0003	-.0005	.0008

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**-.0007**	**.0008**	**.0043**	**.0005**	**-.0012**	**.0002**	F **479.3**	**.0272**
Stddev	.0001	.0001	.0008	.0013	.0007	.0029	.0040	6.0	.0033
%RSD	38.53	11.38	107.5	29.49	160.2	253.1	1911.	1.247	12.05
#1	-.0003	-.0007	.0001	.0056	.0013	-.0041	.0042	473.3	.0236
#2	-.0005	-.0008	.0006	.0042	-.0001	-.0012	.0002	485.2	.0301
#3	-.0003	-.0006	.0017	.0031	.0002	.0018	-.0038	479.5	.0279

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0487**	**-.0084**	**.0084**	**-.0032**	**.0020**	**-.0022**	**-.0113**	**-.0007**	**-.0000**
Stddev	.0007	.0109	.0061	.0078	.0004	.0001	.0008	.0010	.0000
%RSD	1.425	130.3	72.43	246.6	22.21	6.240	7.490	141.0	80.52
#1	.0493	.0039	.0136	-.0122	.0015	-.0023	-.0106	.0004	-.0000
#2	.0479	-.0169	.0098	.0014	.0024	-.0020	-.0110	-.0016	-.0001
#3	.0488	-.0122	.0017	.0013	.0021	-.0022	-.0122	-.0009	-.0000

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**.0009**	**.0003**	**.0246**	**-.0035**	**-.0010**	**-.0109**	**.0003**
Stddev	.0001	.0011	.0001	.0010	.0003	.0007	.0019	.0007
%RSD	21.75	119.8	45.64	4.218	8.645	62.63	17.04	245.4
#1	.0004	.0009	.0004	.0247	-.0038	-.0003	-.0129	.0007
#2	.0006	.0020	.0001	.0235	-.0035	-.0014	-.0103	-.0006
#3	.0005	-.0002	.0003	.0255	-.0032	-.0014	-.0094	.0007

Zoom In Zoom Out

Sample Name: alconf Acquired: 12/10/2019 20:07:54 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**283220.**	**33218.**	**8727.8**	**14448.**
Stddev	424.	141.	64.9	106.
%RSD	.14973	.42594	.74326	.73480
#1	283080.	33381.	8795.2	14560.
#2	282890.	33137.	8665.8	14350.
#3	283700.	33135.	8722.3	14433.

Zoom In Zoom Out

Sample Name: caconf Acquired: 12/10/2019 20:13:05 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0011**	**.0035**	**.0036**	**.0036**	**.0033**	**.0048**	**.0040**	**.0038**	**.0031**
Stddev	.0000	.0000	.0001	.0001	.0001	.0002	.0000	.0001	.0001
%RSD	2.877	.4409	2.242	2.186	1.896	3.251	.3771	3.930	1.939
#1	.0011	.0036	.0037	.0035	.0034	.0046	.0040	.0039	.0030
#2	.0011	.0035	.0035	.0035	.0033	.0049	.0039	.0036	.0031
#3	.0012	.0035	.0036	.0037	.0033	.0048	.0040	.0038	.0031

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0012**	**.0294**	**.0012**	**.0029**	**.0040**	**-.0018**	**.0006**	**-.0363**	F **446.9**
Stddev	.0001	.0001	.0007	.0003	.0017	.0022	.0011	.0043	6.0
%RSD	8.922	.2578	55.98	9.077	42.80	122.9	177.4	11.73	1.353
#1	.0013	.0293	.0014	.0031	.0054	-.0043	.0010	-.0409	449.1
#2	.0011	.0294	.0017	.0030	.0021	.0001	-.0006	-.0355	451.5
#3	.0013	.0294	.0004	.0026	.0045	-.0012	.0014	-.0325	440.0

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0132**	**.0036**	**-.0909**	**.0049**	**.0022**	**.0004**	**.0572**	**-.0009**	**.0060**
Stddev	.0011	.0106	.0211	.0052	.0010	.0001	.0001	.0011	.0001
%RSD	8.473	291.8	23.20	105.5	46.19	18.87	.2284	121.6	1.981
#1	.0141	.0135	-.1087	.0015	.0012	.0005	.0573	-.0014	.0058
#2	.0135	-.0076	-.0676	.0108	.0031	.0004	.0572	-.0016	.0060
#3	.0120	.0050	-.0964	.0023	.0021	.0003	.0571	.0004	.0061

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0011**	**.0018**	**.0002**	**.0336**	**.0013**	**-.0123**	**-.0090**	**.0020**
Stddev	.0001	.0005	.0001	.0037	.0006	.0006	.0014	.0006
%RSD	8.555	27.70	62.58	10.87	44.83	5.256	15.27	30.49
#1	-.0011	.0013	.0003	.0378	.0014	-.0130	-.0081	.0024
#2	-.0012	.0022	.0002	.0319	.0007	-.0117	-.0106	.0023
#3	-.0010	.0020	.0001	.0312	.0018	-.0122	-.0083	.0013

Zoom In Zoom Out

Sample Name: caconf Acquired: 12/10/2019 20:13:05 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**269130.**	**31033.**	**7810.9**	**13796.**
Stddev	1490.	35.	14.3	21.
%RSD	.55366	.11195	.18258	.15533
#1	267850.	30998.	7827.3	13813.
#2	270760.	31035.	7801.2	13772.
#3	268770.	31067.	7804.2	13803.

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 20:18:22 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.989**	**1.991**	**1.989**	**1.962**	**1.943**	**1.914**	**1.960**	**1.935**	**.2339**
Stddev	.009	.006	.006	.004	.018	.013	.015	.005	.0015
%RSD	.4717	.3234	.3201	.2133	.9512	.6827	.7662	.2779	.6551
#1	1.999	1.998	1.987	1.959	1.923	1.902	1.945	1.932	.2327
#2	1.987	1.989	1.996	1.967	1.959	1.928	1.975	1.941	.2357
#3	1.980	1.985	1.984	1.961	1.948	1.911	1.961	1.932	.2334
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.899**	**2.044**	**2.005**	**1.966**	**1.919**	**1.996**	**1.906**	**41.54**	**41.87**
Stddev	.018	.009	.007	.018	.007	.013	.010	.20	.21
%RSD	.9463	.4174	.3384	.9092	.3463	.6257	.5147	.4820	.5033
#1	1.879	2.036	2.003	1.945	1.915	1.985	1.902	41.76	42.09
#2	1.915	2.053	2.013	1.977	1.927	2.010	1.917	41.46	41.83
#3	1.902	2.041	2.000	1.974	1.916	1.994	1.898	41.38	41.68
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.82**	**40.51**	**40.71**	**40.24**	**1.907**	**2.019**	**4.752**	**2.096**	**2.057**
Stddev	.23	.13	.25	.23	.005	.008	.014	.009	.011
%RSD	.5731	.3219	.6047	.5608	.2854	.3764	.2882	.4221	.5209
#1	41.09	40.63	41.00	40.50	1.905	2.012	4.744	2.091	2.069
#2	40.74	40.53	40.57	40.15	1.914	2.027	4.767	2.107	2.053
#3	40.64	40.37	40.57	40.07	1.903	2.018	4.743	2.092	2.048
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: ccv Acquired: 12/10/2019 20:18:22 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.833**	**1.974**	**1.863**	**1.913**	**1.932**	**1.947**	**1.946**	**1.859**
Stddev	.017	.009	.016	.006	.006	.006	.007	.016
%RSD	.9071	.4667	.8739	.3053	.3331	.3057	.3552	.8387
#1	1.816	1.967	1.847	1.911	1.928	1.954	1.941	1.844
#2	1.850	1.984	1.879	1.919	1.939	1.943	1.953	1.875
#3	1.832	1.970	1.863	1.908	1.927	1.944	1.942	1.859
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**281310.**	**31506.**	**8214.8**	**14418.**
Stddev	1823.	57.	28.8	45.
%RSD	.64790	.18108	.35050	.31413
#1	283140.	31483.	8219.6	14435.
#2	279500.	31465.	8183.9	14367.
#3	281290.	31571.	8240.9	14453.

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 20:23:21 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0001**	**.0002**	**.0000**	**.0003**	**.0013**	**.0000**	**.0001**
Stddev	.0001	.0001	.0001	.0001	.0001	.0002	.0000	.0001
%RSD	40.11	84.22	50.52	624.3	24.73	16.28	102.4	100.9
#1	-.0001	.0002	.0001	-.0001	.0004	.0010	.0000	.0003
#2	-.0003	.0000	.0002	.0001	.0004	.0013	.0000	.0000
#3	-.0002	.0001	.0001	-.0000	.0002	.0014	-.0000	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0007**	**-.0005**	**.0004**	**-.0001**	**-.0004**	**.0001**	**-.0005**	**.0006**
Stddev	.0001	.0001	.0001	.0010	.0001	.0009	.0010	.0001
%RSD	11.52	32.20	18.44	1537.	16.89	918.4	196.2	20.49
#1	.0007	-.0003	.0004	.0002	-.0005	.0009	.0007	.0006
#2	.0007	-.0006	.0005	.0008	-.0004	-.0008	-.0011	.0005
#3	.0008	-.0005	.0004	-.0011	-.0004	.0002	-.0011	.0008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0103**	**.0223**	**.0007**	**-.0178**	**.0004**	**.0135**	**.0015**	**.0002**
Stddev	.0046	.0032	.0009	.0085	.0098	.0046	.0004	.0002
%RSD	44.82	14.55	120.4	47.87	2510.	33.93	27.37	123.4
#1	-.0055	.0213	.0018	-.0265	.0022	.0158	.0018	.0003
#2	-.0148	.0259	.0001	-.0095	.0091	.0082	.0016	.0003
#3	-.0107	.0196	.0004	-.0174	-.0102	.0164	.0010	-.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Zoom In Zoom Out

Sample Name: ccb Acquired: 12/10/2019 20:23:21 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0001**	**-.0000**	**-.0001**	**.0005**	**.0001**	**-.0012**	**.0008**
Stddev	.0006	.0002	.0000	.0001	.0002	.0001	.0019	.0002
%RSD	910.6	142.6	111.7	84.61	35.80	112.2	160.8	26.83
#1	.0007	-.0001	.0000	-.0001	.0003	.0002	-.0018	.0006
#2	-.0001	.0003	-.0001	-.0000	.0005	-.0000	.0009	.0011
#3	-.0004	.0003	-.0000	-.0002	.0006	.0001	-.0028	.0009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**-.0012**	F **-.0169**	**-.0023**
Stddev	.0010	.0011	.0043
%RSD	82.35	6.501	190.3
#1	-.0021	-.0158	-.0072
#2	-.0013	-.0180	.0008
#3	-.0001	-.0169	-.0004
Check ?	Chk Pass	Chk Fail	Chk Pass
High Limit		.0125	
Low Limit		-.0125	

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**293000.**	**31896.**	**8443.7**	**15364.**
Stddev	258.	80.	116.6	174.
%RSD	.08797	.24983	1.3804	1.1327
#1	292740.	31962.	8572.5	15550.
#2	293010.	31919.	8345.5	15206.
#3	293250.	31808.	8413.1	15335.

Zoom In Zoom Out

Sample Name: MP18781A-MB1 Acquired: 12/10/2019 20:28:31 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0001**	**.0000**	**-.0001**	**.0007**	**.0017**	**.0000**	**.0001**	**.0006**
Stddev	.0001	.0000	.0000	.0002	.0002	.0006	.0000	.0001	.0002
%RSD	79.94	38.45	1917.	220.0	35.34	37.19	28.97	225.7	26.50
#1	-.0000	.0001	-.0000	.0000	.0004	.0013	.0000	-.0000	.0006
#2	-.0001	.0001	.0000	-.0004	.0009	.0014	.0000	-.0000	.0008
#3	-.0002	.0001	-.0000	.0000	.0007	.0024	.0001	.0002	.0005

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**.0003**	**-.0005**	**-.0014**	**.0002**	**.0018**	**.0006**	**-.0099**	**.0214**
Stddev	.0001	.0000	.0012	.0007	.0005	.0017	.0003	.0066	.0010
%RSD	24.71	.9195	233.8	46.47	240.8	93.02	54.41	66.51	4.868
#1	-.0005	.0003	-.0018	-.0020	.0005	.0021	.0002	-.0049	.0202
#2	-.0003	.0003	-.0001	-.0016	.0004	.0033	.0008	-.0173	.0220
#3	-.0005	.0003	.0004	-.0007	-.0003	-.0000	.0008	-.0074	.0220

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0028**	**-.0060**	**-.0172**	**.0159**	**.0003**	**.0000**	**.0042**	**.0003**	**-.0000**
Stddev	.0004	.0065	.0144	.0017	.0001	.0003	.0015	.0006	.0001
%RSD	16.20	107.7	83.56	10.70	24.83	5044.	35.28	164.5	142.5
#1	.0030	.0013	-.0006	.0139	.0003	-.0003	.0031	.0005	.0000
#2	.0023	-.0085	-.0265	.0169	.0003	-.0001	.0058	.0008	-.0001
#3	.0030	-.0109	-.0245	.0168	.0004	.0004	.0035	-.0003	-.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**-.0001**	**.0003**	**.0001**	**-.0007**	**-.0021**	**-.0162**	**-.0011**
Stddev	.0003	.0007	.0000	.0036	.0009	.0003	.0011	.0030
%RSD	296.7	571.3	13.72	6875.	139.6	14.55	6.724	279.0
#1	-.0004	-.0006	.0002	-.0040	-.0015	-.0019	-.0149	-.0001
#2	-.0000	.0007	.0002	.0025	-.0008	-.0020	-.0168	-.0044
#3	.0001	-.0005	.0003	.0017	.0003	-.0025	-.0168	.0013

Zoom In Zoom Out

Sample Name: MP18781A-MB1 Acquired: 12/10/2019 20:28:31 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**285800.**	**32147.**	**8516.8**	**15548.**
Stddev	11739.	135.	12.2	17.
%RSD	4.1076	.41940	.14336	.10961
#1	293600.	32275.	8502.9	15530.
#2	291490.	32006.	8521.8	15564.
#3	272300.	32162.	8525.7	15551.

Zoom In Zoom Out

Sample Name: MP18781A-B1 Acquired: 12/10/2019 20:33:40 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.917**	**1.921**	**1.937**	**1.901**	**1.881**	**1.854**	**1.888**	**1.876**
Stddev	.001	.002	.117	.111	.013	.013	.009	.107
%RSD	.0503	.0959	6.019	5.848	.7057	.7215	.5007	5.693
#1	1.918	1.919	2.058	2.016	1.871	1.846	1.880	1.986
#2	1.917	1.922	1.826	1.795	1.896	1.870	1.899	1.773
#3	1.916	1.922	1.926	1.892	1.875	1.847	1.886	1.868

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2353**	**1.834**	**1.977**	**1.969**	**1.920**	**1.877**	**1.926**	**1.900**
Stddev	.0020	.011	.122	.116	.103	.104	.114	.114
%RSD	.8338	.6099	6.177	5.895	5.387	5.517	5.911	6.000
#1	.2338	1.826	2.103	2.088	2.025	1.985	2.044	2.018
#2	.2375	1.847	1.859	1.857	1.818	1.779	1.817	1.791
#3	.2345	1.829	1.969	1.961	1.916	1.866	1.917	1.891

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**26.32**	**26.58**	**25.89**	**25.52**	**25.84**	**25.59**	**1.855**	**2.035**
Stddev	.03	.02	.02	.08	.06	.02	.107	.124
%RSD	.1154	.0611	.0709	.3167	.2398	.0759	5.754	6.105
#1	26.35	26.56	25.87	25.43	25.86	25.59	1.967	2.164
#2	26.29	26.59	25.90	25.57	25.89	25.57	1.754	1.916
#3	26.34	26.58	25.90	25.57	25.77	25.61	1.845	2.026

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0322**	**2.094**	**1.985**	**1.797**	**1.928**	**1.835**	F **-.0908**	**.0080**
Stddev	.0040	.128	.001	.008	.116	.012	.0085	.0019
%RSD	12.38	6.089	.0662	.4222	6.014	.6702	9.379	24.05
#1	.0363	2.226	1.987	1.791	2.048	1.825	-.0999	.0063
#2	.0283	1.972	1.984	1.805	1.816	1.848	-.0831	.0101
#3	.0319	2.083	1.985	1.793	1.919	1.830	-.0893	.0076

Zoom In Zoom Out

Sample Name: MP18781A-B1 Acquired: 12/10/2019 20:33:40 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**-.0012**	**1.904**	**.0030**
Stddev	.0016	.117	.0022
%RSD	139.2	6.141	74.04
#1	-.0012	2.024	.0036
#2	-.0028	1.791	.0049
#3	.0005	1.898	.0005

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**290300.**	**32318.**	**8373.1**	**14867.**
Stddev	1662.	51.	424.8	707.
%RSD	.57248	.15649	5.0732	4.7562
#1	291340.	32309.	7940.9	14151.
#2	288380.	32272.	8790.1	15565.
#3	291170.	32372.	8388.3	14884.

Zoom In Zoom Out

Sample Name: MP18781A-S1 Acquired: 12/10/2019 20:38:38 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.938**	**1.893**	**1.891**	**1.835**	**1.860**	**1.871**	**3.729**	**1.801**	**.2387**
Stddev	.004	.005	.053	.050	.020	.025	.054	.050	.0023
%RSD	.2227	.2860	2.823	2.715	1.050	1.327	1.439	2.790	.9605
#1	1.943	1.899	1.830	1.777	1.841	1.849	3.683	1.743	.2366
#2	1.935	1.889	1.918	1.861	1.858	1.866	3.717	1.829	.2383
#3	1.937	1.892	1.927	1.866	1.880	1.898	3.788	1.831	.2411

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.827**	**1.889**	**3.440**	**1.836**	**1.801**	**1.871**	**1.851**	**26.00**	**75.17**
Stddev	.020	.057	.099	.048	.048	.051	.053	.06	.10
%RSD	1.078	3.005	2.872	2.629	2.683	2.720	2.878	.2423	.1350
#1	1.809	1.824	3.327	1.781	1.745	1.813	1.790	26.05	75.24
#2	1.824	1.918	3.486	1.864	1.829	1.896	1.876	25.93	75.05
#3	1.848	1.926	3.507	1.864	1.828	1.905	1.887	26.02	75.21

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**88.69**	**31.56**	**34.35**	**38.35**	**1.938**	**1.963**	**8.665**	**2.006**	**2.314**
Stddev	.21	.11	.04	.09	.055	.057	.241	.057	.006
%RSD	.2400	.3554	.1260	.2370	2.816	2.925	2.782	2.863	.2737
#1	88.93	31.66	34.35	38.39	1.875	1.897	8.387	1.940	2.320
#2	88.52	31.57	34.31	38.24	1.963	1.992	8.787	2.034	2.308
#3	88.62	31.44	34.40	38.41	1.975	2.000	8.821	2.045	2.313

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.793**	**1.895**	**1.829**	**1.696**	**.0100**	**-.0014**	**1.889**	**.0211**
Stddev	.021	.056	.023	.049	.0009	.0004	.060	.0015
%RSD	1.162	2.927	1.237	2.869	9.011	27.89	3.202	7.057
#1	1.774	1.832	1.809	1.640	.0105	-.0012	1.820	.0196
#2	1.789	1.922	1.825	1.725	.0090	-.0018	1.922	.0226
#3	1.815	1.932	1.853	1.724	.0105	-.0011	1.926	.0212

Zoom In Zoom Out

Sample Name: MP18781A-S1 Acquired: 12/10/2019 20:38:38 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**286150.**	**32282.**	**8381.8**	**14892.**
Stddev	2381.	140.	194.4	324.
%RSD	.83215	.43226	2.3198	2.1778
#1	287750.	32251.	8604.7	15266.
#2	287290.	32160.	8294.2	14732.
#3	283410.	32434.	8246.6	14680.

Zoom In Zoom Out

Sample Name: MP18781A-S2 Acquired: 12/10/2019 20:43:34 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.971**	**1.925**	**1.949**	**1.881**	**1.871**	**1.871**	**3.763**	**1.850**	**.2408**
Stddev	.002	.005	.016	.016	.005	.003	.017	.013	.0002
%RSD	.1081	.2598	.8211	.8305	.2596	.1843	.4376	.7216	.0964
#1	1.971	1.923	1.943	1.874	1.877	1.874	3.781	1.843	.2411
#2	1.973	1.931	1.967	1.899	1.867	1.870	3.749	1.866	.2406
#3	1.969	1.922	1.936	1.870	1.870	1.868	3.759	1.842	.2408

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.833**	**1.940**	**3.562**	**1.870**	**1.844**	**1.916**	**1.913**	**26.46**	**77.45**
Stddev	.008	.017	.028	.015	.016	.018	.012	.07	.25
%RSD	.4414	.8570	.7898	.7811	.8420	.9428	.6259	.2638	.3199
#1	1.843	1.931	3.552	1.865	1.835	1.913	1.910	26.40	77.22
#2	1.828	1.959	3.593	1.886	1.862	1.936	1.926	26.54	77.71
#3	1.829	1.930	3.539	1.858	1.835	1.901	1.903	26.45	77.42

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**91.61**	**32.04**	**35.07**	**39.31**	**2.000**	**2.020**	**9.083**	**2.066**	**2.363**
Stddev	.26	.17	.09	.08	.015	.016	.068	.019	.003
%RSD	.2817	.5281	.2675	.1923	.7545	.8118	.7496	.9025	.1125
#1	91.38	32.03	34.97	39.24	1.995	2.016	9.060	2.060	2.360
#2	91.89	32.21	35.16	39.39	2.017	2.038	9.160	2.087	2.366
#3	91.57	31.87	35.08	39.32	1.988	2.007	9.030	2.051	2.362

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.804**	**1.947**	**1.844**	**1.780**	**.0075**	**-.0004**	**1.946**	**.0197**
Stddev	.011	.016	.005	.014	.0005	.0004	.016	.0010
%RSD	.5883	.8297	.2795	.8081	6.649	117.4	.8384	4.855
#1	1.816	1.943	1.850	1.776	.0080	-.0008	1.942	.0206
#2	1.796	1.964	1.840	1.796	.0075	.0000	1.964	.0198
#3	1.799	1.933	1.841	1.768	.0070	-.0003	1.932	.0187

Zoom In Zoom Out

Sample Name: MP18781A-S2 Acquired: 12/10/2019 20:43:34 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**285370.**	**31853.**	**8185.3**	**14589.**
Stddev	1417.	131.	49.8	88.
%RSD	.49664	.41080	.60811	.60635
#1	283740.	31936.	8213.9	14653.
#2	286070.	31703.	8127.8	14488.
#3	286300.	31921.	8214.1	14625.

Zoom In Zoom Out

Sample Name: JC99822-1 Acquired: 12/10/2019 20:48:30 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0503**	**.0001**	**.0016**	**.0159**	**.0008**	**.0011**	**1.920**	**.0053**	**.0027**
Stddev	.0015	.0000	.0000	.0001	.0001	.0002	.010	.0003	.0003
%RSD	2.996	65.76	2.083	.5934	6.607	17.47	.5322	4.886	12.51
#1	.0496	.0000	.0016	.0160	.0008	.0011	1.916	.0053	.0028
#2	.0494	.0000	.0015	.0158	.0009	.0009	1.913	.0056	.0024
#3	.0521	.0001	.0016	.0159	.0009	.0013	1.932	.0051	.0030

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**.0019**	**1.553**	**-.0015**	**-.0003**	**.0045**	**-.0004**	**-.0065**	**50.70**
Stddev	.0001	.0001	.008	.0004	.0013	.0015	.0017	.0078	1.36
%RSD	12.65	7.409	.5215	27.88	484.7	32.15	383.3	121.2	2.691
#1	.0005	.0020	1.558	-.0011	-.0002	.0042	-.0023	-.0153	50.08
#2	.0007	.0019	1.544	-.0019	.0010	.0033	-.0000	-.0007	49.75
#3	.0005	.0017	1.557	-.0015	-.0016	.0061	.0010	-.0033	52.26

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**65.90**	**6.772**	**8.909**	**13.32**	**.1294**	**.0020**	**8.845**	**.0009**	**.3709**
Stddev	1.85	.197	.223	.35	.0007	.0003	.057	.0001	.0099
%RSD	2.814	2.910	2.505	2.621	.5753	12.54	.6390	5.948	2.677
#1	65.02	6.669	8.792	13.15	.1301	.0019	8.876	.0009	.3663
#2	64.64	6.648	8.768	13.08	.1286	.0019	8.780	.0009	.3641
#3	68.03	6.999	9.166	13.72	.1295	.0023	8.879	.0010	.3823

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**.0038**	**.0007**	**1.788**	**-.0036**	**-.0007**	**.0154**	**.0195**
Stddev	.0004	.0003	.0001	.008	.0017	.0002	.0014	.0007
%RSD	85.34	7.087	16.88	.4572	47.85	28.68	9.020	3.750
#1	-.0000	.0035	.0007	1.787	-.0023	-.0005	.0154	.0186
#2	-.0007	.0040	.0006	1.780	-.0029	-.0009	.0141	.0199
#3	-.0007	.0038	.0008	1.796	-.0055	-.0006	.0169	.0199

Zoom In Zoom Out

Sample Name: JC99822-1 Acquired: 12/10/2019 20:48:30 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**293650.**	**31791.**	**8393.9**	**15119.**
Stddev	1125.	831.	26.0	32.
%RSD	.38294	2.6142	.30952	.21133
#1	294100.	32063.	8379.5	15100.
#2	294480.	32451.	8423.9	15156.
#3	292370.	30858.	8378.4	15101.

Zoom In Zoom Out

Sample Name: MP18781A-SD1 Acquired: 12/10/2019 20:53:39 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0493**	**.0003**	**.0021**	**.0159**	**.0029**	**.0062**	**2.034**	**.0043**	**.0038**
Stddev	.0012	.0001	.0013	.0003	.0006	.0016	.019	.0003	.0010
%RSD	2.373	22.03	61.93	1.852	18.75	25.28	.9405	8.165	25.50
#1	.0507	.0004	.0021	.0157	.0024	.0080	2.056	.0040	.0035
#2	.0484	.0003	.0034	.0162	.0030	.0056	2.019	.0047	.0030
#3	.0489	.0002	.0008	.0157	.0035	.0050	2.028	.0041	.0048

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**.0026**	**1.566**	**-.0004**	**-.0026**	**.0069**	**.0040**	**-.0444**	**50.68**
Stddev	.0011	.0003	.009	.0031	.0033	.0059	.0030	.0214	1.66
%RSD	197.3	12.40	.5636	723.1	130.6	86.47	74.29	48.29	3.271
#1	-.0009	.0030	1.555	-.0038	-.0006	.0006	.0064	-.0350	52.58
#2	-.0014	.0027	1.572	.0022	-.0064	.0076	.0007	-.0690	49.56
#3	.0007	.0023	1.569	.0003	-.0006	.0124	.0051	-.0293	49.90

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**66.20**	**6.735**	**8.931**	**13.37**	**.1365**	**.0011**	**8.897**	**.0017**	**.3706**
Stddev	2.21	.167	.363	.47	.0014	.0004	.017	.0027	.0116
%RSD	3.333	2.481	4.061	3.510	.9932	31.13	.1911	161.9	3.128
#1	68.73	6.926	9.344	13.91	.1352	.0010	8.878	.0034	.3839
#2	64.66	6.661	8.667	13.05	.1379	.0009	8.904	-.0014	.3627
#3	65.22	6.617	8.781	13.16	.1364	.0015	8.910	.0030	.3651

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0008**	**.0114**	**.0020**	**1.806**	**-.0055**	**-.0106**	**-.0436**	**.0255**
Stddev	.0014	.0009	.0001	.009	.0037	.0019	.0035	.0086
%RSD	174.5	8.035	7.065	.5281	67.42	17.66	8.089	33.81
#1	.0006	.0104	.0019	1.817	-.0056	-.0098	-.0462	.0303
#2	.0024	.0117	.0020	1.799	-.0092	-.0127	-.0396	.0155
#3	-.0005	.0122	.0022	1.801	-.0018	-.0092	-.0451	.0306

Zoom In Zoom Out

Sample Name: MP18781A-SD1 Acquired: 12/10/2019 20:53:39 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**287680.**	**31708.**	**8416.0**	**15209.**
Stddev	2589.	907.	19.6	30.
%RSD	.89991	2.8593	.23311	.19900
#1	284730.	30674.	8432.4	15241.
#2	289540.	32366.	8421.4	15206.
#3	288790.	32084.	8394.3	15181.

Zoom In Zoom Out

Sample Name: JC99810-1 Acquired: 12/10/2019 20:58:45 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0144**	**.0001**	**.0000**	**.0002**	**.0011**	**.0230**	**.0373**	**.0048**	**.0009**
Stddev	.0002	.0000	.0001	.0001	.0002	.0002	.0004	.0001	.0002
%RSD	1.324	35.99	269.9	52.22	23.71	1.025	.9694	2.205	26.94
#1	.0143	.0000	.0000	.0002	.0012	.0232	.0377	.0047	.0011
#2	.0144	.0001	-.0000	.0001	.0008	.0227	.0370	.0049	.0008
#3	.0147	.0001	.0001	.0002	.0012	.0230	.0372	.0048	.0007

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0061**	**.0376**	**-.0012**	**.0006**	**.0005**	**-.0003**	**-.0056**	**40.34**
Stddev	.0003	.0001	.0012	.0006	.0005	.0005	.0018	.0112	.15
%RSD	76.55	1.287	3.149	51.17	85.31	85.57	631.9	199.0	.3780
#1	-.0003	.0061	.0373	-.0013	.0001	.0007	.0004	.0032	40.17
#2	-.0001	.0061	.0389	-.0005	.0012	.0000	-.0023	-.0181	40.47
#3	-.0007	.0060	.0365	-.0017	.0006	.0009	.0010	-.0019	40.39

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9988**	**5.333**	**7.443**	**23.24**	**.0959**	**.0004**	**7.584**	**-.0001**	**.2791**
Stddev	.0053	.027	.031	.05	.0027	.0000	.172	.0004	.0009
%RSD	.5291	.5116	.4166	.2250	2.833	5.069	2.263	461.8	.3290
#1	.9930	5.302	7.409	23.18	.0955	.0003	7.543	.0004	.2780
#2	1.003	5.347	7.470	23.28	.0988	.0004	7.773	-.0002	.2797
#3	1.000	5.351	7.450	23.26	.0935	.0004	7.437	-.0005	.2795

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**.0013**	**-.0001**	**1.853**	**-.0013**	**-.0007**	**-.0122**	**.0039**
Stddev	.0001	.0008	.0001	.039	.0006	.0006	.0007	.0007
%RSD	21.04	62.06	98.22	2.111	43.67	76.49	5.487	17.17
#1	-.0004	.0022	-.0002	1.836	-.0008	-.0009	-.0118	.0033
#2	-.0005	.0009	-.0002	1.897	-.0011	-.0012	-.0118	.0047
#3	-.0006	.0007	.0000	1.824	-.0019	-.0001	-.0130	.0038

Zoom In Zoom Out

Sample Name: JC99810-1 Acquired: 12/10/2019 20:58:45 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**286970.**	**32311.**	**8274.5**	**14960.**
Stddev	3429.	92.	163.5	268.
%RSD	1.1948	.28557	1.9763	1.7939
#1	283140.	32397.	8328.7	15038.
#2	289750.	32214.	8090.7	14662.
#3	288020.	32321.	8404.0	15182.

Zoom In Zoom Out

Sample Name: JC99822-2 Acquired: 12/10/2019 21:03:47 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0141**	**.0001**	**.0043**	**.0126**	**.0008**	**.0010**	**2.118**	**.0051**	**.0023**
Stddev	.0001	.0001	.0005	.0002	.0003	.0002	.014	.0002	.0002
%RSD	.9642	74.09	11.84	1.517	38.75	20.95	.6818	3.119	6.738
#1	.0142	.0000	.0046	.0128	.0008	.0008	2.112	.0053	.0024
#2	.0142	.0001	.0047	.0124	.0011	.0010	2.106	.0051	.0024
#3	.0139	.0001	.0037	.0126	.0005	.0012	2.134	.0050	.0022

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**.0008**	**3.201**	**-.0016**	**-.0003**	**.0031**	**-.0002**	**-.0080**	**26.46**
Stddev	.0002	.0001	.003	.0008	.0011	.0008	.0008	.0104	.07
%RSD	26.64	14.05	.0889	52.26	406.8	26.24	346.3	128.8	.2623
#1	.0005	.0007	3.198	-.0020	-.0015	.0040	-.0002	.0004	26.52
#2	.0005	.0009	3.202	-.0021	.0005	.0027	.0006	-.0196	26.46
#3	.0008	.0008	3.204	-.0006	.0003	.0025	-.0011	-.0049	26.38

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.52**	**2.918**	**3.695**	**6.408**	**.0416**	**.0027**	**7.538**	**-.0001**	**.1739**
Stddev	.09	.006	.013	.014	.0003	.0002	.008	.0004	.0006
%RSD	.2278	.2049	.3489	.2210	.7561	7.872	.1092	432.7	.3445
#1	40.62	2.925	3.710	6.419	.0419	.0028	7.535	-.0001	.1746
#2	40.49	2.916	3.688	6.414	.0416	.0028	7.533	-.0004	.1738
#3	40.45	2.914	3.688	6.392	.0413	.0024	7.548	.0003	.1734

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0001**	**.0041**	**.0003**	**1.792**	**-.0021**	**-.0015**	**.0164**	**.0123**
Stddev	.0001	.0006	.0001	.004	.0013	.0012	.0011	.0017
%RSD	88.52	14.59	20.90	.2034	62.56	78.58	6.503	14.18
#1	-.0000	.0040	.0003	1.797	-.0027	-.0013	.0166	.0134
#2	-.0001	.0036	.0003	1.790	-.0032	-.0004	.0152	.0103
#3	-.0002	.0048	.0004	1.791	-.0006	-.0028	.0173	.0131

Zoom In Zoom Out

Sample Name: JC99822-2 Acquired: 12/10/2019 21:03:47 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**296980.**	**32217.**	**8379.3**	**15171.**
Stddev	1277.	64.	8.2	22.
%RSD	.43010	.19736	.09760	.14675
#1	297220.	32240.	8385.0	15196.
#2	298120.	32145.	8370.0	15155.
#3	295600.	32266.	8383.0	15160.

Zoom In Zoom Out

Sample Name: MP18781A-PS1 Acquired: 12/10/2019 21:08:56 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.698**	**1.649**	**1.683**	**1.639**	**1.606**	**1.595**	**3.487**	**1.606**	**.1962**
Stddev	.004	.002	.020	.015	.015	.020	.033	.018	.0019
%RSD	.2111	.1309	1.213	.8943	.9505	1.224	.9456	1.105	.9436
#1	1.699	1.648	1.670	1.631	1.590	1.574	3.456	1.597	.1944
#2	1.702	1.651	1.706	1.656	1.608	1.598	3.484	1.626	.1960
#3	1.695	1.647	1.672	1.630	1.621	1.613	3.521	1.595	.1981

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.572**	**1.694**	**3.167**	**1.629**	**1.697**	**1.663**	**1.542**	**21.07**	**70.34**
Stddev	.016	.017	.031	.018	.017	.018	.020	.05	.19
%RSD	.9986	1.012	.9825	1.084	.9890	1.067	1.310	.2438	.2733
#1	1.556	1.683	3.147	1.617	1.687	1.650	1.527	21.04	70.20
#2	1.573	1.714	3.202	1.649	1.716	1.683	1.565	21.13	70.56
#3	1.587	1.685	3.150	1.620	1.687	1.656	1.534	21.05	70.27

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**84.16**	**26.85**	**29.35**	**33.41**	**1.736**	**1.651**	**8.895**	**1.696**	**2.066**
Stddev	.22	.11	.05	.06	.018	.017	.103	.017	.006
%RSD	.2583	.4038	.1772	.1933	1.041	1.026	1.163	1.007	.2752
#1	83.97	26.78	29.30	33.35	1.725	1.640	8.836	1.685	2.065
#2	84.40	26.80	29.41	33.47	1.757	1.671	9.014	1.716	2.073
#3	84.10	26.98	29.35	33.39	1.727	1.643	8.834	1.688	2.062

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.455**	**1.571**	**1.479**	**1.729**	**.0052**	**-.0012**	**1.657**	**.0187**
Stddev	.016	.016	.014	.017	.0020	.0009	.023	.0021
%RSD	1.106	1.024	.9640	1.009	37.77	76.89	1.369	11.04
#1	1.438	1.560	1.464	1.715	.0059	-.0006	1.642	.0208
#2	1.456	1.589	1.479	1.749	.0030	-.0007	1.683	.0188
#3	1.470	1.563	1.493	1.723	.0067	-.0023	1.645	.0167

Zoom In Zoom Out

Sample Name: MP18781A-PS1 Acquired: 12/10/2019 21:08:56 Type: Unk
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**284190.**	**31764.**	**8110.6**	**14465.**
Stddev	2510.	26.	62.3	106.
%RSD	.88305	.08262	.76772	.73202
#1	286790.	31768.	8150.5	14517.
#2	284020.	31736.	8038.9	14344.
#3	281780.	31788.	8142.4	14535.

Zoom In Zoom Out

Sample Name: CCV Acquired: 12/10/2019 21:13:53 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.962**	**1.964**	**1.999**	**1.973**	**1.945**	**1.913**	**1.955**	**1.947**	**.2338**
Stddev	.014	.012	.055	.052	.017	.016	.019	.052	.0023
%RSD	.6929	.5880	2.733	2.656	.8599	.8565	.9714	2.693	.9943
#1	1.971	1.972	1.974	1.951	1.964	1.931	1.976	1.924	.2364
#2	1.969	1.970	2.061	2.033	1.932	1.908	1.948	2.007	.2330
#3	1.947	1.951	1.960	1.935	1.939	1.899	1.940	1.910	.2320
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.898**	**2.048**	**2.008**	**1.990**	**1.934**	**2.001**	**1.920**	**41.03**	**41.44**
Stddev	.017	.061	.053	.051	.054	.057	.055	.27	.25
%RSD	.8726	2.983	2.654	2.540	2.777	2.841	2.867	.6625	.5947
#1	1.917	2.024	1.986	1.967	1.909	1.977	1.895	41.25	41.66
#2	1.886	2.117	2.068	2.048	1.996	2.066	1.983	41.10	41.49
#3	1.891	2.002	1.969	1.955	1.897	1.960	1.881	40.73	41.17
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**40.33**	**40.02**	**40.31**	**39.74**	**1.923**	**2.024**	**4.776**	**2.100**	**2.030**
Stddev	.23	.22	.30	.27	.052	.056	.133	.057	.014
%RSD	.5811	.5528	.7347	.6804	2.707	2.769	2.792	2.720	.6948
#1	40.52	40.13	40.54	39.98	1.899	2.000	4.717	2.077	2.039
#2	40.38	40.18	40.42	39.80	1.982	2.089	4.929	2.165	2.036
#3	40.07	39.77	39.98	39.45	1.886	1.985	4.682	2.058	2.014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CCV Acquired: 12/10/2019 21:13:53 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.833**	**1.979**	**1.863**	**1.928**	**1.938**	**1.919**	**1.965**	**1.858**
Stddev	.015	.054	.016	.057	.050	.015	.056	.014
%RSD	.7960	2.718	.8425	2.967	2.560	.7775	2.844	.7509
#1	1.849	1.957	1.881	1.909	1.914	1.929	1.943	1.874
#2	1.821	2.040	1.853	1.993	1.996	1.926	2.029	1.850
#3	1.828	1.939	1.856	1.883	1.906	1.902	1.924	1.850
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**283760.**	**31934.**	**8265.5**	**14464.**
Stddev	2272.	114.	182.2	301.
%RSD	.80079	.35655	2.2042	2.0778
#1	281150.	31840.	8341.3	14595.
#2	285320.	31902.	8057.6	14120.
#3	284800.	32061.	8397.5	14677.

Zoom In Zoom Out

Sample Name: CCB Acquired: 12/10/2019 21:18:52 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0000**	**.0001**	**.0001**	**.0000**	**.0005**	**.0011**	**.0000**	**-.0001**
Stddev	.0001	.0000	.0001	.0001	.0001	.0003	.0000	.0002
%RSD	389.4	17.12	62.16	657.3	17.18	23.24	94.60	145.1
#1	.0000	.0001	.0001	-.0001	.0006	.0009	-.0000	-.0002
#2	.0000	.0001	.0000	.0001	.0005	.0014	.0000	-.0002
#3	-.0001	.0001	.0002	.0001	.0004	.0010	.0000	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0008**	**-.0006**	**.0003**	**.0007**	**-.0007**	**-.0005**	**-.0006**	**.0002**
Stddev	.0002	.0002	.0001	.0003	.0005	.0008	.0007	.0009
%RSD	24.36	34.49	31.27	39.62	70.90	149.1	114.5	534.4
#1	.0008	-.0006	.0002	.0007	-.0012	-.0007	-.0013	.0011
#2	.0010	-.0003	.0002	.0009	-.0003	.0003	-.0004	-.0000
#3	.0006	-.0007	.0004	.0004	-.0005	-.0013	-.0000	-.0006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0107**	**.0188**	**.0014**	**-.0116**	**.0246**	**.0190**	**.0033**	**.0003**
Stddev	.0092	.0026	.0008	.0084	.0137	.0057	.0004	.0002
%RSD	85.63	13.58	59.65	72.89	55.74	30.09	11.14	78.05
#1	-.0210	.0178	.0009	-.0019	.0176	.0164	.0037	.0005
#2	-.0082	.0217	.0023	-.0155	.0405	.0255	.0031	.0003
#3	-.0031	.0169	.0009	-.0173	.0159	.0150	.0030	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Zoom In Zoom Out

Sample Name: CCB Acquired: 12/10/2019 21:18:52 Type: QC
Method: SGS No Vlave3(v335) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0007**	**-.0000**	**-.0002**	**.0013**	**.0001**	**-.0020**	**-.0004**
Stddev	.0004	.0002	.0000	.0001	.0003	.0001	.0027	.0006
%RSD	125.0	29.55	90.72	55.08	20.78	70.25	136.9	150.0
#1	.0005	.0006	-.0000	-.0002	.0010	.0002	-.0047	-.0011
#2	.0005	.0005	.0000	-.0003	.0015	.0000	-.0020	-.0003
#3	-.0001	.0009	-.0000	-.0001	.0013	.0001	.0007	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	**-.0011**	F **-.0158**	**-.0030**
Stddev	.0002	.0024	.0028
%RSD	21.13	15.37	95.88
#1	-.0014	-.0144	.0001
#2	-.0009	-.0186	-.0034
#3	-.0011	-.0145	-.0056
Check ?	Chk Pass	Chk Fail	Chk Pass
High Limit		.0125	
Low Limit		-.0125	

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**294170.**	**31878.**	**8462.3**	**15326.**
Stddev	2366.	241.	49.1	70.
%RSD	.80419	.75488	.58025	.45758
#1	296870.	32130.	8499.5	15352.
#2	293170.	31650.	8480.7	15379.
#3	292460.	31855.	8406.6	15246.

	Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
	Ba 455.403 { 74}	☒	1	Zr	0.001200	0.000000	No
	Be 313.042 {108}	☒	12	V	0.000773	0.000000	No
				Mo	-0.000067	0.000000	No
				Ti	-0.000340	0.000000	No
				Mn	-0.000015	0.000000	No
				Cu	-0.000008	0.000000	No
				Zn	-0.000010	0.000000	No
				Al	0.000000	0.000000	No
				Ni	-0.000050	0.000000	No
				Cr	0.000003	0.000000	No
				Fe	0.000001	0.000000	No
				Mg	0.000000	0.000000	No
				K	0.000000	0.000000	No
	Cd 228.802 {448}	☒	11	As	0.014600	0.000000	No
				Ni	-0.000230	0.000000	No
				Fe	0.000008	0.000000	No
				V	0.000110	0.000000	No
				Ba	0.000021	0.000000	No
				Co	-0.002050	0.000000	No
				Mn	0.000013	0.000000	No
				Cr	-0.000050	0.000000	No
				Cu	-0.000009	0.000000	No
				Ti	0.000000	0.000000	No
				Mo	0.000030	0.000000	No
	Co 228.616 {448}	☒	7	Cr	0.000051	0.000000	No
				Mo	-0.001058	0.000000	No
				Ni	0.000091	0.000000	No
				Ti	0.001910	0.000000	No
				W	0.000160	0.000000	No
				Cd	0.000012	0.000000	No
				Be	0.000100	0.000000	No
	Cr 267.716 {126}	☒	7	Mn	0.000417	0.000000	No
				Mo	-0.000099	0.000000	No
				Ba	0.000013	0.000000	No
				Cu	0.000020	0.000000	No
				Sr	0.000003	0.000000	No
				Fe	-0.000010	0.000000	No
				W	0.000000	0.000000	No
	Cu 324.754 {104}2	☒	16	Cr	0.000056	0.000000	No
				V	-0.000411	0.000000	No
				Mo	0.000624	0.000000	No
				Ti	0.000010	0.000000	No
				Fe	-0.000073	0.000000	No
				Sn	0.000103	0.000000	No
				Co	-0.000570	0.000000	No
				Zr	0.000699	0.000000	No
				Si	-0.000007	0.000000	No
				Ag	-0.000077	0.000000	No
				Sb	0.000010	0.000000	No
				B	0.000000	0.000000	No
				Mg	-0.000001	0.000000	No
				Al	0.000002	0.000000	No
				W	-0.021000	0.000000	No
				Mn	0.000004	0.000000	No
	Mn 257.610 {131}	☒	8	Fe	-0.000084	0.000000	No
				Si	0.000011	0.000000	No
				Ba	0.000012	0.000000	No

	Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
				Ni	0.000028	0.000000	No
				Mo	0.000000	0.000000	No
				Cr	-0.000110	0.000000	No
				Mg	0.000000	0.000000	No
				Al	0.000000	0.000000	No
	Ni 231.604 {446}	☒	10	Fe	0.000032	0.000000	No
				Zn	-0.000021	0.000000	No
				Be	-0.000112	0.000000	No
				Co	-0.000075	0.000000	No
				Tl	0.000209	0.000000	No
				Mo	0.000081	0.000000	No
				V	-0.000032	0.000000	No
				Cu	0.000006	0.000000	No
				Se	0.000286	0.000000	No
				Sn	-0.000026	0.000000	No
	Ag 328.068 {103}	☒	16	Mn	0.000162	0.000000	No
				Mo	0.000019	0.000000	No
				Ti	-0.000075	0.000000	No
				Fe	-0.000200	0.000000	No
				V	-0.005240	0.000000	No
				Zn	-0.000090	0.000000	No
				Ca	-0.000004	0.000000	No
				Al	-0.000000	0.000000	No
				Ba	-0.000095	0.000000	No
				Cr	0.000016	0.000000	No
				Si	-0.000000	0.000000	No
				Zr	0.017087	0.000000	No
				W	0.000000	0.000000	No
				Sn	0.000008	0.000000	No
				Ni	0.000020	0.000000	No
				Ce	-0.001200	0.000000	No
	V 292.402 {115}	☒	6	Ti	0.000704	0.000000	No
				Mo	-0.000100	0.000000	No
				Sr	0.000000	0.000000	No
				Cr	-0.009162	0.000000	No
				Mn	-0.001020	0.000000	No
				Fe	0.000005	0.000000	No
	Zn 206.200 {464}	☒	13	Cr	-0.001272	0.000000	No
				Mo	-0.000125	0.000000	No
				Fe	0.000009	0.000000	No
				Ba	0.000108	0.000000	No
				Sr	-0.000023	0.000000	No
				Sn	0.000069	0.000000	No
				Cu	0.000156	0.000000	No
				As	0.000449	0.000000	No
				Be	0.000071	0.000000	No
				Bi	-0.002000	0.000000	No
				Mn	0.000055	0.000000	No
				W	0.000000	0.000000	No
				Al	0.000008	0.000000	No
	As 189.042 {478}	☒	23	Al	-0.000001	0.000000	No
				Fe	-0.000135	0.000000	No
				Ca	-0.000005	0.000000	No
				Mn	-0.000224	0.000000	No
				Mo	0.001160	0.000000	No
				Cr	0.000719	0.000000	No
				V	0.000178	0.000000	No

	Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
				Co	0.000100	0.000000	No
				Sn	-0.000085	0.000000	No
				Cd	0.000092	0.000000	No
				Tl	0.000150	0.000000	No
				Si	0.000050	0.000000	No
				Zn	-0.000052	0.000000	No
				Sr	-0.000090	0.000000	No
				Zr	0.000123	0.000000	No
				Ti	0.000034	0.000000	No
				Cu	0.000100	0.000000	No
				Ag	0.000300	0.000000	No
				Mg	0.000007	0.000000	No
				W	0.000000	0.000000	No
				S	-0.000009	0.000000	No
				B	-0.000013	0.000000	No
				Ce	-0.000600	0.000000	No
	Tl 190.856 {477}	☒	24	Cr	0.000227	0.000000	No
				Mo	-0.006800	0.000000	No
				Al	0.000001	0.000000	No
				Fe	-0.000049	0.000000	No
				V	-0.025900	0.000000	No
				Mn	0.001450	0.000000	No
				Si	-0.000062	0.000000	No
				Ca	-0.000001	0.000000	No
				Ti	-0.001730	0.000000	No
				Mg	0.000001	0.000000	No
				Co	0.003300	0.000000	No
				Sr	-0.000060	0.000000	No
				B	0.000056	0.000000	No
				Ba	-0.000122	0.000000	No
				Zn	0.000087	0.000000	No
				As	0.000005	0.000000	No
				Ni	-0.000030	0.000000	No
				Pb	0.000035	0.000000	No
				S	0.000006	0.000000	No
				W	-0.020000	0.000000	No
				K	0.000000	0.000000	No
				Sn	-0.000054	0.000000	No
				Ag	0.000700	0.000000	No
				Cu	-0.000078	0.000000	No
	Pb 220.353 {453}	☒	22	Al	-0.000137	0.000000	No
				Fe	0.000041	0.000000	No
				Ca	-0.000002	0.000000	No
				Mn	0.000125	0.000000	No
				Zn	-0.000036	0.000000	No
				Mo	-0.001000	0.000000	No
				Cu	0.000200	0.000000	No
				V	-0.000093	0.000000	No
				Co	-0.000061	0.000000	No
				Ti	-0.000210	0.000000	No
				Si	0.000025	0.000000	No
				Ba	-0.000012	0.000000	No
				Sb	-0.000190	0.000000	No
				Sr	0.000070	0.000000	No
				W	0.000000	0.000000	No
				Cd	0.000193	0.000000	No
				Cr	-0.000124	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Zr	-0.000135	0.000000	No
			Ni	-0.000009	0.000000	No
			S	0.000001	0.000000	No
			B	0.000000	0.000000	No
			Mg	0.000018	0.000000	No
Se 196.090 {472}	☒	21	Al	0.000012	0.000000	No
			Ca	0.000001	0.000000	No
			Mn	0.000879	0.000000	No
			Mo	-0.000072	0.000000	No
			Fe	-0.000257	0.000000	No
			Co	0.000119	0.000000	No
			V	0.000421	0.000000	No
			Sr	0.000042	0.000000	No
			Si	-0.000237	0.000000	No
			Tl	-0.000520	0.000000	No
			Be	-0.000543	0.000000	No
			Zn	-0.000038	0.000000	No
			B	-0.000140	0.000000	No
			Ti	-0.000192	0.000000	No
			Cd	-0.000160	0.000000	No
			Zr	-0.000152	0.000000	No
			Ba	0.000087	0.000000	No
			Mg	-0.000002	0.000000	No
			Cr	0.000053	0.000000	No
			S	0.000008	0.000000	No
			W	0.000000	0.000000	No
Sb 206.833 {463}	☒	15	Fe	0.000026	0.000000	No
			Al	0.000006	0.000000	No
			Ca	0.000003	0.000000	No
			Ni	-0.000901	0.000000	No
			Cr	0.022200	0.000000	No
			V	-0.002105	0.000000	No
			Zn	-0.000084	0.000000	No
			Mo	-0.001420	0.000000	No
			Ti	0.001130	0.000000	No
			Sn	-0.012300	0.000000	No
			Mg	0.000002	0.000000	No
			Zr	-0.000291	0.000000	No
			Sr	-0.000049	0.000000	No
			W	0.000000	0.000000	No
			Ce	-0.001800	0.000000	No
Al 396.152 { 85}	☒	5	Si	0.000378	0.000000	No
			Ca	0.000191	0.000000	No
			Mo	0.041162	0.000000	No
			Zr	0.013506	0.000000	No
			Ti	-0.000017	0.000000	No
Ca 317.933 {106}	☒	14	Fe	0.000130	0.000000	No
			W	0.003960	0.000000	No
			Tl	0.004948	0.000000	No
			Be	0.001840	0.000000	No
			Ba	0.003500	0.000000	No
			Cu	-0.001800	0.000000	No
			Cd	0.003700	0.000000	No
			Ni	0.001513	0.000000	No
			B	-0.000210	0.000000	No
			Se	0.002000	0.000000	No
			Co	0.000540	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Cr	0.000640	0.000000	No
			Al	0.000026	0.000000	No
			As	0.002488	0.000000	No
Fe 259.940 {130}	☒	8	Cr	-0.000566	0.000000	No
			Mn	-0.000025	0.000000	No
			V	-0.000064	0.000000	No
			Cu	0.001043	0.000000	No
			Zn	0.000046	0.000000	No
			Ti	-0.000631	0.000000	No
			Ca	-0.000020	0.000000	No
			Ba	-0.009000	0.000000	No
Mg 279.079 {121}	☒	2	Mo	-0.017699	0.000000	No
			Ti	-0.014200	0.000000	No
K 766.490 { 44}	☒	10	Al	-0.000023	0.000000	No
			Ca	0.000179	0.000000	No
			Mn	0.001430	0.000000	No
			Si	-0.003000	0.000000	No
			V	-0.002000	0.000000	No
			Sn	-0.004700	0.000000	No
			Ba	-0.002700	0.000000	No
			Mo	0.007150	0.000000	No
			Cu	-0.010000	0.000000	No
			Ni	-0.010000	0.000000	No
Na 589.592 { 57}	☒	5	K	-0.000560	0.000000	No
			Ba	0.000900	0.000000	No
			Ca	0.000055	0.000000	No
			Al	0.000040	0.000000	No
			V	-0.005000	0.000000	No
B 208.959 {462}	☒	1	Mo	0.028218	0.000000	No
Mo 202.030 {467}	☒	1	Fe	-0.000010	0.000000	No
Si 212.412 {459}	☒	14	Sr	0.000366	0.000000	No
			Ni	0.000106	0.000000	No
			Mo	0.028291	0.000000	No
			V	0.008723	0.000000	No
			Ti	0.006772	0.000000	No
			Al	0.000024	0.000000	No
			Cd	0.001043	0.000000	No
			Ba	0.000170	0.000000	No
			Sn	0.001790	0.000000	No
			Zn	0.000385	0.000000	No
			As	0.000140	0.000000	No
			Pb	0.000471	0.000000	No
			Ca	0.000011	0.000000	No
			W	0.000000	0.000000	No
Sn 189.989 {478}	☒	5	Ti	-0.000359	0.000000	No
			Mo	0.000011	0.000000	No
			Si	-0.000009	0.000000	No
			Fe	0.000000	0.000000	No
			W	0.000000	0.000000	No
Sr 407.771 { 83}	☒	1	Ca	0.000011	0.000000	No
Ti 334.904 {101}	☒	3	Cr	0.000069	0.000000	No
			Mo	0.001092	0.000000	No
			Si	0.000035	0.000000	No
Y 360.073 { 94}*	☒	None				
Y 371.030 { 91}*	☒	None				
Y 224.306 {451}*	☒	None				
In 230.606 {446}*	☒	None				

	Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
	W 207.911 {462}	☒	18	As	-0.000459	0.000000	No
				Mn	-0.000110	0.000000	No
				Mo	-0.000300	0.000000	No
				Sr	0.000050	0.000000	No
				V	-0.000140	0.000000	No
				Cd	-0.000650	0.000000	No
				Cr	-0.000390	0.000000	No
				Zn	0.012900	0.000000	No
				Sn	0.001300	0.000000	No
				Zr	0.000763	0.000000	No
				Sb	-0.000200	0.000000	No
				Co	0.000041	0.000000	No
				Ni	-0.000263	0.000000	No
				Be	-0.000130	0.000000	No
				Se	-0.002600	0.000000	No
				Cu	-0.000118	0.000000	No
				Ba	-0.000090	0.000000	No
				Tl	-0.000110	0.000000	No
	Zr 339.198 { 99}	☒	6	Mo	0.000415	0.000000	No
				Fe	-0.000033	0.000000	No
				Si	0.000083	0.000000	No
				Ti	0.000049	0.000000	No
				V	0.000120	0.000000	No
				W	0.000100	0.000000	No
	S 182.034 {485}	☒	9	Ca	-0.000105	0.000000	No
				Mo	-0.001096	0.000000	No
				Al	-0.000207	0.000000	No
				Fe	-0.000075	0.000000	No
				Mn	0.004790	0.000000	No
				Zn	-0.001538	0.000000	No
				Cd	-0.001300	0.000000	No
				W	0.000000	0.000000	No
				Mg	0.000038	0.000000	No
	Bi 223.061 {451}	☒	9	V	-0.000380	0.000000	No
				Co	-0.008710	0.000000	No
				Mg	-0.000002	0.000000	No
				W	-0.003914	0.000000	No
				Cu	-0.001404	0.000000	No
				Fe	0.000167	0.000000	No
				Cr	0.001500	0.000000	No
				Ti	-0.015470	0.000000	No
				Mo	-0.000200	0.000000	No
	Li 670.784 { 50}	☒	1	Ca	0.000036	0.000000	No
	P 177.495 {490}	☒	None				
	Ce 404.076 { 83}	☒	None				

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)
	Ba 455.403 { 74}	12/11/2019 9:43:01	12/10/2019 10:57:00	Linear	None	0.002266	1.226944	0.000000	1.000000
	Be 313.042 {108}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.000138	1.866716	0.000000	1.000000
	Cd 228.802 {448}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000415	0.806072	0.000000	1.000000
	Co 228.616 {448}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.000103	0.523566	0.000000	1.000000
	Cr 267.716 {126}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.000039	0.078993	0.000000	1.000000
	Cu 324.754 {104}2	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.002291	0.186182	0.000000	1.000000
	Mn 257.610 {131}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000077	0.463640	0.000000	1.000000
	Ni 231.604 {446}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000341	0.381410	0.000000	1.000000
	Ag 328.068 {103}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.000195	0.090279	0.000000	1.000000
	V 292.402 {115}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000043	0.107985	0.000000	1.000000
	Zn 206.200 {464}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000114	0.830868	0.000000	1.000000
	As 189.042 {478}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.000312	0.071334	0.000000	1.000000
	Tl 190.856 {477}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.000042	0.046736	0.000000	1.000000
	Pb 220.353 {453}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000125	0.142414	0.000000	1.000000
	Se 196.090 {472}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000250	0.059351	0.000000	1.000000
	Sb 206.833 {463}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.000009	0.108568	0.000000	1.000000
	Al 396.152 { 85}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000213	0.023577	0.000000	1.000000
	Ca 317.933 {106}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.004735	0.046944	0.000000	1.000000
	Fe 259.940 {130}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000065	0.033639	0.000000	1.000000
	Mg 279.079 {121}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.000016	0.004162	0.000000	1.000000
	K 766.490 { 44}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000443	0.015550	0.000000	1.000000
	Na 589.592 { 57}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.002526	0.051578	0.000000	1.000000
	B 208.959 {462}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000433	0.162054	0.000000	1.000000
	Mo 202.030 {467}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.000257	0.552325	0.000000	1.000000
	Si 212.412 {459}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.001804	0.161129	0.000000	1.000000
	Sn 189.989 {478}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000118	0.126581	0.000000	1.000000
	Sr 407.771 { 83}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.001412	2.705190	0.000000	1.000000
	Ti 334.904 {101}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000070	0.104946	0.000000	1.000000
	Y 360.073 { 94}*	12/11/2019 9:43:01	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
	Y 371.030 { 91}*	12/11/2019 9:43:01	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
	Y 224.306 {451}*	12/11/2019 9:43:01	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
	In 230.606 {446}*	12/11/2019 9:43:01	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
	W 207.911 {462}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	0.000052	0.259385	0.000000	1.000000
	Zr 339.198 { 99}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.000236	0.232935	0.000000	1.000000
	S 182.034 {485}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.001237	0.031243	0.000000	1.000000
	Bi 223.061 {451}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.000031	0.155290	0.000000	1.000000
	Li 670.784 { 50}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.000139	0.314681	0.000000	1.000000
	P 177.495 {490}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	None	-0.005823	0.049093	0.000000	1.000000
	Ce 404.076 { 83}	12/11/2019 9:43:01	12/10/2019 10:57:01	Linear	1/Conc	0.000004	0.020508	0.000000	1.000000

	Element, Wavelength and Order	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Reslope		QC Norm	
							Slope	Y-int	Slope factor	Offset
	Ba 455.403 { 74}	1.000000	0.000000	0.000171	0.000571	OK.	1.000000	0.000000	1	0
	Be 313.042 {108}	1.000000	0.000000	0.000055	0.000184	OK.	1.000000	0.000000	1	0
	Cd 228.802 {448}	1.000000	0.000000	0.000165	0.000550	OK.	1.000000	0.000000	1	0
	Co 228.616 {448}	1.000000	0.000000	0.000223	0.000744	OK.	1.000000	0.000000	1	0
	Cr 267.716 {126}	1.000000	0.000000	0.000253	0.000844	OK.	1.000000	0.000000	1	0
	Cu 324.754 {104}2	1.000000	0.000000	0.000257	0.000858	OK.	1.000000	0.000000	1	0
	Mn 257.610 {131}	1.000000	0.000000	0.000038	0.000127	OK.	1.000000	0.000000	1	0
	Ni 231.604 {446}	1.000000	0.000000	0.000271	0.000904	OK.	1.000000	0.000000	1	0
	Ag 328.068 {103}	1.000000	0.000000	0.000347	0.001158	OK.	1.000000	0.000000	1	0
	V 292.402 {115}	1.000000	0.000000	0.000291	0.000969	OK.	1.000000	0.000000	1	0
	Zn 206.200 {464}	1.000000	0.000000	0.000131	0.000437	OK.	1.000000	0.000000	1	0
	As 189.042 {478}	1.000000	0.000000	0.001255	0.004183	OK.	1.000000	0.000000	1	0
	Tl 190.856 {477}	1.000000	0.000000	0.001171	0.003903	OK.	1.000000	0.000000	1	0
	Pb 220.353 {453}	1.000000	0.000000	0.001008	0.003360	OK.	1.000000	0.000000	1	0
	Se 196.090 {472}	1.000000	0.000000	0.001884	0.006279	OK.	1.000000	0.000000	1	0
	Sb 206.833 {463}	1.000000	0.000000	0.001337	0.004456	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	1.000000	0.000000	0.008505	0.028352	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	1.000000	0.000000	0.002355	0.007849	OK.	1.000000	0.000000	1	0
	Fe 259.940 {130}	1.000000	0.000000	0.001771	0.005902	OK.	1.000000	0.000000	1	0
	Mg 279.079 {121}	1.000000	0.000000	0.016921	0.056405	OK.	1.000000	0.000000	1	0
	K 766.490 { 44}	1.000000	0.000000	0.024373	0.081243	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	1.000000	0.000000	0.007331	0.024436	OK.	1.000000	0.000000	1	0
	B 208.959 {462}	1.000000	0.000000	0.000606	0.002020	OK.	1.000000	0.000000	1	0
	Mo 202.030 {467}	1.000000	0.000000	0.000228	0.000760	OK.	1.000000	0.000000	1	0
	Si 212.412 {459}	1.000000	0.000000	0.000914	0.003046	OK.	1.000000	0.000000	1	0
	Sn 189.989 {478}	1.000000	0.000000	0.000656	0.002188	OK.	1.000000	0.000000	1	0
	Sr 407.771 { 83}	1.000000	0.000000	0.000068	0.000226	OK.	1.000000	0.000000	1	0
	Ti 334.904 {101}	1.000000	0.000000	0.000265	0.000883	OK.	1.000000	0.000000	1	0
	Y 360.073 { 94}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
	Y 371.030 { 91}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
	Y 224.306 {451}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
	In 230.606 {446}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
	W 207.911 {462}	1.000000	0.000000	0.000949	0.003164	OK.	1.000000	0.000000	1	0
	Zr 339.198 { 99}	1.000000	0.000000	0.000153	0.000511	OK.	1.000000	0.000000	1	0
	S 182.034 {485}	1.000000	0.000000	0.002888	0.009628	OK.	1.000000	0.000000	1	0
	Bi 223.061 {451}	1.000000	0.000000	0.001290	0.004299	OK.	1.000000	0.000000	1	0
	Li 670.784 { 50}	1.000000	0.000000	0.001221	0.004069	OK.	1.000000	0.000000	1	0
	P 177.495 {490}	1.000000	0.000000	0.001897	0.006324	OK.	1.000000	0.000000	1	0
	Ce 404.076 { 83}	1.000000	0.000000	0.002336	0.007785	OK.	1.000000	0.000000	1	0

Quantitation Report

File Name	001CALB.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 9:04
Sample Name	STDA 5
Sample Type	CalBlk
Comment	0
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.001	ug/l	158.58	14.67	1.107E-05	Pulse	0.25	3
B			1	-1.519	ug/l	-0.81	3,584.90	2.708E-03	Pulse	0.15	3
Ca			1	3.826	ug/l	23.85	19,805.78	1.003E-02	Pulse	0.10	3
Sr			1	0.001	ug/l	96.33	243.34	9.346E-05	Pulse	0.10	3
Mo			1	-0.002	ug/l	-238.96	50.00	1.908E-05	Pulse	0.10	3
Ag			1	0.000	ug/l	539.68	13.33	5.134E-06	Pulse	0.10	3
Sn			1	0.230	ug/l	4.20	1,103.41	4.309E-04	Pulse	0.10	3
Sb			1	-0.045	ug/l	-8.01	143.34	3.761E-05	Pulse	0.10	3
Ba			1	-0.002	ug/l	-72.80	36.67	9.615E-06	Pulse	0.10	3
Tl			1	0.000	ug/l	-270.17	40.00	1.678E-05	Pulse	0.10	3
Pb			1	-0.003	ug/l	-120.24	200.01	8.296E-05	Pulse	0.10	3
Pb			1	-0.010	ug/l	-9.18	163.34	6.787E-05	Pulse	0.10	3
Pb			1	-0.004	ug/l	-51.42	756.70	3.142E-04	Pulse	0.10	3
Na			2	-0.427	ug/l	-113.41	16,056.66	1.393E-01	Pulse	0.30	3
Mg			2	-0.090	ug/l	-49.43	102.23	8.882E-04	Pulse	0.30	3
Al			2	-1.162	ug/l	-7.81	73.33	6.368E-04	Pulse	0.30	3
K			2	-0.691	ug/l	-99.17	8,816.84	7.651E-02	Pulse	0.30	3
Ca			2	-0.844	ug/l	-184.94	92.22	7.991E-04	Pulse	0.30	3
Ti			2	0.000	ug/l	16150.21	1.11	9.666E-06	Pulse	0.30	3
V			2	-0.101	ug/l	-4.57	161.11	1.399E-03	Pulse	0.30	3
Cr			2	0.008	ug/l	57.03	500.01	4.339E-03	Pulse	0.30	3
Mn			2	0.006	ug/l	136.72	67.78	5.894E-04	Pulse	0.30	3
Fe			2	-1.321	ug/l	-2.40	2,385.80	2.071E-02	Pulse	0.30	3
Co			2	0.001	ug/l	152.14	22.21	1.931E-04	Pulse	0.30	3
Ni			2	-0.061	ug/l	-9.88	305.56	2.651E-03	Pulse	0.30	3
Cu			2	0.247	ug/l	18.74	7,518.46	6.524E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Zn			2	-0.633	ug/l	-11.08	320.01	2.778E-03	Pulse	0.30	3
As			2	0.004	ug/l	143.77	10.33	8.953E-05	Pulse	1.00	3
Cd			2	0.005	ug/l	72.91	10.00	1.639E-05	Pulse	0.30	3
Sn			2	0.112	ug/l	9.50	323.34	5.305E-04	Pulse	0.30	3
Se			3	-0.020	ug/l	-9.51	2.80	1.501E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,323,998.01	0.15	100.0	Pulse	0.10	3
1	Sc		1,975,935.96	1.50	100.0	Pulse	0.10	3
1	Ge		372,221.78	1.94	100.0	Pulse	0.10	3
1	Ge		513,153.71	0.86	100.0	Pulse	0.10	3
1	Rh		2,599,918.97	2.40	100.0	Pulse	0.10	3
1	In		2,560,681.08	1.91	100.0	Pulse	0.10	3
1	Tb		3,817,137.76	1.66	100.0	Pulse	0.10	3
1	Ho		384,845.28	1.72	100.0	Pulse	0.10	3
1	Bi		2,405,368.82	1.73	100.0	Pulse	0.10	3
2	Sc		115,251.51	0.94	100.0	Pulse	0.30	3
2	Ge		62,055.11	0.90	100.0	Pulse	0.30	3
2	Ge		93,884.72	0.61	100.0	Pulse	0.30	3
2	Rh		1,734,005.80	0.38	100.0	Pulse	0.30	3
2	In		609,426.11	0.81	100.0	Pulse	0.30	3
2	Tb		2,275,917.97	0.51	100.0	Pulse	0.30	3
2	Ho		229,015.83	0.25	100.0	Pulse	0.30	3
2	Bi		1,565,827.65	1.00	100.0	Pulse	0.30	3
3	Sc		195,899.47	0.74	100.0	Pulse	0.30	3
3	Ge		123,559.26	0.96	100.0	Pulse	0.30	3
3	Ge		186,471.96	1.14	100.0	Pulse	0.30	3
3	Rh		1,948,830.20	1.00	100.0	Pulse	0.30	3
3	Tb		3,322,809.17	0.68	100.0	Pulse	0.30	3

Quantitation Report

File Name	002CALB.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 9:09
Sample Name	STDA
Sample Type	CalBlk
Comment	0
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.000	ug/l	-410.42	5.33	4.110E-06	Pulse	0.25	3
B			1	-1.517	ug/l	-2.75	3,549.33	2.715E-03	Pulse	0.15	3
Ca			1	3.428	ug/l	17.25	19,512.13	9.900E-03	Pulse	0.10	3
Sr			1	0.003	ug/l	90.90	303.35	1.169E-04	Pulse	0.10	3
Mo			1	-0.009	ug/l	-21.00	6.67	2.507E-06	Pulse	0.10	3
Ag			1	0.001	ug/l	205.87	20.00	7.773E-06	Pulse	0.10	3
Sn			1	0.210	ug/l	6.37	920.07	3.607E-04	Pulse	0.10	3
Sb			1	-0.047	ug/l	-7.85	123.34	3.217E-05	Pulse	0.10	3
Ba			1	-0.001	ug/l	-175.17	40.00	1.041E-05	Pulse	0.10	3
Tl			1	-0.001	ug/l	-57.51	16.67	6.839E-06	Pulse	0.10	3
Pb			1	-0.011	ug/l	-12.09	116.67	4.843E-05	Pulse	0.10	3
Pb			1	-0.008	ug/l	-98.64	186.68	7.772E-05	Pulse	0.10	3
Pb			1	-0.005	ug/l	-54.59	690.03	2.866E-04	Pulse	0.10	3
Na			2	-0.290	ug/l	-36.27	16,336.89	1.407E-01	Pulse	0.30	3
Mg			2	-0.122	ug/l	-21.66	86.67	7.454E-04	Pulse	0.30	3
Al			2	-1.102	ug/l	-10.15	84.44	7.261E-04	Pulse	0.30	3
K			2	-0.905	ug/l	-124.15	8,814.64	7.591E-02	Pulse	0.30	3
Ca			2	-1.875	ug/l	-57.91	74.45	6.399E-04	Pulse	0.30	3
Ti			2	0.016	ug/l	150.34	3.33	2.887E-05	Pulse	0.30	3
V			2	-0.113	ug/l	-2.83	111.12	9.570E-04	Pulse	0.30	3
Cr			2	0.009	ug/l	142.34	507.79	4.373E-03	Pulse	0.30	3
Mn			2	0.005	ug/l	65.19	65.56	5.643E-04	Pulse	0.30	3
Fe			2	-1.386	ug/l	-1.19	2,107.94	1.815E-02	Pulse	0.30	3
Co			2	0.001	ug/l	91.61	23.32	2.011E-04	Pulse	0.30	3
Ni			2	-0.055	ug/l	-35.14	323.34	2.785E-03	Pulse	0.30	3
Cu			2	0.243	ug/l	23.81	7,544.03	6.497E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Zn			2	-0.633	ug/l	-6.94	322.23	2.777E-03	Pulse	0.30	3
As			2	-0.007	ug/l	-16.59	5.33	4.591E-05	Pulse	1.00	3
Cd			2	0.005	ug/l	85.48	10.00	1.635E-05	Pulse	0.30	3
Sn			2	0.099	ug/l	10.53	288.90	4.716E-04	Pulse	0.30	3
Se			3	-0.022	ug/l	-22.64	2.40	1.288E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,306,872.44	0.96	100.0	Pulse	0.10	3
1	Sc		1,970,900.08	0.99	100.0	Pulse	0.10	3
1	Ge		368,776.78	1.29	100.0	Pulse	0.10	3
1	Ge		506,478.66	1.59	100.0	Pulse	0.10	3
1	Rh		2,602,678.45	2.46	100.0	Pulse	0.10	3
1	In		2,553,281.48	2.16	100.0	Pulse	0.10	3
1	Tb		3,831,827.86	1.82	100.0	Pulse	0.10	3
1	Ho		382,093.46	2.21	100.0	Pulse	0.10	3
1	Bi		2,413,550.43	2.32	100.0	Pulse	0.10	3
2	Sc		116,148.44	0.97	100.0	Pulse	0.30	3
2	Ge		62,739.79	1.26	100.0	Pulse	0.30	3
2	Ge		94,546.15	0.99	100.0	Pulse	0.30	3
2	Rh		1,726,407.78	0.60	100.0	Pulse	0.30	3
2	In		612,578.77	0.63	100.0	Pulse	0.30	3
2	Tb		2,293,763.73	0.33	100.0	Pulse	0.30	3
2	Ho		228,160.95	1.04	100.0	Pulse	0.30	3
2	Bi		1,561,193.69	0.99	100.0	Pulse	0.30	3
3	Sc		192,375.40	0.48	100.0	Pulse	0.30	3
3	Ge		123,604.22	1.57	100.0	Pulse	0.30	3
3	Ge		186,206.44	0.75	100.0	Pulse	0.30	3
3	Rh		1,956,037.21	0.89	100.0	Pulse	0.30	3
3	Tb		3,332,490.15	0.96	100.0	Pulse	0.30	3

Quantitation Report

File Name	003CALB.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 9:14
Sample Name	STDA
Sample Type	CalBlk
Comment	0
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.002	ug/l	75.55	16.00	1.238E-05	Pulse	0.25	3
B			1	-1.539	ug/l	-1.10	3,413.76	2.639E-03	Pulse	0.15	3
Ca			1	3.364	ug/l	28.74	19,151.66	9.879E-03	Pulse	0.10	3
Sr			1	0.000	ug/l	627.38	220.01	8.584E-05	Pulse	0.10	3
Mo			1	-0.004	ug/l	-78.92	33.33	1.298E-05	Pulse	0.10	3
Ag			1	0.000	ug/l	-156.36	6.67	2.607E-06	Pulse	0.10	3
Sn			1	0.237	ug/l	9.43	1,160.19	4.585E-04	Pulse	0.10	3
Sb			1	-0.054	ug/l	-1.21	53.33	1.405E-05	Pulse	0.10	3
Ba			1	-0.007	ug/l	-41.03	16.67	4.385E-06	Pulse	0.10	3
Tl			1	0.000	ug/l	-38.92	36.67	1.534E-05	Pulse	0.10	3
Pb			1	-0.005	ug/l	-55.83	180.01	7.543E-05	Pulse	0.10	3
Pb			1	-0.012	ug/l	-59.10	150.01	6.267E-05	Pulse	0.10	3
Pb			1	-0.005	ug/l	-22.79	726.71	3.042E-04	Pulse	0.10	3
Na			2	-0.621	ug/l	-28.30	15,631.76	1.375E-01	Pulse	0.30	3
Mg			2	-0.079	ug/l	-71.80	106.67	9.381E-04	Pulse	0.30	3
Al			2	-1.138	ug/l	-5.86	76.67	6.736E-04	Pulse	0.30	3
K			2	-0.823	ug/l	-28.28	8,658.99	7.614E-02	Pulse	0.30	3
Ca			2	-2.348	ug/l	-33.44	64.45	5.670E-04	Pulse	0.30	3
Ti			2	-0.008	ug/l	0.00	0.00	0.000E+00	Pulse	0.30	3
V			2	-0.109	ug/l	-5.23	125.56	1.104E-03	Pulse	0.30	3
Cr			2	0.018	ug/l	94.29	551.13	4.850E-03	Pulse	0.30	3
Mn			2	0.000	ug/l	-2571.79	48.89	4.293E-04	Pulse	0.30	3
Fe			2	-1.380	ug/l	-0.23	2,091.27	1.839E-02	Pulse	0.30	3
Co			2	0.001	ug/l	128.80	23.32	2.054E-04	Pulse	0.30	3
Ni			2	-0.055	ug/l	-22.32	316.67	2.786E-03	Pulse	0.30	3
Cu			2	0.083	ug/l	13.85	6,353.52	5.587E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Zn			2	-0.699	ug/l	-4.49	252.23	2.216E-03	Pulse	0.30	3
As			2	-0.006	ug/l	-161.49	5.67	4.982E-05	Pulse	1.00	3
Cd			2	0.004	ug/l	188.86	7.78	1.305E-05	Pulse	0.30	3
Sn			2	0.101	ug/l	13.47	288.90	4.818E-04	Pulse	0.30	3
Se			3	-0.023	ug/l	-11.33	2.27	1.263E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,293,536.87	0.79	100.0	Pulse	0.10	3
1	Sc		1,939,101.48	2.13	100.0	Pulse	0.10	3
1	Ge		362,335.19	2.03	100.0	Pulse	0.10	3
1	Ge		503,488.70	2.86	100.0	Pulse	0.10	3
1	Rh		2,566,318.76	1.56	100.0	Pulse	0.10	3
1	In		2,527,874.14	2.27	100.0	Pulse	0.10	3
1	Tb		3,803,448.28	2.29	100.0	Pulse	0.10	3
1	Ho		381,848.59	2.97	100.0	Pulse	0.10	3
1	Bi		2,390,851.00	1.87	100.0	Pulse	0.10	3
2	Sc		113,721.14	0.91	100.0	Pulse	0.30	3
2	Ge		61,158.29	0.13	100.0	Pulse	0.30	3
2	Ge		92,072.20	1.41	100.0	Pulse	0.30	3
2	Rh		1,710,535.90	0.49	100.0	Pulse	0.30	3
2	In		599,791.36	0.74	100.0	Pulse	0.30	3
2	Tb		2,266,117.48	0.67	100.0	Pulse	0.30	3
2	Ho		227,152.63	0.30	100.0	Pulse	0.30	3
2	Bi		1,552,672.72	0.31	100.0	Pulse	0.30	3
3	Sc		187,853.79	0.16	100.0	Pulse	0.30	3
3	Ge		119,394.20	0.67	100.0	Pulse	0.30	3
3	Ge		179,457.76	0.34	100.0	Pulse	0.30	3
3	Rh		1,946,671.52	0.73	100.0	Pulse	0.30	3
3	Tb		3,329,566.05	0.67	100.0	Pulse	0.30	3

Quantitation Report

File Name 004CALS.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 9:27
Sample Name STDB
Sample Type CalStd
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.466	ug/l	6.58	2,769.60	2.180E-03	Pulse	0.25	3
B			1	21.434	ug/l	1.43	105,187.55	8.278E-02	Pulse	0.15	3
Ca			1	256.353	ug/l	0.98	170,976.15	8.990E-02	Pulse	0.10	3
Sr			1	4.776	ug/l	0.96	137,631.39	5.547E-02	Pulse	0.10	3
Mo			1	1.005	ug/l	4.01	5,877.97	2.368E-03	Pulse	0.10	3
Ag			1	0.493	ug/l	1.45	7,095.18	2.873E-03	Pulse	0.10	3
Sn			1	4.797	ug/l	2.45	42,387.83	1.717E-02	Pulse	0.10	3
Sb			1	2.014	ug/l	2.97	21,485.43	5.810E-03	Pulse	0.10	3
Ba			1	0.923	ug/l	1.17	3,913.96	1.059E-03	Pulse	0.10	3
Tl			1	0.487	ug/l	4.83	14,293.99	6.170E-03	Pulse	0.10	3
Pb			1	0.454	ug/l	5.82	4,911.00	2.118E-03	Pulse	0.10	3
Pb			1	0.453	ug/l	0.83	4,367.48	1.885E-03	Pulse	0.10	3
Pb			1	0.457	ug/l	0.67	19,859.26	8.571E-03	Pulse	0.10	3
Na			2	239.897	ug/l	0.47	288,584.03	2.457E+00	Pulse	0.30	3
Mg			2	249.604	ug/l	0.78	132,128.24	1.125E+00	Pulse	0.30	3
Al			2	25.170	ug/l	1.08	4,712.93	4.013E-02	Pulse	0.30	3
K			2	252.659	ug/l	0.37	92,183.03	7.850E-01	Pulse	0.30	3
Ca			2	291.817	ug/l	0.80	5,396.48	4.595E-02	Pulse	0.30	3
Ti			2	0.992	ug/l	38.26	137.78	1.173E-03	Pulse	0.30	3
V			2	0.877	ug/l	2.38	4,427.31	3.770E-02	Pulse	0.30	3
Cr			2	0.928	ug/l	2.67	5,868.88	4.998E-02	Pulse	0.30	3
Mn			2	1.011	ug/l	7.02	3,160.34	2.691E-02	Pulse	0.30	3
Fe			2	23.754	ug/l	0.56	117,031.10	9.965E-01	Pulse	0.30	3
Co			2	0.471	ug/l	3.54	4,305.85	3.666E-02	Pulse	0.30	3
Ni			2	0.924	ug/l	2.33	2,735.82	2.330E-02	Pulse	0.30	3
Cu			2	1.861	ug/l	1.51	18,467.17	1.573E-01	Pulse	0.30	3
Zn			2	5.234	ug/l	2.49	6,152.33	5.239E-02	Pulse	0.30	3
As			2	0.497	ug/l	4.65	247.33	2.106E-03	Pulse	1.00	3
Cd			2	0.458	ug/l	7.48	678.46	1.099E-03	Pulse	0.30	3
Sn			2	4.730	ug/l	0.66	13,448.07	2.179E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	0.465	ug/l	7.04	83.67	4.609E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,270,718.75	0.66	98.2	Pulse	0.10	3
1	Sc		1,901,673.05	1.53	98.1	Pulse	0.10	3
1	Ge		353,435.46	1.73	97.5	Pulse	0.10	3
1	Ge		489,860.17	2.21	97.3	Pulse	0.10	3
1	Rh		2,480,879.50	2.34	96.7	Pulse	0.10	3
1	In		2,470,162.32	2.88	97.7	Pulse	0.10	3
1	Tb		3,697,289.84	3.23	97.2	Pulse	0.10	3
1	Ho		369,113.17	2.68	96.7	Pulse	0.10	3
1	Bi		2,317,135.17	2.85	96.9	Pulse	0.10	3
2	Sc		117,437.71	0.28	103.3	Pulse	0.30	3
2	Ge		62,472.27	1.16	102.1	Pulse	0.30	3
2	Ge		94,770.89	0.73	102.9	Pulse	0.30	3
2	Rh		1,709,093.13	0.63	99.9	Pulse	0.30	3
2	In		617,267.34	0.19	102.9	Pulse	0.30	3
2	Tb		2,288,869.35	0.94	101.0	Pulse	0.30	3
2	Ho		228,443.77	1.22	100.6	Pulse	0.30	3
2	Bi		1,557,875.84	0.89	100.3	Pulse	0.30	3
3	Sc		193,293.94	0.22	102.9	Pulse	0.30	3
3	Ge		120,946.31	1.63	101.3	Pulse	0.30	3
3	Ge		181,549.25	1.01	101.2	Pulse	0.30	3
3	Rh		1,930,688.82	0.45	99.2	Pulse	0.30	3
3	Tb		3,291,771.05	0.43	98.9	Pulse	0.30	3

Quantitation Report

File Name 005CALS.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 9:32
Sample Name STDC
Sample Type CalStd
Comment 5
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	4.972	ug/l	0.46	29,982.38	2.322E-02	Pulse	0.25	3
B			1	3.673	ug/l	0.44	26,881.82	2.082E-02	Pulse	0.15	3
Ca			1	13.921	ug/l	5.16	25,223.14	1.322E-02	Pulse	0.10	3
Sr			1	5.196	ug/l	0.43	152,319.47	6.034E-02	Pulse	0.10	3
Mo			1	5.088	ug/l	2.14	30,032.48	1.190E-02	Pulse	0.10	3
Ag			1	4.994	ug/l	2.23	72,369.06	2.909E-02	Pulse	0.10	3
Sn			1	5.403	ug/l	1.43	48,228.59	1.939E-02	Pulse	0.10	3
Sb			1	4.899	ug/l	1.37	52,277.83	1.390E-02	Pulse	0.10	3
Ba			1	5.027	ug/l	4.91	21,488.93	5.713E-03	Pulse	0.10	3
Tl			1	5.055	ug/l	0.79	151,816.41	6.383E-02	Pulse	0.10	3
Pb			1	4.976	ug/l	0.92	52,895.24	2.224E-02	Pulse	0.10	3
Pb			1	5.017	ug/l	3.00	47,082.79	1.980E-02	Pulse	0.10	3
Pb			1	5.022	ug/l	0.64	214,950.35	9.038E-02	Pulse	0.10	3
Na			2	6.543	ug/l	6.32	23,546.44	2.066E-01	Pulse	0.30	3
Mg			2	5.620	ug/l	2.37	3,031.42	2.659E-02	Pulse	0.30	3
Al			2	5.067	ug/l	17.16	1,137.83	9.979E-03	Pulse	0.30	3
K			2	5.522	ug/l	5.64	10,702.44	9.388E-02	Pulse	0.30	3
Ca			2	32.008	ug/l	8.90	668.91	5.868E-03	Pulse	0.30	3
Ti			2	4.604	ug/l	5.98	616.68	5.409E-03	Pulse	0.30	3
V			2	5.031	ug/l	1.54	21,883.48	1.920E-01	Pulse	0.30	3
Cr			2	5.022	ug/l	0.26	28,838.54	2.530E-01	Pulse	0.30	3
Mn			2	5.165	ug/l	0.99	15,464.04	1.357E-01	Pulse	0.30	3
Fe			2	5.182	ug/l	1.29	31,206.24	2.738E-01	Pulse	0.30	3
Co			2	5.090	ug/l	1.16	45,022.29	3.950E-01	Pulse	0.30	3
Ni			2	5.034	ug/l	0.72	12,473.72	1.094E-01	Pulse	0.30	3
Cu			2	5.214	ug/l	1.53	39,727.92	3.485E-01	Pulse	0.30	3
Zn			2	5.506	ug/l	2.55	6,233.48	5.469E-02	Pulse	0.30	3
As			2	5.116	ug/l	5.86	2,389.85	2.097E-02	Pulse	1.00	3
Cd			2	4.982	ug/l	2.90	7,161.64	1.191E-02	Pulse	0.30	3
Sn			2	5.276	ug/l	0.88	14,610.18	2.430E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	5.156	ug/l	2.44	856.09	4.771E-03	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,291,015.21	1.56	99.8	Pulse	0.10	3
1	Sc		1,908,038.46	0.98	98.4	Pulse	0.10	3
1	Ge		357,549.69	1.54	98.7	Pulse	0.10	3
1	Ge		497,360.66	0.97	98.8	Pulse	0.10	3
1	Rh		2,524,200.33	1.45	98.4	Pulse	0.10	3
1	In		2,487,111.42	1.81	98.4	Pulse	0.10	3
1	Tb		3,760,965.36	2.29	98.9	Pulse	0.10	3
1	Ho		374,291.16	1.77	98.0	Pulse	0.10	3
1	Bi		2,378,514.13	2.62	99.5	Pulse	0.10	3
2	Sc		113,992.80	0.38	100.2	Pulse	0.30	3
2	Ge		61,429.42	0.80	100.4	Pulse	0.30	3
2	Ge		92,246.21	1.22	100.2	Pulse	0.30	3
2	Rh		1,698,866.29	0.76	99.3	Pulse	0.30	3
2	In		601,273.65	0.22	100.2	Pulse	0.30	3
2	Tb		2,253,809.28	0.31	99.5	Pulse	0.30	3
2	Ho		226,233.24	0.53	99.6	Pulse	0.30	3
2	Bi		1,553,542.09	0.01	100.1	Pulse	0.30	3
3	Sc		186,739.62	0.79	99.4	Pulse	0.30	3
3	Ge		119,142.44	0.76	99.8	Pulse	0.30	3
3	Ge		179,477.48	1.49	100.0	Pulse	0.30	3
3	Rh		1,935,348.95	0.22	99.4	Pulse	0.30	3
3	Tb		3,306,202.72	1.17	99.3	Pulse	0.30	3

Quantitation Report

File Name 006CALS.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 9:37
Sample Name STDD
Sample Type CalStd
Comment 25
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	24.809	ug/l	1.86	148,238.96	1.159E-01	Pulse	0.25	3
B			1	22.635	ug/l	2.60	111,269.97	8.697E-02	Pulse	0.15	3
Ca			1	41.798	ug/l	1.75	42,134.33	2.204E-02	Pulse	0.10	3
Sr			1	25.264	ug/l	1.12	750,549.05	2.931E-01	Pulse	0.10	3
Mo			1	25.239	ug/l	0.38	150,958.93	5.894E-02	Pulse	0.10	3
Ag			1	24.385	ug/l	0.69	355,387.52	1.420E-01	Pulse	0.10	3
Sn			1	25.444	ug/l	1.02	232,266.52	9.283E-02	Pulse	0.10	3
Sb			1	25.294	ug/l	0.18	267,985.79	7.108E-02	Pulse	0.10	3
Ba			1	25.409	ug/l	1.59	108,678.62	2.883E-02	Pulse	0.10	3
Tl			1	25.261	ug/l	0.47	755,565.56	3.189E-01	Pulse	0.10	3
Pb			1	25.292	ug/l	0.48	266,884.54	1.126E-01	Pulse	0.10	3
Pb			1	25.456	ug/l	1.07	236,953.20	1.000E-01	Pulse	0.10	3
Pb			1	25.432	ug/l	0.88	1,080,602.07	4.561E-01	Pulse	0.10	3
Na			2	26.584	ug/l	2.60	44,564.99	3.999E-01	Pulse	0.30	3
Mg			2	26.162	ug/l	2.14	13,270.87	1.191E-01	Pulse	0.30	3
Al			2	28.578	ug/l	3.99	5,041.92	4.524E-02	Pulse	0.30	3
K			2	23.967	ug/l	3.61	16,211.29	1.455E-01	Pulse	0.30	3
Ca			2	142.394	ug/l	12.01	2,550.23	2.290E-02	Pulse	0.30	3
Ti			2	25.695	ug/l	1.87	3,360.38	3.015E-02	Pulse	0.30	3
V			2	25.537	ug/l	0.49	106,268.24	9.534E-01	Pulse	0.30	3
Cr			2	25.327	ug/l	1.39	140,420.90	1.260E+00	Pulse	0.30	3
Mn			2	25.448	ug/l	1.53	74,297.94	6.667E-01	Pulse	0.30	3
Fe			2	26.593	ug/l	2.70	123,369.07	1.107E+00	Pulse	0.30	3
Co			2	25.578	ug/l	1.13	221,148.62	1.984E+00	Pulse	0.30	3
Ni			2	25.627	ug/l	2.57	60,290.92	5.410E-01	Pulse	0.30	3
Cu			2	25.620	ug/l	1.71	168,538.00	1.512E+00	Pulse	0.30	3
Zn			2	25.788	ug/l	1.98	25,207.26	2.262E-01	Pulse	0.30	3
As			2	25.644	ug/l	1.52	11,680.19	1.048E-01	Pulse	1.00	3
Cd			2	25.252	ug/l	0.80	35,856.74	6.036E-02	Pulse	0.30	3
Sn			2	25.362	ug/l	1.15	69,350.41	1.167E-01	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	25.469	ug/l	1.17	4,164.00	2.344E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,279,453.05	0.23	98.9	Pulse	0.10	3
1	Sc		1,912,007.52	1.01	98.6	Pulse	0.10	3
1	Ge		357,137.39	2.39	98.6	Pulse	0.10	3
1	Ge		495,958.55	2.32	98.5	Pulse	0.10	3
1	Rh		2,561,246.47	2.41	99.8	Pulse	0.10	3
1	In		2,502,434.81	2.68	99.0	Pulse	0.10	3
1	Tb		3,770,428.28	2.10	99.1	Pulse	0.10	3
1	Ho		374,380.76	2.41	98.0	Pulse	0.10	3
1	Bi		2,369,131.94	2.43	99.1	Pulse	0.10	3
2	Sc		111,457.89	1.01	98.0	Pulse	0.30	3
2	Ge		60,761.32	0.73	99.4	Pulse	0.30	3
2	Ge		91,156.06	0.45	99.0	Pulse	0.30	3
2	Rh		1,685,143.72	0.49	98.5	Pulse	0.30	3
2	In		594,044.18	0.20	99.0	Pulse	0.30	3
2	Tb		2,247,315.75	1.02	99.2	Pulse	0.30	3
2	Ho		224,802.47	0.82	99.0	Pulse	0.30	3
2	Bi		1,552,063.27	0.28	100.0	Pulse	0.30	3
3	Sc		185,090.32	0.29	98.5	Pulse	0.30	3
3	Ge		117,900.09	0.78	98.7	Pulse	0.30	3
3	Ge		177,674.54	0.35	99.0	Pulse	0.30	3
3	Rh		1,942,030.83	1.05	99.8	Pulse	0.30	3
3	Tb		3,319,490.91	0.20	99.7	Pulse	0.30	3

Quantitation Report

File Name 007CALS.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 9:43
Sample Name STDE
Sample Type CalStd
Comment 50
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	48.760	ug/l	0.69	290,127.07	2.277E-01	Pulse	0.25	3
B			1	46.561	ug/l	1.33	217,143.95	1.704E-01	Pulse	0.15	3
Ca			1	77.789	ug/l	4.26	63,565.54	3.342E-02	Pulse	0.10	3
Sr			1	49.882	ug/l	0.93	1,458,677.79	5.785E-01	Pulse	0.10	3
Mo			1	49.607	ug/l	0.35	292,020.75	1.158E-01	Pulse	0.10	3
Ag			1	48.818	ug/l	0.49	707,597.57	2.843E-01	Pulse	0.10	3
Sn			1	49.247	ug/l	1.06	448,003.65	1.800E-01	Pulse	0.10	3
Sb			1	49.165	ug/l	1.42	522,724.33	1.380E-01	Pulse	0.10	3
Ba			1	49.484	ug/l	0.75	212,656.87	5.613E-02	Pulse	0.10	3
Tl			1	49.290	ug/l	0.73	1,492,260.03	6.222E-01	Pulse	0.10	3
Pb			1	49.569	ug/l	0.58	529,181.97	2.207E-01	Pulse	0.10	3
Pb			1	49.502	ug/l	0.34	466,122.27	1.944E-01	Pulse	0.10	3
Pb			1	49.453	ug/l	0.13	2,125,828.45	8.865E-01	Pulse	0.10	3
Na			2	50.660	ug/l	0.75	71,008.61	6.321E-01	Pulse	0.30	3
Mg			2	50.887	ug/l	1.33	25,884.30	2.304E-01	Pulse	0.30	3
Al			2	52.163	ug/l	0.47	9,056.96	8.062E-02	Pulse	0.30	3
K			2	50.433	ug/l	1.15	24,654.93	2.195E-01	Pulse	0.30	3
Ca			2	289.328	ug/l	3.47	5,119.73	4.557E-02	Pulse	0.30	3
Ti			2	50.566	ug/l	3.41	6,664.75	5.932E-02	Pulse	0.30	3
V			2	49.607	ug/l	0.59	207,517.19	1.847E+00	Pulse	0.30	3
Cr			2	49.507	ug/l	0.54	276,256.78	2.459E+00	Pulse	0.30	3
Mn			2	49.674	ug/l	0.37	146,146.59	1.301E+00	Pulse	0.30	3
Fe			2	51.400	ug/l	1.33	232,806.28	2.072E+00	Pulse	0.30	3
Co			2	49.519	ug/l	0.97	431,529.35	3.841E+00	Pulse	0.30	3
Ni			2	49.221	ug/l	1.11	116,324.41	1.035E+00	Pulse	0.30	3
Cu			2	49.490	ug/l	1.46	322,809.62	2.874E+00	Pulse	0.30	3
Zn			2	49.680	ug/l	0.70	48,104.77	4.282E-01	Pulse	0.30	3
As			2	49.913	ug/l	0.82	22,907.36	2.039E-01	Pulse	1.00	3
Cd			2	49.285	ug/l	0.79	70,033.85	1.178E-01	Pulse	0.30	3
Sn			2	49.641	ug/l	0.11	135,833.61	2.285E-01	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	50.531	ug/l	0.54	8,186.18	4.647E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,274,126.66	0.78	98.5	Pulse	0.10	3
1	Sc		1,902,643.41	1.80	98.1	Pulse	0.10	3
1	Ge		358,782.31	2.65	99.0	Pulse	0.10	3
1	Ge		495,244.13	2.25	98.4	Pulse	0.10	3
1	Rh		2,521,295.43	2.02	98.2	Pulse	0.10	3
1	In		2,488,580.50	2.06	98.4	Pulse	0.10	3
1	Tb		3,788,930.88	3.11	99.6	Pulse	0.10	3
1	Ho		378,781.05	3.56	99.2	Pulse	0.10	3
1	Bi		2,397,960.75	2.09	100.3	Pulse	0.10	3
2	Sc		112,341.88	0.61	98.8	Pulse	0.30	3
2	Ge		60,725.72	1.06	99.3	Pulse	0.30	3
2	Ge		91,295.82	1.20	99.2	Pulse	0.30	3
2	Rh		1,692,859.86	0.66	99.0	Pulse	0.30	3
2	In		594,500.79	0.99	99.1	Pulse	0.30	3
2	Tb		2,254,520.54	0.90	99.5	Pulse	0.30	3
2	Ho		225,731.55	0.31	99.4	Pulse	0.30	3
2	Bi		1,553,994.00	0.83	100.1	Pulse	0.30	3
3	Sc		184,919.71	0.18	98.4	Pulse	0.30	3
3	Ge		116,641.10	0.32	97.7	Pulse	0.30	3
3	Ge		176,174.32	0.67	98.2	Pulse	0.30	3
3	Rh		1,930,786.10	0.41	99.2	Pulse	0.30	3
3	Tb		3,331,520.35	0.25	100.1	Pulse	0.30	3

Quantitation Report

File Name 008CALS.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 9:48
Sample Name STDF
Sample Type CalStd
Comment 100
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	100.669	ug/l	0.69	581,635.90	4.701E-01	Pulse	0.25	3
B			1	96.639	ug/l	1.97	427,017.54	3.451E-01	Pulse	0.15	3
Ca			1	145.185	ug/l	0.77	103,470.73	5.474E-02	Pulse	0.10	3
Sr			1	100.090	ug/l	0.41	2,925,026.73	1.161E+00	Pulse	0.10	3
Mo			1	99.685	ug/l	0.91	586,353.21	2.327E-01	Pulse	0.10	3
Ag			1	100.745	ug/l	0.19	1,455,364.20	5.868E-01	Pulse	0.10	3
Sn			1	100.276	ug/l	0.47	910,426.18	3.670E-01	Pulse	0.10	3
Sb			1	100.652	ug/l	0.28	1,073,642.35	2.823E-01	Pulse	0.10	3
Ba			1	100.174	ug/l	0.67	432,091.50	1.136E-01	Pulse	0.10	3
Tl			1	100.287	ug/l	0.43	3,036,999.02	1.266E+00	Pulse	0.10	3
Pb			1	100.144	ug/l	1.04	1,069,091.26	4.457E-01	Pulse	0.10	3
Pb			1	100.134	ug/l	0.73	942,959.75	3.931E-01	Pulse	0.10	3
Pb			1	100.165	ug/l	0.19	4,306,592.12	1.795E+00	Pulse	0.10	3
Na			2	100.653	ug/l	0.79	125,813.98	1.114E+00	Pulse	0.30	3
Mg			2	101.921	ug/l	0.53	51,958.29	4.602E-01	Pulse	0.30	3
Al			2	105.302	ug/l	3.44	18,100.92	1.603E-01	Pulse	0.30	3
K			2	101.216	ug/l	0.94	40,814.20	3.615E-01	Pulse	0.30	3
Ca			2	539.211	ug/l	0.66	9,498.37	8.412E-02	Pulse	0.30	3
Ti			2	99.563	ug/l	2.10	13,187.58	1.168E-01	Pulse	0.30	3
V			2	100.062	ug/l	0.95	420,126.66	3.721E+00	Pulse	0.30	3
Cr			2	99.387	ug/l	0.48	556,989.67	4.933E+00	Pulse	0.30	3
Mn			2	100.468	ug/l	0.68	297,053.31	2.631E+00	Pulse	0.30	3
Fe			2	102.692	ug/l	0.44	459,383.94	4.069E+00	Pulse	0.30	3
Co			2	100.092	ug/l	0.67	876,693.22	7.764E+00	Pulse	0.30	3
Ni			2	100.232	ug/l	0.47	237,628.39	2.105E+00	Pulse	0.30	3
Cu			2	100.092	ug/l	0.63	650,327.32	5.760E+00	Pulse	0.30	3
Zn			2	99.951	ug/l	0.61	96,345.79	8.533E-01	Pulse	0.30	3
As			2	99.877	ug/l	0.74	46,062.87	4.080E-01	Pulse	1.00	3
Cd			2	100.162	ug/l	0.40	141,799.34	2.394E-01	Pulse	0.30	3
Sn			2	100.102	ug/l	0.57	272,883.34	4.607E-01	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	103.945	ug/l	0.43	16,747.27	9.555E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,237,196.04	0.94	95.6	Pulse	0.10	3
1	Sc		1,890,173.05	2.02	97.5	Pulse	0.10	3
1	Ge		356,830.07	2.75	98.5	Pulse	0.10	3
1	Ge		494,657.02	2.42	98.2	Pulse	0.10	3
1	Rh		2,519,761.89	2.27	98.2	Pulse	0.10	3
1	In		2,480,258.94	2.58	98.1	Pulse	0.10	3
1	Tb		3,802,704.63	2.90	100.0	Pulse	0.10	3
1	Ho		381,921.15	3.25	100.0	Pulse	0.10	3
1	Bi		2,399,056.68	2.81	100.3	Pulse	0.10	3
2	Sc		112,913.48	0.57	99.3	Pulse	0.30	3
2	Ge		60,555.08	0.68	99.0	Pulse	0.30	3
2	Ge		91,996.22	1.18	99.9	Pulse	0.30	3
2	Rh		1,680,287.19	0.27	98.2	Pulse	0.30	3
2	In		592,292.30	0.54	98.7	Pulse	0.30	3
2	Tb		2,258,757.27	0.63	99.7	Pulse	0.30	3
2	Ho		225,223.15	0.57	99.2	Pulse	0.30	3
2	Bi		1,556,006.54	0.88	100.2	Pulse	0.30	3
3	Sc		186,564.82	0.64	99.3	Pulse	0.30	3
3	Ge		116,274.13	0.60	97.4	Pulse	0.30	3
3	Ge		175,272.02	0.02	97.7	Pulse	0.30	3
3	Rh		1,922,864.02	0.60	98.8	Pulse	0.30	3
3	Tb		3,336,699.24	0.88	100.2	Pulse	0.30	3

Quantitation Report

File Name 009CALS.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 9:53
Sample Name STDG
Sample Type CalStd
Comment 500MIN
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.011	ug/l	9.91	69.33	5.533E-05	Pulse	0.25	3
B			1	203.315	ug/l	0.88	898,814.86	7.172E-01	Pulse	0.15	3
Ca			1	507.809	ug/l	1.18	320,975.71	1.694E-01	Pulse	0.10	3
Sr			1	0.062	ug/l	9.79	2,013.54	8.063E-04	Pulse	0.10	3
Mo			1	0.210	ug/l	19.03	1,286.78	5.133E-04	Pulse	0.10	3
Ag			1	0.014	ug/l	50.12	210.01	8.509E-05	Pulse	0.10	3
Sn			1	1.038	ug/l	6.89	8,429.21	3.394E-03	Pulse	0.10	3
Sb			1	0.697	ug/l	2.65	7,958.99	2.118E-03	Pulse	0.10	3
Ba			1	0.090	ug/l	24.82	426.69	1.135E-04	Pulse	0.10	3
Tl			1	0.029	ug/l	5.97	903.40	3.855E-04	Pulse	0.10	3
Pb			1	0.047	ug/l	11.95	723.38	3.080E-04	Pulse	0.10	3
Pb			1	0.035	ug/l	16.01	580.03	2.473E-04	Pulse	0.10	3
Pb			1	0.049	ug/l	9.58	2,966.91	1.266E-03	Pulse	0.10	3
Na			2	487.141	ug/l	1.07	549,541.94	4.842E+00	Pulse	0.30	3
Mg			2	506.485	ug/l	1.02	258,957.30	2.282E+00	Pulse	0.30	3
Al			2	512.301	ug/l	0.79	87,478.49	7.708E-01	Pulse	0.30	3
K			2	510.877	ug/l	0.78	171,039.74	1.507E+00	Pulse	0.30	3
Ca			2	516.145	ug/l	3.01	9,141.51	8.056E-02	Pulse	0.30	3
Ti			2	0.150	ug/l	41.85	21.11	1.858E-04	Pulse	0.30	3
V			2	-0.093	ug/l	-4.25	191.12	1.682E-03	Pulse	0.30	3
Cr			2	0.066	ug/l	28.18	818.92	7.223E-03	Pulse	0.30	3
Mn			2	0.035	ug/l	25.43	154.45	1.361E-03	Pulse	0.30	3
Fe			2	503.946	ug/l	1.04	2,234,022.20	1.968E+01	Pulse	0.30	3
Co			2	0.032	ug/l	7.18	297.31	2.620E-03	Pulse	0.30	3
Ni			2	0.013	ug/l	141.09	476.68	4.202E-03	Pulse	0.30	3
Cu			2	-0.057	ug/l	-24.21	5,436.51	4.789E-02	Pulse	0.30	3
Zn			2	0.247	ug/l	16.35	1,158.94	1.021E-02	Pulse	0.30	3
As			2	0.026	ug/l	44.76	20.33	1.796E-04	Pulse	1.00	3
Cd			2	0.022	ug/l	38.43	33.19	5.547E-05	Pulse	0.30	3
Sn			2	1.170	ug/l	1.59	3,240.38	5.400E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	202.236	ug/l	0.90	32,886.28	1.859E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,253,184.53	0.32	96.9	Pulse	0.10	3
1	Sc		1,894,332.63	0.93	97.7	Pulse	0.10	3
1	Ge		356,479.68	0.84	98.4	Pulse	0.10	3
1	Ge		493,640.54	1.44	98.0	Pulse	0.10	3
1	Rh		2,499,954.08	2.31	97.4	Pulse	0.10	3
1	In		2,481,776.58	1.92	98.2	Pulse	0.10	3
1	Tb		3,757,187.65	2.16	98.8	Pulse	0.10	3
1	Ho		376,451.48	1.94	98.6	Pulse	0.10	3
1	Bi		2,345,890.59	2.99	98.1	Pulse	0.10	3
2	Sc		113,503.69	1.47	99.8	Pulse	0.30	3
2	Ge		61,256.70	0.48	100.2	Pulse	0.30	3
2	Ge		91,971.63	0.71	99.9	Pulse	0.30	3
2	Rh		1,686,293.65	1.21	98.6	Pulse	0.30	3
2	In		600,001.80	1.11	100.0	Pulse	0.30	3
2	Tb		2,256,952.90	1.28	99.6	Pulse	0.30	3
2	Ho		226,754.11	1.80	99.8	Pulse	0.30	3
2	Bi		1,555,308.45	1.56	100.2	Pulse	0.30	3
3	Sc		189,071.45	0.88	100.6	Pulse	0.30	3
3	Ge		116,938.77	0.67	97.9	Pulse	0.30	3
3	Ge		176,939.41	0.81	98.6	Pulse	0.30	3
3	Rh		1,929,903.05	0.32	99.1	Pulse	0.30	3
3	Tb		3,339,430.77	0.69	100.3	Pulse	0.30	3

Quantitation Report

File Name	010CALS.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 9:58
Sample Name	STDH
Sample Type	CalStd
Comment	1000MIN
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.000	ug/l	-350.85	5.33	4.221E-06	Pulse	0.25	3
B			1	4.235	ug/l	6.85	28,668.93	2.278E-02	Pulse	0.15	3
Ca			1	1005.507	ug/l	0.42	614,770.94	3.269E-01	Pulse	0.10	3
Sr			1	0.028	ug/l	1.80	1,016.75	4.070E-04	Pulse	0.10	3
Mo			1	0.038	ug/l	5.35	280.01	1.121E-04	Pulse	0.10	3
Ag			1	0.004	ug/l	22.52	60.00	2.447E-05	Pulse	0.10	3
Sn			1	0.597	ug/l	2.04	4,370.77	1.778E-03	Pulse	0.10	3
Sb			1	0.187	ug/l	6.76	2,556.98	6.894E-04	Pulse	0.10	3
Ba			1	0.034	ug/l	9.28	186.68	5.034E-05	Pulse	0.10	3
Tl			1	0.005	ug/l	9.36	190.01	8.164E-05	Pulse	0.10	3
Pb			1	0.020	ug/l	28.12	436.69	1.875E-04	Pulse	0.10	3
Pb			1	0.015	ug/l	29.63	386.69	1.664E-04	Pulse	0.10	3
Pb			1	0.018	ug/l	14.52	1,660.11	7.132E-04	Pulse	0.10	3
Na			2	980.853	ug/l	1.09	1,071,444.16	9.604E+00	Pulse	0.30	3
Mg			2	1013.355	ug/l	0.99	509,139.79	4.564E+00	Pulse	0.30	3
Al			2	1014.685	ug/l	1.50	170,054.49	1.524E+00	Pulse	0.30	3
K			2	1023.859	ug/l	1.16	328,172.44	2.941E+00	Pulse	0.30	3
Ca			2	1017.039	ug/l	2.88	17,608.32	1.578E-01	Pulse	0.30	3
Ti			2	0.068	ug/l	64.58	10.00	8.954E-05	Pulse	0.30	3
V			2	-0.104	ug/l	-2.88	141.11	1.265E-03	Pulse	0.30	3
Cr			2	0.050	ug/l	18.34	715.58	6.415E-03	Pulse	0.30	3
Mn			2	0.052	ug/l	5.64	198.89	1.783E-03	Pulse	0.30	3
Fe			2	1030.096	ug/l	4.28	4,479,638.85	4.016E+01	Mix	0.30	3
Co			2	0.045	ug/l	3.27	409.03	3.667E-03	Pulse	0.30	3
Ni			2	0.017	ug/l	58.21	478.90	4.294E-03	Pulse	0.30	3
Cu			2	-0.102	ug/l	-18.71	5,057.51	4.534E-02	Pulse	0.30	3
Zn			2	1.177	ug/l	2.17	2,016.81	1.808E-02	Pulse	0.30	3
As			2	0.018	ug/l	47.04	16.67	1.496E-04	Pulse	1.00	3
Cd			2	0.014	ug/l	50.83	22.19	3.736E-05	Pulse	0.30	3
Sn			2	0.576	ug/l	5.41	1,586.77	2.668E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	397.798	ug/l	0.98	64,789.03	3.656E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,258,825.69	0.95	97.3	Pulse	0.10	3
1	Sc		1,880,827.84	1.98	97.0	Pulse	0.10	3
1	Ge		353,535.80	1.65	97.6	Pulse	0.10	3
1	Ge		494,925.97	2.31	98.3	Pulse	0.10	3
1	Rh		2,497,714.65	1.75	97.3	Pulse	0.10	3
1	In		2,458,756.97	2.16	97.3	Pulse	0.10	3
1	Tb		3,706,617.65	1.84	97.5	Pulse	0.10	3
1	Ho		373,026.68	1.38	97.7	Pulse	0.10	3
1	Bi		2,325,323.09	2.39	97.3	Pulse	0.10	3
2	Sc		111,568.63	0.87	98.1	Pulse	0.30	3
2	Ge		60,633.33	0.99	99.1	Pulse	0.30	3
2	Ge		91,318.94	0.89	99.2	Pulse	0.30	3
2	Rh		1,668,903.72	0.48	97.6	Pulse	0.30	3
2	In		594,781.69	1.22	99.2	Pulse	0.30	3
2	Tb		2,246,436.71	0.98	99.1	Pulse	0.30	3
2	Ho		224,645.62	0.71	98.9	Pulse	0.30	3
2	Bi		1,540,649.80	0.90	99.2	Pulse	0.30	3
3	Sc		186,073.53	0.38	99.1	Pulse	0.30	3
3	Ge		116,910.93	0.79	97.9	Pulse	0.30	3
3	Ge		177,227.00	0.38	98.8	Pulse	0.30	3
3	Rh		1,928,095.06	0.76	99.0	Pulse	0.30	3
3	Tb		3,366,249.59	0.60	101.1	Pulse	0.30	3

Quantitation Report

File Name 011CALS.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 10:03
Sample Name STDI
Sample Type CalStd
Comment 5000MIN
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.002	ug/l	184.95	17.33	1.374E-05	Pulse	0.25	3
B			1	1.814	ug/l	6.16	18,145.52	1.433E-02	Pulse	0.15	3
Ca			1	4868.030	ug/l	0.59	2,915,676.52	1.549E+00	Pulse	0.10	3
Sr			1	0.056	ug/l	7.97	1,786.84	7.376E-04	Pulse	0.10	3
Mo			1	0.023	ug/l	49.17	186.68	7.700E-05	Pulse	0.10	3
Ag			1	0.004	ug/l	7.78	63.33	2.615E-05	Pulse	0.10	3
Sn			1	0.524	ug/l	3.81	3,657.24	1.511E-03	Pulse	0.10	3
Sb			1	0.087	ug/l	24.49	1,510.13	4.090E-04	Pulse	0.10	3
Ba			1	0.060	ug/l	7.15	293.35	7.956E-05	Pulse	0.10	3
Tl			1	0.003	ug/l	56.14	130.00	5.738E-05	Pulse	0.10	3
Pb			1	0.019	ug/l	30.70	410.02	1.804E-04	Pulse	0.10	3
Pb			1	0.019	ug/l	33.08	413.36	1.826E-04	Pulse	0.10	3
Pb			1	0.019	ug/l	6.94	1,653.43	7.285E-04	Pulse	0.10	3
Na			2	5049.943	ug/l	0.58	5,362,597.01	4.885E+01	Analog	0.30	3
Mg			2	4961.347	ug/l	0.55	2,452,195.25	2.234E+01	Pulse	0.30	3
Al			2	5063.333	ug/l	0.77	833,923.00	7.597E+00	Pulse	0.30	3
K			2	5050.420	ug/l	0.37	1,558,897.65	1.420E+01	Pulse	0.30	3
Ca			2	5047.185	ug/l	0.54	85,583.55	7.796E-01	Pulse	0.30	3
Ti			2	0.052	ug/l	103.19	7.78	7.085E-05	Pulse	0.30	3
V			2	-0.107	ug/l	-2.30	128.89	1.174E-03	Pulse	0.30	3
Cr			2	0.089	ug/l	12.50	917.82	8.360E-03	Pulse	0.30	3
Mn			2	0.099	ug/l	7.29	331.12	3.016E-03	Pulse	0.30	3
Fe			2	5159.701	ug/l	1.66	22,050,506.35	2.009E+02	Analog	0.30	3
Co			2	0.235	ug/l	4.11	2,016.18	1.837E-02	Pulse	0.30	3
Ni			2	0.154	ug/l	7.59	786.70	7.167E-03	Pulse	0.30	3
Cu			2	-0.139	ug/l	-12.30	4,744.07	4.322E-02	Pulse	0.30	3
Zn			2	0.111	ug/l	82.29	995.60	9.070E-03	Pulse	0.30	3
As			2	0.047	ug/l	25.97	29.33	2.672E-04	Pulse	1.00	3
Cd			2	0.011	ug/l	100.32	17.76	3.043E-05	Pulse	0.30	3
Sn			2	0.486	ug/l	3.62	1,310.07	2.251E-03	Pulse	0.30	3
Se			3	0.183	ug/l	3.70	34.13	2.019E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,265,961.73	0.56	97.9	Pulse	0.10	3
1	Sc		1,882,696.80	1.11	97.1	Pulse	0.10	3
1	Ge		349,895.76	2.07	96.6	Pulse	0.10	3

Quantitation Report

1	Ge		482,627.41	1.68	95.9	Pulse	0.10	3
1	Rh		2,423,596.42	1.41	94.4	Pulse	0.10	3
1	In		2,419,496.82	2.56	95.7	Pulse	0.10	3
1	Tb		3,684,783.49	2.24	96.9	Pulse	0.10	3
1	Ho		369,031.10	2.13	96.6	Pulse	0.10	3
1	Bi		2,268,201.69	2.85	94.9	Pulse	0.10	3
2	Sc		109,773.95	0.14	96.5	Pulse	0.30	3
2	Ge		59,795.62	0.92	97.8	Pulse	0.30	3
2	Ge		89,577.50	0.43	97.3	Pulse	0.30	3
2	Rh		1,631,383.27	0.46	95.4	Pulse	0.30	3
2	In		581,985.13	0.53	97.0	Pulse	0.30	3
2	Tb		2,231,469.56	0.55	98.5	Pulse	0.30	3
2	Ho		222,130.98	0.32	97.8	Pulse	0.30	3
2	Bi		1,484,928.62	0.31	95.6	Pulse	0.30	3
3	Sc		179,678.00	0.28	95.6	Pulse	0.30	3
3	Ge		113,555.37	0.65	95.1	Pulse	0.30	3
3	Ge		169,067.56	0.44	94.2	Pulse	0.30	3
3	Rh		1,856,128.12	0.12	95.3	Pulse	0.30	3
3	Tb		3,284,629.87	0.59	98.7	Pulse	0.30	3

Quantitation Report

File Name 012CALS.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 10:08
Sample Name STDJ
Sample Type CalStd
Comment 10000MIN
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.000	ug/l	465.30	9.33	7.484E-06	Pulse	0.25	3
B			1	0.890	ug/l	11.88	13,959.32	1.111E-02	Pulse	0.15	3
Ca			1	10241.991	ug/l	1.29	6,066,139.28	3.249E+00	Analog	0.10	3
Sr			1	0.101	ug/l	1.67	3,003.74	1.251E-03	Pulse	0.10	3
Mo			1	0.019	ug/l	21.01	160.01	6.676E-05	Pulse	0.10	3
Ag			1	0.001	ug/l	111.18	23.33	9.800E-06	Pulse	0.10	3
Sn			1	0.403	ug/l	0.98	2,543.63	1.067E-03	Pulse	0.10	3
Sb			1	0.067	ug/l	32.90	1,290.09	3.525E-04	Pulse	0.10	3
Ba			1	0.026	ug/l	41.30	150.01	4.111E-05	Pulse	0.10	3
Tl			1	0.002	ug/l	43.70	116.67	5.238E-05	Pulse	0.10	3
Pb			1	0.008	ug/l	39.91	300.02	1.354E-04	Pulse	0.10	3
Pb			1	0.008	ug/l	72.68	310.01	1.400E-04	Pulse	0.10	3
Pb			1	0.009	ug/l	54.63	1,213.41	5.481E-04	Pulse	0.10	3
Na			2	9977.839	ug/l	1.73	10,720,205.41	9.638E+01	Analog	0.30	3
Mg			2	10132.683	ug/l	2.23	5,074,252.71	4.562E+01	Analog	0.30	3
Al			2	9966.186	ug/l	0.88	1,662,922.71	1.495E+01	Pulse	0.30	3
K			2	9914.768	ug/l	1.23	3,092,469.46	2.780E+01	Pulse	0.30	3
Ca			2	9988.057	ug/l	0.07	171,513.69	1.542E+00	Pulse	0.30	3
Ti			2	0.000	ug/l	5047.11	1.11	9.902E-06	Pulse	0.30	3
V			2	-0.105	ug/l	-4.83	137.78	1.238E-03	Pulse	0.30	3
Cr			2	0.061	ug/l	27.32	776.70	6.985E-03	Pulse	0.30	3
Mn			2	0.152	ug/l	11.01	492.23	4.424E-03	Pulse	0.30	3
Fe			2	10055.508	ug/l	0.96	43,534,386.05	3.914E+02	Analog	0.30	3
Co			2	0.439	ug/l	4.20	3,800.75	3.418E-02	Pulse	0.30	3
Ni			2	0.301	ug/l	11.53	1,140.05	1.025E-02	Pulse	0.30	3
Cu			2	-0.248	ug/l	-1.96	4,113.89	3.699E-02	Pulse	0.30	3
Zn			2	0.092	ug/l	105.27	991.16	8.908E-03	Pulse	0.30	3
As			2	0.054	ug/l	16.96	33.00	2.965E-04	Pulse	1.00	3
Cd			2	0.007	ug/l	76.30	11.09	1.923E-05	Pulse	0.30	3
Sn			2	0.320	ug/l	2.16	858.92	1.487E-03	Pulse	0.30	3
Se			3	0.041	ug/l	8.38	11.93	7.129E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,256,361.77	0.82	97.1	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,867,440.60	0.82	96.3	Pulse	0.10	3
1	Ge		347,532.41	1.64	95.9	Pulse	0.10	3
1	Ge		477,173.31	1.35	94.8	Pulse	0.10	3
1	Rh		2,400,029.18	2.02	93.5	Pulse	0.10	3
1	In		2,384,002.41	1.52	94.3	Pulse	0.10	3
1	Tb		3,651,659.53	1.93	96.0	Pulse	0.10	3
1	Ho		363,534.70	2.17	95.2	Pulse	0.10	3
1	Bi		2,219,657.05	2.50	92.8	Pulse	0.10	3
2	Sc		111,233.20	0.71	97.8	Pulse	0.30	3
2	Ge		59,783.27	1.09	97.8	Pulse	0.30	3
2	Ge		88,984.26	2.22	96.6	Pulse	0.30	3
2	Rh		1,609,256.88	0.67	94.1	Pulse	0.30	3
2	In		577,526.38	1.36	96.3	Pulse	0.30	3
2	Tb		2,227,115.89	1.05	98.3	Pulse	0.30	3
2	Ho		222,570.26	0.63	98.0	Pulse	0.30	3
2	Bi		1,467,959.90	0.63	94.5	Pulse	0.30	3
3	Sc		180,715.21	0.57	96.2	Pulse	0.30	3
3	Ge		111,129.65	0.67	93.1	Pulse	0.30	3
3	Ge		167,401.70	0.46	93.3	Pulse	0.30	3
3	Rh		1,830,012.50	0.70	94.0	Pulse	0.30	3
3	Tb		3,271,610.15	0.58	98.3	Pulse	0.30	3

Quantitation Report

File Name	013SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 10:15
Sample Name	STDA
Sample Type	CalBlk
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.000	ug/l	---	6.67	5.263E-06	Pulse	0.25	3
B			1	0.000	ug/l	---	10,149.92	8.008E-03	Pulse	0.15	3
Ca			1	-0.705	ug/l	-101.21	16,468.67	8.592E-03	Pulse	0.10	3
Sr			1	0.000	ug/l	401.04	220.01	8.731E-05	Pulse	0.10	3
Mo			1	0.000	ug/l	-1222.48	56.67	2.251E-05	Pulse	0.10	3
Ag			1	0.000	ug/l	---	10.00	4.051E-06	Pulse	0.10	3
Sn			1	0.236	ug/l	4.06	1,120.08	4.558E-04	Pulse	0.10	3
Sb			1	0.001	ug/l	1916.31	610.03	1.663E-04	Pulse	0.10	3
Ba			1	0.001	ug/l	322.64	46.67	1.268E-05	Pulse	0.10	3
Tl			1	0.000	ug/l	---	50.00	2.151E-05	Pulse	0.10	3
Pb			1	0.000	ug/l	---	226.68	9.764E-05	Pulse	0.10	3
Pb			1	0.000	ug/l	---	253.35	1.090E-04	Pulse	0.10	3
Pb			1	0.000	ug/l	---	893.38	3.848E-04	Pulse	0.10	3
Na			2	0.000	ug/l	---	16,557.10	1.435E-01	Pulse	0.30	3
Mg			2	0.000	ug/l	-10121.42	148.89	1.291E-03	Pulse	0.30	3
Al			2	0.000	ug/l	---	274.45	2.380E-03	Pulse	0.30	3
K			2	-1.665	ug/l	-28.65	8,515.59	7.379E-02	Pulse	0.30	3
Ca			2	-0.596	ug/l	-47.28	96.67	8.373E-04	Pulse	0.30	3
Ti			2	0.000	ug/l	---	1.11	9.562E-06	Pulse	0.30	3
V			2	-0.114	ug/l	-3.99	103.34	8.944E-04	Pulse	0.30	3
Cr			2	0.000	ug/l	-2832.08	454.46	3.939E-03	Pulse	0.30	3
Mn			2	-0.001	ug/l	-480.69	47.78	4.143E-04	Pulse	0.30	3
Fe			2	0.253	ug/l	27.28	9,459.48	8.194E-02	Pulse	0.30	3
Co			2	0.000	ug/l	---	16.64	1.445E-04	Pulse	0.30	3
Ni			2	-0.038	ug/l	-64.88	362.23	3.136E-03	Pulse	0.30	3
Cu			2	-0.277	ug/l	-11.00	4,077.21	3.533E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Zn			2	-0.654	ug/l	-2.59	300.01	2.599E-03	Pulse	0.30	3
As			2	0.000	ug/l	---	8.67	7.495E-05	Pulse	1.00	3
Cd			2	0.000	ug/l	2229.99	2.21	3.645E-06	Pulse	0.30	3
Sn			2	0.164	ug/l	5.63	465.57	7.689E-04	Pulse	0.30	3
Se			3	0.000	ug/l	---	5.93	3.333E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,267,501.11	0.70	100.0	Pulse	0.10	3
1	Sc		1,916,838.62	2.02	100.0	Pulse	0.10	3
1	Ge		356,536.91	2.63	100.0	Pulse	0.10	3
1	Ge		492,513.20	2.44	100.0	Pulse	0.10	3
1	Rh		2,516,527.46	2.78	100.0	Pulse	0.10	3
1	In		2,454,842.18	2.04	100.0	Pulse	0.10	3
1	Tb		3,670,076.72	2.61	100.0	Pulse	0.10	3
1	Ho		368,792.87	2.57	100.0	Pulse	0.10	3
1	Bi		2,315,502.67	2.28	100.0	Pulse	0.10	3
2	Sc		115,419.12	0.82	100.0	Pulse	0.30	3
2	Ge		61,264.42	1.36	100.0	Pulse	0.30	3
2	Ge		93,588.69	0.12	100.0	Pulse	0.30	3
2	Rh		1,706,777.47	0.78	100.0	Pulse	0.30	3
2	In		605,420.60	0.58	100.0	Pulse	0.30	3
2	Tb		2,275,863.45	0.56	100.0	Pulse	0.30	3
2	Ho		226,053.81	0.80	100.0	Pulse	0.30	3
2	Bi		1,550,052.23	0.88	100.0	Pulse	0.30	3
3	Sc		187,722.45	0.36	100.0	Pulse	0.30	3
3	Ge		117,374.14	0.43	100.0	Pulse	0.30	3
3	Ge		178,060.75	1.12	100.0	Pulse	0.30	3
3	Rh		1,938,785.97	0.56	100.0	Pulse	0.30	3
3	Tb		3,319,110.36	0.63	100.0	Pulse	0.30	3

Quantitation Report

File Name 014SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 10:21
Sample Name ICVA
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	56.036	ug/l	1.30	343,012.35	2.617E-01	Pulse	0.25	3
B			1	116.042	ug/l	1.21	541,111.04	4.128E-01	Pulse	0.15	3
Ca			1	5415.003	ug/l	0.17	3,431,746.41	1.722E+00	Pulse	0.10	3
Sr			1	58.056	ug/l	1.16	1,715,111.75	6.733E-01	Pulse	0.10	3
Mo			1	57.803	ug/l	1.46	343,755.16	1.350E-01	Pulse	0.10	3
Ag			1	56.874	ug/l	1.08	842,376.00	3.312E-01	Pulse	0.10	3
Sn			1	57.358	ug/l	0.22	533,582.66	2.098E-01	Pulse	0.10	3
Sb			1	61.487	ug/l	0.65	658,492.75	1.725E-01	Pulse	0.10	3
Ba			1	58.388	ug/l	1.23	252,722.25	6.623E-02	Pulse	0.10	3
Tl			1	59.951	ug/l	0.73	1,777,441.33	7.568E-01	Pulse	0.10	3
Pb			1	58.269	ug/l	0.46	609,106.20	2.594E-01	Pulse	0.10	3
Pb			1	55.033	ug/l	0.31	507,496.27	2.161E-01	Pulse	0.10	3
Pb			1	56.675	ug/l	0.68	2,385,582.25	1.016E+00	Pulse	0.10	3
Na			2	5279.331	ug/l	0.94	6,053,926.84	5.106E+01	Analog	0.30	3
Mg			2	5571.528	ug/l	0.39	2,974,091.27	2.509E+01	Pulse	0.30	3
Al			2	5772.440	ug/l	0.40	1,026,740.86	8.660E+00	Pulse	0.30	3
K			2	5428.846	ug/l	0.15	1,809,116.87	1.526E+01	Pulse	0.30	3
Ca			2	5753.963	ug/l	0.99	105,355.65	8.887E-01	Pulse	0.30	3
Ti			2	58.438	ug/l	0.74	8,127.62	6.855E-02	Pulse	0.30	3
V			2	57.099	ug/l	1.84	251,971.43	2.125E+00	Pulse	0.30	3
Cr			2	55.399	ug/l	0.41	326,191.63	2.751E+00	Pulse	0.30	3
Mn			2	57.029	ug/l	1.15	177,063.52	1.493E+00	Pulse	0.30	3
Fe			2	5408.193	ug/l	1.29	24,960,507.34	2.105E+02	Analog	0.30	3
Co			2	55.216	ug/l	1.07	507,804.69	4.283E+00	Pulse	0.30	3
Ni			2	54.278	ug/l	1.49	135,324.58	1.141E+00	Pulse	0.30	3
Cu			2	54.131	ug/l	1.21	372,056.58	3.138E+00	Pulse	0.30	3
Zn			2	55.671	ug/l	0.48	56,774.48	4.789E-01	Pulse	0.30	3
As			2	59.171	ug/l	0.80	28,657.68	2.417E-01	Pulse	1.00	3
Cd			2	56.567	ug/l	1.40	82,354.90	1.352E-01	Pulse	0.30	3
Sn			2	57.863	ug/l	1.67	162,212.11	2.663E-01	Pulse	0.30	3
Se			3	267.891	ug/l	0.40	42,945.90	2.462E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,310,769.45	0.77	103.4	Pulse	0.10	3
1	Sc		1,993,279.03	2.33	104.0	Pulse	0.10	3
1	Ge		370,829.08	2.85	104.0	Pulse	0.10	3

Quantitation Report

1	Ge		515,962.09	3.03	104.8	Pulse	0.10	3
1	Rh		2,548,006.32	3.87	101.3	Pulse	0.10	3
1	In		2,543,703.28	3.60	103.6	Pulse	0.10	3
1	Tb		3,815,927.13	3.26	104.0	Pulse	0.10	3
1	Ho		383,961.11	3.69	104.1	Pulse	0.10	3
1	Bi		2,348,550.07	3.55	101.4	Pulse	0.10	3
2	Sc		118,558.64	0.74	102.7	Pulse	0.30	3
2	Ge		62,714.18	1.35	102.4	Pulse	0.30	3
2	Ge		95,340.76	0.43	101.9	Pulse	0.30	3
2	Rh		1,703,621.53	0.53	99.8	Pulse	0.30	3
2	In		609,156.47	1.12	100.6	Pulse	0.30	3
2	Tb		2,314,097.20	0.34	101.7	Pulse	0.30	3
2	Ho		234,025.52	0.73	103.5	Pulse	0.30	3
2	Bi		1,561,669.45	0.70	100.7	Pulse	0.30	3
3	Sc		189,004.23	0.70	100.7	Pulse	0.30	3
3	Ge		116,873.03	0.15	99.6	Pulse	0.30	3
3	Ge		174,433.42	0.37	98.0	Pulse	0.30	3
3	Rh		1,899,168.39	0.08	98.0	Pulse	0.30	3
3	Tb		3,335,093.90	0.61	100.5	Pulse	0.30	3

Quantitation Report

File Name 015SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 10:25
Sample Name ICVA
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	55.830	ug/l	1.91	336,082.63	2.607E-01	Pulse	0.25	3
B			1	117.837	ug/l	1.28	540,193.97	4.191E-01	Pulse	0.15	3
Ca			1	5439.822	ug/l	0.45	3,372,819.01	1.730E+00	Pulse	0.10	3
Sr			1	58.368	ug/l	0.08	1,698,970.13	6.769E-01	Pulse	0.10	3
Mo			1	57.815	ug/l	0.82	338,814.53	1.350E-01	Pulse	0.10	3
Ag			1	57.612	ug/l	0.11	835,743.30	3.355E-01	Pulse	0.10	3
Sn			1	57.663	ug/l	1.02	525,342.53	2.109E-01	Pulse	0.10	3
Sb			1	61.258	ug/l	0.92	652,659.85	1.719E-01	Pulse	0.10	3
Ba			1	58.171	ug/l	1.43	250,485.10	6.599E-02	Pulse	0.10	3
Tl			1	60.436	ug/l	0.77	1,771,900.44	7.629E-01	Pulse	0.10	3
Pb			1	58.482	ug/l	0.77	604,684.26	2.603E-01	Pulse	0.10	3
Pb			1	55.410	ug/l	0.74	505,299.65	2.176E-01	Pulse	0.10	3
Pb			1	56.844	ug/l	0.97	2,366,351.13	1.019E+00	Pulse	0.10	3
Na			2	5316.506	ug/l	0.34	5,989,716.01	5.142E+01	Analog	0.30	3
Mg			2	5598.916	ug/l	0.19	2,936,356.62	2.521E+01	Pulse	0.30	3
Al			2	5841.874	ug/l	0.20	1,020,891.28	8.765E+00	Pulse	0.30	3
K			2	5474.941	ug/l	0.31	1,792,386.46	1.539E+01	Pulse	0.30	3
Ca			2	5782.504	ug/l	0.84	104,024.92	8.931E-01	Pulse	0.30	3
Ti			2	56.195	ug/l	1.60	7,678.52	6.592E-02	Pulse	0.30	3
V			2	57.697	ug/l	0.59	250,151.98	2.148E+00	Pulse	0.30	3
Cr			2	55.728	ug/l	0.92	322,369.76	2.768E+00	Pulse	0.30	3
Mn			2	57.232	ug/l	0.46	174,577.45	1.499E+00	Pulse	0.30	3
Fe			2	5462.920	ug/l	0.36	24,771,476.24	2.127E+02	Analog	0.30	3
Co			2	55.871	ug/l	0.98	504,823.13	4.334E+00	Pulse	0.30	3
Ni			2	55.356	ug/l	1.48	135,584.55	1.164E+00	Pulse	0.30	3
Cu			2	54.474	ug/l	1.08	367,814.42	3.158E+00	Pulse	0.30	3
Zn			2	56.028	ug/l	0.13	56,129.98	4.819E-01	Pulse	0.30	3
As			2	59.858	ug/l	0.62	28,482.73	2.445E-01	Pulse	1.00	3
Cd			2	56.155	ug/l	0.47	81,057.19	1.342E-01	Pulse	0.30	3
Sn			2	58.561	ug/l	0.98	162,771.90	2.695E-01	Pulse	0.30	3
Se			3	264.446	ug/l	0.96	42,492.20	2.430E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,289,048.40	0.20	101.7	Pulse	0.10	3
1	Sc		1,950,108.83	1.25	101.7	Pulse	0.10	3
1	Ge		365,692.12	2.37	102.6	Pulse	0.10	3

Quantitation Report

1	Ge		506,972.91	1.94	102.9	Pulse	0.10	3
1	Rh		2,509,789.18	2.19	99.7	Pulse	0.10	3
1	In		2,490,731.59	2.00	101.5	Pulse	0.10	3
1	Tb		3,796,224.21	2.07	103.4	Pulse	0.10	3
1	Ho		381,822.51	2.85	103.5	Pulse	0.10	3
1	Bi		2,322,664.92	3.05	100.3	Pulse	0.10	3
2	Sc		116,479.57	0.41	100.9	Pulse	0.30	3
2	Ge		62,416.67	1.31	101.9	Pulse	0.30	3
2	Ge		94,672.51	0.73	101.2	Pulse	0.30	3
2	Rh		1,689,878.02	0.22	99.0	Pulse	0.30	3
2	In		603,902.09	0.45	99.7	Pulse	0.30	3
2	Tb		2,309,143.03	0.20	101.5	Pulse	0.30	3
2	Ho		230,593.00	0.76	102.0	Pulse	0.30	3
2	Bi		1,545,767.96	0.72	99.7	Pulse	0.30	3
3	Sc		187,147.75	0.49	99.7	Pulse	0.30	3
3	Ge		114,864.49	0.53	97.9	Pulse	0.30	3
3	Ge		174,845.56	0.67	98.2	Pulse	0.30	3
3	Rh		1,881,892.91	0.53	97.1	Pulse	0.30	3
3	Tb		3,323,899.66	0.56	100.1	Pulse	0.30	3

Quantitation Report

File Name 016SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 10:31
Sample Name ICV
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.003	ug/l	43.80	25.33	2.124E-05	Pulse	0.25	3
B			1	3.042	ug/l	0.98	22,212.61	1.862E-02	Pulse	0.15	3
Ca			1	4.123	ug/l	23.64	18,283.97	1.012E-02	Pulse	0.10	3
Sr			1	0.012	ug/l	16.45	533.36	2.219E-04	Pulse	0.10	3
Mo			1	0.130	ug/l	15.43	786.71	3.266E-04	Pulse	0.10	3
Ag			1	0.025	ug/l	13.06	356.68	1.504E-04	Pulse	0.10	3
Sn			1	1.849	ug/l	2.62	15,114.43	6.367E-03	Pulse	0.10	3
Sb			1	-0.016	ug/l	-46.90	420.02	1.184E-04	Pulse	0.10	3
Ba			1	0.023	ug/l	29.03	136.67	3.842E-05	Pulse	0.10	3
Tl			1	0.012	ug/l	25.60	390.02	1.744E-04	Pulse	0.10	3
Pb			1	0.032	ug/l	53.52	533.37	2.385E-04	Pulse	0.10	3
Pb			1	0.019	ug/l	6.96	413.36	1.845E-04	Pulse	0.10	3
Pb			1	0.030	ug/l	15.31	2,063.47	9.217E-04	Pulse	0.10	3
Na			2	2.739	ug/l	3.83	19,068.58	1.699E-01	Pulse	0.30	3
Mg			2	0.689	ug/l	24.91	493.35	4.395E-03	Pulse	0.30	3
Al			2	62.732	ug/l	2.89	10,829.13	9.647E-02	Pulse	0.30	3
K			2	-1.689	ug/l	-23.84	8,274.35	7.372E-02	Pulse	0.30	3
Ca			2	3.916	ug/l	26.17	172.23	1.533E-03	Pulse	0.30	3
Ti			2	0.017	ug/l	147.83	3.33	2.988E-05	Pulse	0.30	3
V			2	-0.108	ug/l	-6.67	128.89	1.147E-03	Pulse	0.30	3
Cr			2	1.861	ug/l	0.75	10,804.73	9.626E-02	Pulse	0.30	3
Mn			2	0.018	ug/l	37.73	100.00	8.919E-04	Pulse	0.30	3
Fe			2	17.740	ug/l	2.99	85,571.97	7.625E-01	Pulse	0.30	3
Co			2	0.003	ug/l	65.23	43.10	3.839E-04	Pulse	0.30	3
Ni			2	-0.013	ug/l	-127.23	411.12	3.664E-03	Pulse	0.30	3
Cu			2	-0.348	ug/l	-5.95	3,512.63	3.129E-02	Pulse	0.30	3
Zn			2	-0.108	ug/l	-46.94	810.03	7.215E-03	Pulse	0.30	3
As			2	0.039	ug/l	66.01	26.00	2.322E-04	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.019	ug/l	56.83	28.81	4.847E-05	Pulse	0.30	3
Sn			2	1.562	ug/l	3.71	4,290.64	7.206E-03	Pulse	0.30	3
Se			3	0.112	ug/l	9.53	22.13	1.362E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,193,022.88	0.23	94.1	Pulse	0.10	3
1	Sc		1,806,617.78	1.58	94.2	Pulse	0.10	3
1	Ge		341,845.14	2.26	95.9	Pulse	0.10	3
1	Ge		472,749.66	2.06	96.0	Pulse	0.10	3
1	Rh		2,406,553.66	1.75	95.6	Pulse	0.10	3
1	In		2,374,673.88	2.16	96.7	Pulse	0.10	3
1	Tb		3,546,805.99	2.51	96.6	Pulse	0.10	3
1	Ho		354,893.85	1.97	96.2	Pulse	0.10	3
1	Bi		2,240,284.60	1.81	96.8	Pulse	0.10	3
2	Sc		112,248.59	0.95	97.3	Pulse	0.30	3
2	Ge		60,286.22	1.16	98.4	Pulse	0.30	3
2	Ge		90,729.09	0.65	96.9	Pulse	0.30	3
2	Rh		1,627,518.72	0.26	95.4	Pulse	0.30	3
2	In		595,541.26	0.66	98.4	Pulse	0.30	3
2	Tb		2,197,292.83	0.33	96.5	Pulse	0.30	3
2	Ho		219,144.14	0.80	96.9	Pulse	0.30	3
2	Bi		1,506,179.56	0.74	97.2	Pulse	0.30	3
3	Sc		172,605.87	0.13	91.9	Pulse	0.30	3
3	Ge		107,046.17	0.97	91.2	Pulse	0.30	3
3	Ge		162,482.49	0.39	91.3	Pulse	0.30	3
3	Rh		1,804,484.51	1.07	93.1	Pulse	0.30	3
3	Tb		3,107,015.57	0.44	93.6	Pulse	0.30	3

Quantitation Report

File Name 017_CCB.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 10:41
Sample Name ICB
Sample Type CCB
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.000	ug/l	-236.09	4.00	3.036E-06	Pulse	0.25	3
B			1	0.853	ug/l	12.12	14,453.05	1.098E-02	Pulse	0.15	3
Ca			1	-1.067	ug/l	-24.78	16,562.27	8.478E-03	Pulse	0.10	3
Sr			1	0.003	ug/l	28.02	310.01	1.220E-04	Pulse	0.10	3
Mo			1	0.005	ug/l	48.86	86.67	3.401E-05	Pulse	0.10	3
Ag			1	0.004	ug/l	22.60	73.33	2.949E-05	Pulse	0.10	3
Sn			1	0.298	ug/l	9.09	1,686.89	6.805E-04	Pulse	0.10	3
Sb			1	-0.020	ug/l	-25.40	400.02	1.080E-04	Pulse	0.10	3
Ba			1	-0.005	ug/l	-70.09	23.33	6.211E-06	Pulse	0.10	3
Tl			1	0.000	ug/l	-40163.27	50.00	2.147E-05	Pulse	0.10	3
Pb			1	0.003	ug/l	140.88	260.01	1.123E-04	Pulse	0.10	3
Pb			1	-0.004	ug/l	-170.32	216.68	9.425E-05	Pulse	0.10	3
Pb			1	0.004	ug/l	71.72	1,056.72	4.573E-04	Pulse	0.10	3
Na			2	-0.290	ug/l	-82.03	16,670.54	1.407E-01	Pulse	0.30	3
Mg			2	-0.087	ug/l	-54.27	106.67	9.002E-04	Pulse	0.30	3
Al			2	-0.912	ug/l	-17.57	120.00	1.012E-03	Pulse	0.30	3
K			2	-1.828	ug/l	-34.77	8,691.22	7.333E-02	Pulse	0.30	3
Ca			2	-1.523	ug/l	-97.97	82.22	6.943E-04	Pulse	0.30	3
Ti			2	0.000	ug/l	-7709.78	1.11	9.352E-06	Pulse	0.30	3
V			2	-0.113	ug/l	-1.29	110.00	9.284E-04	Pulse	0.30	3
Cr			2	0.004	ug/l	226.15	493.35	4.161E-03	Pulse	0.30	3
Mn			2	-0.001	ug/l	-472.79	47.78	4.028E-04	Pulse	0.30	3
Fe			2	-0.190	ug/l	-17.61	7,670.76	6.472E-02	Pulse	0.30	3
Co			2	0.000	ug/l	210.11	21.09	1.778E-04	Pulse	0.30	3
Ni			2	-0.061	ug/l	-9.75	315.56	2.662E-03	Pulse	0.30	3
Cu			2	-0.263	ug/l	-1.62	4,279.50	3.611E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Zn			2	-0.652	ug/l	-6.23	310.01	2.616E-03	Pulse	0.30	3
As			2	-0.004	ug/l	-52.23	7.00	5.905E-05	Pulse	1.00	3
Cd			2	0.002	ug/l	115.01	5.55	8.966E-06	Pulse	0.30	3
Sn			2	0.192	ug/l	11.28	557.79	8.988E-04	Pulse	0.30	3
Se			3	0.008	ug/l	53.88	7.20	4.040E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,315,542.40	0.93	103.8	Pulse	0.10	3
1	Sc		1,953,646.69	1.72	101.9	Pulse	0.10	3
1	Ge		359,792.72	2.30	100.9	Pulse	0.10	3
1	Ge		500,952.86	2.19	101.7	Pulse	0.10	3
1	Rh		2,542,095.69	2.22	101.0	Pulse	0.10	3
1	In		2,483,544.21	1.99	101.2	Pulse	0.10	3
1	Tb		3,710,806.92	3.09	101.1	Pulse	0.10	3
1	Ho		369,224.11	3.85	100.1	Pulse	0.10	3
1	Bi		2,306,681.74	3.02	99.6	Pulse	0.10	3
2	Sc		118,518.32	0.61	102.7	Pulse	0.30	3
2	Ge		63,480.49	1.00	103.6	Pulse	0.30	3
2	Ge		95,613.46	0.90	102.2	Pulse	0.30	3
2	Rh		1,740,333.78	1.00	102.0	Pulse	0.30	3
2	In		620,542.04	1.18	102.5	Pulse	0.30	3
2	Tb		2,286,974.22	1.07	100.5	Pulse	0.30	3
2	Ho		229,000.22	1.01	101.3	Pulse	0.30	3
2	Bi		1,568,862.30	1.24	101.2	Pulse	0.30	3
3	Sc		191,674.40	1.11	102.1	Pulse	0.30	3
3	Ge		118,092.85	1.02	100.6	Pulse	0.30	3
3	Ge		178,143.66	0.70	100.0	Pulse	0.30	3
3	Rh		1,950,732.77	0.81	100.6	Pulse	0.30	3
3	Tb		3,292,301.19	0.32	99.2	Pulse	0.30	3

Quantitation Report

File Name 018_CCV.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 10:46
Sample Name CCVA
Sample Type CCV
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	51.562	ug/l	0.17	319,855.31	2.408E-01	Pulse	0.25	3
B			1	101.434	ug/l	1.04	480,662.27	3.618E-01	Pulse	0.15	3
Ca			1	4957.580	ug/l	0.45	3,155,667.56	1.577E+00	Pulse	0.10	3
Sr			1	52.514	ug/l	0.68	1,566,065.66	6.090E-01	Pulse	0.10	3
Mo			1	51.219	ug/l	0.70	307,552.43	1.196E-01	Pulse	0.10	3
Ag			1	50.692	ug/l	0.15	748,281.63	2.952E-01	Pulse	0.10	3
Sn			1	50.725	ug/l	0.79	470,016.91	1.855E-01	Pulse	0.10	3
Sb			1	52.462	ug/l	0.13	567,553.52	1.472E-01	Pulse	0.10	3
Ba			1	52.320	ug/l	1.34	228,751.10	5.935E-02	Pulse	0.10	3
Tl			1	52.350	ug/l	0.33	1,562,286.91	6.609E-01	Pulse	0.10	3
Pb			1	51.541	ug/l	1.05	542,381.49	2.294E-01	Pulse	0.10	3
Pb			1	51.622	ug/l	0.24	479,170.68	2.027E-01	Pulse	0.10	3
Pb			1	51.524	ug/l	0.43	2,183,306.35	9.236E-01	Pulse	0.10	3
Na			2	5017.579	ug/l	1.52	5,815,024.77	4.854E+01	Analog	0.30	3
Mg			2	4945.546	ug/l	1.20	2,667,713.58	2.227E+01	Pulse	0.30	3
Al			2	5093.722	ug/l	1.15	915,576.94	7.642E+00	Pulse	0.30	3
K			2	5113.559	ug/l	1.34	1,722,471.08	1.438E+01	Pulse	0.30	3
Ca			2	5322.390	ug/l	1.27	98,489.71	8.221E-01	Pulse	0.30	3
Ti			2	51.421	ug/l	2.44	7,228.33	6.032E-02	Pulse	0.30	3
V			2	51.767	ug/l	0.08	230,930.56	1.927E+00	Pulse	0.30	3
Cr			2	50.827	ug/l	0.90	302,462.56	2.525E+00	Pulse	0.30	3
Mn			2	51.566	ug/l	0.86	161,797.36	1.350E+00	Pulse	0.30	3
Fe			2	5082.490	ug/l	2.07	23,703,208.50	1.979E+02	Analog	0.30	3
Co			2	50.504	ug/l	1.03	469,377.58	3.918E+00	Pulse	0.30	3
Ni			2	50.383	ug/l	0.93	126,973.69	1.060E+00	Pulse	0.30	3
Cu			2	50.054	ug/l	1.40	348,123.39	2.906E+00	Pulse	0.30	3
Zn			2	50.043	ug/l	0.58	51,672.14	4.313E-01	Pulse	0.30	3
As			2	50.901	ug/l	0.61	24,913.92	2.079E-01	Pulse	1.00	3
Cd			2	51.426	ug/l	0.68	76,368.07	1.229E-01	Pulse	0.30	3
Sn			2	50.661	ug/l	0.82	144,866.64	2.332E-01	Pulse	0.30	3
Se			3	208.771	ug/l	0.73	33,907.94	1.919E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,328,380.38	1.57	104.8	Pulse	0.10	3
1	Sc		2,001,116.43	2.40	104.4	Pulse	0.10	3
1	Ge		371,006.64	3.38	104.1	Pulse	0.10	3

Quantitation Report

1	Ge		514,561.07	2.19	104.5	Pulse	0.10	3
1	Rh		2,571,596.47	2.54	102.2	Pulse	0.10	3
1	In		2,534,487.79	2.96	103.2	Pulse	0.10	3
1	Tb		3,854,665.57	2.65	105.0	Pulse	0.10	3
1	Ho		384,184.24	2.43	104.2	Pulse	0.10	3
1	Bi		2,363,915.43	2.57	102.1	Pulse	0.10	3
2	Sc		119,812.92	1.10	103.8	Pulse	0.30	3
2	Ge		63,886.62	0.99	104.3	Pulse	0.30	3
2	Ge		97,770.58	1.15	104.5	Pulse	0.30	3
2	Rh		1,726,095.10	0.37	101.1	Pulse	0.30	3
2	In		621,291.91	0.62	102.6	Pulse	0.30	3
2	Tb		2,339,953.38	0.55	102.8	Pulse	0.30	3
2	Ho		232,731.18	1.43	103.0	Pulse	0.30	3
2	Bi		1,552,959.28	1.27	100.2	Pulse	0.30	3
3	Sc		191,726.35	0.62	102.1	Pulse	0.30	3
3	Ge		118,234.63	0.70	100.7	Pulse	0.30	3
3	Ge		176,723.20	0.59	99.2	Pulse	0.30	3
3	Rh		1,905,645.48	0.44	98.3	Pulse	0.30	3
3	Tb		3,330,596.40	0.35	100.3	Pulse	0.30	3

Quantitation Report

File Name 019_CCB.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 10:51
Sample Name CCB
Sample Type CCB
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.004	ug/l	100.70	33.33	2.500E-05	Pulse	0.25	3
B			1	2.241	ug/l	3.61	21,051.12	1.583E-02	Pulse	0.15	3
Ca			1	-0.939	ug/l	-149.28	16,688.88	8.518E-03	Pulse	0.10	3
Sr			1	0.012	ug/l	40.84	583.36	2.261E-04	Pulse	0.10	3
Mo			1	0.146	ug/l	13.20	940.07	3.643E-04	Pulse	0.10	3
Ag			1	0.011	ug/l	28.59	173.34	6.838E-05	Pulse	0.10	3
Sn			1	0.434	ug/l	2.36	2,987.06	1.178E-03	Pulse	0.10	3
Sb			1	0.114	ug/l	25.47	1,823.50	4.842E-04	Pulse	0.10	3
Ba			1	0.006	ug/l	130.56	70.00	1.854E-05	Pulse	0.10	3
Tl			1	0.011	ug/l	38.96	380.02	1.613E-04	Pulse	0.10	3
Pb			1	0.017	ug/l	17.63	403.36	1.718E-04	Pulse	0.10	3
Pb			1	0.020	ug/l	10.43	440.02	1.875E-04	Pulse	0.10	3
Pb			1	0.020	ug/l	6.70	1,726.78	7.360E-04	Pulse	0.10	3
Na			2	-0.263	ug/l	-20.94	16,478.15	1.409E-01	Pulse	0.30	3
Mg			2	0.114	ug/l	24.44	211.12	1.806E-03	Pulse	0.30	3
Al			2	0.226	ug/l	55.41	317.78	2.718E-03	Pulse	0.30	3
K			2	-1.523	ug/l	-11.81	8,674.56	7.418E-02	Pulse	0.30	3
Ca			2	-0.728	ug/l	-49.04	95.56	8.170E-04	Pulse	0.30	3
Ti			2	0.024	ug/l	58.84	4.44	3.806E-05	Pulse	0.30	3
V			2	-0.109	ug/l	-4.53	127.78	1.092E-03	Pulse	0.30	3
Cr			2	0.025	ug/l	43.11	606.69	5.189E-03	Pulse	0.30	3
Mn			2	0.008	ug/l	56.26	74.45	6.366E-04	Pulse	0.30	3
Fe			2	1.803	ug/l	2.35	16,638.50	1.423E-01	Pulse	0.30	3
Co			2	0.003	ug/l	55.45	44.40	3.801E-04	Pulse	0.30	3
Ni			2	-0.051	ug/l	-34.69	335.56	2.870E-03	Pulse	0.30	3
Cu			2	-0.297	ug/l	-3.71	3,999.42	3.420E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Zn			2	-0.647	ug/l	-2.80	311.12	2.660E-03	Pulse	0.30	3
As			2	0.015	ug/l	12.95	16.00	1.368E-04	Pulse	1.00	3
Cd			2	0.002	ug/l	57.46	5.46	8.887E-06	Pulse	0.30	3
Sn			2	0.430	ug/l	10.80	1,223.40	1.994E-03	Pulse	0.30	3
Se			3	0.100	ug/l	12.19	22.07	1.250E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,330,234.33	0.93	104.9	Pulse	0.10	3
1	Sc		1,960,466.22	1.84	102.3	Pulse	0.10	3
1	Ge		366,275.46	2.00	102.7	Pulse	0.10	3
1	Ge		504,550.41	2.44	102.4	Pulse	0.10	3
1	Rh		2,577,959.28	1.97	102.4	Pulse	0.10	3
1	In		2,534,025.37	2.16	103.2	Pulse	0.10	3
1	Tb		3,755,275.46	2.59	102.3	Pulse	0.10	3
1	Ho		376,640.14	2.34	102.1	Pulse	0.10	3
1	Bi		2,345,260.17	2.10	101.3	Pulse	0.10	3
2	Sc		116,936.29	0.61	101.3	Pulse	0.30	3
2	Ge		62,404.18	1.01	101.9	Pulse	0.30	3
2	Ge		95,518.62	0.35	102.1	Pulse	0.30	3
2	Rh		1,727,639.20	0.33	101.2	Pulse	0.30	3
2	In		613,280.26	0.90	101.3	Pulse	0.30	3
2	Tb		2,283,663.38	0.26	100.3	Pulse	0.30	3
2	Ho		228,208.58	0.43	101.0	Pulse	0.30	3
2	Bi		1,559,564.94	0.23	100.6	Pulse	0.30	3
3	Sc		190,430.11	0.27	101.4	Pulse	0.30	3
3	Ge		116,867.08	1.36	99.6	Pulse	0.30	3
3	Ge		176,501.28	0.39	99.1	Pulse	0.30	3
3	Rh		1,943,214.50	0.50	100.2	Pulse	0.30	3
3	Tb		3,311,719.94	0.69	99.8	Pulse	0.30	3

Quantitation Report

File Name 020SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 10:56
Sample Name jc99565-4und
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.041	ug/l	13.60	238.67	1.982E-04	Pulse	0.25	3
B			1	1.234	ug/l	9.92	14,826.77	1.231E-02	Pulse	0.15	3
Ca			1	17.645	ug/l	12.27	26,341.57	1.440E-02	Pulse	0.10	3
Sr			1	0.408	ug/l	6.52	11,701.31	4.811E-03	Pulse	0.10	3
Mo			1	0.061	ug/l	9.54	403.36	1.660E-04	Pulse	0.10	3
Ag			1	0.002	ug/l	175.76	36.67	1.565E-05	Pulse	0.10	3
Sn			1	0.179	ug/l	3.79	586.70	2.462E-04	Pulse	0.10	3
Sb			1	-0.026	ug/l	-8.98	323.35	9.237E-05	Pulse	0.10	3
Ba			1	0.831	ug/l	9.32	3,347.15	9.544E-04	Pulse	0.10	3
Tl			1	0.022	ug/l	5.35	670.04	3.003E-04	Pulse	0.10	3
Pb			1	0.009	ug/l	57.04	306.68	1.371E-04	Pulse	0.10	3
Pb			1	0.002	ug/l	199.85	263.35	1.179E-04	Pulse	0.10	3
Pb			1	0.008	ug/l	29.80	1,186.73	5.309E-04	Pulse	0.10	3
Na			2	7.137	ug/l	4.71	23,900.29	2.123E-01	Pulse	0.30	3
Mg			2	0.984	ug/l	9.35	644.47	5.723E-03	Pulse	0.30	3
Al			2	5.631	ug/l	2.44	1,218.95	1.083E-02	Pulse	0.30	3
K			2	9.800	ug/l	4.28	11,916.57	1.058E-01	Pulse	0.30	3
Ca			2	20.211	ug/l	7.27	455.57	4.047E-03	Pulse	0.30	3
Ti			2	0.026	ug/l	151.74	4.44	3.955E-05	Pulse	0.30	3
V			2	-0.129	ug/l	-1.89	40.00	3.556E-04	Pulse	0.30	3
Cr			2	0.003	ug/l	208.67	462.23	4.104E-03	Pulse	0.30	3
Mn			2	0.047	ug/l	15.38	186.67	1.659E-03	Pulse	0.30	3
Fe			2	-1.300	ug/l	-2.54	2,422.43	2.151E-02	Pulse	0.30	3
Co			2	0.011	ug/l	16.06	114.44	1.016E-03	Pulse	0.30	3
Ni			2	0.159	ug/l	15.57	816.70	7.256E-03	Pulse	0.30	3
Cu			2	21.670	ug/l	0.81	144,895.13	1.287E+00	Pulse	0.30	3
Zn			2	8.109	ug/l	4.09	8,635.71	7.669E-02	Pulse	0.30	3
As			2	0.013	ug/l	19.25	14.33	1.273E-04	Pulse	1.00	3
Cd			2	0.002	ug/l	148.86	5.52	9.219E-06	Pulse	0.30	3
Sn			2	0.065	ug/l	13.30	187.78	3.135E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	0.025	ug/l	56.77	8.93	5.609E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,204,057.55	0.70	95.0	Pulse	0.10	3
1	Sc		1,829,994.40	0.80	95.5	Pulse	0.10	3
1	Ge		343,996.39	2.14	96.5	Pulse	0.10	3
1	Ge		473,787.29	1.60	96.2	Pulse	0.10	3
1	Rh		2,430,896.11	1.36	96.6	Pulse	0.10	3
1	In		2,386,233.95	2.24	97.2	Pulse	0.10	3
1	Tb		3,504,237.76	2.21	95.5	Pulse	0.10	3
1	Ho		350,541.19	1.94	95.1	Pulse	0.10	3
1	Bi		2,233,018.45	1.98	96.4	Pulse	0.10	3
2	Sc		112,585.27	0.64	97.5	Pulse	0.30	3
2	Ge		60,285.29	1.16	98.4	Pulse	0.30	3
2	Ge		91,049.90	1.39	97.3	Pulse	0.30	3
2	Rh		1,625,034.42	0.66	95.2	Pulse	0.30	3
2	In		598,804.36	0.23	98.9	Pulse	0.30	3
2	Tb		2,181,895.33	0.79	95.9	Pulse	0.30	3
2	Ho		217,708.83	0.20	96.3	Pulse	0.30	3
2	Bi		1,492,843.24	0.78	96.3	Pulse	0.30	3
3	Sc		171,155.21	0.97	91.2	Pulse	0.30	3
3	Ge		104,858.69	0.38	89.3	Pulse	0.30	3
3	Ge		159,091.04	1.32	89.3	Pulse	0.30	3
3	Rh		1,779,586.66	0.98	91.8	Pulse	0.30	3
3	Tb		3,072,204.53	1.07	92.6	Pulse	0.30	3

Quantitation Report

File Name 021LCCV.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 11:01
Sample Name CRI
Sample Type LLCCV
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.445	ug/l	3.86	2,805.60	2.083E-03	Pulse	0.25	3
B			1	22.934	ug/l	1.46	118,539.70	8.801E-02	Pulse	0.15	3
Ca			1	247.051	ug/l	1.46	172,114.62	8.696E-02	Pulse	0.10	3
Sr			1	4.820	ug/l	0.92	144,844.00	5.598E-02	Pulse	0.10	3
Mo			1	1.021	ug/l	5.84	6,224.79	2.407E-03	Pulse	0.10	3
Ag			1	0.491	ug/l	2.12	7,258.60	2.861E-03	Pulse	0.10	3
Sn			1	4.962	ug/l	1.55	45,092.05	1.777E-02	Pulse	0.10	3
Sb			1	2.061	ug/l	1.76	22,426.57	5.942E-03	Pulse	0.10	3
Ba			1	0.982	ug/l	4.42	4,250.74	1.126E-03	Pulse	0.10	3
Tl			1	0.487	ug/l	1.80	14,517.63	6.163E-03	Pulse	0.10	3
Pb			1	0.480	ug/l	6.74	5,257.77	2.234E-03	Pulse	0.10	3
Pb			1	0.450	ug/l	3.60	4,420.83	1.876E-03	Pulse	0.10	3
Pb			1	0.479	ug/l	2.93	21,123.55	8.970E-03	Pulse	0.10	3
Na			2	239.292	ug/l	0.30	288,226.56	2.451E+00	Pulse	0.30	3
Mg			2	248.193	ug/l	0.63	131,532.05	1.119E+00	Pulse	0.30	3
Al			2	24.572	ug/l	2.68	4,612.90	3.923E-02	Pulse	0.30	3
K			2	248.729	ug/l	0.74	90,996.41	7.740E-01	Pulse	0.30	3
Ca			2	271.427	ug/l	4.95	5,033.05	4.281E-02	Pulse	0.30	3
Ti			2	0.999	ug/l	23.23	138.89	1.182E-03	Pulse	0.30	3
V			2	0.832	ug/l	2.59	4,237.26	3.604E-02	Pulse	0.30	3
Cr			2	0.946	ug/l	2.03	5,981.15	5.087E-02	Pulse	0.30	3
Mn			2	0.938	ug/l	3.49	2,938.07	2.499E-02	Pulse	0.30	3
Fe			2	25.071	ug/l	0.44	123,192.18	1.048E+00	Pulse	0.30	3
Co			2	0.465	ug/l	3.73	4,256.93	3.620E-02	Pulse	0.30	3
Ni			2	0.876	ug/l	2.32	2,621.35	2.230E-02	Pulse	0.30	3
Cu			2	1.622	ug/l	2.32	16,886.57	1.436E-01	Pulse	0.30	3
Zn			2	4.597	ug/l	2.31	5,525.43	4.700E-02	Pulse	0.30	3
As			2	0.497	ug/l	5.25	247.33	2.104E-03	Pulse	1.00	3
Cd			2	0.476	ug/l	1.92	698.43	1.140E-03	Pulse	0.30	3
Sn			2	4.984	ug/l	2.64	14,054.59	2.295E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	0.492	ug/l	7.85	86.13	4.856E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,346,825.86	1.05	106.3	Pulse	0.10	3
1	Sc		1,979,485.18	1.92	103.3	Pulse	0.10	3
1	Ge		369,204.48	1.45	103.6	Pulse	0.10	3
1	Ge		507,522.60	1.93	103.0	Pulse	0.10	3
1	Rh		2,587,948.29	2.72	102.8	Pulse	0.10	3
1	In		2,537,841.18	2.70	103.4	Pulse	0.10	3
1	Tb		3,773,284.00	2.83	102.8	Pulse	0.10	3
1	Ho		376,681.00	2.06	102.1	Pulse	0.10	3
1	Bi		2,356,227.20	2.93	101.8	Pulse	0.10	3
2	Sc		117,572.91	0.37	101.9	Pulse	0.30	3
2	Ge		62,620.65	0.31	102.2	Pulse	0.30	3
2	Ge		95,456.11	1.35	102.0	Pulse	0.30	3
2	Rh		1,727,847.15	0.79	101.2	Pulse	0.30	3
2	In		612,506.82	1.32	101.2	Pulse	0.30	3
2	Tb		2,287,297.96	0.82	100.5	Pulse	0.30	3
2	Ho		227,856.51	1.34	100.8	Pulse	0.30	3
2	Bi		1,559,026.05	0.82	100.6	Pulse	0.30	3
3	Sc		189,697.01	0.51	101.1	Pulse	0.30	3
3	Ge		117,446.88	1.27	100.1	Pulse	0.30	3
3	Ge		177,438.00	0.86	99.7	Pulse	0.30	3
3	Rh		1,959,139.92	0.53	101.0	Pulse	0.30	3
3	Tb		3,329,017.02	0.77	100.3	Pulse	0.30	3

Quantitation Report

File Name 022ICSA.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 11:08
Sample Name ICSA
Sample Type ICSA
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.000	ug/l	-1016.37	5.33	4.850E-06	Pulse	0.25	3
B			1	1.129	ug/l	2.24	13,180.95	1.195E-02	Pulse	0.15	3
Ca			1	89788.078	ug/l	1.27	48,030,569.28	2.841E+01	Analog	0.10	3
Sr			1	1970.725	ug/l	2.80	47,140,662.63	2.285E+01	Analog	0.10	3
Mo			1	1997.482	ug/l	2.50	9,618,899.65	4.663E+00	Analog	0.10	3
Ag			1	0.030	ug/l	18.87	350.02	1.784E-04	Pulse	0.10	3
Sn			1	1954.968	ug/l	3.43	14,018,943.12	7.163E+00	Analog	0.10	3
Sb			1	0.129	ug/l	4.03	1,736.83	5.245E-04	Pulse	0.10	3
Ba			1	0.174	ug/l	13.88	693.37	2.096E-04	Pulse	0.10	3
Tl			1	0.004	ug/l	53.18	143.34	7.356E-05	Pulse	0.10	3
Pb			1	0.105	ug/l	10.10	1,093.41	5.642E-04	Pulse	0.10	3
Pb			1	0.087	ug/l	9.56	873.39	4.510E-04	Pulse	0.10	3
Pb			1	0.099	ug/l	6.49	4,173.71	2.154E-03	Pulse	0.10	3
Na			2	83604.284	ug/l	2.17	84,582,474.42	8.065E+02	Analog	0.30	3
Mg			2	85218.169	ug/l	1.50	40,240,225.07	3.837E+02	Analog	0.30	3
Al			2	91185.423	ug/l	2.11	14,343,582.76	1.368E+02	Analog	0.30	3
K			2	91706.399	ug/l	3.01	26,899,308.38	2.565E+02	Analog	0.30	3
Ca			2	94974.815	ug/l	0.75	1,537,029.31	1.465E+01	Pulse	0.30	3
Ti			2	1706.556	ug/l	0.63	209,962.38	2.002E+00	Pulse	0.30	3
V			2	-0.090	ug/l	-17.91	186.67	1.785E-03	Pulse	0.30	3
Cr			2	0.232	ug/l	6.20	1,622.32	1.547E-02	Pulse	0.30	3
Mn			2	0.373	ug/l	5.76	1,070.05	1.020E-02	Pulse	0.30	3
Fe			2	85822.819	ug/l	2.55	350,257,639.41	3.340E+03	Analog	0.30	3
Co			2	0.167	ug/l	9.45	1,376.72	1.314E-02	Pulse	0.30	3
Ni			2	0.483	ug/l	6.54	1,474.53	1.405E-02	Pulse	0.30	3
Cu			2	-0.250	ug/l	-4.08	3,867.17	3.687E-02	Pulse	0.30	3
Zn			2	-0.169	ug/l	-18.73	702.25	6.698E-03	Pulse	0.30	3
As			2	0.048	ug/l	48.94	28.67	2.725E-04	Pulse	1.00	3
Cd			2	-0.181	ug/l	-34.10	-210.62	-4.287E-04	Pulse	0.30	3
Sn			2	1835.421	ug/l	0.84	4,132,912.06	8.447E+00	Pulse	0.30	3
Se			3	0.088	ug/l	5.59	16.93	1.141E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,103,445.18	0.60	87.1	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,690,848.46	1.73	88.2	Pulse	0.10	3
1	Ge		340,472.43	1.65	95.5	Pulse	0.10	3
1	Ge		424,127.67	2.06	86.1	Pulse	0.10	3
1	Rh		2,063,662.99	2.64	82.0	Pulse	0.10	3
1	In		1,958,575.27	3.54	79.8	Pulse	0.10	3
1	Tb		3,312,331.72	2.74	90.3	Pulse	0.10	3
1	Ho		330,852.45	1.92	89.7	Pulse	0.10	3
1	Bi		1,935,505.02	2.70	83.6	Pulse	0.10	3
2	Sc		104,895.83	1.62	90.9	Pulse	0.30	3
2	Ge		57,501.93	0.99	93.9	Pulse	0.30	3
2	Ge		81,694.36	0.71	87.3	Pulse	0.30	3
2	Rh		1,415,296.54	1.37	82.9	Pulse	0.30	3
2	In		489,289.18	1.75	80.8	Pulse	0.30	3
2	Tb		2,066,581.86	1.31	90.8	Pulse	0.30	3
2	Ho		206,486.31	1.21	91.3	Pulse	0.30	3
2	Bi		1,304,849.15	1.44	84.2	Pulse	0.30	3
3	Sc		168,211.45	0.92	89.6	Pulse	0.30	3
3	Ge		103,655.67	0.61	88.3	Pulse	0.30	3
3	Ge		148,471.99	0.78	83.4	Pulse	0.30	3
3	Rh		1,571,846.78	0.47	81.1	Pulse	0.30	3
3	Tb		2,976,482.73	0.20	89.7	Pulse	0.30	3

Quantitation Report

File Name 023ICSB.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 11:13
Sample Name ICSAB
Sample Type ICSB
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.001	ug/l	133.88	9.33	8.335E-06	Pulse	0.25	3
B			1	49.370	ug/l	0.89	201,626.94	1.802E-01	Pulse	0.15	3
Ca			1	89462.755	ug/l	1.89	49,624,707.59	2.831E+01	Analog	0.10	3
Sr			1	2015.663	ug/l	3.18	49,865,042.59	2.337E+01	Analog	0.10	3
Mo			1	2001.365	ug/l	2.72	9,968,161.93	4.672E+00	Analog	0.10	3
Ag			1	20.893	ug/l	1.75	248,014.58	1.217E-01	Pulse	0.10	3
Sn			1	1943.852	ug/l	2.26	14,510,488.12	7.123E+00	Analog	0.10	3
Sb			1	0.144	ug/l	3.93	1,956.86	5.672E-04	Pulse	0.10	3
Ba			1	0.191	ug/l	1.87	786.71	2.280E-04	Pulse	0.10	3
Tl			1	0.003	ug/l	75.05	126.67	6.364E-05	Pulse	0.10	3
Pb			1	0.085	ug/l	10.44	953.40	4.767E-04	Pulse	0.10	3
Pb			1	0.078	ug/l	22.85	830.06	4.159E-04	Pulse	0.10	3
Pb			1	0.090	ug/l	3.33	4,010.38	2.006E-03	Pulse	0.10	3
Na			2	84553.811	ug/l	1.01	86,588,543.23	8.157E+02	Analog	0.30	3
Mg			2	85609.501	ug/l	0.43	40,915,201.71	3.854E+02	Analog	0.30	3
Al			2	90187.798	ug/l	0.59	14,359,549.43	1.353E+02	Analog	0.30	3
K			2	93216.489	ug/l	1.19	27,677,536.12	2.607E+02	Analog	0.30	3
Ca			2	95310.889	ug/l	0.54	1,561,048.51	1.471E+01	Pulse	0.30	3
Ti			2	1724.642	ug/l	0.67	214,739.81	2.023E+00	Pulse	0.30	3
V			2	20.254	ug/l	1.23	80,385.48	7.572E-01	Pulse	0.30	3
Cr			2	19.786	ug/l	0.95	104,580.08	9.852E-01	Pulse	0.30	3
Mn			2	19.987	ug/l	1.99	55,595.29	5.237E-01	Pulse	0.30	3
Fe			2	86358.333	ug/l	0.54	356,761,639.16	3.361E+03	Analog	0.30	3
Co			2	19.081	ug/l	0.67	157,132.87	1.480E+00	Pulse	0.30	3
Ni			2	18.543	ug/l	1.25	41,671.47	3.926E-01	Pulse	0.30	3
Cu			2	17.659	ug/l	0.93	112,337.66	1.058E+00	Pulse	0.30	3
Zn			2	17.115	ug/l	0.48	16,224.80	1.528E-01	Pulse	0.30	3
As			2	20.139	ug/l	1.41	8,738.69	8.232E-02	Pulse	1.00	3
Cd			2	20.079	ug/l	3.35	23,886.93	4.799E-02	Pulse	0.30	3
Sn			2	1906.901	ug/l	5.48	4,367,255.38	8.776E+00	Mix	0.30	3
Se			3	21.048	ug/l	1.55	2,975.07	1.937E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,118,704.75	1.77	88.3	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,753,654.61	2.68	91.5	Pulse	0.10	3
1	Ge		350,925.28	2.44	98.4	Pulse	0.10	3
1	Ge		443,317.32	2.89	90.0	Pulse	0.10	3
1	Rh		2,134,241.37	2.19	84.8	Pulse	0.10	3
1	In		2,038,116.15	2.91	83.0	Pulse	0.10	3
1	Tb		3,451,331.09	2.76	94.0	Pulse	0.10	3
1	Ho		343,909.41	2.25	93.3	Pulse	0.10	3
1	Bi		1,999,506.01	2.45	86.4	Pulse	0.10	3
2	Sc		106,151.50	0.38	92.0	Pulse	0.30	3
2	Ge		59,638.36	0.39	97.3	Pulse	0.30	3
2	Ge		85,057.70	0.70	90.9	Pulse	0.30	3
2	Rh		1,459,412.96	1.29	85.5	Pulse	0.30	3
2	In		497,724.86	0.70	82.2	Pulse	0.30	3
2	Tb		2,105,644.57	0.07	92.5	Pulse	0.30	3
2	Ho		211,428.97	0.41	93.5	Pulse	0.30	3
2	Bi		1,339,159.22	1.19	86.4	Pulse	0.30	3
3	Sc		174,773.82	0.16	93.1	Pulse	0.30	3
3	Ge		108,519.37	0.63	92.5	Pulse	0.30	3
3	Ge		153,561.22	0.75	86.2	Pulse	0.30	3
3	Rh		1,623,001.22	0.35	83.7	Pulse	0.30	3
3	Tb		3,066,819.88	1.21	92.4	Pulse	0.30	3

Quantitation Report

File Name 024SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 11:18
Sample Name rinseconf
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	-0.001	ug/l	0.00	0.00	0.000E+00	Pulse	0.25	3
B			1	0.037	ug/l	175.15	8,764.68	8.136E-03	Pulse	0.15	3
Ca			1	5.450	ug/l	13.25	17,433.08	1.054E-02	Pulse	0.10	3
Sr			1	0.227	ug/l	6.00	6,268.09	2.721E-03	Pulse	0.10	3
Mo			1	1.365	ug/l	7.03	7,408.69	3.210E-03	Pulse	0.10	3
Ag			1	0.016	ug/l	31.32	223.34	9.741E-05	Pulse	0.10	3
Sn			1	0.616	ug/l	3.18	4,247.41	1.847E-03	Pulse	0.10	3
Sb			1	-0.026	ug/l	-26.94	316.68	9.005E-05	Pulse	0.10	3
Ba			1	0.000	ug/l	1129.55	43.33	1.233E-05	Pulse	0.10	3
Tl			1	-0.001	ug/l	-58.55	30.00	1.351E-05	Pulse	0.10	3
Pb			1	0.004	ug/l	53.73	260.01	1.169E-04	Pulse	0.10	3
Pb			1	-0.008	ug/l	-41.76	173.34	7.804E-05	Pulse	0.10	3
Pb			1	0.005	ug/l	69.48	1,036.72	4.657E-04	Pulse	0.10	3
Na			2	10.756	ug/l	13.53	24,059.41	2.472E-01	Pulse	0.30	3
Mg			2	8.561	ug/l	11.37	3,876.06	3.984E-02	Pulse	0.30	3
Al			2	9.801	ug/l	7.66	1,662.32	1.708E-02	Pulse	0.30	3
K			2	3.862	ug/l	22.66	8,686.80	8.924E-02	Pulse	0.30	3
Ca			2	8.697	ug/l	61.16	221.11	2.271E-03	Pulse	0.30	3
Ti			2	0.751	ug/l	19.08	86.67	8.899E-04	Pulse	0.30	3
V			2	-0.110	ug/l	-3.67	101.11	1.038E-03	Pulse	0.30	3
Cr			2	0.008	ug/l	110.92	422.23	4.336E-03	Pulse	0.30	3
Mn			2	0.020	ug/l	60.27	92.22	9.471E-04	Pulse	0.30	3
Fe			2	16.635	ug/l	3.00	70,032.88	7.195E-01	Pulse	0.30	3
Co			2	0.001	ug/l	69.24	24.26	2.495E-04	Pulse	0.30	3
Ni			2	-0.055	ug/l	-13.43	271.12	2.784E-03	Pulse	0.30	3
Cu			2	-0.463	ug/l	-1.87	2,409.10	2.474E-02	Pulse	0.30	3
Zn			2	-0.633	ug/l	-1.14	270.00	2.774E-03	Pulse	0.30	3
As			2	-0.003	ug/l	-78.45	6.00	6.166E-05	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.002	ug/l	134.75	4.78	8.565E-06	Pulse	0.30	3
Sn			2	0.564	ug/l	5.41	1,452.31	2.613E-03	Pulse	0.30	3
Se			3	0.001	ug/l	1192.47	5.40	3.391E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,077,142.91	0.52	85.0	Pulse	0.10	3
1	Sc		1,654,062.89	1.77	86.3	Pulse	0.10	3
1	Ge		319,863.40	1.89	89.7	Pulse	0.10	3
1	Ge		440,044.10	1.06	89.3	Pulse	0.10	3
1	Rh		2,306,013.77	2.40	91.6	Pulse	0.10	3
1	In		2,300,202.90	1.66	93.7	Pulse	0.10	3
1	Tb		3,523,715.26	1.63	96.0	Pulse	0.10	3
1	Ho		353,690.51	2.16	95.9	Pulse	0.10	3
1	Bi		2,226,303.25	2.07	96.1	Pulse	0.10	3
2	Sc		97,349.77	0.67	84.3	Pulse	0.30	3
2	Ge		54,889.75	2.67	89.6	Pulse	0.30	3
2	Ge		83,969.03	1.08	89.7	Pulse	0.30	3
2	Rh		1,551,870.98	0.95	90.9	Pulse	0.30	3
2	In		555,603.10	1.15	91.8	Pulse	0.30	3
2	Tb		2,129,475.68	0.23	93.6	Pulse	0.30	3
2	Ho		212,393.56	0.09	94.0	Pulse	0.30	3
2	Bi		1,477,515.43	0.53	95.3	Pulse	0.30	3
3	Sc		167,061.44	0.57	89.0	Pulse	0.30	3
3	Ge		105,305.31	0.28	89.7	Pulse	0.30	3
3	Ge		159,470.68	0.95	89.6	Pulse	0.30	3
3	Rh		1,814,328.68	1.60	93.6	Pulse	0.30	3
3	Tb		3,170,190.43	1.07	95.5	Pulse	0.30	3

Quantitation Report

File Name 025_CCV.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 11:23
Sample Name CCVA
Sample Type CCV
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	50.385	ug/l	0.17	264,300.54	2.353E-01	Pulse	0.25	3
B			1	97.097	ug/l	0.58	389,453.18	3.467E-01	Pulse	0.15	3
Ca			1	4897.926	ug/l	0.26	2,711,068.61	1.558E+00	Pulse	0.10	3
Sr			1	52.311	ug/l	0.18	1,421,328.47	6.067E-01	Pulse	0.10	3
Mo			1	51.448	ug/l	0.39	281,430.41	1.201E-01	Pulse	0.10	3
Ag			1	50.215	ug/l	0.36	688,574.16	2.925E-01	Pulse	0.10	3
Sn			1	51.045	ug/l	1.61	439,378.25	1.866E-01	Pulse	0.10	3
Sb			1	52.285	ug/l	0.49	530,782.45	1.467E-01	Pulse	0.10	3
Ba			1	51.937	ug/l	1.32	213,112.12	5.891E-02	Pulse	0.10	3
Tl			1	51.836	ug/l	0.29	1,485,610.44	6.544E-01	Pulse	0.10	3
Pb			1	51.471	ug/l	0.55	520,223.72	2.291E-01	Pulse	0.10	3
Pb			1	51.584	ug/l	0.76	459,839.93	2.026E-01	Pulse	0.10	3
Pb			1	51.494	ug/l	0.36	2,095,573.08	9.231E-01	Pulse	0.10	3
Na			2	4857.612	ug/l	1.81	4,869,429.25	4.700E+01	Analog	0.30	3
Mg			2	4823.614	ug/l	1.46	2,250,287.76	2.172E+01	Pulse	0.30	3
Al			2	4967.146	ug/l	1.29	772,182.78	7.453E+00	Pulse	0.30	3
K			2	5041.908	ug/l	0.78	1,468,985.22	1.418E+01	Pulse	0.30	3
Ca			2	5322.985	ug/l	1.43	85,186.88	8.222E-01	Pulse	0.30	3
Ti			2	53.578	ug/l	2.74	6,512.46	6.285E-02	Pulse	0.30	3
V			2	52.837	ug/l	0.66	203,833.28	1.967E+00	Pulse	0.30	3
Cr			2	51.604	ug/l	0.60	265,583.53	2.563E+00	Pulse	0.30	3
Mn			2	52.155	ug/l	0.61	141,531.01	1.366E+00	Pulse	0.30	3
Fe			2	5192.141	ug/l	2.12	20,942,026.95	2.021E+02	Analog	0.30	3
Co			2	51.907	ug/l	1.15	417,212.31	4.027E+00	Pulse	0.30	3
Ni			2	51.211	ug/l	0.79	111,616.43	1.077E+00	Pulse	0.30	3
Cu			2	51.315	ug/l	1.60	308,525.66	2.978E+00	Pulse	0.30	3
Zn			2	51.874	ug/l	1.02	46,290.68	4.468E-01	Pulse	0.30	3
As			2	53.008	ug/l	0.25	22,439.03	2.166E-01	Pulse	1.00	3
Cd			2	50.505	ug/l	0.36	69,483.05	1.207E-01	Pulse	0.30	3
Sn			2	51.760	ug/l	0.22	137,121.60	2.382E-01	Pulse	0.30	3
Se			3	210.384	ug/l	0.72	31,370.17	1.934E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,123,290.58	0.62	88.6	Pulse	0.10	3
1	Sc		1,739,943.67	1.82	90.8	Pulse	0.10	3
1	Ge		335,224.49	3.32	94.0	Pulse	0.10	3

Quantitation Report

1	Ge		463,756.74	2.45	94.2	Pulse	0.10	3
1	Rh		2,342,762.72	2.20	93.1	Pulse	0.10	3
1	In		2,354,301.11	2.30	95.9	Pulse	0.10	3
1	Tb		3,616,950.36	2.09	98.6	Pulse	0.10	3
1	Ho		360,923.51	2.71	97.9	Pulse	0.10	3
1	Bi		2,270,214.86	2.72	98.0	Pulse	0.10	3
2	Sc		103,621.42	1.13	89.8	Pulse	0.30	3
2	Ge		58,294.73	1.73	95.2	Pulse	0.30	3
2	Ge		87,443.80	1.25	93.4	Pulse	0.30	3
2	Rh		1,593,694.28	0.56	93.4	Pulse	0.30	3
2	In		575,581.85	0.60	95.1	Pulse	0.30	3
2	Tb		2,210,783.04	0.87	97.1	Pulse	0.30	3
2	Ho		221,755.42	0.61	98.1	Pulse	0.30	3
2	Bi		1,489,721.02	1.52	96.1	Pulse	0.30	3
3	Sc		173,278.86	0.96	92.3	Pulse	0.30	3
3	Ge		108,351.43	0.42	92.3	Pulse	0.30	3
3	Ge		162,242.44	0.56	91.1	Pulse	0.30	3
3	Rh		1,803,587.57	0.95	93.0	Pulse	0.30	3
3	Tb		3,218,708.21	0.54	97.0	Pulse	0.30	3

Quantitation Report

File Name 026_CCB.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 11:30
Sample Name CCB
Sample Type CCB
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.001	ug/l	70.50	9.33	8.119E-06	Pulse	0.25	3
B			1	1.000	ug/l	6.95	13,216.53	1.150E-02	Pulse	0.15	3
Ca			1	-6.219	ug/l	-14.56	11,951.47	6.848E-03	Pulse	0.10	3
Sr			1	0.007	ug/l	35.10	380.02	1.599E-04	Pulse	0.10	3
Mo			1	0.138	ug/l	8.68	823.39	3.452E-04	Pulse	0.10	3
Ag			1	0.011	ug/l	4.98	163.34	6.931E-05	Pulse	0.10	3
Sn			1	0.327	ug/l	5.62	1,860.18	7.887E-04	Pulse	0.10	3
Sb			1	0.048	ug/l	17.34	1,063.40	2.978E-04	Pulse	0.10	3
Ba			1	0.005	ug/l	220.10	60.00	1.695E-05	Pulse	0.10	3
Tl			1	0.003	ug/l	79.22	140.00	6.248E-05	Pulse	0.10	3
Pb			1	0.008	ug/l	35.31	296.68	1.316E-04	Pulse	0.10	3
Pb			1	0.002	ug/l	342.58	266.68	1.179E-04	Pulse	0.10	3
Pb			1	0.007	ug/l	41.33	1,160.07	5.133E-04	Pulse	0.10	3
Na			2	0.728	ug/l	13.15	15,897.59	1.505E-01	Pulse	0.30	3
Mg			2	0.054	ug/l	141.05	162.23	1.536E-03	Pulse	0.30	3
Al			2	-0.310	ug/l	-18.65	202.23	1.914E-03	Pulse	0.30	3
K			2	-2.498	ug/l	-26.61	7,549.57	7.146E-02	Pulse	0.30	3
Ca			2	-0.841	ug/l	-72.74	84.44	7.996E-04	Pulse	0.30	3
Ti			2	0.055	ug/l	75.48	7.78	7.372E-05	Pulse	0.30	3
V			2	-0.107	ug/l	-5.30	122.22	1.156E-03	Pulse	0.30	3
Cr			2	0.007	ug/l	124.43	454.46	4.302E-03	Pulse	0.30	3
Mn			2	0.024	ug/l	50.73	112.22	1.063E-03	Pulse	0.30	3
Fe			2	0.815	ug/l	20.87	10,967.10	1.038E-01	Pulse	0.30	3
Co			2	0.000	ug/l	6278.05	15.53	1.472E-04	Pulse	0.30	3
Ni			2	-0.059	ug/l	-19.93	284.45	2.693E-03	Pulse	0.30	3
Cu			2	-0.478	ug/l	-2.79	2,519.12	2.385E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Zn			2	-0.639	ug/l	-3.40	287.78	2.724E-03	Pulse	0.30	3
As			2	0.000	ug/l	4912.05	8.00	7.580E-05	Pulse	1.00	3
Cd			2	0.000	ug/l	4782.67	2.13	3.641E-06	Pulse	0.30	3
Sn			2	0.283	ug/l	13.92	767.80	1.318E-03	Pulse	0.30	3
Se			3	0.019	ug/l	76.02	8.40	5.067E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,149,620.00	0.63	90.7	Pulse	0.10	3
1	Sc		1,746,107.47	1.90	91.1	Pulse	0.10	3
1	Ge		335,781.56	1.67	94.2	Pulse	0.10	3
1	Ge		460,803.28	2.20	93.6	Pulse	0.10	3
1	Rh		2,383,653.35	2.94	94.7	Pulse	0.10	3
1	In		2,355,127.60	2.86	95.9	Pulse	0.10	3
1	Tb		3,565,507.76	2.65	97.2	Pulse	0.10	3
1	Ho		357,525.79	1.91	96.9	Pulse	0.10	3
1	Bi		2,258,095.64	2.78	97.5	Pulse	0.10	3
2	Sc		105,649.27	0.43	91.5	Pulse	0.30	3
2	Ge		57,459.94	1.06	93.8	Pulse	0.30	3
2	Ge		88,067.10	0.71	94.1	Pulse	0.30	3
2	Rh		1,625,204.76	0.73	95.2	Pulse	0.30	3
2	In		581,696.22	1.21	96.1	Pulse	0.30	3
2	Tb		2,191,146.86	1.02	96.3	Pulse	0.30	3
2	Ho		220,436.30	1.11	97.5	Pulse	0.30	3
2	Bi		1,515,714.98	0.83	97.8	Pulse	0.30	3
3	Sc		175,030.18	1.02	93.2	Pulse	0.30	3
3	Ge		110,158.82	1.11	93.9	Pulse	0.30	3
3	Ge		166,093.77	1.14	93.3	Pulse	0.30	3
3	Rh		1,877,288.61	1.24	96.8	Pulse	0.30	3
3	Tb		3,230,834.59	0.52	97.3	Pulse	0.30	3

Quantitation Report

File Name 027SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 11:35
Sample Name jc99565-4 4
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.095	ug/l	11.33	264.01	2.274E-04	Pulse	0.25	3
B			1	2.182	ug/l	4.19	13,719.10	1.181E-02	Pulse	0.15	3
Ca			1	54.083	ug/l	4.90	30,104.97	1.737E-02	Pulse	0.10	3
Sr			1	0.893	ug/l	6.18	12,518.61	5.263E-03	Pulse	0.10	3
Mo			1	0.266	ug/l	27.90	793.38	3.332E-04	Pulse	0.10	3
Ag			1	0.040	ug/l	20.80	280.01	1.196E-04	Pulse	0.10	3
Sn			1	1.382	ug/l	2.80	4,967.65	2.121E-03	Pulse	0.10	3
Sb			1	0.178	ug/l	12.91	1,486.79	4.133E-04	Pulse	0.10	3
Ba			1	1.586	ug/l	2.57	3,277.12	9.114E-04	Pulse	0.10	3
Tl			1	0.123	ug/l	8.30	1,816.85	8.007E-04	Pulse	0.10	3
Pb			1	0.044	ug/l	30.41	446.69	1.965E-04	Pulse	0.10	3
Pb			1	0.042	ug/l	68.03	433.35	1.916E-04	Pulse	0.10	3
Pb			1	0.048	ug/l	9.30	1,853.45	8.173E-04	Pulse	0.10	3
Na			2	30.744	ug/l	2.83	29,709.51	2.917E-01	Pulse	0.30	3
Mg			2	4.248	ug/l	4.20	1,105.61	1.085E-02	Pulse	0.30	3
Al			2	13.297	ug/l	4.15	1,257.84	1.235E-02	Pulse	0.30	3
K			2	18.973	ug/l	3.26	10,691.29	1.050E-01	Pulse	0.30	3
Ca			2	68.450	ug/l	14.08	632.24	6.210E-03	Pulse	0.30	3
Ti			2	0.652	ug/l	58.45	40.00	3.918E-04	Pulse	0.30	3
V			2	-0.043	ug/l	-17.61	442.23	4.342E-03	Pulse	0.30	3
Cr			2	0.460	ug/l	3.69	1,564.54	1.536E-02	Pulse	0.30	3
Mn			2	0.437	ug/l	0.71	626.69	6.153E-03	Pulse	0.30	3
Fe			2	5.527	ug/l	2.20	18,296.94	1.796E-01	Pulse	0.30	3
Co			2	0.033	ug/l	18.23	144.40	1.418E-03	Pulse	0.30	3
Ni			2	0.402	ug/l	4.98	828.92	8.138E-03	Pulse	0.30	3
Cu			2	48.427	ug/l	0.95	145,848.11	1.432E+00	Pulse	0.30	3
Zn			2	14.649	ug/l	2.37	7,134.96	7.006E-02	Pulse	0.30	3
As			2	0.092	ug/l	43.11	26.67	2.620E-04	Pulse	1.00	3
Cd			2	0.005	ug/l	109.44	5.46	9.678E-06	Pulse	0.30	3
Sn			2	1.294	ug/l	1.26	1,685.67	2.994E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	0.073	ug/l	42.08	12.40	6.673E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,161,343.78	0.46	91.6	Pulse	0.10	3
1	Sc		1,733,488.83	1.63	90.4	Pulse	0.10	3
1	Ge		342,648.84	3.12	96.1	Pulse	0.10	3
1	Ge		477,336.67	2.70	96.9	Pulse	0.10	3
1	Rh		2,377,118.72	1.49	94.5	Pulse	0.10	3
1	In		2,342,747.31	1.72	95.4	Pulse	0.10	3
1	Tb		3,596,213.90	0.87	98.0	Pulse	0.10	3
1	Ho		360,708.89	1.76	97.8	Pulse	0.10	3
1	Bi		2,269,083.51	1.85	98.0	Pulse	0.10	3
2	Sc		101,846.97	0.66	88.2	Pulse	0.30	3
2	Ge		60,019.82	0.93	98.0	Pulse	0.30	3
2	Ge		89,440.11	2.31	95.6	Pulse	0.30	3
2	Rh		1,595,780.28	0.10	93.5	Pulse	0.30	3
2	In		563,079.22	0.45	93.0	Pulse	0.30	3
2	Tb		2,178,181.51	0.70	95.7	Pulse	0.30	3
2	Ho		217,085.07	0.56	96.0	Pulse	0.30	3
2	Bi		1,506,825.29	0.42	97.2	Pulse	0.30	3
3	Sc		177,049.17	0.42	94.3	Pulse	0.30	3
3	Ge		123,412.20	3.18	105.1	Pulse	0.30	3
3	Ge		186,104.00	1.74	104.5	Pulse	0.30	3
3	Rh		1,887,810.07	0.69	97.4	Pulse	0.30	3
3	Tb		3,279,530.49	0.40	98.8	Pulse	0.30	3

Quantitation Report

File Name 028SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 11:40
Sample Name mp18775a-mb1
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.014	ug/l	39.22	45.33	3.755E-05	Pulse	0.25	3
B			1	2.790	ug/l	13.11	15,549.62	1.287E-02	Pulse	0.15	3
Ca			1	1115.972	ug/l	0.80	338,011.79	1.853E-01	Pulse	0.10	3
Sr			1	6.973	ug/l	0.81	99,591.03	4.051E-02	Pulse	0.10	3
Mo			1	0.197	ug/l	16.04	623.37	2.533E-04	Pulse	0.10	3
Ag			1	0.040	ug/l	6.85	296.68	1.219E-04	Pulse	0.10	3
Sn			1	0.964	ug/l	3.57	3,297.13	1.357E-03	Pulse	0.10	3
Sb			1	0.067	ug/l	22.31	956.73	2.588E-04	Pulse	0.10	3
Ba			1	1.754	ug/l	3.71	3,720.58	1.007E-03	Pulse	0.10	3
Tl			1	0.024	ug/l	19.85	403.35	1.743E-04	Pulse	0.10	3
Pb			1	0.165	ug/l	11.97	1,076.75	4.657E-04	Pulse	0.10	3
Pb			1	0.151	ug/l	5.50	936.73	4.055E-04	Pulse	0.10	3
Pb			1	0.170	ug/l	5.30	4,400.42	1.904E-03	Pulse	0.10	3
Na			2	751.827	ug/l	0.62	399,830.08	3.769E+00	Pulse	0.30	3
Mg			2	243.916	ug/l	1.10	58,381.37	5.504E-01	Pulse	0.30	3
Al			2	2.290	ug/l	40.32	434.46	4.097E-03	Pulse	0.30	3
K			2	86.302	ug/l	2.10	21,120.09	1.991E-01	Pulse	0.30	3
Ca			2	1169.112	ug/l	1.08	9,666.23	9.112E-02	Pulse	0.30	3
Ti			2	0.360	ug/l	46.04	23.33	2.208E-04	Pulse	0.30	3
V			2	-0.046	ug/l	-48.04	454.45	4.280E-03	Pulse	0.30	3
Cr			2	0.763	ug/l	3.42	2,425.76	2.286E-02	Pulse	0.30	3
Mn			2	11.886	ug/l	2.22	16,548.41	1.560E-01	Pulse	0.30	3
Fe			2	53.873	ug/l	0.51	118,855.36	1.120E+00	Pulse	0.30	3
Co			2	0.123	ug/l	9.71	521.91	4.922E-03	Pulse	0.30	3
Ni			2	0.159	ug/l	48.24	593.35	5.598E-03	Pulse	0.30	3
Cu			2	2.091	ug/l	3.27	11,748.75	1.108E-01	Pulse	0.30	3
Zn			2	1.012	ug/l	10.92	1,315.63	1.241E-02	Pulse	0.30	3
As			2	0.193	ug/l	2.14	49.67	4.682E-04	Pulse	1.00	3
Cd			2	0.020	ug/l	76.38	15.51	2.685E-05	Pulse	0.30	3
Sn			2	0.771	ug/l	5.53	1,036.71	1.789E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	0.106	ug/l	22.95	15.13	8.204E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,208,131.73	0.84	95.3	Pulse	0.10	3
1	Sc		1,823,823.93	1.75	95.1	Pulse	0.10	3
1	Ge		354,662.14	2.18	99.5	Pulse	0.10	3
1	Ge		486,287.63	2.53	98.7	Pulse	0.10	3
1	Rh		2,458,438.56	1.87	97.7	Pulse	0.10	3
1	In		2,431,483.81	2.11	99.0	Pulse	0.10	3
1	Tb		3,694,876.82	1.59	100.7	Pulse	0.10	3
1	Ho		369,928.16	2.42	100.3	Pulse	0.10	3
1	Bi		2,310,099.71	1.96	99.8	Pulse	0.10	3
2	Sc		106,082.37	1.35	91.9	Pulse	0.30	3
2	Ge		59,943.76	0.84	97.8	Pulse	0.30	3
2	Ge		91,377.26	1.08	97.6	Pulse	0.30	3
2	Rh		1,633,574.31	0.34	95.7	Pulse	0.30	3
2	In		579,493.07	0.76	95.7	Pulse	0.30	3
2	Tb		2,235,635.33	1.13	98.2	Pulse	0.30	3
2	Ho		223,444.45	0.70	98.8	Pulse	0.30	3
2	Bi		1,521,190.98	0.68	98.1	Pulse	0.30	3
3	Sc		184,503.19	1.14	98.3	Pulse	0.30	3
3	Ge		122,514.74	1.66	104.4	Pulse	0.30	3
3	Ge		184,501.27	1.14	103.6	Pulse	0.30	3
3	Rh		1,936,919.86	0.98	99.9	Pulse	0.30	3
3	Tb		3,359,552.92	0.53	101.2	Pulse	0.30	3

Quantitation Report

File Name 029SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 11:45
Sample Name mp18775a-b2
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	63.671	ug/l	1.66	183,608.73	1.487E-01	Pulse	0.25	3
B			1	78.619	ug/l	1.89	179,246.32	1.451E-01	Pulse	0.15	3
Ca			1	11191.558	ug/l	0.55	3,290,237.76	1.779E+00	Pulse	0.10	3
Sr			1	117.998	ug/l	0.63	1,667,534.40	6.843E-01	Pulse	0.10	3
Mo			1	70.603	ug/l	0.61	200,936.87	8.243E-02	Pulse	0.10	3
Ag			1	68.682	ug/l	0.55	487,393.51	2.000E-01	Pulse	0.10	3
Sn			1	69.410	ug/l	0.03	308,867.67	1.268E-01	Pulse	0.10	3
Sb			1	69.345	ug/l	0.71	367,782.92	9.737E-02	Pulse	0.10	3
Ba			1	77.678	ug/l	0.09	166,439.85	4.406E-02	Pulse	0.10	3
Tl			1	68.996	ug/l	1.27	1,003,221.39	4.355E-01	Pulse	0.10	3
Pb			1	71.618	ug/l	1.09	367,283.33	1.594E-01	Pulse	0.10	3
Pb			1	71.114	ug/l	0.43	321,740.80	1.397E-01	Pulse	0.10	3
Pb			1	71.474	ug/l	0.53	1,475,919.69	6.407E-01	Pulse	0.10	3
Na			2	9536.314	ug/l	1.20	4,908,714.53	4.613E+01	Analog	0.30	3
Mg			2	5136.274	ug/l	0.76	1,230,376.55	1.156E+01	Pulse	0.30	3
Al			2	3430.933	ug/l	0.47	274,017.01	2.575E+00	Pulse	0.30	3
K			2	4211.781	ug/l	1.18	634,900.17	5.967E+00	Pulse	0.30	3
Ca			2	11870.992	ug/l	0.38	97,537.42	9.167E-01	Pulse	0.30	3
Ti			2	67.718	ug/l	5.32	4,227.25	3.972E-02	Pulse	0.30	3
V			2	69.508	ug/l	0.92	137,864.97	1.296E+00	Pulse	0.30	3
Cr			2	68.442	ug/l	1.48	180,982.04	1.701E+00	Pulse	0.30	3
Mn			2	146.156	ug/l	1.65	203,605.25	1.914E+00	Pulse	0.30	3
Fe			2	3985.904	ug/l	1.13	8,259,657.73	7.763E+01	Analog	0.30	3
Co			2	68.526	ug/l	1.34	282,793.48	2.658E+00	Pulse	0.30	3
Ni			2	68.670	ug/l	0.74	76,985.26	7.235E-01	Pulse	0.30	3
Cu			2	71.314	ug/l	0.73	221,807.97	2.085E+00	Pulse	0.30	3
Zn			2	68.816	ug/l	0.55	31,820.97	2.991E-01	Pulse	0.30	3
As			2	67.337	ug/l	1.18	14,637.22	1.376E-01	Pulse	1.00	3
Cd			2	64.879	ug/l	0.89	44,146.55	7.754E-02	Pulse	0.30	3
Sn			2	70.737	ug/l	0.55	92,688.82	1.628E-01	Pulse	0.30	3
Se			3	276.884	ug/l	2.46	24,491.97	1.272E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,234,961.86	1.26	97.4	Pulse	0.10	3
1	Sc		1,849,808.36	2.59	96.5	Pulse	0.10	3
1	Ge		371,291.61	4.00	104.1	Pulse	0.10	3

Quantitation Report

1	Ge		515,726.28	3.86	104.7	Pulse	0.10	3
1	Rh		2,437,315.69	3.04	96.9	Pulse	0.10	3
1	In		2,436,545.93	3.18	99.3	Pulse	0.10	3
1	Tb		3,777,524.22	2.80	102.9	Pulse	0.10	3
1	Ho		377,232.19	3.62	102.3	Pulse	0.10	3
1	Bi		2,303,737.98	3.73	99.5	Pulse	0.10	3
2	Sc		106,400.80	0.68	92.2	Pulse	0.30	3
2	Ge		62,880.48	1.47	102.6	Pulse	0.30	3
2	Ge		95,094.01	0.82	101.6	Pulse	0.30	3
2	Rh		1,620,675.35	1.05	95.0	Pulse	0.30	3
2	In		569,353.95	0.42	94.0	Pulse	0.30	3
2	Tb		2,233,602.27	0.98	98.1	Pulse	0.30	3
2	Ho		223,312.95	1.57	98.8	Pulse	0.30	3
2	Bi		1,489,442.79	0.66	96.1	Pulse	0.30	3
3	Sc		186,878.91	0.47	99.6	Pulse	0.30	3
3	Ge		126,389.49	2.50	107.7	Pulse	0.30	3
3	Ge		192,532.43	2.06	108.1	Pulse	0.30	3
3	Rh		1,904,341.59	1.24	98.2	Pulse	0.30	3
3	Tb		3,390,150.35	0.65	102.1	Pulse	0.30	3

Quantitation Report

File Name 030SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 11:50
Sample Name mp18781-mb1 5
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.004	ug/l	94.42	17.33	1.348E-05	Pulse	0.25	3
B			1	2.242	ug/l	5.03	15,291.65	1.192E-02	Pulse	0.15	3
Ca			1	477.637	ug/l	0.77	159,927.82	8.436E-02	Pulse	0.10	3
Sr			1	2.709	ug/l	0.51	39,496.10	1.579E-02	Pulse	0.10	3
Mo			1	0.175	ug/l	28.37	570.03	2.270E-04	Pulse	0.10	3
Ag			1	0.040	ug/l	15.55	306.68	1.214E-04	Pulse	0.10	3
Sn			1	1.067	ug/l	7.30	3,897.30	1.544E-03	Pulse	0.10	3
Sb			1	0.097	ug/l	15.50	1,146.76	3.001E-04	Pulse	0.10	3
Ba			1	0.348	ug/l	4.41	796.72	2.089E-04	Pulse	0.10	3
Tl			1	0.024	ug/l	18.21	410.03	1.738E-04	Pulse	0.10	3
Pb			1	0.072	ug/l	26.83	610.03	2.582E-04	Pulse	0.10	3
Pb			1	0.063	ug/l	14.46	546.70	2.318E-04	Pulse	0.10	3
Pb			1	0.072	ug/l	4.08	2,433.50	1.031E-03	Pulse	0.10	3
Na			2	278.906	ug/l	1.28	160,127.67	1.489E+00	Pulse	0.30	3
Mg			2	119.212	ug/l	1.22	29,008.26	2.697E-01	Pulse	0.30	3
Al			2	8.063	ug/l	8.60	906.70	8.427E-03	Pulse	0.30	3
K			2	48.107	ug/l	2.68	15,674.15	1.457E-01	Pulse	0.30	3
Ca			2	482.458	ug/l	2.75	4,103.89	3.815E-02	Pulse	0.30	3
Ti			2	0.424	ug/l	18.47	27.78	2.580E-04	Pulse	0.30	3
V			2	-0.044	ug/l	-15.46	464.46	4.317E-03	Pulse	0.30	3
Cr			2	0.572	ug/l	4.59	1,951.25	1.814E-02	Pulse	0.30	3
Mn			2	5.661	ug/l	1.64	8,018.69	7.453E-02	Pulse	0.30	3
Fe			2	26.562	ug/l	1.19	63,356.48	5.889E-01	Pulse	0.30	3
Co			2	0.031	ug/l	31.25	144.28	1.341E-03	Pulse	0.30	3
Ni			2	0.300	ug/l	11.13	761.14	7.076E-03	Pulse	0.30	3
Cu			2	1.382	ug/l	5.56	9,742.96	9.056E-02	Pulse	0.30	3
Zn			2	0.416	ug/l	19.16	1,063.38	9.886E-03	Pulse	0.30	3
As			2	0.375	ug/l	8.43	90.33	8.399E-04	Pulse	1.00	3
Cd			2	0.007	ug/l	1.60	6.61	1.144E-05	Pulse	0.30	3
Sn			2	0.916	ug/l	6.23	1,226.73	2.123E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	0.138	ug/l	24.64	18.80	9.682E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,283,109.30	0.66	101.2	Pulse	0.10	3
1	Sc		1,895,722.99	1.45	98.9	Pulse	0.10	3
1	Ge		379,763.09	2.18	106.5	Pulse	0.10	3
1	Ge		528,312.47	2.01	107.3	Pulse	0.10	3
1	Rh		2,501,704.03	2.42	99.4	Pulse	0.10	3
1	In		2,519,463.13	3.09	102.6	Pulse	0.10	3
1	Tb		3,817,450.57	2.71	104.0	Pulse	0.10	3
1	Ho		383,999.51	3.37	104.1	Pulse	0.10	3
1	Bi		2,362,479.44	3.11	102.0	Pulse	0.10	3
2	Sc		107,579.84	0.59	93.2	Pulse	0.30	3
2	Ge		63,822.94	1.83	104.2	Pulse	0.30	3
2	Ge		96,169.69	1.35	102.8	Pulse	0.30	3
2	Rh		1,674,410.18	0.65	98.1	Pulse	0.30	3
2	In		577,507.23	0.98	95.4	Pulse	0.30	3
2	Tb		2,235,563.31	0.27	98.2	Pulse	0.30	3
2	Ho		224,051.03	0.50	99.1	Pulse	0.30	3
2	Bi		1,516,105.11	0.52	97.8	Pulse	0.30	3
3	Sc		193,989.37	0.85	103.3	Pulse	0.30	3
3	Ge		129,429.48	1.06	110.3	Pulse	0.30	3
3	Ge		194,179.02	0.91	109.1	Pulse	0.30	3
3	Rh		2,008,385.27	0.78	103.6	Pulse	0.30	3
3	Tb		3,461,652.43	0.73	104.3	Pulse	0.30	3

Quantitation Report

File Name 031SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 11:55
Sample Name mp18781-b2
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	69.497	ug/l	1.74	215,502.13	1.623E-01	Pulse	0.25	3
B			1	75.901	ug/l	2.27	186,449.17	1.404E-01	Pulse	0.15	3
Ca			1	4704.330	ug/l	0.85	1,495,145.71	7.528E-01	Pulse	0.10	3
Sr			1	82.467	ug/l	0.35	1,229,902.25	4.782E-01	Pulse	0.10	3
Mo			1	76.877	ug/l	1.19	230,805.57	8.976E-02	Pulse	0.10	3
Ag			1	76.665	ug/l	1.52	570,353.92	2.233E-01	Pulse	0.10	3
Sn			1	75.865	ug/l	1.32	354,138.22	1.386E-01	Pulse	0.10	3
Sb			1	76.367	ug/l	0.78	420,258.34	1.072E-01	Pulse	0.10	3
Ba			1	74.986	ug/l	0.39	166,764.60	4.253E-02	Pulse	0.10	3
Tl			1	76.915	ug/l	0.75	1,151,187.80	4.855E-01	Pulse	0.10	3
Pb			1	79.552	ug/l	0.66	419,912.77	1.771E-01	Pulse	0.10	3
Pb			1	78.657	ug/l	1.18	366,290.53	1.545E-01	Pulse	0.10	3
Pb			1	78.935	ug/l	0.73	1,677,822.08	7.076E-01	Pulse	0.10	3
Na			2	4317.309	ug/l	0.76	2,339,061.92	2.096E+01	Pulse	0.30	3
Mg			2	4247.023	ug/l	0.70	1,066,875.44	9.562E+00	Pulse	0.30	3
Al			2	3836.233	ug/l	0.63	321,258.14	2.879E+00	Pulse	0.30	3
K			2	4085.021	ug/l	0.56	646,014.63	5.790E+00	Pulse	0.30	3
Ca			2	5198.321	ug/l	0.78	44,845.80	4.019E-01	Pulse	0.30	3
Ti			2	74.683	ug/l	2.97	4,887.45	4.381E-02	Pulse	0.30	3
V			2	78.843	ug/l	1.03	163,899.00	1.469E+00	Pulse	0.30	3
Cr			2	77.254	ug/l	0.28	214,179.85	1.920E+00	Pulse	0.30	3
Mn			2	96.739	ug/l	0.54	141,340.72	1.267E+00	Pulse	0.30	3
Fe			2	4249.224	ug/l	1.22	9,232,971.02	8.275E+01	Analog	0.30	3
Co			2	77.022	ug/l	0.35	333,334.69	2.988E+00	Pulse	0.30	3
Ni			2	76.442	ug/l	0.98	89,818.25	8.050E-01	Pulse	0.30	3
Cu			2	78.201	ug/l	0.24	254,516.70	2.281E+00	Pulse	0.30	3
Zn			2	70.772	ug/l	0.78	34,291.36	3.073E-01	Pulse	0.30	3
As			2	72.598	ug/l	1.50	16,550.39	1.483E-01	Pulse	1.00	3
Cd			2	72.242	ug/l	0.09	50,956.28	8.634E-02	Pulse	0.30	3
Sn			2	77.972	ug/l	0.96	105,911.11	1.794E-01	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	310.450	ug/l	2.44	29,081.25	1.427E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,328,159.54	1.03	104.8	Pulse	0.10	3
1	Sc		1,986,212.26	1.97	103.6	Pulse	0.10	3
1	Ge		390,963.90	2.69	109.7	Pulse	0.10	3
1	Ge		543,114.65	2.33	110.3	Pulse	0.10	3
1	Rh		2,571,841.06	2.55	102.2	Pulse	0.10	3
1	In		2,555,332.23	2.78	104.1	Pulse	0.10	3
1	Tb		3,920,469.21	3.04	106.8	Pulse	0.10	3
1	Ho		393,620.51	3.72	106.7	Pulse	0.10	3
1	Bi		2,370,866.32	2.92	102.4	Pulse	0.10	3
2	Sc		111,578.73	1.02	96.7	Pulse	0.30	3
2	Ge		66,335.19	1.00	108.3	Pulse	0.30	3
2	Ge		99,678.54	1.10	106.5	Pulse	0.30	3
2	Rh		1,707,311.84	0.99	100.0	Pulse	0.30	3
2	In		590,200.70	1.64	97.5	Pulse	0.30	3
2	Tb		2,292,775.88	1.26	100.7	Pulse	0.30	3
2	Ho		229,748.27	1.35	101.6	Pulse	0.30	3
2	Bi		1,537,684.80	0.33	99.2	Pulse	0.30	3
3	Sc		203,132.86	0.77	108.2	Pulse	0.30	3
3	Ge		134,678.06	2.19	114.7	Pulse	0.30	3
3	Ge		203,894.76	1.86	114.5	Pulse	0.30	3
3	Rh		2,026,436.17	0.19	104.5	Pulse	0.30	3
3	Tb		3,516,445.41	0.43	105.9	Pulse	0.30	3

Quantitation Report

File Name 032SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 12:00
Sample Name jc99694-1 4
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.048	ug/l	32.34	149.33	1.178E-04	Pulse	0.25	3
B			1	196.492	ug/l	1.16	444,330.70	3.507E-01	Pulse	0.15	3
Ca			1	129202.872	ug/l	0.74	40,173,568.57	2.044E+01	Analog	0.10	3
Sr			1	622.101	ug/l	2.19	8,701,241.12	3.607E+00	Analog	0.10	3
Mo			1	27.316	ug/l	0.84	76,988.73	3.191E-02	Pulse	0.10	3
Ag			1	0.067	ug/l	12.42	496.69	2.002E-04	Pulse	0.10	3
Sn			1	1.406	ug/l	3.23	5,374.45	2.165E-03	Pulse	0.10	3
Sb			1	0.808	ug/l	1.15	5,007.64	1.297E-03	Pulse	0.10	3
Ba			1	116.861	ug/l	1.18	255,912.68	6.628E-02	Pulse	0.10	3
Tl			1	0.098	ug/l	8.99	1,453.46	6.430E-04	Pulse	0.10	3
Pb			1	1.947	ug/l	3.76	9,993.68	4.430E-03	Pulse	0.10	3
Pb			1	1.808	ug/l	6.84	8,249.24	3.657E-03	Pulse	0.10	3
Pb			1	1.883	ug/l	2.91	38,927.99	1.725E-02	Pulse	0.10	3
Na			2	53846.285	ug/l	0.82	28,432,648.87	2.598E+02	Analog	0.30	3
Mg			2	24005.300	ug/l	0.68	5,913,834.07	5.404E+01	Analog	0.30	3
Al			2	1625.517	ug/l	0.95	133,664.46	1.221E+00	Pulse	0.30	3
K			2	4737.380	ug/l	1.00	733,399.12	6.702E+00	Pulse	0.30	3
Ca			2	128492.454	ug/l	0.47	1,084,847.25	9.913E+00	Pulse	0.30	3
Ti			2	26.056	ug/l	11.57	1,672.34	1.529E-02	Pulse	0.30	3
V			2	1.840	ug/l	5.10	4,301.72	3.930E-02	Pulse	0.30	3
Cr			2	2.373	ug/l	2.63	6,870.39	6.278E-02	Pulse	0.30	3
Mn			2	922.639	ug/l	0.76	1,321,758.28	1.208E+01	Pulse	0.30	3
Fe			2	16696.749	ug/l	1.35	35,560,047.47	3.250E+02	Analog	0.30	3
Co			2	2.526	ug/l	2.74	10,736.55	9.810E-02	Pulse	0.30	3
Ni			2	10.670	ug/l	4.07	12,663.87	1.157E-01	Pulse	0.30	3
Cu			2	13.088	ug/l	3.27	46,434.35	4.243E-01	Pulse	0.30	3
Zn			2	62.339	ug/l	1.77	29,729.32	2.717E-01	Pulse	0.30	3
As			2	5.562	ug/l	3.98	1,251.05	1.143E-02	Pulse	1.00	3
Cd			2	0.032	ug/l	32.40	23.78	4.167E-05	Pulse	0.30	3
Sn			2	1.172	ug/l	6.42	1,551.21	2.712E-03	Pulse	0.30	3
Se			3	0.481	ug/l	5.09	49.07	2.544E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,266,896.04	1.69	100.0	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,965,269.14	1.92	102.5	Pulse	0.10	3
1	Ge		388,457.70	2.25	109.0	Pulse	0.10	3
1	Ge		531,633.27	1.81	107.9	Pulse	0.10	3
1	Rh		2,413,000.95	2.31	95.9	Pulse	0.10	3
1	In		2,482,397.70	1.79	101.1	Pulse	0.10	3
1	Tb		3,861,927.13	3.13	105.2	Pulse	0.10	3
1	Ho		382,493.35	3.68	103.7	Pulse	0.10	3
1	Bi		2,257,712.63	3.66	97.5	Pulse	0.10	3
2	Sc		109,435.92	0.96	94.8	Pulse	0.30	3
2	Ge		64,418.56	1.14	105.1	Pulse	0.30	3
2	Ge		95,901.74	0.14	102.5	Pulse	0.30	3
2	Rh		1,613,586.01	0.53	94.5	Pulse	0.30	3
2	In		572,227.79	1.53	94.5	Pulse	0.30	3
2	Tb		2,244,596.86	1.04	98.6	Pulse	0.30	3
2	Ho		226,984.43	1.09	100.4	Pulse	0.30	3
2	Bi		1,446,419.14	1.09	93.3	Pulse	0.30	3
3	Sc		196,663.27	0.56	104.8	Pulse	0.30	3
3	Ge		128,184.21	0.94	109.2	Pulse	0.30	3
3	Ge		192,920.89	1.23	108.3	Pulse	0.30	3
3	Rh		1,917,068.47	0.43	98.9	Pulse	0.30	3
3	Tb		3,428,723.40	0.73	103.3	Pulse	0.30	3

Quantitation Report

File Name 033SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 12:05
Sample Name jc99694-2
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.048	ug/l	0.71	153.33	1.171E-04	Pulse	0.25	3
B			1	153.023	ug/l	0.35	359,853.19	2.749E-01	Pulse	0.15	3
Ca			1	178320.975	ug/l	1.61	56,783,230.82	2.821E+01	Analog	0.10	3
Sr			1	1255.760	ug/l	1.44	18,117,298.48	7.281E+00	Analog	0.10	3
Mo			1	18.784	ug/l	1.35	54,620.55	2.195E-02	Pulse	0.10	3
Ag			1	0.027	ug/l	11.32	210.01	8.316E-05	Pulse	0.10	3
Sn			1	1.038	ug/l	4.31	3,773.92	1.492E-03	Pulse	0.10	3
Sb			1	1.093	ug/l	0.62	6,665.00	1.696E-03	Pulse	0.10	3
Ba			1	132.301	ug/l	0.35	294,905.71	7.504E-02	Pulse	0.10	3
Tl			1	0.036	ug/l	8.66	576.70	2.508E-04	Pulse	0.10	3
Pb			1	1.993	ug/l	3.07	10,400.72	4.532E-03	Pulse	0.10	3
Pb			1	1.966	ug/l	3.22	9,106.46	3.968E-03	Pulse	0.10	3
Pb			1	1.987	ug/l	1.90	41,758.12	1.819E-02	Pulse	0.10	3
Na			2	27723.220	ug/l	2.65	14,873,436.07	1.338E+02	Analog	0.30	3
Mg			2	14067.903	ug/l	0.95	3,520,189.65	3.167E+01	Pulse	0.30	3
Al			2	927.599	ug/l	1.09	77,592.11	6.980E-01	Pulse	0.30	3
K			2	10761.074	ug/l	1.50	1,680,916.18	1.512E+01	Pulse	0.30	3
Ca			2	177673.573	ug/l	2.07	1,523,302.79	1.371E+01	Pulse	0.30	3
Ti			2	15.406	ug/l	1.94	1,005.62	9.045E-03	Pulse	0.30	3
V			2	1.644	ug/l	4.30	3,966.08	3.566E-02	Pulse	0.30	3
Cr			2	2.484	ug/l	2.48	7,283.92	6.554E-02	Pulse	0.30	3
Mn			2	1092.729	ug/l	1.13	1,589,917.23	1.430E+01	Pulse	0.30	3
Fe			2	1689.896	ug/l	1.84	3,662,434.02	3.295E+01	Pulse	0.30	3
Co			2	4.806	ug/l	0.92	20,733.30	1.865E-01	Pulse	0.30	3
Ni			2	305.911	ug/l	1.47	356,711.57	3.210E+00	Pulse	0.30	3
Cu			2	13.958	ug/l	1.34	49,922.23	4.491E-01	Pulse	0.30	3
Zn			2	287.188	ug/l	1.33	135,857.55	1.222E+00	Pulse	0.30	3
As			2	1.727	ug/l	0.71	400.34	3.601E-03	Pulse	1.00	3
Cd			2	0.269	ug/l	15.33	189.14	3.251E-04	Pulse	0.30	3
Sn			2	0.878	ug/l	4.84	1,184.51	2.035E-03	Pulse	0.30	3
Se			3	0.448	ug/l	7.49	45.27	2.393E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,308,996.87	1.01	103.3	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		2,013,035.13	1.51	105.0	Pulse	0.10	3
1	Ge		387,099.12	2.78	108.6	Pulse	0.10	3
1	Ge		532,675.36	2.32	108.2	Pulse	0.10	3
1	Rh		2,488,749.86	2.18	98.9	Pulse	0.10	3
1	In		2,529,876.25	2.55	103.1	Pulse	0.10	3
1	Tb		3,930,347.65	2.17	107.1	Pulse	0.10	3
1	Ho		397,450.23	2.81	107.8	Pulse	0.10	3
1	Bi		2,296,340.64	2.84	99.2	Pulse	0.10	3
2	Sc		111,164.25	2.07	96.3	Pulse	0.30	3
2	Ge		64,998.64	1.77	106.1	Pulse	0.30	3
2	Ge		98,903.01	0.91	105.7	Pulse	0.30	3
2	Rh		1,653,741.36	0.86	96.9	Pulse	0.30	3
2	In		582,196.52	1.17	96.2	Pulse	0.30	3
2	Tb		2,299,027.06	1.56	101.0	Pulse	0.30	3
2	Ho		232,689.23	1.53	102.9	Pulse	0.30	3
2	Bi		1,496,654.07	1.15	96.6	Pulse	0.30	3
3	Sc		197,543.84	0.71	105.2	Pulse	0.30	3
3	Ge		127,096.66	1.52	108.3	Pulse	0.30	3
3	Ge		189,174.41	1.73	106.2	Pulse	0.30	3
3	Rh		1,915,607.77	0.58	98.8	Pulse	0.30	3
3	Tb		3,445,763.47	0.66	103.8	Pulse	0.30	3

Quantitation Report

File Name 034SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 12:10
Sample Name jc99694-3
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.013	ug/l	41.92	45.33	3.512E-05	Pulse	0.25	3
B			1	83.157	ug/l	1.78	197,549.92	1.530E-01	Pulse	0.15	3
Ca			1	119626.697	ug/l	1.43	37,708,634.44	1.893E+01	Analog	0.10	3
Sr			1	536.223	ug/l	1.19	7,698,643.64	3.109E+00	Analog	0.10	3
Mo			1	74.812	ug/l	0.35	216,306.80	8.734E-02	Pulse	0.10	3
Ag			1	0.025	ug/l	16.30	193.34	7.669E-05	Pulse	0.10	3
Sn			1	0.912	ug/l	8.62	3,180.43	1.261E-03	Pulse	0.10	3
Sb			1	1.655	ug/l	4.94	9,746.75	2.484E-03	Pulse	0.10	3
Ba			1	182.749	ug/l	0.30	406,345.35	1.036E-01	Pulse	0.10	3
Tl			1	0.006	ug/l	50.39	133.34	5.729E-05	Pulse	0.10	3
Pb			1	2.003	ug/l	2.91	10,617.54	4.555E-03	Pulse	0.10	3
Pb			1	1.869	ug/l	0.88	8,802.90	3.777E-03	Pulse	0.10	3
Pb			1	1.930	ug/l	2.94	41,193.78	1.768E-02	Pulse	0.10	3
Na			2	3253.244	ug/l	0.62	1,745,352.36	1.583E+01	Pulse	0.30	3
Mg			2	11137.956	ug/l	0.35	2,764,239.20	2.507E+01	Pulse	0.30	3
Al			2	13.185	ug/l	6.85	1,353.41	1.227E-02	Pulse	0.30	3
K			2	3325.855	ug/l	1.28	521,215.90	4.729E+00	Pulse	0.30	3
Ca			2	117811.479	ug/l	1.32	1,001,880.06	9.089E+00	Pulse	0.30	3
Ti			2	0.259	ug/l	45.91	17.78	1.612E-04	Pulse	0.30	3
V			2	0.135	ug/l	18.84	844.48	7.654E-03	Pulse	0.30	3
Cr			2	0.531	ug/l	7.47	1,887.91	1.711E-02	Pulse	0.30	3
Mn			2	624.488	ug/l	1.26	901,138.92	8.175E+00	Pulse	0.30	3
Fe			2	13609.813	ug/l	2.56	29,193,908.84	2.649E+02	Analog	0.30	3
Co			2	2.379	ug/l	1.24	10,191.14	9.243E-02	Pulse	0.30	3
Ni			2	637.362	ug/l	0.80	736,711.24	6.683E+00	Pulse	0.30	3
Cu			2	11.102	ug/l	1.48	40,534.30	3.677E-01	Pulse	0.30	3
Zn			2	2732.174	ug/l	0.81	1,274,249.88	1.156E+01	Pulse	0.30	3
As			2	2.711	ug/l	4.00	618.34	5.611E-03	Pulse	1.00	3
Cd			2	2.356	ug/l	0.54	1,636.11	2.820E-03	Pulse	0.30	3
Sn			2	0.689	ug/l	6.30	928.93	1.600E-03	Pulse	0.30	3
Se			3	0.846	ug/l	3.15	82.80	4.221E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,290,721.38	0.48	101.8	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,992,431.01	1.63	103.9	Pulse	0.10	3
1	Ge		390,788.18	1.84	109.6	Pulse	0.10	3
1	Ge		538,292.74	2.26	109.3	Pulse	0.10	3
1	Rh		2,476,473.14	1.98	98.4	Pulse	0.10	3
1	In		2,527,361.24	2.37	103.0	Pulse	0.10	3
1	Tb		3,920,763.28	2.23	106.8	Pulse	0.10	3
1	Ho		391,210.81	2.65	106.1	Pulse	0.10	3
1	Bi		2,330,751.63	2.74	100.7	Pulse	0.10	3
2	Sc		110,245.99	1.95	95.5	Pulse	0.30	3
2	Ge		65,672.40	1.32	107.2	Pulse	0.30	3
2	Ge		98,496.90	1.23	105.2	Pulse	0.30	3
2	Rh		1,677,682.85	1.13	98.3	Pulse	0.30	3
2	In		580,272.90	1.15	95.8	Pulse	0.30	3
2	Tb		2,283,435.12	1.74	100.3	Pulse	0.30	3
2	Ho		230,323.12	1.17	101.9	Pulse	0.30	3
2	Bi		1,512,776.92	1.33	97.6	Pulse	0.30	3
3	Sc		199,868.42	0.50	106.5	Pulse	0.30	3
3	Ge		130,587.75	1.24	111.3	Pulse	0.30	3
3	Ge		196,172.75	1.38	110.2	Pulse	0.30	3
3	Rh		1,979,914.78	0.23	102.1	Pulse	0.30	3
3	Tb		3,493,346.39	0.27	105.2	Pulse	0.30	3

Quantitation Report

File Name	035SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 12:15
Sample Name	jc99694-4
Sample Type	Sample
Comment	
Prep Dilution	2.000
Auto Dilution	N/A
Total Dilution	2.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.073	ug/l	20.26	241.34	1.765E-04	Pulse	0.25	3
B			1	4.047	ug/l	4.63	20,612.82	1.507E-02	Pulse	0.15	3
Ca			1	211.342	ug/l	3.24	88,002.74	4.224E-02	Pulse	0.10	3
Sr			1	3.911	ug/l	0.72	60,923.03	2.276E-02	Pulse	0.10	3
Mo			1	0.124	ug/l	24.77	450.02	1.678E-04	Pulse	0.10	3
Ag			1	0.014	ug/l	12.54	123.34	4.609E-05	Pulse	0.10	3
Sn			1	0.831	ug/l	1.37	2,977.05	1.113E-03	Pulse	0.10	3
Sb			1	0.006	ug/l	146.00	696.71	1.729E-04	Pulse	0.10	3
Ba			1	3.768	ug/l	2.95	8,662.77	2.148E-03	Pulse	0.10	3
Tl			1	0.004	ug/l	48.30	106.67	4.377E-05	Pulse	0.10	3
Pb			1	0.012	ug/l	70.60	306.68	1.252E-04	Pulse	0.10	3
Pb			1	-0.010	ug/l	-55.00	216.68	8.861E-05	Pulse	0.10	3
Pb			1	0.011	ug/l	26.55	1,183.40	4.840E-04	Pulse	0.10	3
Na			2	93.087	ug/l	1.32	67,130.76	5.924E-01	Pulse	0.30	3
Mg			2	11.759	ug/l	5.32	3,145.89	2.776E-02	Pulse	0.30	3
Al			2	11.223	ug/l	5.56	1,223.40	1.080E-02	Pulse	0.30	3
K			2	43.512	ug/l	2.27	15,784.25	1.393E-01	Pulse	0.30	3
Ca			2	232.231	ug/l	4.32	2,135.72	1.884E-02	Pulse	0.30	3
Ti			2	0.485	ug/l	30.72	33.33	2.940E-04	Pulse	0.30	3
V			2	-0.086	ug/l	-31.97	401.12	3.541E-03	Pulse	0.30	3
Cr			2	0.668	ug/l	3.06	2,325.75	2.052E-02	Pulse	0.30	3
Mn			2	0.603	ug/l	10.59	943.37	8.323E-03	Pulse	0.30	3
Fe			2	8.302	ug/l	0.48	26,477.98	2.336E-01	Pulse	0.30	3
Co			2	0.160	ug/l	2.16	718.85	6.343E-03	Pulse	0.30	3
Ni			2	2.897	ug/l	5.38	3,886.06	3.429E-02	Pulse	0.30	3
Cu			2	15.276	ug/l	1.14	55,158.60	4.867E-01	Pulse	0.30	3
Zn			2	60.813	ug/l	0.82	30,058.77	2.652E-01	Pulse	0.30	3
As			2	0.034	ug/l	51.61	16.33	1.441E-04	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.005	ug/l	113.08	5.51	9.261E-06	Pulse	0.30	3
Sn			2	0.620	ug/l	9.06	858.92	1.441E-03	Pulse	0.30	3
Se			3	0.025	ug/l	64.53	9.13	4.460E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,368,209.49	0.48	107.9	Pulse	0.10	3
1	Sc		2,084,311.69	2.70	108.7	Pulse	0.10	3
1	Ge		416,086.22	2.42	116.7	Pulse	0.10	3
1	Ge		571,734.69	3.07	116.1	Pulse	0.10	3
1	Rh		2,676,741.06	2.12	106.4	Pulse	0.10	3
1	In		2,674,194.90	2.26	108.9	Pulse	0.10	3
1	Tb		4,032,790.36	2.37	109.9	Pulse	0.10	3
1	Ho		402,188.00	2.90	109.1	Pulse	0.10	3
1	Bi		2,443,122.62	2.52	105.5	Pulse	0.10	3
2	Sc		113,326.13	0.44	98.2	Pulse	0.30	3
2	Ge		67,128.16	0.34	109.6	Pulse	0.30	3
2	Ge		102,169.64	1.94	109.2	Pulse	0.30	3
2	Rh		1,771,055.20	0.19	103.8	Pulse	0.30	3
2	In		596,331.92	0.64	98.5	Pulse	0.30	3
2	Tb		2,299,840.95	0.88	101.1	Pulse	0.30	3
2	Ho		229,846.63	0.81	101.7	Pulse	0.30	3
2	Bi		1,554,456.12	0.68	100.3	Pulse	0.30	3
3	Sc		205,571.50	0.58	109.5	Pulse	0.30	3
3	Ge		135,604.30	0.82	115.5	Pulse	0.30	3
3	Ge		204,725.60	1.02	115.0	Pulse	0.30	3
3	Rh		2,121,442.76	1.24	109.4	Pulse	0.30	3
3	Tb		3,580,942.36	1.64	107.9	Pulse	0.30	3

Quantitation Report

File Name 036_CCV.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 12:20
Sample Name CCVA 5
Sample Type CCV
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	48.938	ug/l	0.79	325,812.57	2.285E-01	Pulse	0.25	3
B			1	100.101	ug/l	1.05	509,226.89	3.572E-01	Pulse	0.15	3
Ca			1	4947.542	ug/l	0.15	3,518,086.72	1.574E+00	Pulse	0.10	3
Sr			1	54.633	ug/l	0.64	1,752,644.14	6.336E-01	Pulse	0.10	3
Mo			1	52.220	ug/l	1.09	337,193.65	1.219E-01	Pulse	0.10	3
Ag			1	50.586	ug/l	0.37	816,589.36	2.946E-01	Pulse	0.10	3
Sn			1	51.256	ug/l	0.63	519,363.57	1.874E-01	Pulse	0.10	3
Sb			1	54.476	ug/l	0.66	635,412.31	1.529E-01	Pulse	0.10	3
Ba			1	53.281	ug/l	0.76	251,239.16	6.044E-02	Pulse	0.10	3
Tl			1	52.348	ug/l	0.71	1,657,671.49	6.608E-01	Pulse	0.10	3
Pb			1	52.319	ug/l	0.86	584,376.35	2.329E-01	Pulse	0.10	3
Pb			1	52.090	ug/l	0.39	513,157.01	2.045E-01	Pulse	0.10	3
Pb			1	51.874	ug/l	0.66	2,333,082.61	9.299E-01	Pulse	0.10	3
Na			2	5002.649	ug/l	0.77	5,871,819.49	4.840E+01	Analog	0.30	3
Mg			2	4808.064	ug/l	0.45	2,626,670.94	2.165E+01	Pulse	0.30	3
Al			2	4757.908	ug/l	0.26	866,146.27	7.139E+00	Pulse	0.30	3
K			2	5023.641	ug/l	0.41	1,713,939.20	1.413E+01	Pulse	0.30	3
Ca			2	5170.072	ug/l	1.66	96,893.65	7.986E-01	Pulse	0.30	3
Ti			2	51.400	ug/l	0.84	7,316.13	6.030E-02	Pulse	0.30	3
V			2	53.336	ug/l	0.87	240,927.97	1.986E+00	Pulse	0.30	3
Cr			2	52.064	ug/l	0.26	313,759.47	2.586E+00	Pulse	0.30	3
Mn			2	50.780	ug/l	0.47	161,359.91	1.330E+00	Pulse	0.30	3
Fe			2	5134.150	ug/l	1.70	24,250,687.37	1.999E+02	Analog	0.30	3
Co			2	52.077	ug/l	0.43	490,165.74	4.040E+00	Pulse	0.30	3
Ni			2	51.918	ug/l	0.69	132,496.21	1.092E+00	Pulse	0.30	3
Cu			2	51.554	ug/l	0.55	362,947.30	2.991E+00	Pulse	0.30	3
Zn			2	50.650	ug/l	1.44	52,949.65	4.364E-01	Pulse	0.30	3
As			2	52.111	ug/l	0.24	25,830.35	2.129E-01	Pulse	1.00	3
Cd			2	51.933	ug/l	0.64	77,149.55	1.241E-01	Pulse	0.30	3
Sn			2	52.266	ug/l	0.44	149,515.68	2.406E-01	Pulse	0.30	3
Se			3	203.604	ug/l	1.00	35,556.63	1.871E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,425,680.02	1.11	112.5	Pulse	0.10	3
1	Sc		2,235,416.27	2.35	116.6	Pulse	0.10	3
1	Ge		415,753.08	2.14	116.6	Pulse	0.10	3

Quantitation Report

1	Ge		574,505.98	3.21	116.6	Pulse	0.10	3
1	Rh		2,765,807.66	2.32	109.9	Pulse	0.10	3
1	In		2,771,483.01	2.78	112.9	Pulse	0.10	3
1	Tb		4,156,469.52	2.46	113.3	Pulse	0.10	3
1	Ho		416,556.10	2.34	113.0	Pulse	0.10	3
1	Bi		2,508,684.86	2.83	108.3	Pulse	0.10	3
2	Sc		121,331.82	0.24	105.1	Pulse	0.30	3
2	Ge		66,830.57	1.87	109.1	Pulse	0.30	3
2	Ge		100,303.63	0.66	107.2	Pulse	0.30	3
2	Rh		1,811,368.75	0.12	106.1	Pulse	0.30	3
2	In		621,517.05	0.26	102.7	Pulse	0.30	3
2	Tb		2,380,686.02	0.14	104.6	Pulse	0.30	3
2	Ho		239,039.43	0.60	105.7	Pulse	0.30	3
2	Bi		1,591,240.07	0.25	102.7	Pulse	0.30	3
3	Sc		205,172.42	0.96	109.3	Pulse	0.30	3
3	Ge		125,157.55	0.47	106.6	Pulse	0.30	3
3	Ge		190,013.85	0.49	106.7	Pulse	0.30	3
3	Rh		2,056,065.61	0.14	106.0	Pulse	0.30	3
3	Tb		3,516,858.96	1.17	106.0	Pulse	0.30	3

Quantitation Report

File Name 037_CCB.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 12:25
Sample Name CCB
Sample Type CCB
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.005	ug/l	37.29	40.00	2.846E-05	Pulse	0.25	3
B			1	2.160	ug/l	0.77	21,865.49	1.554E-02	Pulse	0.15	3
Ca			1	-1.515	ug/l	-46.48	18,123.88	8.336E-03	Pulse	0.10	3
Sr			1	0.013	ug/l	31.39	643.37	2.301E-04	Pulse	0.10	3
Mo			1	0.117	ug/l	2.09	823.38	2.957E-04	Pulse	0.10	3
Ag			1	0.012	ug/l	29.35	203.34	7.366E-05	Pulse	0.10	3
Sn			1	0.404	ug/l	7.29	2,967.07	1.069E-03	Pulse	0.10	3
Sb			1	0.104	ug/l	26.03	1,923.52	4.553E-04	Pulse	0.10	3
Ba			1	0.005	ug/l	159.86	73.33	1.721E-05	Pulse	0.10	3
Tl			1	0.010	ug/l	9.06	376.69	1.508E-04	Pulse	0.10	3
Pb			1	0.010	ug/l	63.26	356.68	1.431E-04	Pulse	0.10	3
Pb			1	0.006	ug/l	192.23	326.68	1.312E-04	Pulse	0.10	3
Pb			1	0.012	ug/l	28.23	1,506.75	6.038E-04	Pulse	0.10	3
Na			2	2.381	ug/l	6.16	20,198.82	1.664E-01	Pulse	0.30	3
Mg			2	0.126	ug/l	35.47	225.56	1.859E-03	Pulse	0.30	3
Al			2	-0.055	ug/l	-233.62	278.89	2.298E-03	Pulse	0.30	3
K			2	-1.254	ug/l	-12.06	9,094.79	7.494E-02	Pulse	0.30	3
Ca			2	-1.213	ug/l	-133.00	90.00	7.421E-04	Pulse	0.30	3
Ti			2	0.039	ug/l	60.12	6.67	5.485E-05	Pulse	0.30	3
V			2	-0.115	ug/l	-3.87	107.78	8.884E-04	Pulse	0.30	3
Cr			2	0.025	ug/l	31.60	630.02	5.190E-03	Pulse	0.30	3
Mn			2	0.016	ug/l	22.89	103.33	8.512E-04	Pulse	0.30	3
Fe			2	1.308	ug/l	1.89	14,926.86	1.230E-01	Pulse	0.30	3
Co			2	0.003	ug/l	16.22	42.18	3.476E-04	Pulse	0.30	3
Ni			2	-0.047	ug/l	-40.68	356.67	2.939E-03	Pulse	0.30	3
Cu			2	-0.363	ug/l	-2.64	3,696.02	3.045E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Zn			2	-0.594	ug/l	-4.69	376.68	3.103E-03	Pulse	0.30	3
As			2	0.003	ug/l	99.26	10.67	8.792E-05	Pulse	1.00	3
Cd			2	0.004	ug/l	70.66	7.67	1.221E-05	Pulse	0.30	3
Sn			2	0.359	ug/l	8.78	1,048.94	1.669E-03	Pulse	0.30	3
Se			3	0.069	ug/l	30.22	18.60	9.666E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,406,730.79	0.45	111.0	Pulse	0.10	3
1	Sc		2,175,038.51	2.79	113.5	Pulse	0.10	3
1	Ge		405,756.90	3.27	113.8	Pulse	0.10	3
1	Ge		561,679.55	2.42	114.0	Pulse	0.10	3
1	Rh		2,785,367.04	2.78	110.7	Pulse	0.10	3
1	In		2,771,934.93	3.15	112.9	Pulse	0.10	3
1	Tb		4,236,068.90	4.57	115.4	Mix	0.10	3
1	Ho		406,074.25	2.62	110.1	Pulse	0.10	3
1	Bi		2,498,885.01	2.17	107.9	Pulse	0.10	3
2	Sc		121,366.04	0.45	105.2	Pulse	0.30	3
2	Ge		66,895.88	0.68	109.2	Pulse	0.30	3
2	Ge		101,754.77	0.56	108.7	Pulse	0.30	3
2	Rh		1,842,953.47	0.38	108.0	Pulse	0.30	3
2	In		628,579.24	1.02	103.8	Pulse	0.30	3
2	Tb		2,335,281.16	0.18	102.6	Pulse	0.30	3
2	Ho		235,882.52	0.20	104.3	Pulse	0.30	3
2	Bi		1,598,970.36	0.47	103.2	Pulse	0.30	3
3	Sc		207,132.54	1.27	110.3	Pulse	0.30	3
3	Ge		127,785.80	0.67	108.9	Pulse	0.30	3
3	Ge		192,675.52	1.00	108.2	Pulse	0.30	3
3	Rh		2,124,052.83	0.67	109.6	Pulse	0.30	3
3	Tb		3,522,977.64	0.55	106.1	Pulse	0.30	3

Quantitation Report

File Name 038SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 12:30
Sample Name jc99694-5 4
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.026	ug/l	27.43	88.00	6.696E-05	Pulse	0.25	3
B			1	111.128	ug/l	0.96	265,253.51	2.018E-01	Pulse	0.15	3
Ca			1	67284.312	ug/l	1.98	21,237,751.35	1.065E+01	Analog	0.10	3
Sr			1	620.464	ug/l	2.01	8,849,774.87	3.598E+00	Analog	0.10	3
Mo			1	0.603	ug/l	2.57	1,786.84	7.265E-04	Pulse	0.10	3
Ag			1	0.039	ug/l	3.80	293.34	1.174E-04	Pulse	0.10	3
Sn			1	1.541	ug/l	4.04	6,028.03	2.413E-03	Pulse	0.10	3
Sb			1	0.272	ug/l	23.61	2,126.90	5.461E-04	Pulse	0.10	3
Ba			1	278.118	ug/l	1.40	612,746.05	1.577E-01	Pulse	0.10	3
Tl			1	0.017	ug/l	16.76	296.68	1.294E-04	Pulse	0.10	3
Pb			1	0.495	ug/l	11.13	2,757.05	1.200E-03	Pulse	0.10	3
Pb			1	0.474	ug/l	12.63	2,380.29	1.039E-03	Pulse	0.10	3
Pb			1	0.486	ug/l	2.87	10,868.65	4.739E-03	Pulse	0.10	3
Na			2	33947.548	ug/l	2.30	17,856,941.51	1.639E+02	Analog	0.30	3
Mg			2	11963.827	ug/l	1.67	2,935,266.90	2.693E+01	Pulse	0.30	3
Al			2	475.524	ug/l	2.14	39,125.77	3.590E-01	Pulse	0.30	3
K			2	7163.035	ug/l	1.43	1,100,043.25	1.009E+01	Pulse	0.30	3
Ca			2	65819.085	ug/l	1.24	553,473.22	5.078E+00	Pulse	0.30	3
Ti			2	7.167	ug/l	23.67	460.02	4.213E-03	Pulse	0.30	3
V			2	0.407	ug/l	6.49	1,384.52	1.270E-02	Pulse	0.30	3
Cr			2	0.943	ug/l	2.69	2,979.18	2.733E-02	Pulse	0.30	3
Mn			2	1284.347	ug/l	1.19	1,832,434.93	1.681E+01	Pulse	0.30	3
Fe			2	59496.111	ug/l	1.46	126,178,177.21	1.158E+03	Analog	0.30	3
Co			2	44.453	ug/l	0.96	187,931.63	1.724E+00	Pulse	0.30	3
Ni			2	4.917	ug/l	3.08	6,043.40	5.546E-02	Pulse	0.30	3
Cu			2	39.742	ug/l	1.58	129,083.10	1.184E+00	Pulse	0.30	3
Zn			2	57.377	ug/l	1.19	27,325.11	2.507E-01	Pulse	0.30	3
As			2	6.149	ug/l	2.52	1,376.39	1.263E-02	Pulse	1.00	3
Cd			2	0.003	ug/l	86.92	4.28	7.587E-06	Pulse	0.30	3
Sn			2	1.334	ug/l	8.43	1,747.90	3.086E-03	Pulse	0.30	3
Se			3	0.306	ug/l	16.56	33.20	1.739E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,314,229.60	0.09	103.7	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,994,421.53	1.36	104.0	Pulse	0.10	3
1	Ge		396,597.22	0.96	111.2	Pulse	0.10	3
1	Ge		537,083.74	1.13	109.0	Pulse	0.10	3
1	Rh		2,460,124.65	1.09	97.8	Pulse	0.10	3
1	In		2,496,896.74	1.53	101.7	Pulse	0.10	3
1	Tb		3,885,708.38	2.42	105.9	Pulse	0.10	3
1	Ho		392,809.94	2.68	106.5	Pulse	0.10	3
1	Bi		2,294,546.22	2.37	99.1	Pulse	0.10	3
2	Sc		108,999.62	1.47	94.4	Pulse	0.30	3
2	Ge		65,095.90	1.42	106.3	Pulse	0.30	3
2	Ge		97,448.52	1.10	104.1	Pulse	0.30	3
2	Rh		1,639,911.22	1.12	96.1	Pulse	0.30	3
2	In		566,694.27	1.25	93.6	Pulse	0.30	3
2	Tb		2,243,633.31	0.71	98.6	Pulse	0.30	3
2	Ho		224,389.62	0.91	99.3	Pulse	0.30	3
2	Bi		1,465,976.54	0.73	94.6	Pulse	0.30	3
3	Sc		195,774.64	0.54	104.3	Pulse	0.30	3
3	Ge		128,802.33	1.35	109.7	Pulse	0.30	3
3	Ge		190,983.03	1.16	107.3	Pulse	0.30	3
3	Rh		1,919,310.48	0.41	99.0	Pulse	0.30	3
3	Tb		3,420,906.60	0.96	103.1	Pulse	0.30	3

Quantitation Report

File Name 039SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 12:35
Sample Name jc99694-6
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.015	ug/l	11.36	53.33	4.077E-05	Pulse	0.25	3
B			1	176.483	ug/l	1.55	413,497.60	3.158E-01	Pulse	0.15	3
Ca			1	124854.195	ug/l	1.90	40,099,374.40	1.976E+01	Analog	0.10	3
Sr			1	649.696	ug/l	2.65	9,504,566.31	3.767E+00	Analog	0.10	3
Mo			1	14.195	ug/l	1.44	41,879.24	1.659E-02	Pulse	0.10	3
Ag			1	0.140	ug/l	5.98	1,060.08	4.125E-04	Pulse	0.10	3
Sn			1	1.377	ug/l	6.22	5,427.83	2.112E-03	Pulse	0.10	3
Sb			1	5.481	ug/l	1.34	31,185.20	7.847E-03	Pulse	0.10	3
Ba			1	216.619	ug/l	0.61	488,217.28	1.228E-01	Pulse	0.10	3
Tl			1	0.029	ug/l	24.31	473.36	2.043E-04	Pulse	0.10	3
Pb			1	10.173	ug/l	1.14	52,851.85	2.273E-02	Pulse	0.10	3
Pb			1	9.766	ug/l	2.99	44,832.53	1.927E-02	Pulse	0.10	3
Pb			1	9.994	ug/l	0.96	209,106.80	8.992E-02	Pulse	0.10	3
Na			2	20820.825	ug/l	1.34	11,216,755.67	1.006E+02	Analog	0.30	3
Mg			2	13191.712	ug/l	0.69	3,312,813.06	2.970E+01	Pulse	0.30	3
Al			2	69.736	ug/l	1.99	6,100.08	5.468E-02	Pulse	0.30	3
K			2	6170.929	ug/l	1.05	971,227.81	8.706E+00	Pulse	0.30	3
Ca			2	121685.807	ug/l	1.00	1,047,233.88	9.388E+00	Pulse	0.30	3
Ti			2	1.140	ug/l	29.66	75.56	6.782E-04	Pulse	0.30	3
V			2	0.269	ug/l	8.22	1,130.05	1.013E-02	Pulse	0.30	3
Cr			2	1.821	ug/l	2.53	5,476.51	4.910E-02	Pulse	0.30	3
Mn			2	2049.403	ug/l	0.67	2,992,773.14	2.683E+01	Pulse	0.30	3
Fe			2	15001.258	ug/l	0.64	32,569,766.48	2.920E+02	Analog	0.30	3
Co			2	78.446	ug/l	0.52	339,419.93	3.043E+00	Pulse	0.30	3
Ni			2	4875.602	ug/l	0.25	5,699,725.05	5.109E+01	Analog	0.30	3
Cu			2	39.222	ug/l	1.74	130,466.31	1.170E+00	Pulse	0.30	3
Zn			2	21981.144	ug/l	1.19	10,367,299.31	9.294E+01	Analog	0.30	3
As			2	5.416	ug/l	1.48	1,242.05	1.113E-02	Pulse	1.00	3
Cd			2	7.723	ug/l	3.60	5,377.72	9.233E-03	Pulse	0.30	3
Sn			2	1.214	ug/l	1.93	1,635.66	2.808E-03	Pulse	0.30	3
Se			3	1.475	ug/l	2.24	137.53	7.112E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,309,388.16	1.32	103.3	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		2,030,351.01	2.35	105.9	Pulse	0.10	3
1	Ge		399,987.36	2.45	112.2	Pulse	0.10	3
1	Ge		550,096.18	2.84	111.7	Pulse	0.10	3
1	Rh		2,524,365.12	3.01	100.3	Pulse	0.10	3
1	In		2,567,047.25	3.06	104.6	Pulse	0.10	3
1	Tb		3,974,022.13	2.47	108.3	Pulse	0.10	3
1	Ho		397,385.17	3.30	107.8	Pulse	0.10	3
1	Bi		2,325,439.45	2.77	100.4	Pulse	0.10	3
2	Sc		111,554.14	0.90	96.7	Pulse	0.30	3
2	Ge		65,852.05	0.60	107.5	Pulse	0.30	3
2	Ge		100,726.89	0.60	107.6	Pulse	0.30	3
2	Rh		1,693,355.45	0.77	99.2	Pulse	0.30	3
2	In		582,465.99	0.55	96.2	Pulse	0.30	3
2	Tb		2,293,853.17	0.95	100.8	Pulse	0.30	3
2	Ho		232,144.97	1.19	102.7	Pulse	0.30	3
2	Bi		1,501,106.26	1.33	96.8	Pulse	0.30	3
3	Sc		200,850.05	0.51	107.0	Pulse	0.30	3
3	Ge		129,458.39	1.32	110.3	Pulse	0.30	3
3	Ge		193,419.73	1.47	108.6	Pulse	0.30	3
3	Rh		1,986,528.46	0.62	102.5	Pulse	0.30	3
3	Tb		3,520,525.97	0.34	106.1	Pulse	0.30	3

Quantitation Report

File Name 040SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 12:40
Sample Name jc99694-7
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.008	ug/l	20.38	30.67	2.352E-05	Pulse	0.25	3
B			1	194.815	ug/l	1.10	453,742.53	3.478E-01	Pulse	0.15	3
Ca			1	129113.456	ug/l	1.68	41,222,432.72	2.043E+01	Analog	0.10	3
Sr			1	929.608	ug/l	1.80	13,375,046.47	5.390E+00	Analog	0.10	3
Mo			1	1.331	ug/l	3.89	3,913.97	1.576E-03	Pulse	0.10	3
Ag			1	0.023	ug/l	2.36	183.34	7.213E-05	Pulse	0.10	3
Sn			1	0.944	ug/l	4.33	3,357.15	1.320E-03	Pulse	0.10	3
Sb			1	0.160	ug/l	14.02	1,540.14	3.882E-04	Pulse	0.10	3
Ba			1	223.737	ug/l	0.83	503,787.35	1.269E-01	Pulse	0.10	3
Tl			1	0.030	ug/l	4.59	480.03	2.090E-04	Pulse	0.10	3
Pb			1	3.442	ug/l	2.73	17,821.35	7.756E-03	Pulse	0.10	3
Pb			1	3.343	ug/l	2.85	15,321.87	6.669E-03	Pulse	0.10	3
Pb			1	3.422	ug/l	2.24	71,330.10	3.104E-02	Pulse	0.10	3
Na			2	23703.517	ug/l	1.15	12,710,706.44	1.145E+02	Analog	0.30	3
Mg			2	24579.779	ug/l	1.54	6,144,852.81	5.533E+01	Analog	0.30	3
Al			2	49.694	ug/l	5.67	4,402.85	3.965E-02	Pulse	0.30	3
K			2	7641.426	ug/l	0.45	1,195,151.03	1.076E+01	Pulse	0.30	3
Ca			2	126806.320	ug/l	0.92	1,086,429.75	9.783E+00	Pulse	0.30	3
Ti			2	1.281	ug/l	41.78	84.45	7.609E-04	Pulse	0.30	3
V			2	0.066	ug/l	35.75	707.80	6.374E-03	Pulse	0.30	3
Cr			2	0.865	ug/l	3.10	2,819.17	2.538E-02	Pulse	0.30	3
Mn			2	1205.440	ug/l	0.76	1,752,354.83	1.578E+01	Pulse	0.30	3
Fe			2	6432.174	ug/l	0.80	13,906,906.12	1.252E+02	Analog	0.30	3
Co			2	3.614	ug/l	0.82	15,581.07	1.403E-01	Pulse	0.30	3
Ni			2	3.502	ug/l	3.66	4,511.78	4.063E-02	Pulse	0.30	3
Cu			2	8.562	ug/l	0.88	32,792.71	2.953E-01	Pulse	0.30	3
Zn			2	20.741	ug/l	2.80	10,641.34	9.582E-02	Pulse	0.30	3
As			2	2.512	ug/l	1.33	578.01	5.205E-03	Pulse	1.00	3
Cd			2	0.053	ug/l	27.45	38.56	6.723E-05	Pulse	0.30	3
Sn			2	0.761	ug/l	1.75	1,014.49	1.766E-03	Pulse	0.30	3
Se			3	0.217	ug/l	2.16	25.80	1.330E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,304,589.91	0.82	102.9	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		2,018,059.35	1.22	105.3	Pulse	0.10	3
1	Ge		394,682.94	1.82	110.7	Pulse	0.10	3
1	Ge		548,200.36	1.77	111.3	Pulse	0.10	3
1	Rh		2,481,774.75	1.73	98.6	Pulse	0.10	3
1	In		2,541,648.50	1.56	103.5	Pulse	0.10	3
1	Tb		3,970,636.09	2.00	108.2	Pulse	0.10	3
1	Ho		396,128.13	1.74	107.4	Pulse	0.10	3
1	Bi		2,298,433.46	2.32	99.3	Pulse	0.10	3
2	Sc		111,050.24	0.35	96.2	Pulse	0.30	3
2	Ge		65,559.75	1.93	107.0	Pulse	0.30	3
2	Ge		99,466.20	1.93	106.3	Pulse	0.30	3
2	Rh		1,655,870.49	0.56	97.0	Pulse	0.30	3
2	In		574,541.76	1.05	94.9	Pulse	0.30	3
2	Tb		2,254,345.95	1.26	99.1	Pulse	0.30	3
2	Ho		228,421.67	2.07	101.0	Pulse	0.30	3
2	Bi		1,463,295.78	1.48	94.4	Pulse	0.30	3
3	Sc		202,753.31	0.74	108.0	Pulse	0.30	3
3	Ge		128,670.95	0.10	109.6	Pulse	0.30	3
3	Ge		193,994.24	0.28	108.9	Pulse	0.30	3
3	Rh		1,967,650.69	0.65	101.5	Pulse	0.30	3
3	Tb		3,486,531.95	1.00	105.0	Pulse	0.30	3

Quantitation Report

File Name	041SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 12:46
Sample Name	SAMPLECONF
Sample Type	Sample
Comment	
Prep Dilution	2.000
Auto Dilution	N/A
Total Dilution	2.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.988	ug/l	3.53	3,098.99	2.312E-03	Pulse	0.25	3
B			1	9.370	ug/l	1.07	32,642.77	2.435E-02	Pulse	0.15	3
Ca			1	987.380	ug/l	1.10	338,840.23	1.650E-01	Pulse	0.10	3
Sr			1	7.704	ug/l	0.70	116,902.63	4.475E-02	Pulse	0.10	3
Mo			1	1.169	ug/l	7.71	3,627.23	1.387E-03	Pulse	0.10	3
Ag			1	1.049	ug/l	4.21	8,002.30	3.059E-03	Pulse	0.10	3
Sn			1	1.851	ug/l	1.26	7,802.20	2.982E-03	Pulse	0.10	3
Sb			1	1.097	ug/l	3.89	6,748.35	1.702E-03	Pulse	0.10	3
Ba			1	3.625	ug/l	3.22	8,189.11	2.068E-03	Pulse	0.10	3
Tl			1	1.043	ug/l	0.39	15,979.17	6.604E-03	Pulse	0.10	3
Pb			1	1.071	ug/l	2.80	6,004.77	2.480E-03	Pulse	0.10	3
Pb			1	1.106	ug/l	5.15	5,521.24	2.279E-03	Pulse	0.10	3
Pb			1	1.094	ug/l	0.85	24,645.55	1.019E-02	Pulse	0.10	3
Na			2	387.638	ug/l	1.51	227,990.87	2.013E+00	Pulse	0.30	3
Mg			2	259.787	ug/l	2.05	66,385.77	5.861E-01	Pulse	0.30	3
Al			2	81.586	ug/l	12.23	7,201.41	6.356E-02	Pulse	0.30	3
K			2	221.209	ug/l	2.36	43,915.30	3.877E-01	Pulse	0.30	3
Ca			2	1044.158	ug/l	2.61	9,228.20	8.148E-02	Pulse	0.30	3
Ti			2	1.505	ug/l	6.41	101.11	8.924E-04	Pulse	0.30	3
V			2	0.981	ug/l	0.66	2,644.69	2.335E-02	Pulse	0.30	3
Cr			2	1.548	ug/l	3.89	4,795.20	4.233E-02	Pulse	0.30	3
Mn			2	28.985	ug/l	2.99	43,021.47	3.799E-01	Pulse	0.30	3
Fe			2	768.931	ug/l	1.40	1,702,848.23	1.503E+01	Pulse	0.30	3
Co			2	1.411	ug/l	2.77	6,214.41	5.486E-02	Pulse	0.30	3
Ni			2	2.186	ug/l	3.04	3,040.31	2.684E-02	Pulse	0.30	3
Cu			2	49.419	ug/l	1.71	165,407.70	1.460E+00	Pulse	0.30	3
Zn			2	22.879	ug/l	1.52	11,876.62	1.049E-01	Pulse	0.30	3
As			2	18.601	ug/l	1.25	4,310.58	3.806E-02	Pulse	1.00	3
Cd			2	0.992	ug/l	3.66	700.86	1.189E-03	Pulse	0.30	3
Sn			2	1.670	ug/l	4.93	2,274.63	3.859E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	4.410	ug/l	3.59	413.28	2.059E-03	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,340,576.82	0.35	105.8	Pulse	0.10	3
1	Sc		2,054,224.87	2.80	107.2	Pulse	0.10	3
1	Ge		401,008.08	2.11	112.5	Pulse	0.10	3
1	Ge		555,181.57	2.43	112.7	Pulse	0.10	3
1	Rh		2,612,003.45	2.23	103.8	Pulse	0.10	3
1	In		2,615,861.57	2.45	106.6	Pulse	0.10	3
1	Tb		3,963,288.17	3.37	108.0	Pulse	0.10	3
1	Ho		398,104.21	2.92	107.9	Pulse	0.10	3
1	Bi		2,419,912.73	2.84	104.5	Pulse	0.10	3
2	Sc		113,271.35	0.59	98.1	Pulse	0.30	3
2	Ge		67,107.06	1.21	109.5	Pulse	0.30	3
2	Ge		101,547.77	1.41	108.5	Pulse	0.30	3
2	Rh		1,740,497.26	0.69	102.0	Pulse	0.30	3
2	In		589,570.56	0.77	97.4	Pulse	0.30	3
2	Tb		2,288,211.99	0.85	100.5	Pulse	0.30	3
2	Ho		229,941.35	0.24	101.7	Pulse	0.30	3
2	Bi		1,544,225.15	0.53	99.6	Pulse	0.30	3
3	Sc		205,841.93	0.55	109.7	Pulse	0.30	3
3	Ge		133,794.06	1.26	114.0	Pulse	0.30	3
3	Ge		200,731.91	1.25	112.7	Pulse	0.30	3
3	Rh		2,103,722.41	0.27	108.5	Pulse	0.30	3
3	Tb		3,565,461.25	0.53	107.4	Pulse	0.30	3

Quantitation Report

File Name	042SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 12:50
Sample Name	SAMPLECONF
Sample Type	Sample
Comment	
Prep Dilution	2.000
Auto Dilution	N/A
Total Dilution	2.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.108	ug/l	15.06	309.34	2.563E-04	Pulse	0.25	3
B			1	487.404	ug/l	1.70	1,035,204.99	8.581E-01	Pulse	0.15	3
Ca			1	40180.327	ug/l	0.50	12,134,850.65	6.364E+00	Analog	0.10	3
Sr			1	171.784	ug/l	0.90	2,265,554.18	9.961E-01	Pulse	0.10	3
Mo			1	0.512	ug/l	4.01	1,410.12	6.202E-04	Pulse	0.10	3
Ag			1	0.108	ug/l	15.25	753.38	3.179E-04	Pulse	0.10	3
Sn			1	1.042	ug/l	3.67	3,560.53	1.500E-03	Pulse	0.10	3
Sb			1	0.694	ug/l	2.49	4,210.71	1.137E-03	Pulse	0.10	3
Ba			1	125.866	ug/l	0.99	264,430.62	7.139E-02	Pulse	0.10	3
Tl			1	0.106	ug/l	11.62	1,420.12	6.930E-04	Pulse	0.10	3
Pb			1	1.001	ug/l	11.67	4,770.93	2.324E-03	Pulse	0.10	3
Pb			1	0.921	ug/l	5.69	3,937.34	1.917E-03	Pulse	0.10	3
Pb			1	0.984	ug/l	1.30	18,892.13	9.202E-03	Pulse	0.10	3
Na			2	586733.688	ug/l	1.38	295,054,619.39	2.830E+03	Analog	0.30	3
Mg			2	7661.737	ug/l	0.45	1,798,539.45	1.725E+01	Pulse	0.30	3
Al			2	69.278	ug/l	2.72	5,665.48	5.433E-02	Pulse	0.30	3
K			2	2490.880	ug/l	0.37	371,314.95	3.561E+00	Pulse	0.30	3
Ca			2	38617.673	ug/l	0.58	310,719.64	2.980E+00	Pulse	0.30	3
Ti			2	2.746	ug/l	6.32	168.89	1.620E-03	Pulse	0.30	3
V			2	1.361	ug/l	5.69	3,169.22	3.040E-02	Pulse	0.30	3
Cr			2	1.596	ug/l	3.87	4,536.23	4.351E-02	Pulse	0.30	3
Mn			2	1308.683	ug/l	0.44	1,786,315.63	1.713E+01	Pulse	0.30	3
Fe			2	195.364	ug/l	0.68	403,890.08	3.874E+00	Pulse	0.30	3
Co			2	0.748	ug/l	2.94	3,038.11	2.914E-02	Pulse	0.30	3
Ni			2	5.708	ug/l	3.40	6,646.96	6.374E-02	Pulse	0.30	3
Cu			2	10.368	ug/l	1.43	36,158.65	3.468E-01	Pulse	0.30	3
Zn			2	15.591	ug/l	2.04	7,720.79	7.404E-02	Pulse	0.30	3
As			2	2.211	ug/l	3.38	478.68	4.591E-03	Pulse	1.00	3
Cd			2	2.400	ug/l	2.01	1,533.31	2.872E-03	Pulse	0.30	3
Sn			2	0.887	ug/l	5.04	1,097.83	2.056E-03	Pulse	0.30	3
Se			3	0.524	ug/l	9.18	45.40	2.739E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,206,322.32	0.56	95.2	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,906,974.71	1.30	99.5	Pulse	0.10	3
1	Ge		365,432.72	1.23	102.5	Pulse	0.10	3
1	Ge		510,254.80	1.82	103.6	Pulse	0.10	3
1	Rh		2,274,700.54	2.61	90.4	Pulse	0.10	3
1	In		2,375,777.50	2.44	96.8	Pulse	0.10	3
1	Tb		3,704,762.13	2.73	100.9	Pulse	0.10	3
1	Ho		370,162.10	3.55	100.4	Pulse	0.10	3
1	Bi		2,052,608.46	2.39	88.6	Pulse	0.10	3
2	Sc		104,272.10	0.83	90.3	Pulse	0.30	3
2	Ge		60,497.17	1.65	98.7	Pulse	0.30	3
2	Ge		91,353.60	1.00	97.6	Pulse	0.30	3
2	Rh		1,486,924.24	0.39	87.1	Pulse	0.30	3
2	In		533,900.82	0.46	88.2	Pulse	0.30	3
2	Tb		2,116,402.77	0.42	93.0	Pulse	0.30	3
2	Ho		212,884.20	1.57	94.2	Pulse	0.30	3
2	Bi		1,311,422.31	0.43	84.6	Pulse	0.30	3
3	Sc		178,768.40	0.27	95.2	Pulse	0.30	3
3	Ge		110,674.37	1.11	94.3	Pulse	0.30	3
3	Ge		165,649.15	0.98	93.0	Pulse	0.30	3
3	Rh		1,682,557.53	0.59	86.8	Pulse	0.30	3
3	Tb		3,118,599.18	0.32	94.0	Pulse	0.30	3

Quantitation Report

File Name 043SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 12:56
Sample Name SAMPLECONF
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.025	ug/l	33.41	73.33	6.439E-05	Pulse	0.25	3
B			1	490.981	ug/l	0.85	985,350.31	8.643E-01	Pulse	0.15	3
Ca			1	42454.937	ug/l	2.36	12,130,226.07	6.723E+00	Analog	0.10	3
Sr			1	187.155	ug/l	0.49	2,353,607.36	1.085E+00	Pulse	0.10	3
Mo			1	0.541	ug/l	17.50	1,423.45	6.552E-04	Pulse	0.10	3
Ag			1	0.035	ug/l	16.58	240.01	1.061E-04	Pulse	0.10	3
Sn			1	0.935	ug/l	7.02	2,940.38	1.304E-03	Pulse	0.10	3
Sb			1	0.572	ug/l	9.03	3,425.50	9.656E-04	Pulse	0.10	3
Ba			1	133.964	ug/l	1.88	269,240.24	7.598E-02	Pulse	0.10	3
Tl			1	0.019	ug/l	48.36	273.35	1.393E-04	Pulse	0.10	3
Pb			1	0.910	ug/l	9.24	4,190.76	2.122E-03	Pulse	0.10	3
Pb			1	0.858	ug/l	6.22	3,550.58	1.792E-03	Pulse	0.10	3
Pb			1	0.903	ug/l	3.82	16,764.46	8.475E-03	Pulse	0.10	3
Na			2	693219.168	ug/l	0.56	335,109,817.80	3.343E+03	Analog	0.30	3
Mg			2	8129.001	ug/l	0.62	1,834,375.69	1.830E+01	Pulse	0.30	3
Al			2	17.362	ug/l	7.15	1,543.46	1.540E-02	Pulse	0.30	3
K			2	2548.471	ug/l	0.71	365,008.49	3.642E+00	Pulse	0.30	3
Ca			2	41281.043	ug/l	0.53	319,287.62	3.185E+00	Pulse	0.30	3
Ti			2	0.664	ug/l	29.51	40.00	3.990E-04	Pulse	0.30	3
V			2	0.980	ug/l	9.15	2,337.97	2.333E-02	Pulse	0.30	3
Cr			2	1.201	ug/l	8.13	3,380.39	3.373E-02	Pulse	0.30	3
Mn			2	1443.617	ug/l	1.08	1,894,175.76	1.890E+01	Pulse	0.30	3
Fe			2	46.788	ug/l	1.83	98,478.69	9.825E-01	Pulse	0.30	3
Co			2	0.521	ug/l	5.91	2,041.00	2.036E-02	Pulse	0.30	3
Ni			2	4.785	ug/l	0.72	5,419.84	5.407E-02	Pulse	0.30	3
Cu			2	11.275	ug/l	0.82	37,352.36	3.727E-01	Pulse	0.30	3
Zn			2	12.220	ug/l	3.16	5,993.38	5.979E-02	Pulse	0.30	3
As			2	0.504	ug/l	6.92	110.67	1.104E-03	Pulse	1.00	3
Cd			2	2.575	ug/l	2.34	1,584.44	3.081E-03	Pulse	0.30	3
Sn			2	0.729	ug/l	3.46	871.15	1.694E-03	Pulse	0.30	3
Se			3	0.179	ug/l	12.99	18.40	1.158E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,139,990.58	1.11	89.9	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,804,605.03	1.58	94.1	Pulse	0.10	3
1	Ge		349,251.43	1.63	98.0	Pulse	0.10	3
1	Ge		482,143.61	2.42	97.9	Pulse	0.10	3
1	Rh		2,168,745.44	1.78	86.2	Pulse	0.10	3
1	In		2,256,014.87	2.48	91.9	Pulse	0.10	3
1	Tb		3,544,640.99	2.66	96.6	Pulse	0.10	3
1	Ho		357,862.83	1.54	97.0	Pulse	0.10	3
1	Bi		1,978,909.50	3.37	85.5	Pulse	0.10	3
2	Sc		100,234.15	0.31	86.8	Pulse	0.30	3
2	Ge		56,983.47	0.92	93.0	Pulse	0.30	3
2	Ge		87,412.14	0.89	93.4	Pulse	0.30	3
2	Rh		1,415,697.76	0.23	82.9	Pulse	0.30	3
2	In		514,240.44	1.45	84.9	Pulse	0.30	3
2	Tb		2,049,213.39	1.28	90.0	Pulse	0.30	3
2	Ho		207,808.56	1.22	91.9	Pulse	0.30	3
2	Bi		1,265,065.23	0.75	81.6	Pulse	0.30	3
3	Sc		168,854.41	0.56	89.9	Pulse	0.30	3
3	Ge		106,109.06	2.62	90.4	Pulse	0.30	3
3	Ge		158,795.61	1.07	89.2	Pulse	0.30	3
3	Rh		1,619,539.90	0.57	83.5	Pulse	0.30	3
3	Tb		3,040,841.62	0.36	91.6	Pulse	0.30	3

Quantitation Report

File Name	044_CCV.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 13:02
Sample Name	CCVA 5
Sample Type	CCV
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	49.120	ug/l	0.95	281,843.83	2.294E-01	Pulse	0.25	3
B			1	102.349	ug/l	1.03	448,518.24	3.650E-01	Pulse	0.15	3
Ca			1	4938.957	ug/l	0.56	2,970,750.68	1.571E+00	Pulse	0.10	3
Sr			1	53.457	ug/l	0.97	1,530,503.57	6.200E-01	Pulse	0.10	3
Mo			1	51.525	ug/l	0.76	297,017.94	1.203E-01	Pulse	0.10	3
Ag			1	50.023	ug/l	0.86	720,154.55	2.913E-01	Pulse	0.10	3
Sn			1	50.969	ug/l	1.08	460,702.62	1.864E-01	Pulse	0.10	3
Sb			1	53.481	ug/l	1.14	565,982.84	1.501E-01	Pulse	0.10	3
Ba			1	52.258	ug/l	0.47	223,566.43	5.928E-02	Pulse	0.10	3
Tl			1	52.337	ug/l	0.62	1,528,450.65	6.607E-01	Pulse	0.10	3
Pb			1	51.664	ug/l	0.50	532,050.76	2.300E-01	Pulse	0.10	3
Pb			1	51.185	ug/l	0.63	465,031.76	2.010E-01	Pulse	0.10	3
Pb			1	51.470	ug/l	0.27	2,134,739.80	9.226E-01	Pulse	0.10	3
Na			2	5104.670	ug/l	0.89	5,247,705.49	4.938E+01	Analog	0.30	3
Mg			2	4870.048	ug/l	0.97	2,330,328.94	2.193E+01	Pulse	0.30	3
Al			2	4897.695	ug/l	0.83	780,940.72	7.348E+00	Pulse	0.30	3
K			2	5054.694	ug/l	0.57	1,510,482.65	1.421E+01	Pulse	0.30	3
Ca			2	5289.976	ug/l	1.04	86,837.57	8.171E-01	Pulse	0.30	3
Ti			2	50.666	ug/l	0.44	6,316.83	5.944E-02	Pulse	0.30	3
V			2	53.225	ug/l	0.73	210,589.58	1.982E+00	Pulse	0.30	3
Cr			2	52.214	ug/l	0.90	275,607.82	2.593E+00	Pulse	0.30	3
Mn			2	52.089	ug/l	1.21	144,973.18	1.364E+00	Pulse	0.30	3
Fe			2	5288.304	ug/l	0.83	21,879,022.46	2.059E+02	Analog	0.30	3
Co			2	52.056	ug/l	1.20	429,150.74	4.038E+00	Pulse	0.30	3
Ni			2	51.984	ug/l	0.63	116,199.92	1.093E+00	Pulse	0.30	3
Cu			2	51.507	ug/l	0.54	317,615.80	2.989E+00	Pulse	0.30	3
Zn			2	51.723	ug/l	1.55	47,343.70	4.455E-01	Pulse	0.30	3
As			2	52.538	ug/l	0.85	22,809.86	2.146E-01	Pulse	1.00	3
Cd			2	51.797	ug/l	0.59	70,609.72	1.238E-01	Pulse	0.30	3
Sn			2	52.181	ug/l	1.25	136,968.90	2.402E-01	Pulse	0.30	3
Se			3	205.419	ug/l	0.41	32,151.02	1.888E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,228,661.55	0.62	96.9	Pulse	0.10	3
1	Sc		1,890,887.78	2.62	98.6	Pulse	0.10	3
1	Ge		357,184.46	4.17	100.2	Pulse	0.10	3

Quantitation Report

1	Ge		497,290.41	3.19	101.0	Pulse	0.10	3
1	Rh		2,468,898.87	2.82	98.1	Pulse	0.10	3
1	In		2,471,775.45	2.62	100.7	Pulse	0.10	3
1	Tb		3,771,620.15	3.29	102.8	Pulse	0.10	3
1	Ho		378,077.87	2.54	102.5	Pulse	0.10	3
1	Bi		2,313,608.82	3.23	99.9	Pulse	0.10	3
2	Sc		106,274.75	0.25	92.1	Pulse	0.30	3
2	Ge		59,357.37	1.01	96.9	Pulse	0.30	3
2	Ge		90,003.97	0.33	96.2	Pulse	0.30	3
2	Rh		1,618,438.27	0.51	94.8	Pulse	0.30	3
2	In		570,323.68	0.78	94.2	Pulse	0.30	3
2	Tb		2,211,675.40	0.63	97.2	Pulse	0.30	3
2	Ho		223,026.08	0.38	98.7	Pulse	0.30	3
2	Bi		1,483,234.14	0.74	95.7	Pulse	0.30	3
3	Sc		181,281.64	0.52	96.6	Pulse	0.30	3
3	Ge		112,794.79	0.30	96.1	Pulse	0.30	3
3	Ge		170,293.94	0.29	95.6	Pulse	0.30	3
3	Rh		1,867,242.15	0.29	96.3	Pulse	0.30	3
3	Tb		3,306,379.52	0.37	99.6	Pulse	0.30	3

Quantitation Report

File Name 045_CCB.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 13:07
Sample Name CCB
Sample Type CCB
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.005	ug/l	18.26	33.33	2.674E-05	Pulse	0.25	3
B			1	5.006	ug/l	1.16	31,776.71	2.547E-02	Pulse	0.15	3
Ca			1	-3.607	ug/l	-7.20	14,533.46	7.674E-03	Pulse	0.10	3
Sr			1	0.010	ug/l	19.90	500.03	1.994E-04	Pulse	0.10	3
Mo			1	0.149	ug/l	11.33	933.40	3.715E-04	Pulse	0.10	3
Ag			1	0.015	ug/l	32.23	226.68	9.066E-05	Pulse	0.10	3
Sn			1	0.442	ug/l	5.66	3,023.74	1.210E-03	Pulse	0.10	3
Sb			1	0.139	ug/l	15.10	2,066.88	5.529E-04	Pulse	0.10	3
Ba			1	0.012	ug/l	9.35	93.33	2.498E-05	Pulse	0.10	3
Tl			1	0.008	ug/l	24.85	283.35	1.211E-04	Pulse	0.10	3
Pb			1	0.014	ug/l	64.11	373.35	1.600E-04	Pulse	0.10	3
Pb			1	0.002	ug/l	329.18	270.01	1.153E-04	Pulse	0.10	3
Pb			1	0.012	ug/l	1.79	1,400.08	5.986E-04	Pulse	0.10	3
Na			2	19.463	ug/l	5.04	35,259.95	3.312E-01	Pulse	0.30	3
Mg			2	0.265	ug/l	38.24	264.45	2.487E-03	Pulse	0.30	3
Al			2	0.217	ug/l	90.98	287.79	2.705E-03	Pulse	0.30	3
K			2	0.255	ug/l	274.61	8,427.77	7.916E-02	Pulse	0.30	3
Ca			2	0.006	ug/l	23763.64	98.89	9.301E-04	Pulse	0.30	3
Ti			2	0.001	ug/l	2296.53	1.11	1.034E-05	Pulse	0.30	3
V			2	-0.113	ug/l	-2.21	102.22	9.598E-04	Pulse	0.30	3
Cr			2	0.029	ug/l	65.83	572.24	5.379E-03	Pulse	0.30	3
Mn			2	0.018	ug/l	68.40	96.67	9.096E-04	Pulse	0.30	3
Fe			2	1.573	ug/l	5.15	14,195.12	1.333E-01	Pulse	0.30	3
Co			2	0.002	ug/l	82.16	32.18	3.031E-04	Pulse	0.30	3
Ni			2	-0.056	ug/l	-12.69	293.34	2.754E-03	Pulse	0.30	3
Cu			2	-0.408	ug/l	-1.95	2,969.19	2.788E-02	Pulse	0.30	3
Zn			2	-0.617	ug/l	-6.08	310.01	2.909E-03	Pulse	0.30	3
As			2	0.005	ug/l	170.20	10.33	9.692E-05	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.007	ug/l	20.69	11.01	1.904E-05	Pulse	0.30	3
Sn			2	0.402	ug/l	5.48	1,078.94	1.867E-03	Pulse	0.30	3
Se			3	0.081	ug/l	18.22	18.40	1.073E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,247,546.03	0.98	98.4	Pulse	0.10	3
1	Sc		1,893,995.75	1.69	98.8	Pulse	0.10	3
1	Ge		355,286.52	2.27	99.6	Pulse	0.10	3
1	Ge		490,503.51	1.91	99.6	Pulse	0.10	3
1	Rh		2,510,241.42	1.59	99.8	Pulse	0.10	3
1	In		2,499,325.92	2.08	101.8	Pulse	0.10	3
1	Tb		3,735,641.72	1.45	101.8	Pulse	0.10	3
1	Ho		372,879.58	2.00	101.1	Pulse	0.10	3
1	Bi		2,338,934.96	1.76	101.0	Pulse	0.10	3
2	Sc		106,489.09	1.16	92.3	Pulse	0.30	3
2	Ge		60,077.70	0.33	98.1	Pulse	0.30	3
2	Ge		89,428.63	0.60	95.6	Pulse	0.30	3
2	Rh		1,648,234.07	0.37	96.6	Pulse	0.30	3
2	In		577,815.63	0.69	95.4	Pulse	0.30	3
2	Tb		2,195,730.40	0.88	96.5	Pulse	0.30	3
2	Ho		220,422.38	0.51	97.5	Pulse	0.30	3
2	Bi		1,508,752.65	0.50	97.3	Pulse	0.30	3
3	Sc		183,783.56	0.76	97.9	Pulse	0.30	3
3	Ge		113,281.02	1.08	96.5	Pulse	0.30	3
3	Ge		171,411.00	0.09	96.3	Pulse	0.30	3
3	Rh		1,944,800.90	0.54	100.3	Pulse	0.30	3
3	Tb		3,314,911.33	0.54	99.9	Pulse	0.30	3

Quantitation Report

File Name 046SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 13:12
Sample Name jc99501-1 4
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.028	ug/l	38.07	76.00	7.076E-05	Pulse	0.25	3
B			1	1172.979	ug/l	0.64	2,200,293.66	2.054E+00	Pulse	0.15	3
Ca			1	512146.982	ug/l	1.71	138,566,574.60	8.101E+01	Analog	0.10	3
Sr			1	935.189	ug/l	2.22	11,011,609.42	5.422E+00	Analog	0.10	3
Mo			1	15.767	ug/l	1.82	37,434.75	1.843E-02	Pulse	0.10	3
Ag			1	0.059	ug/l	18.09	380.02	1.768E-04	Pulse	0.10	3
Sn			1	1.086	ug/l	0.71	3,387.17	1.580E-03	Pulse	0.10	3
Sb			1	0.267	ug/l	14.38	1,850.18	5.378E-04	Pulse	0.10	3
Ba			1	18.636	ug/l	2.26	36,403.59	1.058E-02	Pulse	0.10	3
Tl			1	0.005	ug/l	71.43	100.00	5.280E-05	Pulse	0.10	3
Pb			1	0.141	ug/l	8.07	776.72	4.112E-04	Pulse	0.10	3
Pb			1	0.098	ug/l	45.22	566.70	3.004E-04	Pulse	0.10	3
Pb			1	0.113	ug/l	12.64	2,646.84	1.402E-03	Pulse	0.10	3
Na			2	691840.768	ug/l	1.02	315,960,991.89	3.337E+03	Analog	0.30	3
Mg			2	41230.787	ug/l	1.87	8,788,711.87	9.282E+01	Analog	0.30	3
Al			2	51.265	ug/l	1.72	3,866.05	4.083E-02	Pulse	0.30	3
K			2	26359.288	ug/l	0.35	3,497,529.37	3.693E+01	Pulse	0.30	3
Ca			2	492187.095	ug/l	0.20	3,595,805.27	3.797E+01	Pulse	0.30	3
Ti			2	3.688	ug/l	11.74	205.56	2.173E-03	Pulse	0.30	3
V			2	0.583	ug/l	4.86	1,511.20	1.596E-02	Pulse	0.30	3
Cr			2	5.949	ug/l	2.80	14,340.77	1.515E-01	Pulse	0.30	3
Mn			2	7636.189	ug/l	3.21	9,463,891.01	9.996E+01	Analog	0.30	3
Fe			2	34853.611	ug/l	1.64	64,223,864.11	6.783E+02	Analog	0.30	3
Co			2	1.325	ug/l	2.16	4,879.65	5.154E-02	Pulse	0.30	3
Ni			2	9.867	ug/l	1.04	10,163.24	1.073E-01	Pulse	0.30	3
Cu			2	0.938	ug/l	11.73	7,375.06	7.790E-02	Pulse	0.30	3
Zn			2	0.493	ug/l	20.27	966.71	1.021E-02	Pulse	0.30	3
As			2	0.723	ug/l	3.86	147.00	1.552E-03	Pulse	1.00	3
Cd			2	0.001	ug/l	633.16	2.55	5.194E-06	Pulse	0.30	3
Sn			2	1.003	ug/l	2.50	1,147.83	2.323E-03	Pulse	0.30	3
Se			3	0.217	ug/l	7.18	19.80	1.331E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,071,346.56	1.13	84.5	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,710,855.70	2.01	89.3	Pulse	0.10	3
1	Ge		333,955.47	2.17	93.7	Pulse	0.10	3
1	Ge		456,604.93	1.55	92.7	Pulse	0.10	3
1	Rh		2,031,262.68	1.81	80.7	Pulse	0.10	3
1	In		2,143,901.05	2.36	87.3	Pulse	0.10	3
1	Tb		3,440,279.43	2.36	93.7	Pulse	0.10	3
1	Ho		348,055.57	1.84	94.4	Pulse	0.10	3
1	Bi		1,887,683.93	1.46	81.5	Pulse	0.10	3
2	Sc		94,702.39	1.31	82.1	Pulse	0.30	3
2	Ge		54,595.39	1.78	89.1	Pulse	0.30	3
2	Ge		82,604.42	2.25	88.3	Pulse	0.30	3
2	Rh		1,332,254.56	1.02	78.1	Pulse	0.30	3
2	In		494,052.23	1.09	81.6	Pulse	0.30	3
2	Tb		1,995,855.75	1.21	87.7	Pulse	0.30	3
2	Ho		201,584.31	0.84	89.2	Pulse	0.30	3
2	Bi		1,211,450.65	1.52	78.2	Pulse	0.30	3
3	Sc		162,144.28	0.72	86.4	Pulse	0.30	3
3	Ge		98,675.15	0.90	84.1	Pulse	0.30	3
3	Ge		148,750.96	0.39	83.5	Pulse	0.30	3
3	Rh		1,531,407.82	0.29	79.0	Pulse	0.30	3
3	Tb		2,945,391.20	0.46	88.7	Pulse	0.30	3

Quantitation Report

File Name	047SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 13:18
Sample Name	mp18781-s3 5
Sample Type	Sample
Comment	
Prep Dilution	2.000
Auto Dilution	N/A
Total Dilution	2.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	69.480	ug/l	1.63	177,442.80	1.622E-01	Pulse	0.25	3
B			1	224.343	ug/l	1.94	436,728.89	3.993E-01	Pulse	0.15	3
Ca			1	52563.141	ug/l	3.09	13,864,993.96	8.322E+00	Analog	0.10	3
Sr			1	485.776	ug/l	1.95	6,187,502.82	2.817E+00	Analog	0.10	3
Mo			1	81.837	ug/l	0.56	209,931.37	9.554E-02	Pulse	0.10	3
Ag			1	75.368	ug/l	1.15	494,419.64	2.195E-01	Pulse	0.10	3
Sn			1	79.606	ug/l	1.38	327,600.78	1.454E-01	Pulse	0.10	3
Sb			1	76.771	ug/l	0.36	387,511.43	1.078E-01	Pulse	0.10	3
Ba			1	121.189	ug/l	0.51	247,107.25	6.873E-02	Pulse	0.10	3
Tl			1	77.899	ug/l	1.15	1,063,816.31	4.917E-01	Pulse	0.10	3
Pb			1	79.962	ug/l	0.52	385,125.61	1.780E-01	Pulse	0.10	3
Pb			1	80.092	ug/l	0.67	340,326.57	1.573E-01	Pulse	0.10	3
Pb			1	79.849	ug/l	0.56	1,548,563.26	7.158E-01	Pulse	0.10	3
Na			2	16872.489	ug/l	1.27	7,715,906.08	8.151E+01	Analog	0.30	3
Mg			2	10199.183	ug/l	0.76	2,173,504.70	2.296E+01	Pulse	0.30	3
Al			2	3678.914	ug/l	0.45	261,392.11	2.761E+00	Pulse	0.30	3
K			2	12114.841	ug/l	0.49	1,610,834.38	1.702E+01	Pulse	0.30	3
Ca			2	52027.593	ug/l	0.59	380,010.93	4.014E+00	Pulse	0.30	3
Ti			2	75.308	ug/l	0.61	4,181.69	4.418E-02	Pulse	0.30	3
V			2	80.259	ug/l	0.52	141,546.72	1.495E+00	Pulse	0.30	3
Cr			2	76.667	ug/l	0.51	180,329.30	1.905E+00	Pulse	0.30	3
Mn			2	1987.130	ug/l	1.49	2,462,349.97	2.601E+01	Pulse	0.30	3
Fe			2	69028.574	ug/l	1.07	127,150,003.84	1.343E+03	Analog	0.30	3
Co			2	94.108	ug/l	1.26	345,531.12	3.650E+00	Pulse	0.30	3
Ni			2	81.457	ug/l	0.80	81,171.68	8.575E-01	Pulse	0.30	3
Cu			2	77.440	ug/l	1.05	213,876.91	2.259E+00	Pulse	0.30	3
Zn			2	71.469	ug/l	0.87	29,373.05	3.103E-01	Pulse	0.30	3
As			2	1558.171	ug/l	1.20	301,192.17	3.182E+00	Pulse	1.00	3
Cd			2	73.473	ug/l	0.42	45,797.03	8.781E-02	Pulse	0.30	3
Sn			2	81.561	ug/l	0.24	97,891.16	1.877E-01	Pulse	0.30	3
Se			3	332.311	ug/l	1.19	26,054.98	1.527E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,093,695.93	0.87	86.3	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,666,919.72	2.64	87.0	Pulse	0.10	3
1	Ge		350,122.14	2.70	98.2	Pulse	0.10	3
1	Ge		473,212.57	3.69	96.1	Pulse	0.10	3
1	Rh		2,197,295.96	2.05	87.3	Pulse	0.10	3
1	In		2,252,848.91	2.72	91.8	Pulse	0.10	3
1	Tb		3,595,393.91	2.97	98.0	Pulse	0.10	3
1	Ho		363,245.06	3.16	98.5	Pulse	0.10	3
1	Bi		2,163,636.58	2.55	93.4	Pulse	0.10	3
2	Sc		94,661.12	0.36	82.0	Pulse	0.30	3
2	Ge		58,829.89	1.39	96.0	Pulse	0.30	3
2	Ge		87,859.44	1.10	93.9	Pulse	0.30	3
2	Rh		1,495,702.75	1.70	87.6	Pulse	0.30	3
2	In		521,533.46	1.47	86.1	Pulse	0.30	3
2	Tb		2,113,045.47	1.50	92.8	Pulse	0.30	3
2	Ho		214,047.70	1.19	94.7	Pulse	0.30	3
2	Bi		1,410,441.37	1.16	91.0	Pulse	0.30	3
3	Sc		179,516.00	0.20	95.6	Pulse	0.30	3
3	Ge		115,245.48	0.75	98.2	Pulse	0.30	3
3	Ge		170,623.49	1.04	95.8	Pulse	0.30	3
3	Rh		1,821,444.37	0.89	93.9	Pulse	0.30	3
3	Tb		3,329,792.71	1.38	100.3	Pulse	0.30	3

Quantitation Report

File Name 048SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 13:23
Sample Name mp18781-s4
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	69.799	ug/l	1.06	190,595.01	1.630E-01	Pulse	0.25	3
B			1	224.017	ug/l	1.13	466,302.36	3.987E-01	Pulse	0.15	3
Ca			1	53354.514	ug/l	1.15	15,072,657.27	8.447E+00	Analog	0.10	3
Sr			1	497.186	ug/l	3.33	6,585,011.99	2.883E+00	Analog	0.10	3
Mo			1	83.159	ug/l	0.33	221,884.45	9.709E-02	Pulse	0.10	3
Ag			1	76.664	ug/l	1.26	525,870.06	2.233E-01	Pulse	0.10	3
Sn			1	80.697	ug/l	0.41	347,344.66	1.474E-01	Pulse	0.10	3
Sb			1	78.828	ug/l	0.81	412,744.43	1.107E-01	Pulse	0.10	3
Ba			1	124.400	ug/l	0.75	263,153.95	7.055E-02	Pulse	0.10	3
Tl			1	78.013	ug/l	0.70	1,102,076.00	4.924E-01	Pulse	0.10	3
Pb			1	79.615	ug/l	1.24	396,685.11	1.772E-01	Pulse	0.10	3
Pb			1	79.805	ug/l	0.90	350,792.26	1.567E-01	Pulse	0.10	3
Pb			1	79.777	ug/l	0.30	1,600,543.80	7.151E-01	Pulse	0.10	3
Na			2	17220.977	ug/l	1.58	8,177,951.62	8.319E+01	Analog	0.30	3
Mg			2	10256.030	ug/l	0.36	2,269,621.64	2.309E+01	Pulse	0.30	3
Al			2	3691.300	ug/l	1.09	272,338.13	2.771E+00	Pulse	0.30	3
K			2	12372.693	ug/l	0.59	1,708,164.93	1.738E+01	Pulse	0.30	3
Ca			2	52403.842	ug/l	0.38	397,482.41	4.043E+00	Pulse	0.30	3
Ti			2	78.016	ug/l	3.39	4,499.55	4.576E-02	Pulse	0.30	3
V			2	80.616	ug/l	0.41	147,642.34	1.502E+00	Pulse	0.30	3
Cr			2	77.948	ug/l	0.56	190,383.37	1.937E+00	Pulse	0.30	3
Mn			2	2010.245	ug/l	0.55	2,586,831.56	2.632E+01	Pulse	0.30	3
Fe			2	70487.200	ug/l	1.14	134,822,999.09	1.372E+03	Analog	0.30	3
Co			2	95.425	ug/l	0.49	363,842.24	3.701E+00	Pulse	0.30	3
Ni			2	83.233	ug/l	0.65	86,126.72	8.761E-01	Pulse	0.30	3
Cu			2	77.324	ug/l	0.75	221,781.08	2.256E+00	Pulse	0.30	3
Zn			2	71.026	ug/l	0.74	30,318.08	3.084E-01	Pulse	0.30	3
As			2	1601.811	ug/l	0.06	321,529.87	3.271E+00	Pulse	1.00	3
Cd			2	74.238	ug/l	1.09	47,302.95	8.872E-02	Pulse	0.30	3
Sn			2	82.599	ug/l	1.23	101,340.56	1.901E-01	Pulse	0.30	3
Se			3	329.340	ug/l	0.95	26,784.74	1.514E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,169,431.44	1.19	92.3	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,784,522.32	1.73	93.1	Pulse	0.10	3
1	Ge		367,278.78	2.60	103.0	Pulse	0.10	3
1	Ge		499,149.47	3.37	101.3	Pulse	0.10	3
1	Rh		2,285,533.04	2.65	90.8	Pulse	0.10	3
1	In		2,355,908.53	3.63	96.0	Pulse	0.10	3
1	Tb		3,730,418.59	3.64	101.6	Pulse	0.10	3
1	Ho		375,760.78	2.49	101.9	Pulse	0.10	3
1	Bi		2,238,147.57	2.99	96.7	Pulse	0.10	3
2	Sc		98,300.81	0.95	85.2	Pulse	0.30	3
2	Ge		60,488.10	1.54	98.7	Pulse	0.30	3
2	Ge		90,685.76	1.34	96.9	Pulse	0.30	3
2	Rh		1,540,736.19	1.33	90.3	Pulse	0.30	3
2	In		533,140.35	0.79	88.1	Pulse	0.30	3
2	Tb		2,146,415.75	0.39	94.3	Pulse	0.30	3
2	Ho		216,844.17	1.00	95.9	Pulse	0.30	3
2	Bi		1,430,042.37	0.84	92.3	Pulse	0.30	3
3	Sc		185,617.93	0.51	98.9	Pulse	0.30	3
3	Ge		118,642.96	0.33	101.1	Pulse	0.30	3
3	Ge		176,979.74	0.77	99.4	Pulse	0.30	3
3	Rh		1,880,837.43	0.64	97.0	Pulse	0.30	3
3	Tb		3,378,552.99	0.89	101.8	Pulse	0.30	3

Quantitation Report

File Name 049SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 13:28
Sample Name jc99822-1
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.026	ug/l	36.92	78.67	6.481E-05	Pulse	0.25	3
B			1	144.734	ug/l	1.19	315,492.27	2.604E-01	Pulse	0.15	3
Ca			1	49524.513	ug/l	1.27	14,318,674.79	7.842E+00	Analog	0.10	3
Sr			1	403.809	ug/l	2.22	5,520,307.21	2.341E+00	Analog	0.10	3
Mo			1	2.089	ug/l	5.80	5,807.97	2.462E-03	Pulse	0.10	3
Ag			1	0.029	ug/l	22.74	213.34	8.899E-05	Pulse	0.10	3
Sn			1	0.985	ug/l	11.60	3,363.83	1.394E-03	Pulse	0.10	3
Sb			1	0.276	ug/l	9.93	2,070.22	5.507E-04	Pulse	0.10	3
Ba			1	48.639	ug/l	1.13	103,799.42	2.759E-02	Pulse	0.10	3
Tl			1	0.035	ug/l	13.78	550.03	2.445E-04	Pulse	0.10	3
Pb			1	0.133	ug/l	16.18	886.73	3.925E-04	Pulse	0.10	3
Pb			1	0.118	ug/l	11.21	766.71	3.405E-04	Pulse	0.10	3
Pb			1	0.122	ug/l	6.49	3,340.27	1.482E-03	Pulse	0.10	3
Na			2	13214.283	ug/l	1.26	6,324,953.36	6.387E+01	Analog	0.30	3
Mg			2	6463.811	ug/l	1.32	1,441,072.55	1.455E+01	Pulse	0.30	3
Al			2	8.227	ug/l	9.20	846.70	8.549E-03	Pulse	0.30	3
K			2	8420.721	ug/l	0.91	1,173,675.82	1.185E+01	Pulse	0.30	3
Ca			2	48110.265	ug/l	0.51	367,624.57	3.712E+00	Pulse	0.30	3
Ti			2	0.558	ug/l	41.29	33.33	3.366E-04	Pulse	0.30	3
V			2	0.363	ug/l	1.95	1,176.72	1.188E-02	Pulse	0.30	3
Cr			2	1.567	ug/l	6.08	4,237.26	4.279E-02	Pulse	0.30	3
Mn			2	1927.218	ug/l	0.78	2,498,340.66	2.523E+01	Pulse	0.30	3
Fe			2	66329.265	ug/l	0.81	127,817,461.59	1.291E+03	Analog	0.30	3
Co			2	17.246	ug/l	2.07	66,254.06	6.691E-01	Pulse	0.30	3
Ni			2	5.751	ug/l	1.92	6,356.85	6.419E-02	Pulse	0.30	3
Cu			2	0.722	ug/l	13.42	7,103.83	7.173E-02	Pulse	0.30	3
Zn			2	7.585	ug/l	1.89	3,980.54	4.019E-02	Pulse	0.30	3
As			2	1511.103	ug/l	0.55	305,567.61	3.086E+00	Pulse	1.00	3
Cd			2	0.007	ug/l	78.52	6.24	1.164E-05	Pulse	0.30	3
Sn			2	0.805	ug/l	1.06	1,005.60	1.868E-03	Pulse	0.30	3
Se			3	0.237	ug/l	15.11	24.93	1.420E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,211,328.04	0.90	95.6	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,826,294.50	1.91	95.3	Pulse	0.10	3
1	Ge		375,369.49	3.05	105.3	Pulse	0.10	3
1	Ge		506,030.79	3.07	102.7	Pulse	0.10	3
1	Rh		2,358,300.38	1.91	93.7	Pulse	0.10	3
1	In		2,406,221.46	2.87	98.0	Pulse	0.10	3
1	Tb		3,762,213.38	1.75	102.5	Pulse	0.10	3
1	Ho		379,963.13	2.75	103.0	Pulse	0.10	3
1	Bi		2,254,719.70	2.62	97.4	Pulse	0.10	3
2	Sc		99,029.44	0.31	85.8	Pulse	0.30	3
2	Ge		61,378.14	1.20	100.2	Pulse	0.30	3
2	Ge		90,677.92	0.67	96.9	Pulse	0.30	3
2	Rh		1,559,986.40	0.83	91.4	Pulse	0.30	3
2	In		538,502.39	1.49	88.9	Pulse	0.30	3
2	Tb		2,154,957.55	0.52	94.7	Pulse	0.30	3
2	Ho		219,332.63	0.72	97.0	Pulse	0.30	3
2	Bi		1,434,464.94	1.13	92.5	Pulse	0.30	3
3	Sc		184,874.52	0.61	98.5	Pulse	0.30	3
3	Ge		117,783.65	0.91	100.3	Pulse	0.30	3
3	Ge		175,513.08	0.89	98.6	Pulse	0.30	3
3	Rh		1,894,144.58	0.78	97.7	Pulse	0.30	3
3	Tb		3,406,830.42	0.92	102.6	Pulse	0.30	3

Quantitation Report

File Name	050SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 13:33
Sample Name	mp18781-sd1
Sample Type	Sample
Comment	
Prep Dilution	10.000
Auto Dilution	N/A
Total Dilution	10.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.002	ug/l	323.95	8.00	6.219E-06	Pulse	0.25	3
B			1	192.615	ug/l	2.00	96,479.80	7.520E-02	Pulse	0.15	3
Ca			1	49306.173	ug/l	0.19	3,094,672.46	1.568E+00	Pulse	0.10	3
Sr			1	391.075	ug/l	1.24	1,166,356.44	4.536E-01	Pulse	0.10	3
Mo			1	1.606	ug/l	2.59	1,023.40	3.981E-04	Pulse	0.10	3
Ag			1	0.061	ug/l	31.58	103.34	3.972E-05	Pulse	0.10	3
Sn			1	2.152	ug/l	2.66	980.07	3.782E-04	Pulse	0.10	3
Sb			1	0.144	ug/l	20.39	800.05	2.046E-04	Pulse	0.10	3
Ba			1	54.336	ug/l	1.25	24,159.67	6.174E-03	Pulse	0.10	3
Tl			1	0.020	ug/l	38.63	113.33	4.671E-05	Pulse	0.10	3
Pb			1	0.060	ug/l	70.01	300.01	1.243E-04	Pulse	0.10	3
Pb			1	0.014	ug/l	519.77	276.68	1.144E-04	Pulse	0.10	3
Pb			1	0.074	ug/l	37.20	1,253.40	5.181E-04	Pulse	0.10	3
Na			2	15435.806	ug/l	1.23	1,628,775.25	1.503E+01	Pulse	0.30	3
Mg			2	8554.305	ug/l	1.58	417,453.25	3.853E+00	Pulse	0.30	3
Al			2	7.314	ug/l	14.44	376.67	3.477E-03	Pulse	0.30	3
K			2	8853.263	ug/l	1.46	276,750.03	2.554E+00	Pulse	0.30	3
Ca			2	52153.490	ug/l	1.50	87,287.60	8.056E-01	Pulse	0.30	3
Ti			2	1.493	ug/l	17.97	20.00	1.846E-04	Pulse	0.30	3
V			2	-0.730	ug/l	-2.67	263.34	2.430E-03	Pulse	0.30	3
Cr			2	0.600	ug/l	10.36	750.03	6.920E-03	Pulse	0.30	3
Mn			2	2047.593	ug/l	0.67	580,942.39	5.361E+00	Pulse	0.30	3
Fe			2	70386.385	ug/l	1.32	29,688,425.49	2.740E+02	Analog	0.30	3
Co			2	17.602	ug/l	2.02	14,813.36	1.367E-01	Pulse	0.30	3
Ni			2	6.079	ug/l	3.59	1,806.79	1.667E-02	Pulse	0.30	3
Cu			2	-3.726	ug/l	-6.49	3,238.14	2.989E-02	Pulse	0.30	3
Zn			2	10.187	ug/l	6.04	1,814.56	1.674E-02	Pulse	0.30	3
As			2	1666.344	ug/l	0.50	73,749.71	6.806E-01	Pulse	1.00	3
Cd			2	0.024	ug/l	56.42	5.46	9.293E-06	Pulse	0.30	3
Sn			2	1.031	ug/l	10.10	287.78	4.899E-04	Pulse	0.30	3
Se			3	0.029	ug/l	505.01	6.40	3.597E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,283,229.33	1.69	101.2	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,973,024.24	2.04	102.9	Pulse	0.10	3
1	Ge		376,085.70	2.18	105.5	Pulse	0.10	3
1	Ge		517,848.99	1.57	105.1	Pulse	0.10	3
1	Rh		2,571,766.94	2.82	102.2	Pulse	0.10	3
1	In		2,593,324.52	2.48	105.6	Pulse	0.10	3
1	Tb		3,912,371.61	2.33	106.6	Pulse	0.10	3
1	Ho		395,165.99	2.50	107.2	Pulse	0.10	3
1	Bi		2,421,689.60	3.45	104.6	Pulse	0.10	3
2	Sc		108,364.40	0.97	93.9	Pulse	0.30	3
2	Ge		61,614.49	1.19	100.6	Pulse	0.30	3
2	Ge		93,152.92	1.49	99.5	Pulse	0.30	3
2	Rh		1,688,265.52	0.83	98.9	Pulse	0.30	3
2	In		587,444.02	0.74	97.0	Pulse	0.30	3
2	Tb		2,248,988.94	0.90	98.8	Pulse	0.30	3
2	Ho		226,372.14	1.63	100.1	Pulse	0.30	3
2	Bi		1,541,243.72	1.15	99.4	Pulse	0.30	3
3	Sc		189,562.44	0.51	101.0	Pulse	0.30	3
3	Ge		117,877.79	1.02	100.4	Pulse	0.30	3
3	Ge		178,065.12	0.52	100.0	Pulse	0.30	3
3	Rh		1,951,687.84	0.20	100.7	Pulse	0.30	3
3	Tb		3,384,953.75	0.68	102.0	Pulse	0.30	3

Quantitation Report

File Name 051SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 13:38
Sample Name mp18781-ps1
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	71.662	ug/l	1.03	210,481.07	1.673E-01	Pulse	0.25	3
B			1	206.023	ug/l	0.56	462,065.09	3.673E-01	Pulse	0.15	3
Ca			1	49286.527	ug/l	1.27	14,794,596.03	7.804E+00	Analog	0.10	3
Sr			1	461.070	ug/l	3.52	6,429,143.03	2.673E+00	Analog	0.10	3
Mo			1	84.555	ug/l	0.94	237,556.33	9.872E-02	Pulse	0.10	3
Ag			1	76.152	ug/l	1.03	552,217.51	2.218E-01	Pulse	0.10	3
Sn			1	81.624	ug/l	0.66	371,405.34	1.491E-01	Pulse	0.10	3
Sb			1	82.111	ug/l	0.23	441,478.72	1.153E-01	Pulse	0.10	3
Ba			1	124.438	ug/l	0.70	270,301.79	7.058E-02	Pulse	0.10	3
Tl			1	82.551	ug/l	1.27	1,187,214.77	5.211E-01	Pulse	0.10	3
Pb			1	80.360	ug/l	1.15	407,519.90	1.789E-01	Pulse	0.10	3
Pb			1	80.337	ug/l	0.91	359,465.40	1.578E-01	Pulse	0.10	3
Pb			1	80.161	ug/l	0.71	1,637,203.91	7.186E-01	Pulse	0.10	3
Na			2	16066.175	ug/l	0.15	8,145,091.34	7.762E+01	Analog	0.30	3
Mg			2	9727.339	ug/l	0.51	2,297,774.56	2.190E+01	Pulse	0.30	3
Al			2	3817.419	ug/l	0.41	300,639.56	2.865E+00	Pulse	0.30	3
K			2	11614.781	ug/l	0.47	1,712,201.04	1.632E+01	Pulse	0.30	3
Ca			2	47782.999	ug/l	0.75	386,868.81	3.687E+00	Pulse	0.30	3
Ti			2	81.148	ug/l	2.17	4,994.14	4.760E-02	Pulse	0.30	3
V			2	83.914	ug/l	0.81	164,022.24	1.563E+00	Pulse	0.30	3
Cr			2	81.014	ug/l	0.74	211,196.92	2.013E+00	Pulse	0.30	3
Mn			2	1808.098	ug/l	1.17	2,483,526.22	2.367E+01	Pulse	0.30	3
Fe			2	63425.771	ug/l	0.74	129,504,030.41	1.234E+03	Analog	0.30	3
Co			2	96.533	ug/l	0.92	392,866.82	3.744E+00	Pulse	0.30	3
Ni			2	84.198	ug/l	0.82	92,987.91	8.862E-01	Pulse	0.30	3
Cu			2	80.145	ug/l	1.72	245,163.09	2.337E+00	Pulse	0.30	3
Zn			2	79.302	ug/l	0.35	36,032.93	3.434E-01	Pulse	0.30	3
As			2	1421.155	ug/l	1.02	304,494.57	2.902E+00	Pulse	1.00	3
Cd			2	77.622	ug/l	1.35	51,419.93	9.277E-02	Pulse	0.30	3
Sn			2	84.482	ug/l	0.71	107,754.59	1.944E-01	Pulse	0.30	3
Se			3	365.095	ug/l	0.38	30,187.77	1.678E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,257,827.08	0.93	99.2	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,896,026.48	1.59	98.9	Pulse	0.10	3
1	Ge		381,669.72	2.56	107.0	Pulse	0.10	3
1	Ge		520,914.66	2.74	105.8	Pulse	0.10	3
1	Rh		2,406,352.67	2.76	95.6	Pulse	0.10	3
1	In		2,490,641.71	3.25	101.5	Pulse	0.10	3
1	Tb		3,830,030.47	2.59	104.4	Pulse	0.10	3
1	Ho		388,755.03	2.52	105.4	Pulse	0.10	3
1	Bi		2,278,309.08	2.36	98.4	Pulse	0.10	3
2	Sc		104,928.42	0.74	90.9	Pulse	0.30	3
2	Ge		62,623.86	0.70	102.2	Pulse	0.30	3
2	Ge		93,747.27	0.32	100.2	Pulse	0.30	3
2	Rh		1,611,052.44	0.69	94.4	Pulse	0.30	3
2	In		554,250.67	1.11	91.5	Pulse	0.30	3
2	Tb		2,205,544.84	0.64	96.9	Pulse	0.30	3
2	Ho		223,829.61	1.25	99.0	Pulse	0.30	3
2	Bi		1,463,521.37	0.67	94.4	Pulse	0.30	3
3	Sc		192,983.80	0.87	102.8	Pulse	0.30	3
3	Ge		121,239.60	0.84	103.3	Pulse	0.30	3
3	Ge		179,926.08	0.07	101.0	Pulse	0.30	3
3	Rh		1,911,276.31	0.77	98.6	Pulse	0.30	3
3	Tb		3,405,430.07	0.58	102.6	Pulse	0.30	3

Quantitation Report

File Name 052SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 13:43
Sample Name jc99501-2 4
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.009	ug/l	81.86	28.00	2.619E-05	Pulse	0.25	3
B			1	374.141	ug/l	0.18	706,016.41	6.606E-01	Pulse	0.15	3
Ca			1	538614.154	ug/l	2.17	150,330,201.09	8.520E+01	Analog	0.10	3
Sr			1	3299.277	ug/l	2.18	38,872,293.59	1.913E+01	Analog	0.10	3
Mo			1	68.311	ug/l	0.58	162,081.00	7.976E-02	Pulse	0.10	3
Ag			1	0.051	ug/l	19.98	330.02	1.535E-04	Pulse	0.10	3
Sn			1	0.935	ug/l	6.84	2,807.03	1.304E-03	Pulse	0.10	3
Sb			1	0.253	ug/l	11.79	1,786.83	5.183E-04	Pulse	0.10	3
Ba			1	30.399	ug/l	1.90	59,424.14	1.725E-02	Pulse	0.10	3
Tl			1	0.024	ug/l	13.63	316.68	1.746E-04	Pulse	0.10	3
Pb			1	0.118	ug/l	15.58	653.37	3.606E-04	Pulse	0.10	3
Pb			1	0.111	ug/l	7.45	590.03	3.260E-04	Pulse	0.10	3
Pb			1	0.123	ug/l	7.37	2,690.21	1.485E-03	Pulse	0.10	3
Na			2	1234582.422	ug/l	2.28	595,359,496.34	5.954E+03	Analog	0.30	3
Mg			2	20703.442	ug/l	2.25	4,660,488.43	4.661E+01	Analog	0.30	3
Al			2	13.963	ug/l	7.57	1,284.52	1.285E-02	Pulse	0.30	3
K			2	62549.731	ug/l	2.04	8,752,705.76	8.753E+01	Analog	0.30	3
Ca			2	517249.359	ug/l	0.80	3,990,494.70	3.990E+01	Pulse	0.30	3
Ti			2	2.056	ug/l	46.98	121.12	1.215E-03	Pulse	0.30	3
V			2	0.398	ug/l	5.02	1,252.29	1.252E-02	Pulse	0.30	3
Cr			2	2.260	ug/l	5.29	6,001.16	5.999E-02	Pulse	0.30	3
Mn			2	1055.613	ug/l	0.64	1,381,992.59	1.382E+01	Pulse	0.30	3
Fe			2	607.190	ug/l	0.23	1,188,824.43	1.189E+01	Pulse	0.30	3
Co			2	1.498	ug/l	3.57	5,825.67	5.826E-02	Pulse	0.30	3
Ni			2	3.552	ug/l	0.81	4,116.12	4.116E-02	Pulse	0.30	3
Cu			2	-0.116	ug/l	-74.56	4,784.08	4.783E-02	Pulse	0.30	3
Zn			2	1.300	ug/l	8.01	1,362.30	1.362E-02	Pulse	0.30	3
As			2	11.939	ug/l	1.54	2,445.19	2.445E-02	Pulse	1.00	3
Cd			2	-0.013	ug/l	-40.28	-6.25	-1.230E-05	Pulse	0.30	3
Sn			2	0.700	ug/l	2.79	823.36	1.627E-03	Pulse	0.30	3
Se			3	0.385	ug/l	17.44	30.80	2.101E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,068,810.22	0.09	84.3	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,764,962.32	1.69	92.1	Pulse	0.10	3
1	Ge		332,467.72	1.51	93.2	Pulse	0.10	3
1	Ge		458,455.07	2.19	93.1	Pulse	0.10	3
1	Rh		2,032,154.76	1.13	80.8	Pulse	0.10	3
1	In		2,152,690.07	0.95	87.7	Pulse	0.10	3
1	Tb		3,444,802.56	1.72	93.9	Pulse	0.10	3
1	Ho		343,661.99	1.16	93.2	Pulse	0.10	3
1	Bi		1,810,627.31	2.52	78.2	Pulse	0.10	3
2	Sc		100,009.96	1.31	86.6	Pulse	0.30	3
2	Ge		56,611.99	2.11	92.4	Pulse	0.30	3
2	Ge		84,617.91	2.10	90.4	Pulse	0.30	3
2	Rh		1,331,332.90	1.13	78.0	Pulse	0.30	3
2	In		506,150.97	1.32	83.6	Pulse	0.30	3
2	Tb		1,993,256.93	1.66	87.6	Pulse	0.30	3
2	Ho		202,470.41	1.68	89.6	Pulse	0.30	3
2	Bi		1,170,847.07	1.07	75.5	Pulse	0.30	3
3	Sc		164,709.03	1.13	87.7	Pulse	0.30	3
3	Ge		96,983.16	0.78	82.6	Pulse	0.30	3
3	Ge		146,539.16	0.50	82.3	Pulse	0.30	3
3	Rh		1,460,026.92	0.43	75.3	Pulse	0.30	3
3	Tb		2,822,495.93	1.07	85.0	Pulse	0.30	3

Quantitation Report

File Name 053SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 13:48
Sample Name jc99501-3
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.017	ug/l	21.08	45.33	4.468E-05	Pulse	0.25	3
B			1	969.557	ug/l	1.06	1,724,305.45	1.699E+00	Pulse	0.15	3
Ca			1	212366.461	ug/l	2.05	55,122,814.18	3.360E+01	Analog	0.10	3
Sr			1	1068.299	ug/l	2.43	12,595,128.98	6.194E+00	Analog	0.10	3
Mo			1	72.503	ug/l	0.13	172,208.18	8.465E-02	Pulse	0.10	3
Ag			1	0.034	ug/l	11.52	220.01	1.025E-04	Pulse	0.10	3
Sn			1	0.909	ug/l	6.11	2,693.67	1.256E-03	Pulse	0.10	3
Sb			1	1.072	ug/l	6.03	5,774.60	1.667E-03	Pulse	0.10	3
Ba			1	26.080	ug/l	2.15	51,295.32	1.480E-02	Pulse	0.10	3
Tl			1	0.012	ug/l	23.89	186.67	9.513E-05	Pulse	0.10	3
Pb			1	0.956	ug/l	5.66	4,374.14	2.224E-03	Pulse	0.10	3
Pb			1	0.869	ug/l	8.39	3,567.25	1.815E-03	Pulse	0.10	3
Pb			1	0.926	ug/l	0.68	17,064.54	8.679E-03	Pulse	0.10	3
Na			2	351795.661	ug/l	0.64	160,077,215.86	1.697E+03	Analog	0.30	3
Mg			2	1069.550	ug/l	0.90	227,275.46	2.409E+00	Pulse	0.30	3
Al			2	406.158	ug/l	2.03	28,961.75	3.070E-01	Pulse	0.30	3
K			2	18800.161	ug/l	0.31	2,487,371.08	2.636E+01	Pulse	0.30	3
Ca			2	207061.386	ug/l	0.23	1,507,105.25	1.597E+01	Pulse	0.30	3
Ti			2	32.483	ug/l	5.42	1,797.90	1.906E-02	Pulse	0.30	3
V			2	21.094	ug/l	0.12	37,435.57	3.968E-01	Pulse	0.30	3
Cr			2	1.825	ug/l	1.64	4,641.82	4.920E-02	Pulse	0.30	3
Mn			2	9.885	ug/l	1.02	12,249.09	1.298E-01	Pulse	0.30	3
Fe			2	609.475	ug/l	0.53	1,125,717.94	1.193E+01	Pulse	0.30	3
Co			2	0.702	ug/l	2.53	2,581.64	2.736E-02	Pulse	0.30	3
Ni			2	3.865	ug/l	0.57	4,191.70	4.443E-02	Pulse	0.30	3
Cu			2	2.553	ug/l	4.70	11,693.15	1.239E-01	Pulse	0.30	3
Zn			2	4.852	ug/l	5.86	2,702.47	2.864E-02	Pulse	0.30	3
As			2	33.807	ug/l	0.18	6,519.98	6.911E-02	Pulse	1.00	3
Cd			2	0.002	ug/l	1069.64	2.96	5.696E-06	Pulse	0.30	3
Sn			2	0.679	ug/l	6.41	800.03	1.578E-03	Pulse	0.30	3
Se			3	0.371	ug/l	11.56	32.20	2.036E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,014,829.55	0.55	80.1	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,641,101.12	1.66	85.6	Pulse	0.10	3
1	Ge		321,720.35	2.44	90.2	Pulse	0.10	3
1	Ge		443,835.16	1.80	90.1	Pulse	0.10	3
1	Rh		2,034,322.83	2.96	80.8	Pulse	0.10	3
1	In		2,146,322.37	2.07	87.4	Pulse	0.10	3
1	Tb		3,466,359.43	2.51	94.4	Pulse	0.10	3
1	Ho		346,564.46	1.49	94.0	Pulse	0.10	3
1	Bi		1,966,081.53	2.04	84.9	Pulse	0.10	3
2	Sc		94,347.15	0.58	81.7	Pulse	0.30	3
2	Ge		55,080.33	1.18	89.9	Pulse	0.30	3
2	Ge		83,068.99	0.83	88.8	Pulse	0.30	3
2	Rh		1,370,918.76	0.37	80.3	Pulse	0.30	3
2	In		506,824.92	1.02	83.7	Pulse	0.30	3
2	Tb		2,039,844.50	1.33	89.6	Pulse	0.30	3
2	Ho		207,165.40	1.07	91.6	Pulse	0.30	3
2	Bi		1,286,915.02	0.61	83.0	Pulse	0.30	3
3	Sc		171,817.86	0.67	91.5	Pulse	0.30	3
3	Ge		105,055.77	1.78	89.5	Pulse	0.30	3
3	Ge		158,108.99	0.10	88.8	Pulse	0.30	3
3	Rh		1,630,372.09	0.17	84.1	Pulse	0.30	3
3	Tb		3,106,945.43	0.44	93.6	Pulse	0.30	3

Quantitation Report

File Name 054SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 13:53
Sample Name jc99501-4
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.452	ug/l	6.70	1,137.39	1.060E-03	Pulse	0.25	3
B			1	135.296	ug/l	0.32	261,556.55	2.440E-01	Pulse	0.15	3
Ca			1	64970.874	ug/l	1.86	17,172,455.16	1.028E+01	Analog	0.10	3
Sr			1	122.221	ug/l	0.91	1,556,147.95	7.087E-01	Pulse	0.10	3
Mo			1	0.642	ug/l	17.00	1,693.50	7.720E-04	Pulse	0.10	3
Ag			1	0.049	ug/l	29.62	333.35	1.470E-04	Pulse	0.10	3
Sn			1	1.295	ug/l	4.66	4,437.49	1.962E-03	Pulse	0.10	3
Sb			1	0.178	ug/l	12.51	1,490.13	4.138E-04	Pulse	0.10	3
Ba			1	49.585	ug/l	1.42	101,383.72	2.813E-02	Pulse	0.10	3
Tl			1	0.098	ug/l	21.95	1,396.80	6.427E-04	Pulse	0.10	3
Pb			1	9.745	ug/l	1.43	47,249.84	2.178E-02	Pulse	0.10	3
Pb			1	9.337	ug/l	1.44	39,988.34	1.843E-02	Pulse	0.10	3
Pb			1	9.465	ug/l	0.15	184,799.78	8.519E-02	Pulse	0.10	3
Na			2	13216.871	ug/l	1.61	5,957,677.54	6.388E+01	Analog	0.30	3
Mg			2	16430.251	ug/l	1.31	3,449,531.95	3.699E+01	Pulse	0.30	3
Al			2	6283.725	ug/l	1.60	439,697.59	4.715E+00	Pulse	0.30	3
K			2	2742.535	ug/l	1.12	364,929.71	3.913E+00	Pulse	0.30	3
Ca			2	61739.944	ug/l	1.01	444,291.01	4.764E+00	Pulse	0.30	3
Ti			2	276.447	ug/l	1.62	15,121.44	1.621E-01	Pulse	0.30	3
V			2	12.995	ug/l	2.69	22,978.22	2.464E-01	Pulse	0.30	3
Cr			2	9.843	ug/l	2.35	23,129.58	2.480E-01	Pulse	0.30	3
Mn			2	357.259	ug/l	1.43	436,184.62	4.677E+00	Pulse	0.30	3
Fe			2	9162.251	ug/l	2.04	16,633,549.89	1.784E+02	Analog	0.30	3
Co			2	4.233	ug/l	1.49	15,329.04	1.643E-01	Pulse	0.30	3
Ni			2	8.662	ug/l	4.63	8,830.23	9.470E-02	Pulse	0.30	3
Cu			2	11.043	ug/l	2.01	34,134.23	3.660E-01	Pulse	0.30	3
Zn			2	35.043	ug/l	1.42	14,575.48	1.563E-01	Pulse	0.30	3
As			2	2.419	ug/l	8.95	468.01	5.014E-03	Pulse	1.00	3
Cd			2	0.115	ug/l	16.95	73.18	1.414E-04	Pulse	0.30	3
Sn			2	1.147	ug/l	4.75	1,374.52	2.656E-03	Pulse	0.30	3
Se			3	0.686	ug/l	2.36	58.20	3.485E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,072,000.90	1.13	84.6	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,669,965.71	1.11	87.1	Pulse	0.10	3
1	Ge		331,964.09	1.99	93.1	Pulse	0.10	3
1	Ge		460,971.78	2.53	93.6	Pulse	0.10	3
1	Rh		2,195,838.93	1.94	87.3	Pulse	0.10	3
1	In		2,261,459.11	2.53	92.1	Pulse	0.10	3
1	Tb		3,603,695.47	1.92	98.2	Pulse	0.10	3
1	Ho		368,159.31	2.08	99.8	Pulse	0.10	3
1	Bi		2,169,302.47	1.79	93.7	Pulse	0.10	3
2	Sc		93,270.84	1.27	80.8	Pulse	0.30	3
2	Ge		55,710.22	0.88	90.9	Pulse	0.30	3
2	Ge		84,673.53	0.61	90.5	Pulse	0.30	3
2	Rh		1,463,948.83	0.47	85.8	Pulse	0.30	3
2	In		517,699.66	0.64	85.5	Pulse	0.30	3
2	Tb		2,101,459.43	0.92	92.3	Pulse	0.30	3
2	Ho		216,187.18	0.80	95.6	Pulse	0.30	3
2	Bi		1,408,721.06	1.22	90.9	Pulse	0.30	3
3	Sc		178,858.90	1.01	95.3	Pulse	0.30	3
3	Ge		110,838.95	0.45	94.4	Pulse	0.30	3
3	Ge		167,013.84	1.28	93.8	Pulse	0.30	3
3	Rh		1,799,224.86	1.45	92.8	Pulse	0.30	3
3	Tb		3,312,005.56	1.02	99.8	Pulse	0.30	3

Quantitation Report

File Name	055_CCV.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 13:58
Sample Name	CCVA 5
Sample Type	CCV
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	47.911	ug/l	0.72	258,463.46	2.237E-01	Pulse	0.25	3
B			1	104.388	ug/l	1.02	429,878.27	3.721E-01	Pulse	0.15	3
Ca			1	4885.683	ug/l	0.38	2,792,133.50	1.554E+00	Pulse	0.10	3
Sr			1	52.172	ug/l	0.94	1,464,683.31	6.051E-01	Pulse	0.10	3
Mo			1	50.736	ug/l	0.43	286,729.51	1.185E-01	Pulse	0.10	3
Ag			1	49.535	ug/l	0.21	701,832.41	2.885E-01	Pulse	0.10	3
Sn			1	50.651	ug/l	0.62	450,451.00	1.852E-01	Pulse	0.10	3
Sb			1	52.329	ug/l	0.78	549,980.61	1.469E-01	Pulse	0.10	3
Ba			1	51.219	ug/l	0.72	217,585.38	5.810E-02	Pulse	0.10	3
Tl			1	51.762	ug/l	0.27	1,509,688.00	6.535E-01	Pulse	0.10	3
Pb			1	51.333	ug/l	0.41	528,003.68	2.285E-01	Pulse	0.10	3
Pb			1	51.144	ug/l	0.79	463,936.48	2.008E-01	Pulse	0.10	3
Pb			1	51.354	ug/l	0.08	2,126,753.34	9.206E-01	Pulse	0.10	3
Na			2	4921.377	ug/l	1.33	4,904,993.14	4.761E+01	Analog	0.30	3
Mg			2	4662.320	ug/l	1.05	2,162,713.32	2.099E+01	Pulse	0.30	3
Al			2	4739.897	ug/l	1.93	732,620.09	7.112E+00	Pulse	0.30	3
K			2	4899.544	ug/l	1.13	1,419,570.12	1.378E+01	Pulse	0.30	3
Ca			2	5193.818	ug/l	1.06	82,651.95	8.023E-01	Pulse	0.30	3
Ti			2	51.465	ug/l	1.14	6,220.12	6.038E-02	Pulse	0.30	3
V			2	52.875	ug/l	0.95	202,814.83	1.969E+00	Pulse	0.30	3
Cr			2	51.104	ug/l	1.33	261,507.19	2.538E+00	Pulse	0.30	3
Mn			2	50.889	ug/l	0.50	137,309.23	1.333E+00	Pulse	0.30	3
Fe			2	5244.024	ug/l	1.38	21,031,819.16	2.042E+02	Analog	0.30	3
Co			2	51.464	ug/l	1.12	411,299.52	3.992E+00	Pulse	0.30	3
Ni			2	51.025	ug/l	1.31	110,571.75	1.073E+00	Pulse	0.30	3
Cu			2	50.357	ug/l	0.94	301,150.69	2.923E+00	Pulse	0.30	3
Zn			2	50.437	ug/l	1.10	44,776.53	4.346E-01	Pulse	0.30	3
As			2	52.252	ug/l	1.48	21,991.76	2.135E-01	Pulse	1.00	3
Cd			2	50.468	ug/l	1.42	68,226.75	1.206E-01	Pulse	0.30	3
Sn			2	51.700	ug/l	0.41	134,580.87	2.380E-01	Pulse	0.30	3
Se			3	204.285	ug/l	0.56	31,850.23	1.878E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,155,146.89	1.18	91.1	Pulse	0.10	3
1	Sc		1,796,523.88	2.02	93.7	Pulse	0.10	3
1	Ge		346,623.10	3.36	97.2	Pulse	0.10	3

Quantitation Report

1	Ge		482,179.63	3.08	97.9	Pulse	0.10	3
1	Rh		2,420,565.28	2.50	96.2	Pulse	0.10	3
1	In		2,432,593.68	2.86	99.1	Pulse	0.10	3
1	Tb		3,745,289.84	2.94	102.0	Pulse	0.10	3
1	Ho		378,253.83	3.18	102.6	Pulse	0.10	3
1	Bi		2,310,316.84	3.66	99.8	Pulse	0.10	3
2	Sc		103,031.43	1.12	89.3	Pulse	0.30	3
2	Ge		58,390.53	1.49	95.3	Pulse	0.30	3
2	Ge		88,184.39	1.09	94.2	Pulse	0.30	3
2	Rh		1,587,801.98	0.77	93.0	Pulse	0.30	3
2	In		565,571.81	0.31	93.4	Pulse	0.30	3
2	Tb		2,218,607.06	0.51	97.5	Pulse	0.30	3
2	Ho		224,275.17	0.51	99.2	Pulse	0.30	3
2	Bi		1,499,719.07	0.83	96.8	Pulse	0.30	3
3	Sc		182,352.47	0.86	97.1	Pulse	0.30	3
3	Ge		113,004.60	0.72	96.3	Pulse	0.30	3
3	Ge		169,639.74	0.46	95.3	Pulse	0.30	3
3	Rh		1,888,815.41	0.35	97.4	Pulse	0.30	3
3	Tb		3,334,770.77	0.77	100.5	Pulse	0.30	3

Quantitation Report

File Name 056_CCB.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 14:03
Sample Name CCB
Sample Type CCB
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.004	ug/l	36.52	28.00	2.403E-05	Pulse	0.25	3
B			1	8.480	ug/l	2.11	43,814.29	3.759E-02	Pulse	0.15	3
Ca			1	-5.441	ug/l	-10.89	12,832.05	7.094E-03	Pulse	0.10	3
Sr			1	0.019	ug/l	22.90	736.71	2.998E-04	Pulse	0.10	3
Mo			1	0.130	ug/l	23.07	806.72	3.272E-04	Pulse	0.10	3
Ag			1	0.010	ug/l	24.14	156.68	6.356E-05	Pulse	0.10	3
Sn			1	0.411	ug/l	1.68	2,703.65	1.096E-03	Pulse	0.10	3
Sb			1	0.144	ug/l	34.40	2,116.90	5.676E-04	Pulse	0.10	3
Ba			1	0.019	ug/l	35.72	123.34	3.332E-05	Pulse	0.10	3
Tl			1	0.009	ug/l	20.56	300.01	1.296E-04	Pulse	0.10	3
Pb			1	0.008	ug/l	29.47	306.68	1.322E-04	Pulse	0.10	3
Pb			1	0.005	ug/l	47.54	300.01	1.295E-04	Pulse	0.10	3
Pb			1	0.008	ug/l	31.12	1,233.39	5.320E-04	Pulse	0.10	3
Na			2	24.892	ug/l	2.49	39,649.63	3.835E-01	Pulse	0.30	3
Mg			2	0.275	ug/l	51.02	261.12	2.532E-03	Pulse	0.30	3
Al			2	0.084	ug/l	363.09	258.90	2.506E-03	Pulse	0.30	3
K			2	-0.955	ug/l	-33.30	7,834.14	7.577E-02	Pulse	0.30	3
Ca			2	0.453	ug/l	347.98	103.34	9.991E-04	Pulse	0.30	3
Ti			2	0.020	ug/l	245.12	3.33	3.259E-05	Pulse	0.30	3
V			2	-0.106	ug/l	-0.93	123.34	1.193E-03	Pulse	0.30	3
Cr			2	0.014	ug/l	76.62	477.79	4.617E-03	Pulse	0.30	3
Mn			2	0.016	ug/l	59.80	87.78	8.503E-04	Pulse	0.30	3
Fe			2	1.719	ug/l	1.68	14,373.09	1.390E-01	Pulse	0.30	3
Co			2	0.003	ug/l	36.48	35.52	3.432E-04	Pulse	0.30	3
Ni			2	-0.060	ug/l	-5.84	276.67	2.677E-03	Pulse	0.30	3
Cu			2	-0.533	ug/l	-2.27	2,142.39	2.072E-02	Pulse	0.30	3
Zn			2	-0.538	ug/l	-3.67	370.01	3.579E-03	Pulse	0.30	3
As			2	0.015	ug/l	54.30	14.00	1.353E-04	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.005	ug/l	74.90	8.79	1.532E-05	Pulse	0.30	3
Sn			2	0.392	ug/l	2.83	1,044.49	1.821E-03	Pulse	0.30	3
Se			3	0.053	ug/l	18.61	14.13	8.210E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,165,812.26	1.34	92.0	Pulse	0.10	3
1	Sc		1,809,201.12	1.25	94.4	Pulse	0.10	3
1	Ge		347,722.72	1.65	97.5	Pulse	0.10	3
1	Ge		478,832.23	2.62	97.2	Pulse	0.10	3
1	Rh		2,460,638.71	2.18	97.8	Pulse	0.10	3
1	In		2,466,967.59	1.83	100.5	Pulse	0.10	3
1	Tb		3,717,292.86	2.67	101.3	Pulse	0.10	3
1	Ho		370,694.92	3.41	100.5	Pulse	0.10	3
1	Bi		2,319,203.09	1.85	100.2	Pulse	0.10	3
2	Sc		103,393.48	1.68	89.6	Pulse	0.30	3
2	Ge		57,772.78	0.41	94.3	Pulse	0.30	3
2	Ge		88,985.35	1.50	95.1	Pulse	0.30	3
2	Rh		1,629,520.70	0.76	95.5	Pulse	0.30	3
2	In		573,425.67	0.34	94.7	Pulse	0.30	3
2	Tb		2,171,271.30	0.63	95.4	Pulse	0.30	3
2	Ho		219,206.90	0.23	97.0	Pulse	0.30	3
2	Bi		1,504,498.79	0.57	97.1	Pulse	0.30	3
3	Sc		183,109.72	0.91	97.5	Pulse	0.30	3
3	Ge		114,006.13	0.68	97.1	Pulse	0.30	3
3	Ge		172,196.05	0.64	96.7	Pulse	0.30	3
3	Rh		1,929,060.75	0.69	99.5	Pulse	0.30	3
3	Tb		3,315,813.48	0.45	99.9	Pulse	0.30	3

Quantitation Report

File Name 057SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 14:08
Sample Name jc99501-5 4
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.038	ug/l	26.60	101.33	9.468E-05	Pulse	0.25	3
B			1	330.032	ug/l	0.25	624,206.12	5.836E-01	Pulse	0.15	3
Ca			1	447645.996	ug/l	1.33	122,874,958.17	7.081E+01	Analog	0.10	3
Sr			1	875.824	ug/l	2.11	10,347,534.01	5.078E+00	Analog	0.10	3
Mo			1	7.845	ug/l	1.72	18,704.94	9.179E-03	Pulse	0.10	3
Ag			1	0.049	ug/l	9.29	320.01	1.473E-04	Pulse	0.10	3
Sn			1	2.215	ug/l	4.43	7,915.67	3.648E-03	Pulse	0.10	3
Sb			1	0.457	ug/l	4.07	2,787.02	8.053E-04	Pulse	0.10	3
Ba			1	23.616	ug/l	0.61	46,397.01	1.340E-02	Pulse	0.10	3
Tl			1	0.013	ug/l	32.01	193.34	1.033E-04	Pulse	0.10	3
Pb			1	0.162	ug/l	6.18	860.06	4.585E-04	Pulse	0.10	3
Pb			1	0.121	ug/l	3.13	650.04	3.462E-04	Pulse	0.10	3
Pb			1	0.143	ug/l	8.21	3,116.91	1.662E-03	Pulse	0.10	3
Na			2	822791.859	ug/l	1.73	382,417,193.69	3.968E+03	Analog	0.30	3
Mg			2	40276.686	ug/l	1.56	8,738,585.76	9.067E+01	Analog	0.30	3
Al			2	99.008	ug/l	2.67	7,386.19	7.663E-02	Pulse	0.30	3
K			2	34232.971	ug/l	5.92	4,619,465.23	4.794E+01	Mix	0.30	3
Ca			2	418690.497	ug/l	0.93	3,112,711.34	3.230E+01	Pulse	0.30	3
Ti			2	10.289	ug/l	7.43	582.24	6.044E-03	Pulse	0.30	3
V			2	4.530	ug/l	3.45	8,598.98	8.924E-02	Pulse	0.30	3
Cr			2	9.998	ug/l	0.30	24,273.46	2.519E-01	Pulse	0.30	3
Mn			2	6825.559	ug/l	0.74	8,610,901.05	8.935E+01	Analog	0.30	3
Fe			2	18726.677	ug/l	1.52	35,124,520.82	3.645E+02	Analog	0.30	3
Co			2	0.254	ug/l	8.91	965.21	1.002E-02	Pulse	0.30	3
Ni			2	9.033	ug/l	0.34	9,500.61	9.858E-02	Pulse	0.30	3
Cu			2	1.871	ug/l	2.65	10,068.73	1.045E-01	Pulse	0.30	3
Zn			2	1.592	ug/l	12.70	1,432.30	1.486E-02	Pulse	0.30	3
As			2	0.548	ug/l	4.39	115.00	1.193E-03	Pulse	1.00	3
Cd			2	-0.002	ug/l	-391.17	0.76	1.529E-06	Pulse	0.30	3
Sn			2	2.175	ug/l	1.42	2,494.67	5.020E-03	Pulse	0.30	3
Se			3	0.303	ug/l	4.25	25.80	1.723E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,069,518.40	1.55	84.4	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,735,577.00	1.62	90.5	Pulse	0.10	3
1	Ge		332,079.50	2.24	93.1	Pulse	0.10	3
1	Ge		458,934.39	1.80	93.2	Pulse	0.10	3
1	Rh		2,038,002.94	1.90	81.0	Pulse	0.10	3
1	In		2,170,908.70	2.11	88.4	Pulse	0.10	3
1	Tb		3,461,800.57	2.04	94.3	Pulse	0.10	3
1	Ho		347,792.36	1.34	94.3	Pulse	0.10	3
1	Bi		1,877,201.33	2.53	81.1	Pulse	0.10	3
2	Sc		96,374.21	0.81	83.5	Pulse	0.30	3
2	Ge		55,536.18	0.60	90.6	Pulse	0.30	3
2	Ge		82,851.10	0.26	88.5	Pulse	0.30	3
2	Rh		1,339,101.48	0.84	78.5	Pulse	0.30	3
2	In		496,909.85	0.15	82.1	Pulse	0.30	3
2	Tb		1,996,278.04	0.21	87.7	Pulse	0.30	3
2	Ho		201,553.66	0.59	89.2	Pulse	0.30	3
2	Bi		1,196,843.43	0.22	77.2	Pulse	0.30	3
3	Sc		168,054.71	0.20	89.5	Pulse	0.30	3
3	Ge		100,129.52	0.86	85.3	Pulse	0.30	3
3	Ge		149,756.93	1.29	84.1	Pulse	0.30	3
3	Rh		1,537,941.92	0.57	79.3	Pulse	0.30	3
3	Tb		2,981,668.21	0.67	89.8	Pulse	0.30	3

Quantitation Report

File Name 058SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 14:13
Sample Name jc99501-6
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.115	ug/l	1.82	281.34	2.727E-04	Pulse	0.25	3
B			1	234.844	ug/l	0.42	430,826.89	4.176E-01	Pulse	0.15	3
Ca			1	249663.076	ug/l	1.50	66,720,845.67	3.950E+01	Analog	0.10	3
Sr			1	1262.695	ug/l	1.96	15,567,862.27	7.321E+00	Analog	0.10	3
Mo			1	39.557	ug/l	1.48	98,234.44	4.620E-02	Pulse	0.10	3
Ag			1	0.028	ug/l	15.57	193.34	8.704E-05	Pulse	0.10	3
Sn			1	1.092	ug/l	5.28	3,530.52	1.591E-03	Pulse	0.10	3
Sb			1	0.325	ug/l	12.88	2,203.56	6.197E-04	Pulse	0.10	3
Ba			1	65.961	ug/l	1.84	132,837.20	3.742E-02	Pulse	0.10	3
Tl			1	0.036	ug/l	28.04	523.36	2.518E-04	Pulse	0.10	3
Pb			1	1.575	ug/l	4.23	7,462.17	3.601E-03	Pulse	0.10	3
Pb			1	1.393	ug/l	6.27	5,884.71	2.843E-03	Pulse	0.10	3
Pb			1	1.534	ug/l	0.33	29,252.60	1.413E-02	Pulse	0.10	3
Na			2	71822.699	ug/l	0.98	32,640,490.93	3.465E+02	Analog	0.30	3
Mg			2	31918.096	ug/l	0.91	6,768,511.40	7.185E+01	Analog	0.30	3
Al			2	2029.647	ug/l	0.72	143,601.15	1.524E+00	Pulse	0.30	3
K			2	39672.885	ug/l	0.30	5,232,383.68	5.555E+01	Analog	0.30	3
Ca			2	241891.539	ug/l	0.70	1,757,774.72	1.866E+01	Pulse	0.30	3
Ti			2	197.890	ug/l	1.26	10,933.69	1.161E-01	Pulse	0.30	3
V			2	6.288	ug/l	2.21	11,481.85	1.219E-01	Pulse	0.30	3
Cr			2	6.950	ug/l	0.25	16,605.13	1.763E-01	Pulse	0.30	3
Mn			2	753.520	ug/l	0.86	929,161.11	9.864E+00	Pulse	0.30	3
Fe			2	6590.075	ug/l	0.72	12,086,075.63	1.283E+02	Analog	0.30	3
Co			2	2.210	ug/l	2.11	8,088.35	8.587E-02	Pulse	0.30	3
Ni			2	18.258	ug/l	1.81	18,391.49	1.953E-01	Pulse	0.30	3
Cu			2	7.038	ug/l	1.51	23,721.65	2.518E-01	Pulse	0.30	3
Zn			2	61.687	ug/l	0.83	25,331.88	2.689E-01	Pulse	0.30	3
As			2	2.972	ug/l	2.70	578.68	6.143E-03	Pulse	1.00	3
Cd			2	0.041	ug/l	101.86	26.79	5.213E-05	Pulse	0.30	3
Sn			2	0.986	ug/l	1.34	1,170.06	2.284E-03	Pulse	0.30	3
Se			3	0.311	ug/l	1.91	28.47	1.760E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,031,619.88	1.18	81.4	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,689,609.97	1.68	88.1	Pulse	0.10	3
1	Ge		330,012.06	2.51	92.6	Pulse	0.10	3
1	Ge		456,942.17	1.74	92.8	Pulse	0.10	3
1	Rh		2,126,979.92	2.29	84.5	Pulse	0.10	3
1	In		2,218,186.33	2.46	90.4	Pulse	0.10	3
1	Tb		3,551,036.20	2.19	96.8	Pulse	0.10	3
1	Ho		366,403.54	2.35	99.4	Pulse	0.10	3
1	Bi		2,070,877.05	2.51	89.4	Pulse	0.10	3
2	Sc		94,197.32	0.53	81.6	Pulse	0.30	3
2	Ge		55,569.68	0.61	90.7	Pulse	0.30	3
2	Ge		83,736.70	0.58	89.5	Pulse	0.30	3
2	Rh		1,407,302.97	0.17	82.5	Pulse	0.30	3
2	In		512,194.06	0.65	84.6	Pulse	0.30	3
2	Tb		2,067,439.50	0.62	90.8	Pulse	0.30	3
2	Ho		211,447.30	1.04	93.5	Pulse	0.30	3
2	Bi		1,333,026.26	0.96	86.0	Pulse	0.30	3
3	Sc		174,346.90	1.15	92.9	Pulse	0.30	3
3	Ge		106,604.63	0.16	90.8	Pulse	0.30	3
3	Ge		161,704.69	0.25	90.8	Pulse	0.30	3
3	Rh		1,679,361.11	0.59	86.6	Pulse	0.30	3
3	Tb		3,165,448.49	0.62	95.4	Pulse	0.30	3

Quantitation Report

File Name 059SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 14:18
Sample Name jc99501-7
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.062	ug/l	13.00	169.33	1.500E-04	Pulse	0.25	3
B			1	26.223	ug/l	0.45	60,625.65	5.374E-02	Pulse	0.15	3
Ca			1	5494.055	ug/l	0.80	1,524,650.03	8.777E-01	Pulse	0.10	3
Sr			1	37.216	ug/l	0.57	510,413.76	2.159E-01	Pulse	0.10	3
Mo			1	0.114	ug/l	13.48	370.02	1.567E-04	Pulse	0.10	3
Ag			1	0.009	ug/l	53.67	76.67	3.168E-05	Pulse	0.10	3
Sn			1	0.792	ug/l	3.17	2,500.28	1.041E-03	Pulse	0.10	3
Sb			1	0.123	ug/l	12.38	1,246.77	3.360E-04	Pulse	0.10	3
Ba			1	11.106	ug/l	1.63	23,388.35	6.310E-03	Pulse	0.10	3
Tl			1	0.005	ug/l	50.22	116.67	5.064E-05	Pulse	0.10	3
Pb			1	0.243	ug/l	3.42	1,463.47	6.393E-04	Pulse	0.10	3
Pb			1	0.217	ug/l	8.65	1,226.76	5.350E-04	Pulse	0.10	3
Pb			1	0.238	ug/l	0.45	5,767.32	2.519E-03	Pulse	0.10	3
Na			2	1519.196	ug/l	0.67	723,704.97	7.470E+00	Pulse	0.30	3
Mg			2	1053.166	ug/l	0.86	229,811.01	2.372E+00	Pulse	0.30	3
Al			2	13.793	ug/l	10.86	1,232.28	1.272E-02	Pulse	0.30	3
K			2	381.309	ug/l	0.86	59,249.82	6.116E-01	Pulse	0.30	3
Ca			2	5714.006	ug/l	2.23	42,791.57	4.417E-01	Pulse	0.30	3
Ti			2	0.336	ug/l	29.93	20.00	2.064E-04	Pulse	0.30	3
V			2	-0.046	ug/l	-10.37	415.57	4.289E-03	Pulse	0.30	3
Cr			2	0.434	ug/l	7.09	1,424.52	1.470E-02	Pulse	0.30	3
Mn			2	54.769	ug/l	0.46	69,501.80	7.174E-01	Pulse	0.30	3
Fe			2	268.551	ug/l	0.17	513,243.80	5.298E+00	Pulse	0.30	3
Co			2	0.251	ug/l	3.21	957.54	9.883E-03	Pulse	0.30	3
Ni			2	0.851	ug/l	7.50	1,244.51	1.284E-02	Pulse	0.30	3
Cu			2	46.190	ug/l	0.96	132,563.80	1.368E+00	Pulse	0.30	3
Zn			2	21.062	ug/l	3.13	9,415.03	9.717E-02	Pulse	0.30	3
As			2	0.361	ug/l	16.93	78.67	8.122E-04	Pulse	1.00	3
Cd			2	-0.001	ug/l	-239.68	1.07	1.999E-06	Pulse	0.30	3
Sn			2	0.585	ug/l	2.41	737.80	1.361E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	0.037	ug/l	58.88	8.80	5.030E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,128,049.86	1.30	89.0	Pulse	0.10	3
1	Sc		1,736,889.40	2.21	90.6	Pulse	0.10	3
1	Ge		359,314.41	1.77	100.8	Pulse	0.10	3
1	Ge		497,125.29	2.38	100.9	Pulse	0.10	3
1	Rh		2,364,518.87	2.92	94.0	Pulse	0.10	3
1	In		2,404,263.70	2.82	97.9	Pulse	0.10	3
1	Tb		3,707,065.05	2.91	101.0	Pulse	0.10	3
1	Ho		373,425.96	2.94	101.3	Pulse	0.10	3
1	Bi		2,289,448.46	3.56	98.9	Pulse	0.10	3
2	Sc		96,881.70	0.53	83.9	Pulse	0.30	3
2	Ge		59,333.95	2.01	96.8	Pulse	0.30	3
2	Ge		90,227.61	1.87	96.4	Pulse	0.30	3
2	Rh		1,564,780.01	0.83	91.7	Pulse	0.30	3
2	In		542,109.09	1.27	89.5	Pulse	0.30	3
2	Tb		2,138,515.12	0.96	94.0	Pulse	0.30	3
2	Ho		215,155.03	0.97	95.2	Pulse	0.30	3
2	Bi		1,456,578.56	1.09	94.0	Pulse	0.30	3
3	Sc		182,416.10	0.77	97.2	Pulse	0.30	3
3	Ge		115,619.24	0.97	98.5	Pulse	0.30	3
3	Ge		174,901.86	0.87	98.2	Pulse	0.30	3
3	Rh		1,915,989.58	0.65	98.8	Pulse	0.30	3
3	Tb		3,378,654.10	0.60	101.8	Pulse	0.30	3

Quantitation Report

File Name	060SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 14:23
Sample Name	jc99565-2
Sample Type	Sample
Comment	
Prep Dilution	2.000
Auto Dilution	N/A
Total Dilution	2.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.539	ug/l	5.46	1,442.75	1.264E-03	Pulse	0.25	3
B			1	54.413	ug/l	0.72	117,480.86	1.029E-01	Pulse	0.15	3
Ca			1	29627.854	ug/l	1.96	8,254,174.88	4.695E+00	Analog	0.10	3
Sr			1	151.114	ug/l	0.34	2,032,360.90	8.763E-01	Pulse	0.10	3
Mo			1	0.263	ug/l	12.47	763.38	3.296E-04	Pulse	0.10	3
Ag			1	0.132	ug/l	22.69	923.39	3.885E-04	Pulse	0.10	3
Sn			1	1.080	ug/l	4.56	3,733.90	1.568E-03	Pulse	0.10	3
Sb			1	0.352	ug/l	13.25	2,440.28	6.570E-04	Pulse	0.10	3
Ba			1	52.257	ug/l	1.56	110,327.31	2.965E-02	Pulse	0.10	3
Tl			1	0.216	ug/l	7.84	3,133.79	1.386E-03	Pulse	0.10	3
Pb			1	0.683	ug/l	4.72	3,650.59	1.618E-03	Pulse	0.10	3
Pb			1	0.691	ug/l	4.39	3,307.18	1.464E-03	Pulse	0.10	3
Pb			1	0.669	ug/l	3.39	14,403.24	6.377E-03	Pulse	0.10	3
Na			2	10552.040	ug/l	1.34	5,022,317.02	5.103E+01	Analog	0.30	3
Mg			2	9091.898	ug/l	0.92	2,014,468.60	2.047E+01	Pulse	0.30	3
Al			2	45.838	ug/l	3.14	3,617.12	3.676E-02	Pulse	0.30	3
K			2	5050.235	ug/l	0.98	702,648.76	7.139E+00	Pulse	0.30	3
Ca			2	28351.149	ug/l	0.64	215,346.34	2.188E+00	Pulse	0.30	3
Ti			2	0.464	ug/l	30.54	27.78	2.818E-04	Pulse	0.30	3
V			2	0.244	ug/l	12.97	951.15	9.666E-03	Pulse	0.30	3
Cr			2	0.891	ug/l	5.34	2,563.56	2.605E-02	Pulse	0.30	3
Mn			2	321.435	ug/l	0.26	414,179.67	4.208E+00	Pulse	0.30	3
Fe			2	357.353	ug/l	0.71	691,468.88	7.026E+00	Pulse	0.30	3
Co			2	30.809	ug/l	0.78	117,620.77	1.195E+00	Pulse	0.30	3
Ni			2	34.304	ug/l	0.86	35,765.52	3.634E-01	Pulse	0.30	3
Cu			2	2.068	ug/l	3.85	10,837.00	1.101E-01	Pulse	0.30	3
Zn			2	194.360	ug/l	0.57	81,676.11	8.299E-01	Pulse	0.30	3
As			2	3.631	ug/l	0.63	737.02	7.489E-03	Pulse	1.00	3
Cd			2	0.726	ug/l	5.41	472.17	8.708E-04	Pulse	0.30	3
Sn			2	0.883	ug/l	0.61	1,110.05	2.047E-03	Pulse	0.30	3
Se			3	0.854	ug/l	7.43	75.60	4.259E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,141,564.81	1.37	90.1	Pulse	0.10	3
1	Sc		1,758,631.38	1.97	91.7	Pulse	0.10	3
1	Ge		358,012.45	2.90	100.4	Pulse	0.10	3

Quantitation Report

1	Ge		495,859.13	2.03	100.7	Pulse	0.10	3
1	Rh		2,319,345.28	2.35	92.2	Pulse	0.10	3
1	In		2,383,202.15	2.06	97.1	Pulse	0.10	3
1	Tb		3,720,567.86	2.64	101.4	Pulse	0.10	3
1	Ho		377,171.97	3.48	102.3	Pulse	0.10	3
1	Bi		2,257,283.14	2.55	97.5	Pulse	0.10	3
2	Sc		98,424.66	1.23	85.3	Pulse	0.30	3
2	Ge		60,131.41	0.44	98.2	Pulse	0.30	3
2	Ge		90,454.37	1.44	96.7	Pulse	0.30	3
2	Rh		1,540,033.62	0.66	90.2	Pulse	0.30	3
2	In		542,395.72	0.86	89.6	Pulse	0.30	3
2	Tb		2,168,494.22	0.95	95.3	Pulse	0.30	3
2	Ho		220,990.16	0.22	97.8	Pulse	0.30	3
2	Bi		1,458,418.24	0.69	94.1	Pulse	0.30	3
3	Sc		187,258.44	0.13	99.8	Pulse	0.30	3
3	Ge		117,662.75	0.92	100.2	Pulse	0.30	3
3	Ge		177,581.81	1.01	99.7	Pulse	0.30	3
3	Rh		1,898,980.20	0.43	97.9	Pulse	0.30	3
3	Tb		3,414,742.43	0.29	102.9	Pulse	0.30	3

Quantitation Report

File Name	061SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 14:28
Sample Name	jc99565-3
Sample Type	Sample
Comment	
Prep Dilution	2.000
Auto Dilution	N/A
Total Dilution	2.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.524	ug/l	1.55	1,400.07	1.228E-03	Pulse	0.25	3
B			1	47.921	ug/l	0.79	104,384.04	9.159E-02	Pulse	0.15	3
Ca			1	27430.957	ug/l	2.29	7,727,173.01	4.347E+00	Analog	0.10	3
Sr			1	123.795	ug/l	0.93	1,691,172.53	7.179E-01	Pulse	0.10	3
Mo			1	0.210	ug/l	14.15	633.37	2.685E-04	Pulse	0.10	3
Ag			1	0.011	ug/l	24.10	90.00	3.726E-05	Pulse	0.10	3
Sn			1	1.694	ug/l	8.71	6,491.65	2.693E-03	Pulse	0.10	3
Sb			1	0.189	ug/l	10.81	1,613.49	4.288E-04	Pulse	0.10	3
Ba			1	86.187	ug/l	1.08	183,818.32	4.889E-02	Pulse	0.10	3
Tl			1	0.082	ug/l	7.54	1,236.77	5.406E-04	Pulse	0.10	3
Pb			1	0.090	ug/l	1.64	680.05	2.975E-04	Pulse	0.10	3
Pb			1	0.067	ug/l	7.19	550.03	2.407E-04	Pulse	0.10	3
Pb			1	0.082	ug/l	8.97	2,550.18	1.115E-03	Pulse	0.10	3
Na			2	6227.528	ug/l	0.99	2,980,106.27	3.018E+01	Pulse	0.30	3
Mg			2	7838.486	ug/l	1.09	1,742,707.85	1.765E+01	Pulse	0.30	3
Al			2	69.422	ug/l	5.26	5,374.24	5.444E-02	Pulse	0.30	3
K			2	5132.605	ug/l	1.12	716,430.13	7.255E+00	Pulse	0.30	3
Ca			2	26049.441	ug/l	0.99	198,543.37	2.010E+00	Pulse	0.30	3
Ti			2	0.330	ug/l	53.37	20.00	2.029E-04	Pulse	0.30	3
V			2	0.163	ug/l	21.19	806.70	8.161E-03	Pulse	0.30	3
Cr			2	1.436	ug/l	6.36	3,906.06	3.954E-02	Pulse	0.30	3
Mn			2	591.615	ug/l	1.65	764,808.86	7.745E+00	Pulse	0.30	3
Fe			2	58.007	ug/l	2.06	118,600.01	1.201E+00	Pulse	0.30	3
Co			2	37.202	ug/l	0.89	142,515.86	1.443E+00	Pulse	0.30	3
Ni			2	37.532	ug/l	1.29	39,227.78	3.972E-01	Pulse	0.30	3
Cu			2	0.339	ug/l	10.86	6,004.49	6.081E-02	Pulse	0.30	3
Zn			2	217.775	ug/l	1.35	91,737.57	9.289E-01	Pulse	0.30	3
As			2	0.582	ug/l	17.82	124.67	1.264E-03	Pulse	1.00	3
Cd			2	1.014	ug/l	2.15	672.18	1.215E-03	Pulse	0.30	3
Sn			2	1.378	ug/l	8.26	1,762.34	3.185E-03	Pulse	0.30	3
Se			3	0.362	ug/l	5.52	33.27	1.997E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,139,693.98	0.58	89.9	Pulse	0.10	3
1	Sc		1,777,968.00	1.79	92.8	Pulse	0.10	3
1	Ge		361,635.25	1.95	101.4	Pulse	0.10	3

Quantitation Report

1	Ge		501,906.39	2.16	101.9	Pulse	0.10	3
1	Rh		2,355,832.72	1.62	93.6	Pulse	0.10	3
1	In		2,412,268.58	1.31	98.3	Pulse	0.10	3
1	Tb		3,760,507.86	2.26	102.5	Pulse	0.10	3
1	Ho		383,065.68	2.49	103.9	Pulse	0.10	3
1	Bi		2,286,453.82	2.27	98.7	Pulse	0.10	3
2	Sc		98,765.54	1.53	85.6	Pulse	0.30	3
2	Ge		60,803.79	1.12	99.2	Pulse	0.30	3
2	Ge		91,881.16	0.29	98.2	Pulse	0.30	3
2	Rh		1,570,245.01	1.37	92.0	Pulse	0.30	3
2	In		553,295.14	1.41	91.4	Pulse	0.30	3
2	Tb		2,180,295.75	0.63	95.8	Pulse	0.30	3
2	Ho		222,774.05	0.45	98.5	Pulse	0.30	3
2	Bi		1,482,647.65	0.35	95.7	Pulse	0.30	3
3	Sc		174,287.69	3.31	92.8	Pulse	0.30	3
3	Ge		110,856.99	5.51	94.4	Pulse	0.30	3
3	Ge		166,750.69	4.86	93.6	Pulse	0.30	3
3	Rh		1,815,328.19	3.24	93.6	Pulse	0.30	3
3	Tb		3,241,229.04	3.60	97.7	Pulse	0.30	3

Quantitation Report

File Name 062_CCV.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 14:33
Sample Name CCVA 5
Sample Type CCV
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	48.396	ug/l	2.19	258,860.90	2.260E-01	Pulse	0.25	3
B			1	99.766	ug/l	1.05	407,753.21	3.560E-01	Pulse	0.15	3
Ca			1	4887.579	ug/l	0.66	2,769,598.08	1.555E+00	Pulse	0.10	3
Sr			1	53.060	ug/l	0.38	1,465,976.64	6.154E-01	Pulse	0.10	3
Mo			1	51.025	ug/l	0.68	283,801.70	1.191E-01	Pulse	0.10	3
Ag			1	48.555	ug/l	0.06	685,860.07	2.828E-01	Pulse	0.10	3
Sn			1	50.246	ug/l	0.23	445,561.61	1.837E-01	Pulse	0.10	3
Sb			1	52.707	ug/l	0.82	548,704.91	1.479E-01	Pulse	0.10	3
Ba			1	51.274	ug/l	1.40	215,754.83	5.816E-02	Pulse	0.10	3
Tl			1	51.934	ug/l	0.43	1,485,979.67	6.556E-01	Pulse	0.10	3
Pb			1	51.558	ug/l	0.60	520,303.01	2.295E-01	Pulse	0.10	3
Pb			1	51.315	ug/l	0.96	456,754.83	2.015E-01	Pulse	0.10	3
Pb			1	51.178	ug/l	0.59	2,079,603.89	9.174E-01	Pulse	0.10	3
Na			2	4820.169	ug/l	1.12	4,729,776.76	4.664E+01	Analog	0.30	3
Mg			2	4649.142	ug/l	1.26	2,123,011.79	2.093E+01	Pulse	0.30	3
Al			2	4694.169	ug/l	1.31	714,298.93	7.043E+00	Pulse	0.30	3
K			2	4877.240	ug/l	1.27	1,391,141.61	1.372E+01	Pulse	0.30	3
Ca			2	5145.644	ug/l	1.28	80,612.34	7.948E-01	Pulse	0.30	3
Ti			2	49.803	ug/l	3.99	5,924.46	5.843E-02	Pulse	0.30	3
V			2	52.621	ug/l	1.69	198,688.32	1.959E+00	Pulse	0.30	3
Cr			2	51.202	ug/l	1.48	257,936.33	2.543E+00	Pulse	0.30	3
Mn			2	50.989	ug/l	1.01	135,442.85	1.335E+00	Pulse	0.30	3
Fe			2	5236.431	ug/l	2.16	20,673,723.07	2.039E+02	Analog	0.30	3
Co			2	51.250	ug/l	2.30	403,170.08	3.976E+00	Pulse	0.30	3
Ni			2	50.808	ug/l	2.27	108,386.40	1.069E+00	Pulse	0.30	3
Cu			2	50.210	ug/l	1.65	295,592.36	2.915E+00	Pulse	0.30	3
Zn			2	50.477	ug/l	1.13	44,112.51	4.349E-01	Pulse	0.30	3
As			2	51.843	ug/l	1.02	21,480.42	2.118E-01	Pulse	1.00	3
Cd			2	50.847	ug/l	0.62	67,680.70	1.215E-01	Pulse	0.30	3
Sn			2	51.223	ug/l	1.04	131,292.50	2.358E-01	Pulse	0.30	3
Se			3	204.994	ug/l	0.28	30,802.91	1.884E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,145,336.27	0.88	90.4	Pulse	0.10	3
1	Sc		1,781,178.26	1.44	92.9	Pulse	0.10	3
1	Ge		341,461.56	2.49	95.8	Pulse	0.10	3

Quantitation Report

1	Ge		481,030.47	2.65	97.7	Pulse	0.10	3
1	Rh		2,382,357.72	2.79	94.7	Pulse	0.10	3
1	In		2,425,331.42	2.96	98.8	Pulse	0.10	3
1	Tb		3,708,792.76	2.38	101.1	Pulse	0.10	3
1	Ho		375,530.05	2.07	101.8	Pulse	0.10	3
1	Bi		2,266,678.35	2.77	97.9	Pulse	0.10	3
2	Sc		101,431.70	1.49	87.9	Pulse	0.30	3
2	Ge		57,264.42	0.99	93.5	Pulse	0.30	3
2	Ge		86,847.23	1.01	92.8	Pulse	0.30	3
2	Rh		1,561,732.06	0.66	91.5	Pulse	0.30	3
2	In		556,882.91	0.20	92.0	Pulse	0.30	3
2	Tb		2,178,264.91	1.01	95.7	Pulse	0.30	3
2	Ho		219,202.39	0.94	97.0	Pulse	0.30	3
2	Bi		1,468,340.32	0.42	94.7	Pulse	0.30	3
3	Sc		173,587.67	0.52	92.5	Pulse	0.30	3
3	Ge		107,341.31	0.30	91.5	Pulse	0.30	3
3	Ge		163,493.83	0.50	91.8	Pulse	0.30	3
3	Rh		1,809,629.03	0.51	93.3	Pulse	0.30	3
3	Tb		3,232,423.14	0.92	97.4	Pulse	0.30	3

Quantitation Report

File Name 063_CCB.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 14:38
Sample Name CCB
Sample Type CCB
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.004	ug/l	18.70	29.33	2.561E-05	Pulse	0.25	3
B			1	6.092	ug/l	1.51	33,479.91	2.926E-02	Pulse	0.15	3
Ca			1	-5.742	ug/l	-26.52	12,284.94	6.999E-03	Pulse	0.10	3
Sr			1	0.021	ug/l	13.83	773.38	3.243E-04	Pulse	0.10	3
Mo			1	0.124	ug/l	26.80	746.71	3.128E-04	Pulse	0.10	3
Ag			1	0.010	ug/l	37.39	150.01	6.222E-05	Pulse	0.10	3
Sn			1	0.418	ug/l	1.03	2,697.00	1.120E-03	Pulse	0.10	3
Sb			1	0.146	ug/l	11.87	2,086.88	5.723E-04	Pulse	0.10	3
Ba			1	0.020	ug/l	50.23	123.34	3.412E-05	Pulse	0.10	3
Tl			1	0.012	ug/l	13.28	383.36	1.679E-04	Pulse	0.10	3
Pb			1	0.002	ug/l	282.96	240.01	1.050E-04	Pulse	0.10	3
Pb			1	0.005	ug/l	100.55	296.68	1.302E-04	Pulse	0.10	3
Pb			1	0.007	ug/l	20.57	1,170.06	5.135E-04	Pulse	0.10	3
Na			2	15.797	ug/l	1.30	29,458.95	2.958E-01	Pulse	0.30	3
Mg			2	0.278	ug/l	12.89	253.34	2.544E-03	Pulse	0.30	3
Al			2	0.043	ug/l	131.91	243.34	2.444E-03	Pulse	0.30	3
K			2	-1.469	ug/l	-58.63	7,401.72	7.433E-02	Pulse	0.30	3
Ca			2	-1.108	ug/l	-59.74	75.55	7.582E-04	Pulse	0.30	3
Ti			2	0.020	ug/l	141.08	3.33	3.348E-05	Pulse	0.30	3
V			2	-0.110	ug/l	-2.29	103.34	1.038E-03	Pulse	0.30	3
Cr			2	0.021	ug/l	18.39	494.46	4.964E-03	Pulse	0.30	3
Mn			2	0.020	ug/l	24.77	96.67	9.697E-04	Pulse	0.30	3
Fe			2	1.769	ug/l	5.45	14,030.52	1.409E-01	Pulse	0.30	3
Co			2	0.003	ug/l	46.82	37.74	3.793E-04	Pulse	0.30	3
Ni			2	-0.044	ug/l	-93.25	301.12	3.018E-03	Pulse	0.30	3
Cu			2	-0.560	ug/l	-3.68	1,910.13	1.918E-02	Pulse	0.30	3
Zn			2	-0.556	ug/l	-5.02	341.12	3.424E-03	Pulse	0.30	3
As			2	0.011	ug/l	34.71	12.00	1.204E-04	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.002	ug/l	80.47	4.35	7.828E-06	Pulse	0.30	3
Sn			2	0.418	ug/l	10.26	1,078.94	1.940E-03	Pulse	0.30	3
Se			3	0.074	ug/l	18.33	16.47	1.013E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,144,354.14	1.22	90.3	Pulse	0.10	3
1	Sc		1,756,784.76	2.28	91.7	Pulse	0.10	3
1	Ge		335,906.19	1.51	94.2	Pulse	0.10	3
1	Ge		467,695.44	2.21	95.0	Pulse	0.10	3
1	Rh		2,388,538.19	2.57	94.9	Pulse	0.10	3
1	In		2,408,592.18	2.59	98.1	Pulse	0.10	3
1	Tb		3,639,325.99	3.60	99.2	Pulse	0.10	3
1	Ho		365,207.65	3.02	99.0	Pulse	0.10	3
1	Bi		2,280,849.55	3.01	98.5	Pulse	0.10	3
2	Sc		99,580.40	1.26	86.3	Pulse	0.30	3
2	Ge		57,732.69	0.59	94.2	Pulse	0.30	3
2	Ge		85,656.73	1.21	91.5	Pulse	0.30	3
2	Rh		1,582,900.91	0.52	92.7	Pulse	0.30	3
2	In		556,071.93	0.73	91.8	Pulse	0.30	3
2	Tb		2,121,082.00	0.58	93.2	Pulse	0.30	3
2	Ho		212,189.49	0.88	93.9	Pulse	0.30	3
2	Bi		1,460,796.09	0.76	94.2	Pulse	0.30	3
3	Sc		173,010.30	0.43	92.2	Pulse	0.30	3
3	Ge		108,191.58	1.04	92.2	Pulse	0.30	3
3	Ge		162,585.09	0.70	91.3	Pulse	0.30	3
3	Rh		1,852,597.71	0.96	95.6	Pulse	0.30	3
3	Tb		3,184,686.47	1.31	96.0	Pulse	0.30	3

Quantitation Report

File Name 064SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 14:43
Sample Name jc99611-1f 5
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.013	ug/l	56.25	41.33	3.551E-05	Pulse	0.25	3
B			1	51.911	ug/l	1.76	114,785.49	9.855E-02	Pulse	0.15	3
Ca			1	19532.760	ug/l	2.92	5,414,897.63	3.098E+00	Analog	0.10	3
Sr			1	101.986	ug/l	1.54	1,384,063.57	5.914E-01	Pulse	0.10	3
Mo			1	2.640	ug/l	3.43	7,271.89	3.105E-03	Pulse	0.10	3
Ag			1	0.036	ug/l	39.77	260.01	1.089E-04	Pulse	0.10	3
Sn			1	1.320	ug/l	2.72	4,790.91	2.008E-03	Pulse	0.10	3
Sb			1	0.967	ug/l	3.28	5,591.21	1.520E-03	Pulse	0.10	3
Ba			1	20.980	ug/l	2.74	43,816.29	1.191E-02	Pulse	0.10	3
Tl			1	0.087	ug/l	7.02	1,286.78	5.736E-04	Pulse	0.10	3
Pb			1	0.311	ug/l	7.14	1,773.51	7.898E-04	Pulse	0.10	3
Pb			1	0.317	ug/l	1.36	1,640.16	7.307E-04	Pulse	0.10	3
Pb			1	0.306	ug/l	6.37	7,020.90	3.126E-03	Pulse	0.10	3
Na			2	1383.875	ug/l	1.41	668,076.28	6.817E+00	Pulse	0.30	3
Mg			2	2211.323	ug/l	1.41	487,946.54	4.979E+00	Pulse	0.30	3
Al			2	18.479	ug/l	20.21	1,589.05	1.624E-02	Pulse	0.30	3
K			2	5511.076	ug/l	1.46	762,772.56	7.784E+00	Pulse	0.30	3
Ca			2	18687.668	ug/l	1.22	141,364.83	1.443E+00	Pulse	0.30	3
Ti			2	1.767	ug/l	31.45	102.23	1.046E-03	Pulse	0.30	3
V			2	7.555	ug/l	1.28	14,252.93	1.454E-01	Pulse	0.30	3
Cr			2	0.775	ug/l	12.37	2,267.96	2.316E-02	Pulse	0.30	3
Mn			2	472.386	ug/l	0.51	606,084.85	6.184E+00	Pulse	0.30	3
Fe			2	79.845	ug/l	1.18	159,319.29	1.626E+00	Pulse	0.30	3
Co			2	0.403	ug/l	2.26	1,545.22	1.577E-02	Pulse	0.30	3
Ni			2	4.326	ug/l	1.93	4,828.53	4.926E-02	Pulse	0.30	3
Cu			2	6.154	ug/l	1.97	22,208.43	2.266E-01	Pulse	0.30	3
Zn			2	10.468	ug/l	2.56	5,133.08	5.238E-02	Pulse	0.30	3
As			2	1.851	ug/l	5.92	377.68	3.855E-03	Pulse	1.00	3
Cd			2	0.179	ug/l	12.66	117.23	2.178E-04	Pulse	0.30	3
Sn			2	1.240	ug/l	7.95	1,543.43	2.868E-03	Pulse	0.30	3
Se			3	1.118	ug/l	6.06	94.00	5.472E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,164,807.29	0.47	91.9	Pulse	0.10	3
1	Sc		1,748,498.88	2.02	91.2	Pulse	0.10	3
1	Ge		362,038.67	1.94	101.5	Pulse	0.10	3

Quantitation Report

1	Ge		500,507.06	1.75	101.6	Pulse	0.10	3
1	Rh		2,340,942.88	3.06	93.0	Pulse	0.10	3
1	In		2,385,107.39	1.93	97.2	Pulse	0.10	3
1	Tb		3,680,087.13	2.93	100.3	Pulse	0.10	3
1	Ho		371,039.50	1.56	100.6	Pulse	0.10	3
1	Bi		2,244,857.88	1.64	96.9	Pulse	0.10	3
2	Sc		98,008.18	1.42	84.9	Pulse	0.30	3
2	Ge		59,412.15	1.26	97.0	Pulse	0.30	3
2	Ge		89,665.63	0.79	95.8	Pulse	0.30	3
2	Rh		1,545,523.38	1.09	90.6	Pulse	0.30	3
2	In		538,002.75	0.78	88.9	Pulse	0.30	3
2	Tb		2,114,965.89	0.68	92.9	Pulse	0.30	3
2	Ho		215,005.29	0.47	95.1	Pulse	0.30	3
2	Bi		1,440,993.45	0.87	93.0	Pulse	0.30	3
3	Sc		179,331.51	0.18	95.5	Pulse	0.30	3
3	Ge		114,778.19	1.12	97.8	Pulse	0.30	3
3	Ge		171,803.15	1.03	96.5	Pulse	0.30	3
3	Rh		1,873,723.33	0.49	96.6	Pulse	0.30	3
3	Tb		3,316,438.69	0.70	99.9	Pulse	0.30	3

Quantitation Report

File Name 065SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 14:48
Sample Name jc99611-2f
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.004	ug/l	104.60	16.00	1.418E-05	Pulse	0.25	3
B			1	36.156	ug/l	1.46	79,961.92	7.107E-02	Pulse	0.15	3
Ca			1	67259.648	ug/l	1.49	18,481,262.22	1.065E+01	Analog	0.10	3
Sr			1	669.723	ug/l	2.86	8,491,130.91	3.883E+00	Analog	0.10	3
Mo			1	0.902	ug/l	6.29	2,353.60	1.076E-03	Pulse	0.10	3
Ag			1	0.020	ug/l	6.59	143.34	6.353E-05	Pulse	0.10	3
Sn			1	0.846	ug/l	3.66	2,573.62	1.140E-03	Pulse	0.10	3
Sb			1	0.235	ug/l	19.71	1,770.16	4.937E-04	Pulse	0.10	3
Ba			1	69.868	ug/l	1.34	141,916.43	3.963E-02	Pulse	0.10	3
Tl			1	0.060	ug/l	9.36	846.72	3.997E-04	Pulse	0.10	3
Pb			1	0.142	ug/l	15.83	876.73	4.140E-04	Pulse	0.10	3
Pb			1	0.121	ug/l	15.12	733.38	3.459E-04	Pulse	0.10	3
Pb			1	0.137	ug/l	17.15	3,410.28	1.608E-03	Pulse	0.10	3
Na			2	53467.386	ug/l	1.64	24,609,461.80	2.580E+02	Analog	0.30	3
Mg			2	53701.600	ug/l	1.11	11,531,595.93	1.209E+02	Analog	0.30	3
Al			2	14.408	ug/l	4.98	1,257.84	1.319E-02	Pulse	0.30	3
K			2	4282.338	ug/l	0.74	578,635.48	6.066E+00	Pulse	0.30	3
Ca			2	66184.166	ug/l	0.11	487,121.63	5.107E+00	Pulse	0.30	3
Ti			2	0.897	ug/l	47.89	51.11	5.354E-04	Pulse	0.30	3
V			2	0.340	ug/l	10.49	1,092.27	1.145E-02	Pulse	0.30	3
Cr			2	0.570	ug/l	4.74	1,725.67	1.809E-02	Pulse	0.30	3
Mn			2	5083.163	ug/l	0.76	6,347,266.55	6.654E+01	Analog	0.30	3
Fe			2	2145.561	ug/l	0.39	3,989,312.76	4.182E+01	Pulse	0.30	3
Co			2	5.458	ug/l	0.32	20,207.33	2.118E-01	Pulse	0.30	3
Ni			2	8.688	ug/l	2.33	9,060.35	9.497E-02	Pulse	0.30	3
Cu			2	0.396	ug/l	14.15	5,955.58	6.243E-02	Pulse	0.30	3
Zn			2	10.842	ug/l	6.17	5,147.54	5.397E-02	Pulse	0.30	3
As			2	2.638	ug/l	3.21	521.01	5.461E-03	Pulse	1.00	3
Cd			2	0.112	ug/l	28.22	70.92	1.372E-04	Pulse	0.30	3
Sn			2	0.698	ug/l	6.37	840.03	1.622E-03	Pulse	0.30	3
Se			3	0.073	ug/l	22.10	11.07	6.699E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,125,209.11	0.89	88.8	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,736,143.83	1.42	90.6	Pulse	0.10	3
1	Ge		349,655.67	1.28	98.1	Pulse	0.10	3
1	Ge		483,985.57	1.84	98.3	Pulse	0.10	3
1	Rh		2,187,413.41	1.96	86.9	Pulse	0.10	3
1	In		2,258,217.29	2.25	92.0	Pulse	0.10	3
1	Tb		3,580,757.24	1.81	97.6	Pulse	0.10	3
1	Ho		360,800.96	1.19	97.8	Pulse	0.10	3
1	Bi		2,119,370.18	1.86	91.5	Pulse	0.10	3
2	Sc		95,391.47	0.52	82.6	Pulse	0.30	3
2	Ge		57,444.94	1.28	93.8	Pulse	0.30	3
2	Ge		86,352.39	1.35	92.3	Pulse	0.30	3
2	Rh		1,468,576.44	1.47	86.0	Pulse	0.30	3
2	In		517,894.45	1.00	85.5	Pulse	0.30	3
2	Tb		2,084,729.36	1.05	91.6	Pulse	0.30	3
2	Ho		210,691.82	0.52	93.2	Pulse	0.30	3
2	Bi		1,356,771.54	1.23	87.5	Pulse	0.30	3
3	Sc		174,607.51	0.71	93.0	Pulse	0.30	3
3	Ge		109,713.36	1.56	93.5	Pulse	0.30	3
3	Ge		165,198.19	0.10	92.8	Pulse	0.30	3
3	Rh		1,756,151.01	0.58	90.6	Pulse	0.30	3
3	Tb		3,241,668.13	0.33	97.7	Pulse	0.30	3

Quantitation Report

File Name 066SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 14:53
Sample Name 13b14bconf
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	67.957	ug/l	0.68	368,430.37	3.173E-01	Pulse	0.25	3
B			1	71.597	ug/l	1.19	299,249.51	2.578E-01	Pulse	0.15	3
Ca			1	22.602	ug/l	4.92	28,688.84	1.596E-02	Pulse	0.10	3
Sr			1	74.421	ug/l	0.96	2,107,779.71	8.631E-01	Pulse	0.10	3
Mo			1	75.781	ug/l	0.66	432,042.55	1.769E-01	Pulse	0.10	3
Ag			1	0.100	ug/l	5.44	1,436.79	5.888E-04	Pulse	0.10	3
Sn			1	74.080	ug/l	0.83	661,900.44	2.710E-01	Pulse	0.10	3
Sb			1	78.322	ug/l	0.63	815,544.34	2.197E-01	Pulse	0.10	3
Ba			1	74.533	ug/l	0.65	313,766.85	8.454E-02	Pulse	0.10	3
Tl			1	74.185	ug/l	0.38	2,169,745.59	9.365E-01	Pulse	0.10	3
Pb			1	80.253	ug/l	0.97	827,522.23	3.572E-01	Pulse	0.10	3
Pb			1	79.970	ug/l	0.42	727,408.03	3.140E-01	Pulse	0.10	3
Pb			1	79.956	ug/l	0.55	3,320,276.28	1.433E+00	Pulse	0.10	3
Na			2	13.164	ug/l	4.49	27,517.97	2.704E-01	Pulse	0.30	3
Mg			2	2.422	ug/l	2.56	1,241.17	1.220E-02	Pulse	0.30	3
Al			2	0.073	ug/l	430.33	253.34	2.489E-03	Pulse	0.30	3
K			2	-1.806	ug/l	-15.06	7,468.43	7.339E-02	Pulse	0.30	3
Ca			2	317.601	ug/l	1.72	5,080.84	4.993E-02	Pulse	0.30	3
Ti			2	73.976	ug/l	3.11	8,831.31	8.678E-02	Pulse	0.30	3
V			2	75.762	ug/l	0.89	286,809.60	2.818E+00	Pulse	0.30	3
Cr			2	73.958	ug/l	0.47	373,639.96	3.672E+00	Pulse	0.30	3
Mn			2	74.997	ug/l	0.33	199,851.88	1.964E+00	Pulse	0.30	3
Fe			2	-0.733	ug/l	-5.90	4,432.90	4.356E-02	Pulse	0.30	3
Co			2	74.554	ug/l	0.68	588,531.77	5.783E+00	Pulse	0.30	3
Ni			2	74.130	ug/l	1.69	158,498.00	1.558E+00	Pulse	0.30	3
Cu			2	73.102	ug/l	0.96	429,468.63	4.220E+00	Pulse	0.30	3
Zn			2	72.681	ug/l	0.98	63,366.25	6.227E-01	Pulse	0.30	3
As			2	77.397	ug/l	0.64	32,172.86	3.162E-01	Pulse	1.00	3
Cd			2	73.301	ug/l	0.87	98,801.90	1.752E-01	Pulse	0.30	3
Sn			2	75.184	ug/l	0.80	195,123.90	3.460E-01	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	76.699	ug/l	0.36	11,494.09	7.051E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,160,979.98	0.45	91.6	Pulse	0.10	3
1	Sc		1,797,388.99	1.43	93.8	Pulse	0.10	3
1	Ge		344,782.72	1.82	96.7	Pulse	0.10	3
1	Ge		479,531.42	2.27	97.4	Pulse	0.10	3
1	Rh		2,442,044.91	1.54	97.0	Pulse	0.10	3
1	In		2,441,733.28	1.98	99.5	Pulse	0.10	3
1	Tb		3,711,028.90	2.62	101.1	Pulse	0.10	3
1	Ho		370,737.68	2.32	100.5	Pulse	0.10	3
1	Bi		2,316,795.64	2.75	100.1	Pulse	0.10	3
2	Sc		101,762.61	0.35	88.2	Pulse	0.30	3
2	Ge		57,364.71	1.13	93.6	Pulse	0.30	3
2	Ge		87,456.08	0.42	93.4	Pulse	0.30	3
2	Rh		1,596,196.25	0.12	93.5	Pulse	0.30	3
2	In		563,902.11	0.86	93.1	Pulse	0.30	3
2	Tb		2,142,392.90	0.38	94.1	Pulse	0.30	3
2	Ho		215,913.37	0.81	95.5	Pulse	0.30	3
2	Bi		1,489,983.59	0.73	96.1	Pulse	0.30	3
3	Sc		174,405.69	0.49	92.9	Pulse	0.30	3
3	Ge		108,041.73	0.53	92.0	Pulse	0.30	3
3	Ge		163,008.40	0.72	91.5	Pulse	0.30	3
3	Rh		1,839,245.69	1.06	94.9	Pulse	0.30	3
3	Tb		3,203,981.67	0.77	96.5	Pulse	0.30	3

Quantitation Report

File Name 067SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 15:02
Sample Name mp18803a-mb1 1
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.001	ug/l	130.61	10.67	9.386E-06	Pulse	0.25	3
B			1	3.997	ug/l	0.22	25,023.17	2.195E-02	Pulse	0.15	3
Ca			1	10.128	ug/l	10.80	20,770.15	1.202E-02	Pulse	0.10	3
Sr			1	0.037	ug/l	6.72	1,210.09	5.162E-04	Pulse	0.10	3
Mo			1	0.045	ug/l	41.30	303.35	1.285E-04	Pulse	0.10	3
Ag			1	0.013	ug/l	41.18	183.34	7.891E-05	Pulse	0.10	3
Sn			1	0.343	ug/l	5.35	1,983.53	8.480E-04	Pulse	0.10	3
Sb			1	0.093	ug/l	13.97	1,490.13	4.251E-04	Pulse	0.10	3
Ba			1	0.056	ug/l	23.13	263.34	7.539E-05	Pulse	0.10	3
Tl			1	0.142	ug/l	2.85	4,037.38	1.815E-03	Pulse	0.10	3
Pb			1	0.014	ug/l	6.50	356.69	1.603E-04	Pulse	0.10	3
Pb			1	0.005	ug/l	179.13	283.35	1.269E-04	Pulse	0.10	3
Pb			1	0.012	ug/l	31.28	1,330.08	5.969E-04	Pulse	0.10	3
Na			2	14.447	ug/l	4.23	28,647.61	2.828E-01	Pulse	0.30	3
Mg			2	1.255	ug/l	3.49	703.36	6.943E-03	Pulse	0.30	3
Al			2	13.498	ug/l	5.78	2,292.40	2.262E-02	Pulse	0.30	3
K			2	-1.431	ug/l	-57.35	7,540.67	7.444E-02	Pulse	0.30	3
Ca			2	15.806	ug/l	28.01	341.12	3.368E-03	Pulse	0.30	3
Ti			2	0.179	ug/l	32.51	22.22	2.193E-04	Pulse	0.30	3
V			2	-0.098	ug/l	-4.06	151.11	1.492E-03	Pulse	0.30	3
Cr			2	0.162	ug/l	11.82	1,213.39	1.198E-02	Pulse	0.30	3
Mn			2	0.072	ug/l	7.69	234.45	2.315E-03	Pulse	0.30	3
Fe			2	0.710	ug/l	8.61	10,104.29	9.974E-02	Pulse	0.30	3
Co			2	0.005	ug/l	76.42	52.19	5.170E-04	Pulse	0.30	3
Ni			2	-0.044	ug/l	-39.29	304.45	3.006E-03	Pulse	0.30	3
Cu			2	-0.427	ug/l	-7.62	2,714.70	2.681E-02	Pulse	0.30	3
Zn			2	-0.316	ug/l	-5.02	552.24	5.452E-03	Pulse	0.30	3
As			2	0.003	ug/l	384.93	8.67	8.580E-05	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.002	ug/l	208.62	4.41	7.843E-06	Pulse	0.30	3
Sn			2	0.295	ug/l	6.04	771.14	1.375E-03	Pulse	0.30	3
Se			3	0.006	ug/l	180.93	6.20	3.856E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,140,002.86	1.62	89.9	Pulse	0.10	3
1	Sc		1,729,042.79	2.75	90.2	Pulse	0.10	3
1	Ge		331,790.04	2.29	93.1	Pulse	0.10	3
1	Ge		462,260.28	2.58	93.9	Pulse	0.10	3
1	Rh		2,345,514.86	3.02	93.2	Pulse	0.10	3
1	In		2,334,986.15	3.65	95.1	Pulse	0.10	3
1	Tb		3,504,055.68	2.37	95.5	Pulse	0.10	3
1	Ho		351,268.51	2.53	95.2	Pulse	0.10	3
1	Bi		2,225,165.64	2.56	96.1	Pulse	0.10	3
2	Sc		101,310.72	0.95	87.8	Pulse	0.30	3
2	Ge		57,506.33	0.32	93.9	Pulse	0.30	3
2	Ge		86,439.66	0.17	92.4	Pulse	0.30	3
2	Rh		1,574,355.56	0.69	92.2	Pulse	0.30	3
2	In		560,886.61	0.48	92.6	Pulse	0.30	3
2	Tb		2,110,369.64	1.12	92.7	Pulse	0.30	3
2	Ho		211,285.75	0.61	93.5	Pulse	0.30	3
2	Bi		1,465,467.48	0.70	94.5	Pulse	0.30	3
3	Sc		173,675.15	0.48	92.5	Pulse	0.30	3
3	Ge		106,547.47	0.34	90.8	Pulse	0.30	3
3	Ge		160,472.98	1.30	90.1	Pulse	0.30	3
3	Rh		1,811,556.87	0.31	93.4	Pulse	0.30	3
3	Tb		3,121,773.70	1.31	94.1	Pulse	0.30	3

Quantitation Report

File Name 068SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 15:07
Sample Name mp18803a-mb2
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.001	ug/l	48.66	10.67	9.283E-06	Pulse	0.25	3
B			1	3.238	ug/l	5.14	22,159.22	1.930E-02	Pulse	0.15	3
Ca			1	-0.976	ug/l	-58.55	14,927.19	8.507E-03	Pulse	0.10	3
Sr			1	0.021	ug/l	12.91	780.05	3.269E-04	Pulse	0.10	3
Mo			1	0.022	ug/l	30.66	176.67	7.381E-05	Pulse	0.10	3
Ag			1	0.006	ug/l	32.14	96.67	4.043E-05	Pulse	0.10	3
Sn			1	0.306	ug/l	0.90	1,700.15	7.123E-04	Pulse	0.10	3
Sb			1	0.057	ug/l	13.60	1,163.41	3.253E-04	Pulse	0.10	3
Ba			1	0.042	ug/l	29.49	213.35	5.982E-05	Pulse	0.10	3
Tl			1	0.008	ug/l	40.91	273.35	1.222E-04	Pulse	0.10	3
Pb			1	-0.001	ug/l	-404.42	206.68	9.200E-05	Pulse	0.10	3
Pb			1	0.005	ug/l	71.32	293.35	1.306E-04	Pulse	0.10	3
Pb			1	0.004	ug/l	98.18	1,016.72	4.522E-04	Pulse	0.10	3
Na			2	15.363	ug/l	2.61	29,767.28	2.916E-01	Pulse	0.30	3
Mg			2	1.389	ug/l	9.37	770.03	7.547E-03	Pulse	0.30	3
Al			2	5.821	ug/l	12.75	1,133.39	1.111E-02	Pulse	0.30	3
K			2	-2.202	ug/l	-18.39	7,378.37	7.229E-02	Pulse	0.30	3
Ca			2	3.800	ug/l	57.47	154.45	1.515E-03	Pulse	0.30	3
Ti			2	0.038	ug/l	41.36	5.56	5.433E-05	Pulse	0.30	3
V			2	-0.101	ug/l	-6.54	143.33	1.404E-03	Pulse	0.30	3
Cr			2	0.443	ug/l	1.88	2,646.91	2.593E-02	Pulse	0.30	3
Mn			2	0.088	ug/l	10.55	278.90	2.732E-03	Pulse	0.30	3
Fe			2	2.906	ug/l	2.51	18,906.48	1.852E-01	Pulse	0.30	3
Co			2	0.004	ug/l	68.96	47.73	4.675E-04	Pulse	0.30	3
Ni			2	-0.051	ug/l	-48.56	292.23	2.860E-03	Pulse	0.30	3
Cu			2	-0.509	ug/l	-2.67	2,254.63	2.209E-02	Pulse	0.30	3
Zn			2	0.197	ug/l	36.25	1,000.04	9.796E-03	Pulse	0.30	3
As			2	0.006	ug/l	108.62	10.00	9.780E-05	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.002	ug/l	156.23	4.43	7.905E-06	Pulse	0.30	3
Sn			2	0.228	ug/l	6.34	597.80	1.067E-03	Pulse	0.30	3
Se			3	-0.012	ug/l	-34.68	3.60	2.231E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,148,015.68	0.96	90.6	Pulse	0.10	3
1	Sc		1,755,106.49	1.44	91.6	Pulse	0.10	3
1	Ge		333,424.65	1.59	93.5	Pulse	0.10	3
1	Ge		461,777.74	2.48	93.8	Pulse	0.10	3
1	Rh		2,387,817.99	1.82	94.9	Pulse	0.10	3
1	In		2,387,292.16	1.87	97.2	Pulse	0.10	3
1	Tb		3,575,806.82	1.96	97.4	Pulse	0.10	3
1	Ho		360,943.42	2.01	97.9	Pulse	0.10	3
1	Bi		2,249,751.11	2.47	97.2	Pulse	0.10	3
2	Sc		102,081.04	1.13	88.4	Pulse	0.30	3
2	Ge		56,373.58	1.39	92.0	Pulse	0.30	3
2	Ge		85,552.78	0.82	91.4	Pulse	0.30	3
2	Rh		1,571,961.99	0.54	92.1	Pulse	0.30	3
2	In		560,465.53	0.29	92.6	Pulse	0.30	3
2	Tb		2,122,824.92	0.24	93.3	Pulse	0.30	3
2	Ho		213,660.32	0.08	94.5	Pulse	0.30	3
2	Bi		1,467,417.30	0.85	94.7	Pulse	0.30	3
3	Sc		173,312.11	1.09	92.3	Pulse	0.30	3
3	Ge		107,784.29	0.54	91.8	Pulse	0.30	3
3	Ge		161,470.14	0.90	90.7	Pulse	0.30	3
3	Rh		1,824,886.59	0.50	94.1	Pulse	0.30	3
3	Tb		3,175,530.08	0.73	95.7	Pulse	0.30	3

Quantitation Report

File Name 069SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 15:12
Sample Name mp18803a-b2
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	70.285	ug/l	0.64	372,833.28	3.282E-01	Pulse	0.25	3
B			1	72.209	ug/l	0.50	295,236.39	2.599E-01	Pulse	0.15	3
Ca			1	1938.008	ug/l	1.18	1,095,257.40	6.218E-01	Pulse	0.10	3
Sr			1	76.092	ug/l	0.49	2,086,929.65	8.825E-01	Pulse	0.10	3
Mo			1	75.508	ug/l	0.48	416,898.99	1.763E-01	Pulse	0.10	3
Ag			1	74.294	ug/l	0.84	1,033,296.55	4.327E-01	Pulse	0.10	3
Sn			1	74.427	ug/l	1.14	650,238.17	2.723E-01	Pulse	0.10	3
Sb			1	77.864	ug/l	0.38	800,567.90	2.185E-01	Pulse	0.10	3
Ba			1	74.197	ug/l	1.35	308,401.07	8.416E-02	Pulse	0.10	3
Tl			1	74.691	ug/l	0.45	2,127,419.29	9.429E-01	Pulse	0.10	3
Pb			1	76.721	ug/l	0.30	770,538.48	3.415E-01	Pulse	0.10	3
Pb			1	76.392	ug/l	0.67	676,841.83	2.999E-01	Pulse	0.10	3
Pb			1	76.370	ug/l	0.19	3,088,577.16	1.369E+00	Pulse	0.10	3
Na			2	1801.194	ug/l	0.91	1,796,005.97	1.752E+01	Pulse	0.30	3
Mg			2	1851.784	ug/l	1.00	854,965.14	8.339E+00	Pulse	0.30	3
Al			2	1874.313	ug/l	1.55	288,474.47	2.814E+00	Pulse	0.30	3
K			2	1925.217	ug/l	1.15	560,019.58	5.462E+00	Pulse	0.30	3
Ca			2	2274.697	ug/l	0.32	36,081.32	3.519E-01	Pulse	0.30	3
Ti			2	72.531	ug/l	1.91	8,725.72	8.509E-02	Pulse	0.30	3
V			2	75.470	ug/l	1.07	287,872.48	2.808E+00	Pulse	0.30	3
Cr			2	73.463	ug/l	1.63	373,937.93	3.647E+00	Pulse	0.30	3
Mn			2	74.070	ug/l	0.56	198,880.97	1.940E+00	Pulse	0.30	3
Fe			2	2066.768	ug/l	2.44	8,253,283.28	8.050E+01	Analog	0.30	3
Co			2	73.677	ug/l	1.29	585,996.89	5.715E+00	Pulse	0.30	3
Ni			2	72.851	ug/l	1.99	156,939.31	1.531E+00	Pulse	0.30	3
Cu			2	72.209	ug/l	1.05	427,490.88	4.169E+00	Pulse	0.30	3
Zn			2	73.018	ug/l	1.35	64,139.11	6.255E-01	Pulse	0.30	3
As			2	76.563	ug/l	0.67	32,067.66	3.127E-01	Pulse	1.00	3
Cd			2	73.072	ug/l	0.63	97,741.16	1.747E-01	Pulse	0.30	3
Sn			2	75.871	ug/l	1.03	195,409.88	3.492E-01	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	191.264	ug/l	0.90	28,232.64	1.758E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,135,948.33	1.64	89.6	Pulse	0.10	3
1	Sc		1,761,321.17	2.51	91.9	Pulse	0.10	3
1	Ge		337,600.80	3.10	94.7	Pulse	0.10	3
1	Ge		470,287.43	3.21	95.5	Pulse	0.10	3
1	Rh		2,365,001.42	2.63	94.0	Pulse	0.10	3
1	In		2,388,423.04	3.55	97.3	Pulse	0.10	3
1	Tb		3,664,634.11	3.18	99.9	Pulse	0.10	3
1	Ho		365,800.23	3.39	99.2	Pulse	0.10	3
1	Bi		2,256,371.32	3.30	97.4	Pulse	0.10	3
2	Sc		102,539.20	1.10	88.8	Pulse	0.30	3
2	Ge		57,327.80	0.92	93.6	Pulse	0.30	3
2	Ge		86,083.17	1.26	92.0	Pulse	0.30	3
2	Rh		1,561,461.60	0.43	91.5	Pulse	0.30	3
2	In		559,613.28	0.60	92.4	Pulse	0.30	3
2	Tb		2,155,334.77	0.56	94.7	Pulse	0.30	3
2	Ho		216,335.23	0.37	95.7	Pulse	0.30	3
2	Bi		1,469,388.90	0.62	94.8	Pulse	0.30	3
3	Sc		172,256.89	0.61	91.8	Pulse	0.30	3
3	Ge		106,636.94	1.50	90.9	Pulse	0.30	3
3	Ge		160,612.76	0.78	90.2	Pulse	0.30	3
3	Rh		1,786,223.19	0.19	92.1	Pulse	0.30	3
3	Tb		3,163,414.25	0.32	95.3	Pulse	0.30	3

Quantitation Report

File Name	070SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 15:17
Sample Name	mp18803a-b3
Sample Type	Sample
Comment	
Prep Dilution	25.000
Auto Dilution	N/A
Total Dilution	25.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	1707.006	ug/l	1.87	363,727.18	3.189E-01	Pulse	0.25	3
B			1	1671.383	ug/l	2.15	275,163.30	2.412E-01	Pulse	0.15	3
Ca			1	24331.407	ug/l	0.27	554,538.17	3.167E-01	Pulse	0.10	3
Sr			1	1845.603	ug/l	0.50	2,011,486.53	8.562E-01	Pulse	0.10	3
Mo			1	1799.315	ug/l	0.59	394,822.00	1.680E-01	Pulse	0.10	3
Ag			1	219.041	ug/l	0.58	121,630.15	5.103E-02	Pulse	0.10	3
Sn			1	1494.506	ug/l	1.98	520,946.90	2.186E-01	Pulse	0.10	3
Sb			1	1967.409	ug/l	0.68	791,658.76	2.208E-01	Pulse	0.10	3
Ba			1	1816.011	ug/l	0.75	295,449.94	8.240E-02	Pulse	0.10	3
Tl			1	1800.536	ug/l	1.63	2,047,644.24	9.092E-01	Pulse	0.10	3
Pb			1	1848.727	ug/l	0.76	741,508.56	3.292E-01	Pulse	0.10	3
Pb			1	1840.415	ug/l	0.80	651,063.28	2.890E-01	Pulse	0.10	3
Pb			1	1838.540	ug/l	0.58	2,969,338.74	1.318E+00	Pulse	0.10	3
Na			2	22681.417	ug/l	0.61	921,595.31	8.894E+00	Pulse	0.30	3
Mg			2	22973.527	ug/l	0.76	428,841.90	4.139E+00	Pulse	0.30	3
Al			2	23537.529	ug/l	0.42	146,571.60	1.415E+00	Pulse	0.30	3
K			2	23945.645	ug/l	0.45	285,655.26	2.757E+00	Pulse	0.30	3
Ca			2	32063.288	ug/l	0.64	20,599.54	1.988E-01	Pulse	0.30	3
Ti			2	1769.686	ug/l	0.27	8,604.54	8.304E-02	Pulse	0.30	3
V			2	1833.421	ug/l	0.59	282,717.44	2.728E+00	Pulse	0.30	3
Cr			2	1776.209	ug/l	0.23	365,510.69	3.527E+00	Pulse	0.30	3
Mn			2	1811.315	ug/l	0.12	196,594.78	1.897E+00	Pulse	0.30	3
Fe			2	22613.456	ug/l	0.61	3,654,942.77	3.527E+01	Pulse	0.30	3
Co			2	1784.414	ug/l	0.71	573,729.14	5.537E+00	Pulse	0.30	3
Ni			2	1766.118	ug/l	1.34	153,814.89	1.484E+00	Pulse	0.30	3
Cu			2	1741.233	ug/l	0.92	416,899.30	4.023E+00	Pulse	0.30	3
Zn			2	1938.916	ug/l	0.74	68,796.72	6.639E-01	Pulse	0.30	3
As			2	1956.567	ug/l	0.47	33,126.08	3.197E-01	Pulse	1.00	3
Cd			2	1825.463	ug/l	0.55	99,564.63	1.745E-01	Pulse	0.30	3
Sn			2	1409.459	ug/l	2.84	148,002.10	2.595E-01	Pulse	0.30	3
Se			3	2154.368	ug/l	2.57	12,288.33	7.922E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,140,746.79	0.36	90.0	Pulse	0.10	3
1	Sc		1,751,131.43	1.76	91.4	Pulse	0.10	3
1	Ge		337,135.23	2.80	94.6	Pulse	0.10	3

Quantitation Report

1	Ge		469,877.57	2.01	95.4	Pulse	0.10	3
1	Rh		2,349,417.20	2.52	93.4	Pulse	0.10	3
1	In		2,383,312.81	2.37	97.1	Pulse	0.10	3
1	Tb		3,586,070.68	3.11	97.7	Pulse	0.10	3
1	Ho		361,143.24	2.93	97.9	Pulse	0.10	3
1	Bi		2,252,925.28	3.70	97.3	Pulse	0.10	3
2	Sc		103,618.86	0.49	89.8	Pulse	0.30	3
2	Ge		58,275.68	0.86	95.1	Pulse	0.30	3
2	Ge		88,188.70	0.10	94.2	Pulse	0.30	3
2	Rh		1,568,079.31	0.42	91.9	Pulse	0.30	3
2	In		570,482.16	1.14	94.2	Pulse	0.30	3
2	Tb		2,148,783.52	0.30	94.4	Pulse	0.30	3
2	Ho		215,943.67	1.38	95.5	Pulse	0.30	3
2	Bi		1,492,347.61	1.34	96.3	Pulse	0.30	3
3	Sc		167,685.65	0.45	89.3	Pulse	0.30	3
3	Ge		103,773.42	0.47	88.4	Pulse	0.30	3
3	Ge		155,151.32	1.36	87.1	Pulse	0.30	3
3	Rh		1,738,350.28	0.41	89.7	Pulse	0.30	3
3	Tb		3,071,541.48	0.74	92.5	Pulse	0.30	3

Quantitation Report

File Name 071SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 15:22
Sample Name mp18803a-s3
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	72.058	ug/l	0.97	455,082.44	3.365E-01	Pulse	0.25	3
B			1	320.068	ug/l	1.67	1,520,861.15	1.124E+00	Pulse	0.15	3
Ca			1	163399.752	ug/l	2.28	126,325,201.45	5.169E+01	Analog	0.10	3
Sr			1	5140.189	ug/l	2.45	144,419,037.85	5.961E+01	Analog	0.10	3
Mo			1	101.256	ug/l	0.63	572,971.98	2.364E-01	Pulse	0.10	3
Ag			1	65.620	ug/l	0.68	948,608.14	3.822E-01	Pulse	0.10	3
Sn			1	76.368	ug/l	0.53	693,551.27	2.794E-01	Pulse	0.10	3
Sb			1	78.807	ug/l	0.41	804,529.44	2.211E-01	Pulse	0.10	3
Ba			1	306.151	ug/l	1.25	1,263,244.43	3.472E-01	Pulse	0.10	3
Tl			1	77.134	ug/l	0.61	1,789,780.97	9.737E-01	Pulse	0.10	3
Pb			1	79.798	ug/l	0.86	652,713.51	3.552E-01	Pulse	0.10	3
Pb			1	79.658	ug/l	0.64	574,753.57	3.127E-01	Pulse	0.10	3
Pb			1	79.580	ug/l	0.56	2,621,420.55	1.426E+00	Pulse	0.10	3
Na			2	949986.985	ug/l	0.91	1,387,341,384.87	9.163E+03	Analog	0.30	3
Mg			2	22083.201	ug/l	1.50	15,052,952.74	9.943E+01	Analog	0.30	3
Al			2	1976.044	ug/l	1.35	449,115.62	2.966E+00	Pulse	0.30	3
K			2	66026.251	ug/l	0.41	27,968,078.89	1.847E+02	Analog	0.30	3
Ca			2	171308.894	ug/l	0.70	4,002,146.65	2.643E+01	Pulse	0.30	3
Ti			2	74.456	ug/l	2.52	13,223.34	8.734E-02	Pulse	0.30	3
V			2	75.911	ug/l	1.54	427,566.29	2.824E+00	Pulse	0.30	3
Cr			2	79.064	ug/l	1.58	594,248.33	3.925E+00	Pulse	0.30	3
Mn			2	121.273	ug/l	1.19	480,794.58	3.175E+00	Pulse	0.30	3
Fe			2	2046.511	ug/l	2.62	12,068,125.63	7.972E+01	Analog	0.30	3
Co			2	59.391	ug/l	0.96	697,563.90	4.607E+00	Pulse	0.30	3
Ni			2	58.742	ug/l	1.27	186,986.10	1.235E+00	Pulse	0.30	3
Cu			2	68.661	ug/l	1.62	600,600.27	3.967E+00	Pulse	0.30	3
Zn			2	50.686	ug/l	1.20	66,124.72	4.367E-01	Pulse	0.30	3
As			2	62.674	ug/l	2.57	38,761.72	2.560E-01	Pulse	1.00	3
Cd			2	59.244	ug/l	1.14	88,280.17	1.416E-01	Pulse	0.30	3
Sn			2	79.340	ug/l	0.79	227,660.62	3.652E-01	Pulse	0.30	3
Se			3	159.501	ug/l	1.07	24,064.34	1.466E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,352,282.46	1.41	106.7	Pulse	0.10	3
1	Sc		2,444,673.04	2.90	127.5	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Ge		403,165.83	4.05	113.1	Pulse	0.10	3
1	Ge		554,709.91	3.65	112.6	Pulse	0.10	3
1	Rh		2,423,987.41	3.19	96.3	Pulse	0.10	3
1	In		2,481,779.28	3.57	101.1	Pulse	0.10	3
1	Tb		3,639,095.05	3.64	99.2	Pulse	0.10	3
1	Ho		364,094.72	3.63	98.7	Pulse	0.10	3
1	Bi		1,838,025.76	3.66	79.4	Pulse	0.10	3
2	Sc		151,414.15	1.05	131.2	Pulse	0.30	3
2	Ge		71,928.35	0.69	117.4	Pulse	0.30	3
2	Ge		108,016.94	0.99	115.4	Pulse	0.30	3
2	Rh		1,594,599.87	0.95	93.4	Pulse	0.30	3
2	In		623,458.97	1.51	103.0	Pulse	0.30	3
2	Tb		2,207,878.32	0.93	97.0	Pulse	0.30	3
2	Ho		221,012.01	0.46	97.8	Pulse	0.30	3
2	Bi		1,226,337.45	1.36	79.1	Pulse	0.30	3
3	Sc		200,857.61	0.65	107.0	Pulse	0.30	3
3	Ge		108,522.46	0.71	92.5	Pulse	0.30	3
3	Ge		164,159.77	1.12	92.2	Pulse	0.30	3
3	Rh		1,555,934.18	0.56	80.3	Pulse	0.30	3
3	Tb		2,804,713.08	0.48	84.5	Pulse	0.30	3

Quantitation Report

File Name 072SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 15:27
Sample Name mp18803a-s4
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	74.889	ug/l	0.20	453,758.07	3.497E-01	Pulse	0.25	3
B			1	330.634	ug/l	0.13	1,506,896.78	1.161E+00	Pulse	0.15	3
Ca			1	166914.594	ug/l	0.83	125,504,208.13	5.281E+01	Analog	0.10	3
Sr			1	5247.962	ug/l	2.33	144,627,871.18	6.086E+01	Analog	0.10	3
Mo			1	102.896	ug/l	0.21	571,190.19	2.402E-01	Pulse	0.10	3
Ag			1	67.263	ug/l	0.70	950,734.10	3.918E-01	Pulse	0.10	3
Sn			1	74.990	ug/l	0.29	665,866.32	2.744E-01	Pulse	0.10	3
Sb			1	80.494	ug/l	0.52	805,056.76	2.258E-01	Pulse	0.10	3
Ba			1	314.443	ug/l	0.20	1,271,547.69	3.566E-01	Pulse	0.10	3
Tl			1	78.594	ug/l	0.48	1,783,878.47	9.922E-01	Pulse	0.10	3
Pb			1	82.063	ug/l	0.40	656,840.29	3.653E-01	Pulse	0.10	3
Pb			1	81.673	ug/l	0.30	576,619.09	3.206E-01	Pulse	0.10	3
Pb			1	81.713	ug/l	0.27	2,633,570.41	1.465E+00	Pulse	0.10	3
Na			2	967705.834	ug/l	0.55	1,378,217,580.79	9.334E+03	Analog	0.30	3
Mg			2	22656.945	ug/l	1.37	15,062,738.84	1.020E+02	Analog	0.30	3
Al			2	2055.124	ug/l	0.64	455,494.71	3.085E+00	Pulse	0.30	3
K			2	67948.205	ug/l	0.89	28,066,408.89	1.901E+02	Analog	0.30	3
Ca			2	175176.164	ug/l	1.14	3,990,756.92	2.703E+01	Pulse	0.30	3
Ti			2	76.420	ug/l	2.96	13,236.50	8.965E-02	Pulse	0.30	3
V			2	78.551	ug/l	1.12	431,454.91	2.922E+00	Pulse	0.30	3
Cr			2	80.859	ug/l	1.88	592,686.68	4.014E+00	Pulse	0.30	3
Mn			2	125.409	ug/l	1.05	484,855.59	3.284E+00	Pulse	0.30	3
Fe			2	2108.313	ug/l	0.28	12,125,575.35	8.212E+01	Analog	0.30	3
Co			2	61.013	ug/l	0.38	698,860.74	4.733E+00	Pulse	0.30	3
Ni			2	59.592	ug/l	0.99	184,986.25	1.253E+00	Pulse	0.30	3
Cu			2	69.555	ug/l	0.36	593,273.73	4.018E+00	Pulse	0.30	3
Zn			2	52.242	ug/l	1.49	66,426.90	4.499E-01	Pulse	0.30	3
As			2	63.229	ug/l	1.55	38,139.95	2.583E-01	Pulse	1.00	3
Cd			2	61.046	ug/l	0.25	89,478.46	1.459E-01	Pulse	0.30	3
Sn			2	77.197	ug/l	0.83	217,897.98	3.553E-01	Pulse	0.30	3
Se			3	163.914	ug/l	0.58	24,606.42	1.507E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,297,511.47	2.38	102.4	Pulse	0.10	3
1	Sc		2,377,021.21	2.93	124.0	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Ge		388,623.78	2.27	109.0	Pulse	0.10	3
1	Ge		541,056.84	2.56	109.9	Pulse	0.10	3
1	Rh		2,377,826.48	3.62	94.5	Pulse	0.10	3
1	In		2,426,619.99	3.45	98.9	Pulse	0.10	3
1	Tb		3,565,324.95	3.58	97.1	Pulse	0.10	3
1	Ho		354,344.03	3.29	96.1	Pulse	0.10	3
1	Bi		1,798,158.20	3.62	77.7	Pulse	0.10	3
2	Sc		147,656.98	0.49	127.9	Pulse	0.30	3
2	Ge		69,652.06	2.71	113.7	Pulse	0.30	3
2	Ge		105,035.41	1.16	112.2	Pulse	0.30	3
2	Rh		1,564,171.92	0.67	91.6	Pulse	0.30	3
2	In		613,238.76	1.03	101.3	Pulse	0.30	3
2	Tb		2,179,505.47	1.55	95.8	Pulse	0.30	3
2	Ho		218,726.47	1.43	96.8	Pulse	0.30	3
2	Bi		1,209,618.01	1.28	78.0	Pulse	0.30	3
3	Sc		202,998.46	0.55	108.1	Pulse	0.30	3
3	Ge		108,057.09	0.78	92.1	Pulse	0.30	3
3	Ge		163,328.19	0.02	91.7	Pulse	0.30	3
3	Rh		1,541,086.78	0.46	79.5	Pulse	0.30	3
3	Tb		2,780,613.01	0.33	83.8	Pulse	0.30	3

Quantitation Report

File Name 073_CCV.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 15:32
Sample Name CCVA 5
Sample Type CCV
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	50.666	ug/l	0.85	325,162.90	2.366E-01	Pulse	0.25	3
B			1	108.452	ug/l	0.68	530,881.52	3.863E-01	Pulse	0.15	3
Ca			1	4916.430	ug/l	0.24	3,476,570.99	1.564E+00	Pulse	0.10	3
Sr			1	54.307	ug/l	0.51	1,715,651.95	6.298E-01	Pulse	0.10	3
Mo			1	51.409	ug/l	0.77	326,941.07	1.200E-01	Pulse	0.10	3
Ag			1	49.730	ug/l	1.00	778,483.48	2.896E-01	Pulse	0.10	3
Sn			1	50.559	ug/l	0.81	496,757.23	1.849E-01	Pulse	0.10	3
Sb			1	55.081	ug/l	0.32	596,913.11	1.546E-01	Pulse	0.10	3
Ba			1	54.867	ug/l	0.26	240,306.37	6.224E-02	Pulse	0.10	3
Tl			1	52.164	ug/l	0.98	1,492,577.53	6.585E-01	Pulse	0.10	3
Pb			1	51.643	ug/l	0.42	520,998.78	2.299E-01	Pulse	0.10	3
Pb			1	51.453	ug/l	0.48	457,897.10	2.020E-01	Pulse	0.10	3
Pb			1	51.433	ug/l	0.61	2,089,426.00	9.220E-01	Pulse	0.10	3
Na			2	5096.258	ug/l	0.73	6,317,045.86	4.930E+01	Analog	0.30	3
Mg			2	4705.142	ug/l	0.42	2,714,450.93	2.119E+01	Pulse	0.30	3
Al			2	4958.994	ug/l	0.47	953,317.95	7.440E+00	Pulse	0.30	3
K			2	5066.046	ug/l	0.48	1,825,161.66	1.424E+01	Pulse	0.30	3
Ca			2	5290.407	ug/l	0.40	104,702.38	8.172E-01	Pulse	0.30	3
Ti			2	49.349	ug/l	2.38	7,419.53	5.789E-02	Pulse	0.30	3
V			2	51.106	ug/l	0.37	243,831.61	1.903E+00	Pulse	0.30	3
Cr			2	49.115	ug/l	1.06	312,581.85	2.440E+00	Pulse	0.30	3
Mn			2	50.336	ug/l	1.60	168,897.62	1.318E+00	Pulse	0.30	3
Fe			2	5123.960	ug/l	0.92	25,558,620.65	1.995E+02	Analog	0.30	3
Co			2	48.497	ug/l	1.28	482,010.07	3.762E+00	Pulse	0.30	3
Ni			2	47.418	ug/l	1.35	127,827.43	9.977E-01	Pulse	0.30	3
Cu			2	46.584	ug/l	1.00	346,943.91	2.708E+00	Pulse	0.30	3
Zn			2	47.280	ug/l	1.81	52,260.68	4.079E-01	Pulse	0.30	3
As			2	49.806	ug/l	1.04	26,070.04	2.035E-01	Pulse	1.00	3
Cd			2	49.788	ug/l	0.38	76,586.34	1.190E-01	Pulse	0.30	3
Sn			2	51.820	ug/l	0.23	153,490.05	2.385E-01	Pulse	0.30	3
Se			3	205.255	ug/l	0.73	32,829.17	1.886E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,374,213.82	1.27	108.4	Pulse	0.10	3
1	Sc		2,222,872.05	1.86	116.0	Pulse	0.10	3
1	Ge		404,053.81	2.28	113.3	Pulse	0.10	3

Quantitation Report

1	Ge		562,125.03	2.82	114.1	Pulse	0.10	3
1	Rh		2,723,731.32	2.48	108.2	Pulse	0.10	3
1	In		2,687,371.54	2.93	109.5	Pulse	0.10	3
1	Tb		3,861,251.19	2.80	105.2	Pulse	0.10	3
1	Ho		383,292.96	3.56	103.9	Pulse	0.10	3
1	Bi		2,266,414.71	3.15	97.9	Pulse	0.10	3
2	Sc		128,134.03	1.22	111.0	Pulse	0.30	3
2	Ge		69,020.44	0.60	112.7	Pulse	0.30	3
2	Ge		103,887.90	1.03	111.0	Pulse	0.30	3
2	Rh		1,756,115.14	0.34	102.9	Pulse	0.30	3
2	In		643,545.03	0.89	106.3	Pulse	0.30	3
2	Tb		2,341,505.60	0.78	102.9	Pulse	0.30	3
2	Ho		234,729.44	0.91	103.8	Pulse	0.30	3
2	Bi		1,532,083.31	0.29	98.8	Pulse	0.30	3
3	Sc		190,022.16	0.39	101.2	Pulse	0.30	3
3	Ge		114,487.10	0.91	97.5	Pulse	0.30	3
3	Ge		174,025.56	0.31	97.7	Pulse	0.30	3
3	Rh		1,849,000.41	0.63	95.4	Pulse	0.30	3
3	Tb		3,220,462.23	1.43	97.0	Pulse	0.30	3

Quantitation Report

File Name	074_CCB.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 15:38
Sample Name	CCB
Sample Type	CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.001	ug/l	88.41	10.67	1.028E-05	Pulse	0.25	3
B			1	6.939	ug/l	3.81	33,397.59	3.221E-02	Pulse	0.15	3
Ca			1	-4.574	ug/l	-24.94	11,948.10	7.369E-03	Pulse	0.10	3
Sr			1	0.026	ug/l	14.94	853.39	3.846E-04	Pulse	0.10	3
Mo			1	0.104	ug/l	17.34	590.04	2.662E-04	Pulse	0.10	3
Ag			1	0.012	ug/l	18.03	156.67	7.140E-05	Pulse	0.10	3
Sn			1	0.569	ug/l	4.49	3,683.88	1.676E-03	Pulse	0.10	3
Sb			1	0.116	ug/l	15.91	1,626.81	4.899E-04	Pulse	0.10	3
Ba			1	0.021	ug/l	54.20	116.67	3.521E-05	Pulse	0.10	3
Tl			1	0.009	ug/l	4.65	276.68	1.333E-04	Pulse	0.10	3
Pb			1	0.001	ug/l	709.14	213.34	1.032E-04	Pulse	0.10	3
Pb			1	-0.003	ug/l	-190.17	203.34	9.811E-05	Pulse	0.10	3
Pb			1	0.002	ug/l	187.43	883.38	4.263E-04	Pulse	0.10	3
Na			2	66.239	ug/l	2.77	77,284.55	7.823E-01	Pulse	0.30	3
Mg			2	0.193	ug/l	78.11	213.34	2.163E-03	Pulse	0.30	3
Al			2	-0.042	ug/l	-864.33	228.90	2.317E-03	Pulse	0.30	3
K			2	0.763	ug/l	68.47	7,959.74	8.058E-02	Pulse	0.30	3
Ca			2	0.172	ug/l	278.34	94.45	9.558E-04	Pulse	0.30	3
Ti			2	0.116	ug/l	13.82	14.44	1.461E-04	Pulse	0.30	3
V			2	-0.115	ug/l	-3.81	86.67	8.781E-04	Pulse	0.30	3
Cr			2	0.016	ug/l	85.29	470.01	4.760E-03	Pulse	0.30	3
Mn			2	0.014	ug/l	36.86	78.89	7.977E-04	Pulse	0.30	3
Fe			2	0.896	ug/l	4.80	10,566.82	1.070E-01	Pulse	0.30	3
Co			2	0.001	ug/l	112.37	23.30	2.364E-04	Pulse	0.30	3
Ni			2	-0.054	ug/l	-28.33	275.56	2.790E-03	Pulse	0.30	3
Cu			2	-0.642	ug/l	-0.74	1,435.08	1.453E-02	Pulse	0.30	3
Zn			2	-0.597	ug/l	-4.35	304.45	3.081E-03	Pulse	0.30	3
As			2	0.005	ug/l	104.97	9.33	9.436E-05	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.002	ug/l	208.63	4.37	8.005E-06	Pulse	0.30	3
Sn			2	0.669	ug/l	6.40	1,696.78	3.092E-03	Pulse	0.30	3
Se			3	0.047	ug/l	50.05	11.47	7.676E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,036,856.92	0.79	81.8	Pulse	0.10	3
1	Sc		1,622,329.56	1.63	84.6	Pulse	0.10	3
1	Ge		310,469.44	2.41	87.1	Pulse	0.10	3
1	Ge		430,934.29	1.32	87.5	Pulse	0.10	3
1	Rh		2,219,194.65	1.22	88.2	Pulse	0.10	3
1	In		2,196,705.84	1.01	89.5	Pulse	0.10	3
1	Tb		3,318,499.74	1.11	90.4	Pulse	0.10	3
1	Ho		330,907.20	1.00	89.7	Pulse	0.10	3
1	Bi		2,076,130.18	1.69	89.7	Pulse	0.10	3
2	Sc		98,794.74	0.86	85.6	Pulse	0.30	3
2	Ge		54,764.70	1.10	89.4	Pulse	0.30	3
2	Ge		83,357.04	0.61	89.1	Pulse	0.30	3
2	Rh		1,502,436.75	0.93	88.0	Pulse	0.30	3
2	In		548,766.49	0.96	90.6	Pulse	0.30	3
2	Tb		2,038,852.07	0.89	89.6	Pulse	0.30	3
2	Ho		203,858.49	0.47	90.2	Pulse	0.30	3
2	Bi		1,401,977.24	0.45	90.4	Pulse	0.30	3
3	Sc		162,031.68	0.47	86.3	Pulse	0.30	3
3	Ge		99,189.47	0.75	84.5	Pulse	0.30	3
3	Ge		149,659.75	1.15	84.0	Pulse	0.30	3
3	Rh		1,686,223.27	0.56	87.0	Pulse	0.30	3
3	Tb		2,952,471.06	0.60	89.0	Pulse	0.30	3

Quantitation Report

File Name 075SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 15:43
Sample Name jc99883-1 1
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.007	ug/l	3.85	46.67	3.915E-05	Pulse	0.25	3
B			1	256.991	ug/l	0.30	1,077,853.78	9.045E-01	Pulse	0.15	3
Ca			1	171787.117	ug/l	2.20	117,504,108.25	5.435E+01	Analog	0.10	3
Sr			1	5321.775	ug/l	1.92	136,535,074.63	6.171E+01	Analog	0.10	3
Mo			1	15.374	ug/l	0.59	79,488.13	3.591E-02	Pulse	0.10	3
Ag			1	0.018	ug/l	48.15	256.68	1.112E-04	Pulse	0.10	3
Sn			1	0.588	ug/l	6.00	3,993.98	1.743E-03	Pulse	0.10	3
Sb			1	1.105	ug/l	2.60	11,037.61	3.261E-03	Pulse	0.10	3
Ba			1	239.633	ug/l	0.53	920,301.39	2.718E-01	Pulse	0.10	3
Tl			1	0.041	ug/l	13.09	933.40	5.417E-04	Pulse	0.10	3
Pb			1	2.199	ug/l	1.02	16,983.74	9.883E-03	Pulse	0.10	3
Pb			1	2.054	ug/l	2.84	14,033.76	8.170E-03	Pulse	0.10	3
Pb			1	2.120	ug/l	0.58	65,939.62	3.837E-02	Pulse	0.10	3
Na			2	961844.709	ug/l	1.59	1,342,678,702.20	9.277E+03	Analog	0.30	3
Mg			2	20827.587	ug/l	1.89	13,568,771.13	9.377E+01	Analog	0.30	3
Al			2	209.992	ug/l	1.22	45,926.68	3.173E-01	Pulse	0.30	3
K			2	66303.487	ug/l	1.14	26,841,253.38	1.855E+02	Analog	0.30	3
Ca			2	171485.875	ug/l	1.16	3,829,150.82	2.646E+01	Pulse	0.30	3
Ti			2	2.440	ug/l	18.47	414.46	2.872E-03	Pulse	0.30	3
V			2	5.474	ug/l	1.17	30,159.74	2.084E-01	Pulse	0.30	3
Cr			2	15.967	ug/l	1.04	115,166.27	7.958E-01	Pulse	0.30	3
Mn			2	60.156	ug/l	0.33	228,001.69	1.575E+00	Pulse	0.30	3
Fe			2	363.904	ug/l	1.04	2,059,811.03	1.423E+01	Pulse	0.30	3
Co			2	0.994	ug/l	1.27	11,183.90	7.727E-02	Pulse	0.30	3
Ni			2	3.611	ug/l	1.07	11,523.05	7.961E-02	Pulse	0.30	3
Cu			2	14.757	ug/l	1.40	129,186.42	8.928E-01	Pulse	0.30	3
Zn			2	2.276	ug/l	2.57	3,960.52	2.737E-02	Pulse	0.30	3
As			2	1.416	ug/l	4.65	847.69	5.858E-03	Pulse	1.00	3
Cd			2	0.014	ug/l	57.02	23.28	3.804E-05	Pulse	0.30	3
Sn			2	0.609	ug/l	12.92	1,740.11	2.820E-03	Pulse	0.30	3
Se			3	1.256	ug/l	17.34	169.13	1.188E-03	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,191,678.98	1.73	94.0	Pulse	0.10	3
1	Sc		2,162,832.78	2.42	112.8	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Ge		360,067.29	3.00	101.0	Pulse	0.10	3
1	Ge		497,423.99	3.22	101.0	Pulse	0.10	3
1	Rh		2,213,241.17	2.93	87.9	Pulse	0.10	3
1	In		2,287,678.22	2.87	93.2	Pulse	0.10	3
1	Tb		3,385,960.78	2.79	92.3	Pulse	0.10	3
1	Ho		335,565.83	2.93	91.0	Pulse	0.10	3
1	Bi		1,718,788.21	3.30	74.2	Pulse	0.10	3
2	Sc		144,733.92	2.35	125.4	Pulse	0.30	3
2	Ge		67,966.27	2.66	110.9	Pulse	0.30	3
2	Ge		101,567.81	1.88	108.5	Pulse	0.30	3
2	Rh		1,541,963.34	2.39	90.3	Pulse	0.30	3
2	In		616,909.61	3.10	101.9	Pulse	0.30	3
2	Tb		2,167,908.52	3.11	95.3	Pulse	0.30	3
2	Ho		217,311.58	2.76	96.1	Pulse	0.30	3
2	Bi		1,200,035.02	2.78	77.4	Pulse	0.30	3
3	Sc		175,446.81	13.97	93.5	Pulse	0.30	3
3	Ge		95,950.56	11.95	81.7	Pulse	0.30	3
3	Ge		144,364.65	12.34	81.1	Pulse	0.30	3
3	Rh		1,350,574.15	14.52	69.7	Pulse	0.30	3
3	Tb		2,429,316.64	14.53	73.2	Pulse	0.30	3

Quantitation Report

File Name 076SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 15:53
Sample Name jc99744-4
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.010	ug/l	3.59	49.33	5.021E-05	Pulse	0.25	3
B			1	356.802	ug/l	1.20	1,230,500.58	1.253E+00	Pulse	0.15	3
Ca			1	76882.487	ug/l	2.04	39,406,428.58	2.433E+01	Analog	0.10	3
Sr			1	566.012	ug/l	3.00	13,423,093.13	6.564E+00	Analog	0.10	3
Mo			1	3.728	ug/l	1.93	17,850.53	8.727E-03	Pulse	0.10	3
Ag			1	0.009	ug/l	57.34	123.34	5.863E-05	Pulse	0.10	3
Sn			1	0.340	ug/l	10.50	1,763.49	8.367E-04	Pulse	0.10	3
Sb			1	0.388	ug/l	1.08	4,043.99	1.251E-03	Pulse	0.10	3
Ba			1	81.484	ug/l	0.35	298,746.21	9.242E-02	Pulse	0.10	3
Tl			1	0.005	ug/l	29.77	150.01	7.901E-05	Pulse	0.10	3
Pb			1	0.441	ug/l	3.01	3,900.66	2.061E-03	Pulse	0.10	3
Pb			1	0.403	ug/l	14.42	3,197.12	1.691E-03	Pulse	0.10	3
Pb			1	0.428	ug/l	5.79	15,246.99	8.057E-03	Pulse	0.10	3
Na			2	46324.948	ug/l	1.54	44,490,954.90	4.470E+02	Analog	0.30	3
Mg			2	11362.442	ug/l	1.39	5,092,582.71	5.116E+01	Analog	0.30	3
Al			2	45.175	ug/l	9.91	6,977.79	7.014E-02	Pulse	0.30	3
K			2	4920.559	ug/l	0.12	1,377,449.29	1.384E+01	Pulse	0.30	3
Ca			2	76087.145	ug/l	0.62	1,168,584.74	1.174E+01	Pulse	0.30	3
Ti			2	1.144	ug/l	27.56	134.45	1.351E-03	Pulse	0.30	3
V			2	0.446	ug/l	2.90	2,160.17	2.170E-02	Pulse	0.30	3
Cr			2	0.905	ug/l	1.58	4,859.65	4.882E-02	Pulse	0.30	3
Mn			2	623.394	ug/l	0.46	1,624,640.98	1.632E+01	Pulse	0.30	3
Fe			2	1050.142	ug/l	0.78	4,075,207.89	4.094E+01	Pulse	0.30	3
Co			2	0.742	ug/l	4.05	5,743.39	5.771E-02	Pulse	0.30	3
Ni			2	4.343	ug/l	1.79	9,451.69	9.496E-02	Pulse	0.30	3
Cu			2	20.749	ug/l	0.39	122,881.29	1.234E+00	Pulse	0.30	3
Zn			2	116.368	ug/l	0.18	98,755.62	9.921E-01	Pulse	0.30	3
As			2	0.938	ug/l	4.99	389.01	3.907E-03	Pulse	1.00	3
Cd			2	0.092	ug/l	13.18	121.89	2.238E-04	Pulse	0.30	3
Sn			2	0.300	ug/l	12.98	758.92	1.394E-03	Pulse	0.30	3
Se			3	0.434	ug/l	3.45	63.47	4.322E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		982,399.50	2.05	77.5	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,620,359.82	2.58	84.5	Pulse	0.10	3
1	Ge		299,123.54	2.27	83.9	Pulse	0.10	3
1	Ge		414,556.61	2.89	84.2	Pulse	0.10	3
1	Rh		2,046,045.02	2.52	81.3	Pulse	0.10	3
1	In		2,102,286.73	3.30	85.6	Pulse	0.10	3
1	Tb		3,232,326.20	2.83	88.1	Pulse	0.10	3
1	Ho		321,370.90	3.57	87.1	Pulse	0.10	3
1	Bi		1,893,454.81	3.31	81.8	Pulse	0.10	3
2	Sc		99,542.42	0.93	86.2	Pulse	0.30	3
2	Ge		55,067.96	1.35	89.9	Pulse	0.30	3
2	Ge		82,335.25	1.38	88.0	Pulse	0.30	3
2	Rh		1,409,972.79	1.12	82.6	Pulse	0.30	3
2	In		544,007.19	1.62	89.9	Pulse	0.30	3
2	Tb		2,068,127.28	1.26	90.9	Pulse	0.30	3
2	Ho		207,360.00	1.45	91.7	Pulse	0.30	3
2	Bi		1,332,347.41	1.47	86.0	Pulse	0.30	3
3	Sc		161,480.64	0.14	86.0	Pulse	0.30	3
3	Ge		97,051.41	1.30	82.7	Pulse	0.30	3
3	Ge		146,819.65	0.59	82.5	Pulse	0.30	3
3	Rh		1,551,890.88	0.51	80.0	Pulse	0.30	3
3	Tb		2,893,664.40	0.59	87.2	Pulse	0.30	3

Quantitation Report

File Name 077SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 15:58
Sample Name jc99883-2
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.010	ug/l	38.68	61.33	5.254E-05	Pulse	0.25	3
B			1	621.427	ug/l	1.30	2,546,828.30	2.176E+00	Pulse	0.15	3
Ca			1	135188.106	ug/l	1.76	92,079,355.29	4.277E+01	Analog	0.10	3
Sr			1	1519.400	ug/l	1.12	39,119,001.91	1.762E+01	Analog	0.10	3
Mo			1	0.948	ug/l	4.16	4,967.63	2.237E-03	Pulse	0.10	3
Ag			1	0.011	ug/l	52.55	156.67	6.971E-05	Pulse	0.10	3
Sn			1	0.496	ug/l	3.82	3,190.45	1.409E-03	Pulse	0.10	3
Sb			1	0.224	ug/l	11.32	2,693.67	7.931E-04	Pulse	0.10	3
Ba			1	345.958	ug/l	0.23	1,333,495.19	3.924E-01	Pulse	0.10	3
Tl			1	0.007	ug/l	48.56	190.01	1.092E-04	Pulse	0.10	3
Pb			1	0.999	ug/l	3.69	7,945.78	4.545E-03	Pulse	0.10	3
Pb			1	0.942	ug/l	6.07	6,658.40	3.805E-03	Pulse	0.10	3
Pb			1	0.968	ug/l	0.95	31,013.78	1.772E-02	Pulse	0.10	3
Na			2	774227.331	ug/l	1.02	1,024,051,479.31	7.468E+03	Analog	0.30	3
Mg			2	63717.287	ug/l	2.65	39,345,688.44	2.869E+02	Analog	0.30	3
Al			2	38.638	ug/l	1.57	8,273.58	6.033E-02	Pulse	0.30	3
K			2	31896.113	ug/l	0.80	12,241,816.46	8.927E+01	Analog	0.30	3
Ca			2	135814.879	ug/l	1.23	2,873,654.40	2.096E+01	Pulse	0.30	3
Ti			2	2.370	ug/l	7.38	382.23	2.789E-03	Pulse	0.30	3
V			2	1.061	ug/l	3.04	6,107.95	4.455E-02	Pulse	0.30	3
Cr			2	1.331	ug/l	1.93	9,595.06	6.996E-02	Pulse	0.30	3
Mn			2	831.014	ug/l	1.38	2,983,548.08	2.176E+01	Pulse	0.30	3
Fe			2	3243.912	ug/l	0.90	17,321,846.53	1.263E+02	Analog	0.30	3
Co			2	0.332	ug/l	4.47	3,545.88	2.586E-02	Pulse	0.30	3
Ni			2	1.187	ug/l	2.51	3,949.41	2.880E-02	Pulse	0.30	3
Cu			2	0.027	ug/l	82.02	7,227.22	5.270E-02	Pulse	0.30	3
Zn			2	9.247	ug/l	2.24	11,837.73	8.632E-02	Pulse	0.30	3
As			2	1.432	ug/l	1.04	812.35	5.924E-03	Pulse	1.00	3
Cd			2	0.013	ug/l	54.53	20.71	3.457E-05	Pulse	0.30	3
Sn			2	0.438	ug/l	6.32	1,214.51	2.033E-03	Pulse	0.30	3
Se			3	0.178	ug/l	4.26	31.73	1.973E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,170,427.61	1.67	92.3	Pulse	0.10	3
1	Sc		2,153,633.14	3.42	112.4	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Ge		361,568.46	3.36	101.4	Pulse	0.10	3
1	Ge		495,805.02	3.25	100.7	Pulse	0.10	3
1	Rh		2,220,425.70	2.29	88.2	Pulse	0.10	3
1	In		2,265,766.93	3.16	92.3	Pulse	0.10	3
1	Tb		3,398,624.64	2.91	92.6	Pulse	0.10	3
1	Ho		339,215.70	4.15	92.0	Pulse	0.10	3
1	Bi		1,749,919.24	3.74	75.6	Pulse	0.10	3
2	Sc		137,122.87	1.29	118.8	Pulse	0.30	3
2	Ge		67,310.14	1.67	109.9	Pulse	0.30	3
2	Ge		100,305.90	1.68	107.2	Pulse	0.30	3
2	Rh		1,513,709.56	1.85	88.7	Pulse	0.30	3
2	In		597,078.56	2.26	98.6	Pulse	0.30	3
2	Tb		2,135,962.97	1.59	93.9	Pulse	0.30	3
2	Ho		215,502.03	2.63	95.3	Pulse	0.30	3
2	Bi		1,207,224.46	2.64	77.9	Pulse	0.30	3
3	Sc		194,935.72	1.34	103.8	Pulse	0.30	3
3	Ge		107,409.74	1.56	91.5	Pulse	0.30	3
3	Ge		160,842.06	0.34	90.3	Pulse	0.30	3
3	Rh		1,526,304.07	1.05	78.7	Pulse	0.30	3
3	Tb		2,754,513.15	0.74	83.0	Pulse	0.30	3

Quantitation Report

File Name 078SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 16:03
Sample Name jc99883-3
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.039	ug/l	7.64	232.01	1.854E-04	Pulse	0.25	3
B			1	597.593	ug/l	0.61	2,618,754.83	2.093E+00	Pulse	0.15	3
Ca			1	156734.960	ug/l	2.12	115,691,804.94	4.959E+01	Analog	0.10	3
Sr			1	1366.320	ug/l	2.84	37,435,318.61	1.584E+01	Analog	0.10	3
Mo			1	0.884	ug/l	8.16	4,930.93	2.086E-03	Pulse	0.10	3
Ag			1	0.013	ug/l	15.35	186.68	7.718E-05	Pulse	0.10	3
Sn			1	0.872	ug/l	2.69	6,755.02	2.785E-03	Pulse	0.10	3
Sb			1	0.869	ug/l	2.04	9,236.41	2.600E-03	Pulse	0.10	3
Ba			1	254.878	ug/l	1.30	1,027,249.86	2.891E-01	Pulse	0.10	3
Tl			1	0.024	ug/l	16.23	596.70	3.243E-04	Pulse	0.10	3
Pb			1	5.655	ug/l	3.42	46,434.00	2.526E-02	Pulse	0.10	3
Pb			1	5.329	ug/l	1.48	38,631.42	2.102E-02	Pulse	0.10	3
Pb			1	5.419	ug/l	1.54	179,125.02	9.748E-02	Pulse	0.10	3
Na			2	574268.262	ug/l	1.44	778,020,466.86	5.539E+03	Analog	0.30	3
Mg			2	47120.145	ug/l	0.62	29,800,104.37	2.121E+02	Analog	0.30	3
Al			2	703.680	ug/l	3.38	148,594.58	1.058E+00	Pulse	0.30	3
K			2	28999.535	ug/l	2.04	11,400,471.77	8.117E+01	Analog	0.30	3
Ca			2	158106.238	ug/l	0.58	3,426,647.36	2.439E+01	Pulse	0.30	3
Ti			2	35.691	ug/l	49.32	5,873.33	4.187E-02	Pulse	0.30	3
V			2	2.662	ug/l	0.38	14,608.87	1.040E-01	Pulse	0.30	3
Cr			2	2.148	ug/l	2.20	15,513.53	1.105E-01	Pulse	0.30	3
Mn			2	1809.621	ug/l	0.36	6,655,166.96	4.738E+01	Analog	0.30	3
Fe			2	10990.391	ug/l	1.04	60,087,210.94	4.278E+02	Analog	0.30	3
Co			2	0.651	ug/l	1.92	7,116.12	5.066E-02	Pulse	0.30	3
Ni			2	1.684	ug/l	1.56	5,510.99	3.923E-02	Pulse	0.30	3
Cu			2	1.901	ug/l	2.71	22,412.09	1.596E-01	Pulse	0.30	3
Zn			2	25.441	ug/l	0.38	31,360.10	2.233E-01	Pulse	0.30	3
As			2	1.725	ug/l	5.81	1,000.37	7.120E-03	Pulse	1.00	3
Cd			2	0.042	ug/l	20.76	65.16	1.051E-04	Pulse	0.30	3
Sn			2	0.796	ug/l	2.26	2,279.08	3.678E-03	Pulse	0.30	3
Se			3	0.171	ug/l	15.92	31.07	1.903E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,251,426.65	0.63	98.7	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		2,333,915.38	2.71	121.8	Pulse	0.10	3
1	Ge		382,449.05	2.34	107.3	Pulse	0.10	3
1	Ge		522,171.30	2.69	106.0	Pulse	0.10	3
1	Rh		2,363,888.61	2.72	93.9	Pulse	0.10	3
1	In		2,426,258.74	3.22	98.8	Pulse	0.10	3
1	Tb		3,553,015.78	2.73	96.8	Pulse	0.10	3
1	Ho		354,283.99	2.51	96.1	Pulse	0.10	3
1	Bi		1,837,244.77	2.59	79.3	Pulse	0.10	3
2	Sc		140,473.90	1.19	121.7	Pulse	0.30	3
2	Ge		68,974.87	1.79	112.6	Pulse	0.30	3
2	Ge		103,313.30	1.61	110.4	Pulse	0.30	3
2	Rh		1,562,460.22	0.81	91.5	Pulse	0.30	3
2	In		619,679.26	0.63	102.4	Pulse	0.30	3
2	Tb		2,212,187.90	0.85	97.2	Pulse	0.30	3
2	Ho		223,545.49	0.29	98.9	Pulse	0.30	3
2	Bi		1,253,904.08	0.74	80.9	Pulse	0.30	3
3	Sc		197,510.34	1.21	105.2	Pulse	0.30	3
3	Ge		109,634.33	1.08	93.4	Pulse	0.30	3
3	Ge		163,231.53	0.78	91.7	Pulse	0.30	3
3	Rh		1,563,270.46	0.87	80.6	Pulse	0.30	3
3	Tb		2,852,391.69	0.79	85.9	Pulse	0.30	3

Quantitation Report

File Name 079SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 16:13
Sample Name jc99883-4
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.251	ug/l	5.61	1,274.73	1.178E-03	Pulse	0.25	3
B			1	241.493	ug/l	0.82	919,815.17	8.504E-01	Pulse	0.15	3
Ca			1	130398.420	ug/l	0.93	81,518,002.12	4.126E+01	Analog	0.10	3
Sr			1	1450.587	ug/l	3.60	36,057,321.96	1.682E+01	Analog	0.10	3
Mo			1	1.962	ug/l	4.23	9,866.72	4.602E-03	Pulse	0.10	3
Ag			1	0.065	ug/l	7.58	850.05	3.822E-04	Pulse	0.10	3
Sn			1	2.122	ug/l	2.31	16,405.65	7.366E-03	Pulse	0.10	3
Sb			1	0.779	ug/l	2.35	7,982.30	2.347E-03	Pulse	0.10	3
Ba			1	289.968	ug/l	0.18	1,117,971.26	3.289E-01	Pulse	0.10	3
Tl			1	0.060	ug/l	14.17	1,433.47	7.845E-04	Pulse	0.10	3
Pb			1	46.724	ug/l	0.91	380,683.07	2.080E-01	Pulse	0.10	3
Pb			1	44.194	ug/l	0.95	317,632.49	1.736E-01	Pulse	0.10	3
Pb			1	45.284	ug/l	0.46	1,485,809.89	8.118E-01	Pulse	0.10	3
Na			2	237218.815	ug/l	1.65	284,939,739.79	2.288E+03	Analog	0.30	3
Mg			2	25503.358	ug/l	0.93	14,299,621.65	1.148E+02	Analog	0.30	3
Al			2	4759.329	ug/l	1.03	889,276.35	7.141E+00	Pulse	0.30	3
K			2	16373.160	ug/l	1.34	5,711,407.13	4.586E+01	Analog	0.30	3
Ca			2	129283.238	ug/l	0.58	2,484,212.75	1.995E+01	Pulse	0.30	3
Ti			2	211.806	ug/l	3.81	30,943.98	2.484E-01	Pulse	0.30	3
V			2	14.061	ug/l	0.31	65,666.35	5.273E-01	Pulse	0.30	3
Cr			2	17.055	ug/l	0.61	105,825.81	8.497E-01	Pulse	0.30	3
Mn			2	1724.063	ug/l	1.49	5,621,126.72	4.514E+01	Analog	0.30	3
Fe			2	29262.593	ug/l	0.55	141,833,714.37	1.139E+03	Analog	0.30	3
Co			2	6.589	ug/l	0.14	63,678.32	5.113E-01	Pulse	0.30	3
Ni			2	8.564	ug/l	1.06	22,840.39	1.834E-01	Pulse	0.30	3
Cu			2	33.741	ug/l	0.80	246,016.61	1.975E+00	Pulse	0.30	3
Zn			2	892.000	ug/l	0.53	940,375.06	7.551E+00	Pulse	0.30	3
As			2	16.040	ug/l	0.85	8,167.06	6.558E-02	Pulse	1.00	3
Cd			2	0.173	ug/l	4.49	244.79	4.176E-04	Pulse	0.30	3
Sn			2	2.107	ug/l	2.66	5,693.31	9.711E-03	Pulse	0.30	3
Se			3	0.637	ug/l	3.90	97.20	6.189E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,081,509.28	1.90	85.3	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,976,126.90	2.28	103.1	Pulse	0.10	3
1	Ge		346,312.95	2.88	97.1	Pulse	0.10	3
1	Ge		459,827.27	2.09	93.4	Pulse	0.10	3
1	Rh		2,145,026.17	2.99	85.2	Pulse	0.10	3
1	In		2,227,786.46	3.38	90.8	Pulse	0.10	3
1	Tb		3,399,316.10	2.95	92.6	Pulse	0.10	3
1	Ho		359,900.12	2.73	97.6	Pulse	0.10	3
1	Bi		1,830,467.79	3.38	79.1	Pulse	0.10	3
2	Sc		124,544.83	1.34	107.9	Pulse	0.30	3
2	Ge		64,529.14	0.92	105.3	Pulse	0.30	3
2	Ge		93,705.89	1.85	100.1	Pulse	0.30	3
2	Rh		1,491,700.15	1.14	87.4	Pulse	0.30	3
2	In		586,220.54	0.93	96.8	Pulse	0.30	3
2	Tb		2,172,940.95	1.07	95.5	Pulse	0.30	3
2	Ho		231,515.46	1.49	102.4	Pulse	0.30	3
2	Bi		1,284,246.79	1.20	82.9	Pulse	0.30	3
3	Sc		187,602.46	0.86	99.9	Pulse	0.30	3
3	Ge		108,503.26	0.10	92.4	Pulse	0.30	3
3	Ge		157,054.51	0.40	88.2	Pulse	0.30	3
3	Rh		1,559,685.60	0.62	80.4	Pulse	0.30	3
3	Tb		2,899,030.93	0.66	87.3	Pulse	0.30	3

Quantitation Report

File Name 080SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 16:18
Sample Name jc99883-1f
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.001	ug/l	188.19	12.00	9.875E-06	Pulse	0.25	3
B			1	220.996	ug/l	1.16	951,016.28	7.789E-01	Pulse	0.15	3
Ca			1	122762.678	ug/l	1.67	86,711,728.71	3.884E+01	Analog	0.10	3
Sr			1	4772.149	ug/l	2.75	127,823,078.09	5.534E+01	Analog	0.10	3
Mo			1	14.282	ug/l	1.17	77,092.67	3.336E-02	Pulse	0.10	3
Ag			1	0.009	ug/l	28.49	126.67	5.412E-05	Pulse	0.10	3
Sn			1	0.344	ug/l	0.97	1,993.53	8.502E-04	Pulse	0.10	3
Sb			1	0.998	ug/l	1.40	10,183.65	2.962E-03	Pulse	0.10	3
Ba			1	186.294	ug/l	0.54	726,659.00	2.113E-01	Pulse	0.10	3
Tl			1	0.007	ug/l	51.67	196.68	1.109E-04	Pulse	0.10	3
Pb			1	0.034	ug/l	53.49	433.36	2.470E-04	Pulse	0.10	3
Pb			1	0.036	ug/l	19.27	443.36	2.515E-04	Pulse	0.10	3
Pb			1	0.037	ug/l	18.32	1,853.46	1.052E-03	Pulse	0.10	3
Na			2	952961.491	ug/l	2.44	1,340,914,364.49	9.192E+03	Analog	0.30	3
Mg			2	1696.955	ug/l	1.90	1,114,898.25	7.641E+00	Pulse	0.30	3
Al			2	3.445	ug/l	6.37	1,101.17	7.547E-03	Pulse	0.30	3
K			2	66735.626	ug/l	2.59	27,234,163.92	1.867E+02	Analog	0.30	3
Ca			2	129980.642	ug/l	1.76	2,926,299.05	2.005E+01	Pulse	0.30	3
Ti			2	0.258	ug/l	30.48	45.56	3.117E-04	Pulse	0.30	3
V			2	3.236	ug/l	4.15	18,272.48	1.253E-01	Pulse	0.30	3
Cr			2	14.214	ug/l	2.30	103,408.60	7.088E-01	Pulse	0.30	3
Mn			2	0.410	ug/l	4.62	1,627.88	1.116E-02	Pulse	0.30	3
Fe			2	19.636	ug/l	5.53	121,925.11	8.363E-01	Pulse	0.30	3
Co			2	0.902	ug/l	4.84	10,224.08	7.012E-02	Pulse	0.30	3
Ni			2	3.210	ug/l	1.36	10,391.15	7.120E-02	Pulse	0.30	3
Cu			2	12.863	ug/l	2.42	114,482.68	7.847E-01	Pulse	0.30	3
Zn			2	0.327	ug/l	15.46	1,591.20	1.089E-02	Pulse	0.30	3
As			2	0.541	ug/l	5.56	333.67	2.286E-03	Pulse	1.00	3
Cd			2	-0.002	ug/l	-166.47	-0.81	-1.379E-06	Pulse	0.30	3
Sn			2	0.268	ug/l	12.44	784.47	1.249E-03	Pulse	0.30	3
Se			3	1.175	ug/l	5.69	183.67	1.113E-03	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,220,983.45	1.54	96.3	Pulse	0.10	3
1	Sc		2,233,138.51	2.68	116.5	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Ge		372,385.45	2.69	104.4	Pulse	0.10	3
1	Ge		515,978.91	3.56	104.8	Pulse	0.10	3
1	Rh		2,311,188.98	3.35	91.8	Pulse	0.10	3
1	In		2,344,988.24	2.54	95.5	Pulse	0.10	3
1	Tb		3,438,951.62	2.52	93.7	Pulse	0.10	3
1	Ho		342,531.90	3.11	92.9	Pulse	0.10	3
1	Bi		1,765,018.62	3.00	76.2	Pulse	0.10	3
2	Sc		145,958.34	3.27	126.5	Pulse	0.30	3
2	Ge		70,077.15	1.64	114.4	Pulse	0.30	3
2	Ge		104,930.16	1.78	112.1	Pulse	0.30	3
2	Rh		1,568,307.34	1.70	91.9	Pulse	0.30	3
2	In		628,451.31	1.64	103.8	Pulse	0.30	3
2	Tb		2,164,700.05	1.79	95.1	Pulse	0.30	3
2	Ho		217,264.81	2.31	96.1	Pulse	0.30	3
2	Bi		1,209,313.01	1.57	78.0	Pulse	0.30	3
3	Sc		204,518.81	1.03	108.9	Pulse	0.30	3
3	Ge		110,323.39	0.23	94.0	Pulse	0.30	3
3	Ge		165,029.90	0.94	92.7	Pulse	0.30	3
3	Rh		1,541,323.03	0.28	79.5	Pulse	0.30	3
3	Tb		2,763,416.90	0.23	83.3	Pulse	0.30	3

Quantitation Report

File Name 081SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 16:23
Sample Name jc99883-2f
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.002	ug/l	13.37	21.33	1.681E-05	Pulse	0.25	3
B			1	641.376	ug/l	0.45	2,847,148.22	2.245E+00	Pulse	0.15	3
Ca			1	137428.955	ug/l	2.08	104,276,581.78	4.348E+01	Analog	0.10	3
Sr			1	1524.640	ug/l	1.84	41,927,859.37	1.768E+01	Analog	0.10	3
Mo			1	0.964	ug/l	4.29	5,397.79	2.275E-03	Pulse	0.10	3
Ag			1	0.004	ug/l	19.66	63.33	2.609E-05	Pulse	0.10	3
Sn			1	0.318	ug/l	6.61	1,823.50	7.534E-04	Pulse	0.10	3
Sb			1	0.125	ug/l	3.42	1,816.84	5.144E-04	Pulse	0.10	3
Ba			1	315.301	ug/l	0.95	1,262,656.93	3.576E-01	Pulse	0.10	3
Tl			1	0.002	ug/l	76.44	80.00	4.481E-05	Pulse	0.10	3
Pb			1	0.046	ug/l	2.52	540.03	3.004E-04	Pulse	0.10	3
Pb			1	0.040	ug/l	31.36	476.69	2.660E-04	Pulse	0.10	3
Pb			1	0.049	ug/l	8.48	2,276.83	1.268E-03	Pulse	0.10	3
Na			2	774248.195	ug/l	1.41	1,116,890,871.18	7.468E+03	Analog	0.30	3
Mg			2	64053.917	ug/l	1.19	43,128,886.07	2.884E+02	Analog	0.30	3
Al			2	3.492	ug/l	19.56	1,137.86	7.617E-03	Pulse	0.30	3
K			2	31983.302	ug/l	1.19	13,386,874.47	8.951E+01	Analog	0.30	3
Ca			2	136306.595	ug/l	0.51	3,145,483.90	2.103E+01	Pulse	0.30	3
Ti			2	0.246	ug/l	47.78	44.44	2.977E-04	Pulse	0.30	3
V			2	0.350	ug/l	7.26	2,712.48	1.814E-02	Pulse	0.30	3
Cr			2	0.718	ug/l	1.09	5,913.34	3.953E-02	Pulse	0.30	3
Mn			2	816.582	ug/l	0.82	3,197,571.96	2.138E+01	Pulse	0.30	3
Fe			2	181.541	ug/l	1.11	1,067,378.15	7.137E+00	Pulse	0.30	3
Co			2	0.309	ug/l	2.04	3,606.44	2.412E-02	Pulse	0.30	3
Ni			2	1.111	ug/l	6.16	4,066.10	2.721E-02	Pulse	0.30	3
Cu			2	-0.362	ug/l	-5.87	4,560.68	3.048E-02	Pulse	0.30	3
Zn			2	5.174	ug/l	2.95	7,761.93	5.188E-02	Pulse	0.30	3
As			2	1.001	ug/l	2.66	622.34	4.162E-03	Pulse	1.00	3
Cd			2	0.008	ug/l	51.85	15.11	2.365E-05	Pulse	0.30	3
Sn			2	0.246	ug/l	10.77	730.03	1.149E-03	Pulse	0.30	3
Se			3	0.178	ug/l	10.41	34.73	1.967E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,268,066.30	1.57	100.0	Pulse	0.10	3
1	Sc		2,398,964.70	2.10	125.2	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Ge		391,681.69	1.91	109.9	Pulse	0.10	3
1	Ge		543,141.00	2.59	110.3	Pulse	0.10	3
1	Rh		2,372,054.39	2.14	94.3	Pulse	0.10	3
1	In		2,422,617.06	2.10	98.7	Pulse	0.10	3
1	Tb		3,530,499.74	2.15	96.2	Pulse	0.10	3
1	Ho		351,057.68	2.09	95.2	Pulse	0.10	3
1	Bi		1,797,462.99	2.50	77.6	Pulse	0.10	3
2	Sc		149,573.52	2.26	129.6	Pulse	0.30	3
2	Ge		73,054.59	2.01	119.2	Pulse	0.30	3
2	Ge		108,423.99	1.91	115.9	Pulse	0.30	3
2	Rh		1,597,916.08	1.35	93.6	Pulse	0.30	3
2	In		635,724.12	1.59	105.0	Pulse	0.30	3
2	Tb		2,224,126.79	0.97	97.7	Pulse	0.30	3
2	Ho		222,706.36	2.43	98.5	Pulse	0.30	3
2	Bi		1,236,419.26	2.10	79.8	Pulse	0.30	3
3	Sc		217,348.39	2.37	115.8	Pulse	0.30	3
3	Ge		116,749.69	1.83	99.5	Pulse	0.30	3
3	Ge		176,559.02	1.61	99.2	Pulse	0.30	3
3	Rh		1,668,187.50	1.50	86.0	Pulse	0.30	3
3	Tb		2,965,616.27	1.79	89.3	Pulse	0.30	3

Quantitation Report

File Name 082SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 16:30
Sample Name jc99883-3f
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.001	ug/l	134.09	12.00	9.323E-06	Pulse	0.25	3
B			1	602.423	ug/l	1.85	2,730,602.74	2.109E+00	Pulse	0.15	3
Ca			1	159594.026	ug/l	2.62	119,265,701.56	5.049E+01	Analog	0.10	3
Sr			1	1361.549	ug/l	3.81	37,744,624.44	1.579E+01	Analog	0.10	3
Mo			1	0.517	ug/l	9.31	2,940.39	1.231E-03	Pulse	0.10	3
Ag			1	0.003	ug/l	34.96	53.33	2.175E-05	Pulse	0.10	3
Sn			1	0.274	ug/l	2.65	1,456.79	5.941E-04	Pulse	0.10	3
Sb			1	0.405	ug/l	11.38	4,654.18	1.299E-03	Pulse	0.10	3
Ba			1	201.292	ug/l	1.72	817,600.56	2.283E-01	Pulse	0.10	3
Tl			1	0.146	ug/l	0.99	3,440.51	1.859E-03	Pulse	0.10	3
Pb			1	0.146	ug/l	3.95	1,380.12	7.458E-04	Pulse	0.10	3
Pb			1	0.119	ug/l	8.66	1,066.74	5.761E-04	Pulse	0.10	3
Pb			1	0.132	ug/l	3.53	5,080.53	2.746E-03	Pulse	0.10	3
Na			2	581388.805	ug/l	0.43	802,866,883.65	5.608E+03	Analog	0.30	3
Mg			2	47409.956	ug/l	0.79	30,558,355.45	2.135E+02	Analog	0.30	3
Al			2	2.071	ug/l	20.32	785.59	5.486E-03	Pulse	0.30	3
K			2	29621.303	ug/l	0.36	11,869,662.86	8.291E+01	Analog	0.30	3
Ca			2	159192.028	ug/l	0.47	3,516,515.90	2.456E+01	Pulse	0.30	3
Ti			2	0.157	ug/l	50.56	27.78	1.936E-04	Pulse	0.30	3
V			2	-0.009	ug/l	-34.62	688.92	4.812E-03	Pulse	0.30	3
Cr			2	0.243	ug/l	5.59	2,289.07	1.599E-02	Pulse	0.30	3
Mn			2	1772.870	ug/l	1.51	6,644,706.12	4.642E+01	Analog	0.30	3
Fe			2	649.663	ug/l	1.12	3,630,146.52	2.535E+01	Pulse	0.30	3
Co			2	0.387	ug/l	1.79	4,321.93	3.019E-02	Pulse	0.30	3
Ni			2	0.825	ug/l	2.97	3,039.20	2.123E-02	Pulse	0.30	3
Cu			2	-0.241	ug/l	-10.73	5,355.37	3.741E-02	Pulse	0.30	3
Zn			2	12.957	ug/l	0.33	16,849.89	1.177E-01	Pulse	0.30	3
As			2	0.439	ug/l	4.63	267.33	1.868E-03	Pulse	1.00	3
Cd			2	0.013	ug/l	10.00	21.96	3.490E-05	Pulse	0.30	3
Sn			2	0.185	ug/l	4.13	546.69	8.686E-04	Pulse	0.30	3
Se			3	0.127	ug/l	16.83	25.87	1.504E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,294,638.28	1.62	102.1	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		2,363,348.09	3.07	123.3	Pulse	0.10	3
1	Ge		388,592.70	3.33	109.0	Pulse	0.10	3
1	Ge		531,523.56	3.22	107.9	Pulse	0.10	3
1	Rh		2,392,818.56	3.73	95.1	Pulse	0.10	3
1	In		2,450,248.02	3.36	99.8	Pulse	0.10	3
1	Tb		3,581,629.01	2.74	97.6	Pulse	0.10	3
1	Ho		357,635.02	4.05	97.0	Pulse	0.10	3
1	Bi		1,850,662.83	3.00	79.9	Pulse	0.10	3
2	Sc		143,166.81	0.82	124.0	Pulse	0.30	3
2	Ge		70,277.91	1.12	114.7	Pulse	0.30	3
2	Ge		104,829.68	1.62	112.0	Pulse	0.30	3
2	Rh		1,589,078.20	1.25	93.1	Pulse	0.30	3
2	In		629,204.61	1.19	103.9	Pulse	0.30	3
2	Tb		2,233,170.74	0.95	98.1	Pulse	0.30	3
2	Ho		223,122.84	1.37	98.7	Pulse	0.30	3
2	Bi		1,271,834.88	1.39	82.1	Pulse	0.30	3
3	Sc		213,924.32	5.53	114.0	Pulse	0.30	3
3	Ge		114,531.38	4.03	97.6	Pulse	0.30	3
3	Ge		172,059.92	3.62	96.6	Pulse	0.30	3
3	Rh		1,657,407.96	4.81	85.5	Pulse	0.30	3
3	Tb		2,973,407.94	4.53	89.6	Pulse	0.30	3

Quantitation Report

File Name 083SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 16:36
Sample Name jc99883-4f
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.002	ug/l	21.05	17.33	1.397E-05	Pulse	0.25	3
B			1	211.385	ug/l	1.38	924,531.01	7.454E-01	Pulse	0.15	3
Ca			1	95565.229	ug/l	0.83	64,657,697.37	3.024E+01	Analog	0.10	3
Sr			1	1067.147	ug/l	2.84	29,198,148.73	1.238E+01	Analog	0.10	3
Mo			1	1.176	ug/l	4.08	6,528.24	2.768E-03	Pulse	0.10	3
Ag			1	0.003	ug/l	55.40	53.33	2.181E-05	Pulse	0.10	3
Sn			1	0.256	ug/l	5.32	1,290.10	5.289E-04	Pulse	0.10	3
Sb			1	0.240	ug/l	9.89	3,020.40	8.362E-04	Pulse	0.10	3
Ba			1	170.774	ug/l	0.11	700,483.32	1.937E-01	Pulse	0.10	3
Tl			1	0.050	ug/l	4.64	1,270.10	6.471E-04	Pulse	0.10	3
Pb			1	0.104	ug/l	16.79	1,096.75	5.597E-04	Pulse	0.10	3
Pb			1	0.100	ug/l	11.16	986.74	5.016E-04	Pulse	0.10	3
Pb			1	0.103	ug/l	5.08	4,360.43	2.222E-03	Pulse	0.10	3
Na			2	218118.965	ug/l	1.58	280,268,868.86	2.104E+03	Analog	0.30	3
Mg			2	18705.352	ug/l	0.93	11,219,245.39	8.422E+01	Analog	0.30	3
Al			2	2.425	ug/l	61.10	801.36	6.018E-03	Pulse	0.30	3
K			2	14273.549	ug/l	0.46	5,328,258.54	3.999E+01	Analog	0.30	3
Ca			2	94418.745	ug/l	0.32	1,940,954.30	1.457E+01	Pulse	0.30	3
Ti			2	0.120	ug/l	20.01	20.00	1.505E-04	Pulse	0.30	3
V			2	-0.036	ug/l	-26.99	505.57	3.797E-03	Pulse	0.30	3
Cr			2	0.387	ug/l	7.19	3,082.55	2.312E-02	Pulse	0.30	3
Mn			2	1160.632	ug/l	0.15	4,048,414.70	3.039E+01	Pulse	0.30	3
Fe			2	4539.264	ug/l	1.19	23,540,760.73	1.767E+02	Analog	0.30	3
Co			2	2.577	ug/l	0.56	26,650.39	2.000E-01	Pulse	0.30	3
Ni			2	1.802	ug/l	2.33	5,556.55	4.170E-02	Pulse	0.30	3
Cu			2	-0.401	ug/l	-4.00	3,766.03	2.828E-02	Pulse	0.30	3
Zn			2	314.237	ug/l	0.97	355,075.20	2.665E+00	Pulse	0.30	3
As			2	3.283	ug/l	1.13	1,796.44	1.348E-02	Pulse	1.00	3
Cd			2	0.017	ug/l	29.67	28.33	4.478E-05	Pulse	0.30	3
Sn			2	0.168	ug/l	3.00	502.23	7.901E-04	Pulse	0.30	3
Se			3	0.076	ug/l	11.98	17.67	1.028E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,240,336.98	0.36	97.9	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		2,138,526.06	1.99	111.6	Pulse	0.10	3
1	Ge		370,864.87	3.05	104.0	Pulse	0.10	3
1	Ge		511,313.43	1.97	103.8	Pulse	0.10	3
1	Rh		2,360,688.61	2.85	93.8	Pulse	0.10	3
1	In		2,435,387.32	3.10	99.2	Pulse	0.10	3
1	Tb		3,616,521.09	2.53	98.5	Pulse	0.10	3
1	Ho		359,234.11	1.80	97.4	Pulse	0.10	3
1	Bi		1,963,943.82	2.97	84.8	Pulse	0.10	3
2	Sc		133,228.93	2.17	115.4	Pulse	0.30	3
2	Ge		68,371.46	3.64	111.6	Pulse	0.30	3
2	Ge		102,805.92	2.30	109.8	Pulse	0.30	3
2	Rh		1,620,898.65	2.58	95.0	Pulse	0.30	3
2	In		635,731.03	2.74	105.0	Pulse	0.30	3
2	Tb		2,282,601.23	2.84	100.3	Pulse	0.30	3
2	Ho		228,089.55	2.74	100.9	Pulse	0.30	3
2	Bi		1,362,345.92	2.59	87.9	Pulse	0.30	3
3	Sc		199,730.52	0.31	106.4	Pulse	0.30	3
3	Ge		114,499.84	0.23	97.6	Pulse	0.30	3
3	Ge		171,866.60	0.40	96.5	Pulse	0.30	3
3	Rh		1,687,738.72	0.59	87.1	Pulse	0.30	3
3	Tb		3,049,121.48	0.57	91.9	Pulse	0.30	3

Quantitation Report

File Name 084SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 16:43
Sample Name mp18786-mb1conf
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.000	ug/l	-189.72	4.00	3.450E-06	Pulse	0.25	3
B			1	13.643	ug/l	1.45	64,278.68	5.560E-02	Pulse	0.15	3
Ca			1	6.172	ug/l	23.17	19,769.11	1.077E-02	Pulse	0.10	3
Sr			1	0.070	ug/l	16.37	2,193.57	8.903E-04	Pulse	0.10	3
Mo			1	0.054	ug/l	17.51	370.02	1.502E-04	Pulse	0.10	3
Ag			1	0.005	ug/l	58.92	76.67	3.120E-05	Pulse	0.10	3
Sn			1	0.245	ug/l	3.80	1,193.42	4.874E-04	Pulse	0.10	3
Sb			1	0.011	ug/l	103.15	696.71	1.947E-04	Pulse	0.10	3
Ba			1	0.019	ug/l	49.21	120.00	3.346E-05	Pulse	0.10	3
Tl			1	0.014	ug/l	16.49	446.69	1.997E-04	Pulse	0.10	3
Pb			1	0.006	ug/l	102.48	280.01	1.250E-04	Pulse	0.10	3
Pb			1	-0.004	ug/l	-105.12	203.34	9.141E-05	Pulse	0.10	3
Pb			1	0.004	ug/l	47.53	1,030.06	4.620E-04	Pulse	0.10	3
Na			2	85.104	ug/l	2.52	104,881.68	9.643E-01	Pulse	0.30	3
Mg			2	1.179	ug/l	14.05	717.80	6.601E-03	Pulse	0.30	3
Al			2	-0.041	ug/l	-273.27	252.23	2.319E-03	Pulse	0.30	3
K			2	0.915	ug/l	76.23	8,810.18	8.100E-02	Pulse	0.30	3
Ca			2	8.946	ug/l	31.86	251.12	2.310E-03	Pulse	0.30	3
Ti			2	0.061	ug/l	88.04	8.89	8.154E-05	Pulse	0.30	3
V			2	-0.106	ug/l	-5.60	130.00	1.196E-03	Pulse	0.30	3
Cr			2	0.035	ug/l	34.25	616.69	5.668E-03	Pulse	0.30	3
Mn			2	0.077	ug/l	4.93	267.78	2.462E-03	Pulse	0.30	3
Fe			2	0.752	ug/l	5.26	11,028.22	1.014E-01	Pulse	0.30	3
Co			2	0.000	ug/l	-4856.20	15.53	1.429E-04	Pulse	0.30	3
Ni			2	0.030	ug/l	49.86	495.57	4.555E-03	Pulse	0.30	3
Cu			2	-0.713	ug/l	-0.54	1,137.83	1.046E-02	Pulse	0.30	3
Zn			2	-0.375	ug/l	-18.64	538.90	4.956E-03	Pulse	0.30	3
As			2	0.013	ug/l	91.54	14.00	1.289E-04	Pulse	1.00	3
Cd			2	-0.001	ug/l	-0.47	-0.04	-6.688E-08	Pulse	0.30	3
Sn			2	0.138	ug/l	2.90	388.90	6.503E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	0.001	ug/l	646.95	5.47	3.389E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,156,057.65	0.51	91.2	Pulse	0.10	3
1	Sc		1,837,073.15	2.20	95.8	Pulse	0.10	3
1	Ge		349,379.27	2.45	98.0	Pulse	0.10	3
1	Ge		485,266.68	2.84	98.5	Pulse	0.10	3
1	Rh		2,469,061.84	2.37	98.1	Pulse	0.10	3
1	In		2,449,828.74	2.20	99.8	Pulse	0.10	3
1	Tb		3,571,320.99	3.56	97.3	Pulse	0.10	3
1	Ho		357,251.15	3.03	96.9	Pulse	0.10	3
1	Bi		2,230,821.16	2.90	96.3	Pulse	0.10	3
2	Sc		108,768.08	0.51	94.2	Pulse	0.30	3
2	Ge		60,832.73	0.38	99.3	Pulse	0.30	3
2	Ge		91,673.46	0.48	98.0	Pulse	0.30	3
2	Rh		1,623,946.95	0.32	95.1	Pulse	0.30	3
2	In		598,013.25	0.41	98.8	Pulse	0.30	3
2	Tb		2,185,760.95	0.64	96.0	Pulse	0.30	3
2	Ho		219,593.13	0.63	97.1	Pulse	0.30	3
2	Bi		1,489,371.16	0.66	96.1	Pulse	0.30	3
3	Sc		176,012.09	0.27	93.8	Pulse	0.30	3
3	Ge		107,141.70	1.60	91.3	Pulse	0.30	3
3	Ge		161,267.23	0.57	90.6	Pulse	0.30	3
3	Rh		1,792,125.76	0.59	92.4	Pulse	0.30	3
3	Tb		3,087,674.95	1.30	93.0	Pulse	0.30	3

Quantitation Report

File Name	085_CCV.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 16:48
Sample Name	CCVA
Sample Type	CCV
Comment	here
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	49.222	ug/l	0.36	243,019.55	2.299E-01	Pulse	0.25	3
B			1	107.677	ug/l	0.96	405,562.91	3.836E-01	Pulse	0.15	3
Ca			1	4851.078	ug/l	0.59	2,634,779.65	1.543E+00	Pulse	0.10	3
Sr			1	52.829	ug/l	1.31	1,401,410.81	6.127E-01	Pulse	0.10	3
Mo			1	50.865	ug/l	0.31	271,578.31	1.188E-01	Pulse	0.10	3
Ag			1	49.317	ug/l	0.53	659,571.96	2.872E-01	Pulse	0.10	3
Sn			1	50.372	ug/l	0.45	422,861.57	1.842E-01	Pulse	0.10	3
Sb			1	52.530	ug/l	0.93	517,220.72	1.474E-01	Pulse	0.10	3
Ba			1	52.707	ug/l	0.83	209,794.61	5.979E-02	Pulse	0.10	3
Tl			1	51.257	ug/l	1.45	1,385,476.34	6.471E-01	Pulse	0.10	3
Pb			1	50.752	ug/l	1.11	483,805.85	2.259E-01	Pulse	0.10	3
Pb			1	50.474	ug/l	1.17	424,415.36	1.982E-01	Pulse	0.10	3
Pb			1	50.641	ug/l	1.01	1,943,971.40	9.078E-01	Pulse	0.10	3
Na			2	4839.240	ug/l	0.91	4,807,405.50	4.682E+01	Analog	0.30	3
Mg			2	4582.945	ug/l	0.38	2,118,752.69	2.064E+01	Pulse	0.30	3
Al			2	4798.933	ug/l	0.79	739,289.14	7.200E+00	Pulse	0.30	3
K			2	4946.309	ug/l	0.92	1,428,196.61	1.391E+01	Pulse	0.30	3
Ca			2	5192.520	ug/l	0.49	82,356.35	8.021E-01	Pulse	0.30	3
Ti			2	50.040	ug/l	2.33	6,027.83	5.870E-02	Pulse	0.30	3
V			2	51.335	ug/l	0.78	196,257.59	1.911E+00	Pulse	0.30	3
Cr			2	49.627	ug/l	0.46	253,114.30	2.465E+00	Pulse	0.30	3
Mn			2	50.839	ug/l	0.03	136,711.19	1.331E+00	Pulse	0.30	3
Fe			2	5253.126	ug/l	0.83	20,999,231.94	2.045E+02	Analog	0.30	3
Co			2	49.213	ug/l	0.47	391,983.57	3.818E+00	Pulse	0.30	3
Ni			2	48.702	ug/l	0.64	105,203.05	1.025E+00	Pulse	0.30	3
Cu			2	47.743	ug/l	0.32	284,830.69	2.774E+00	Pulse	0.30	3
Zn			2	49.716	ug/l	0.96	43,999.86	4.285E-01	Pulse	0.30	3
As			2	51.930	ug/l	1.85	21,783.83	2.122E-01	Pulse	1.00	3
Cd			2	49.119	ug/l	1.04	66,454.79	1.174E-01	Pulse	0.30	3
Sn			2	51.374	ug/l	0.33	133,836.00	2.365E-01	Pulse	0.30	3
Se			3	207.011	ug/l	0.66	29,589.01	1.903E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,057,279.89	1.19	83.4	Pulse	0.10	3
1	Sc		1,707,327.27	1.63	89.1	Pulse	0.10	3
1	Ge		327,770.62	2.59	91.9	Pulse	0.10	3

Quantitation Report

1	Ge		453,278.10	2.41	92.0	Pulse	0.10	3
1	Rh		2,286,827.21	2.39	90.9	Pulse	0.10	3
1	In		2,296,099.56	2.36	93.5	Pulse	0.10	3
1	Tb		3,508,592.24	2.73	95.6	Pulse	0.10	3
1	Ho		348,624.43	3.04	94.5	Pulse	0.10	3
1	Bi		2,141,981.32	4.17	92.5	Pulse	0.10	3
2	Sc		102,679.29	0.71	89.0	Pulse	0.30	3
2	Ge		57,627.92	0.95	94.1	Pulse	0.30	3
2	Ge		86,174.86	1.56	92.1	Pulse	0.30	3
2	Rh		1,535,802.40	0.31	90.0	Pulse	0.30	3
2	In		566,010.91	0.66	93.5	Pulse	0.30	3
2	Tb		2,144,674.01	1.59	94.2	Pulse	0.30	3
2	Ho		217,145.98	1.31	96.1	Pulse	0.30	3
2	Bi		1,436,524.00	0.89	92.7	Pulse	0.30	3
3	Sc		169,914.92	0.39	90.5	Pulse	0.30	3
3	Ge		102,959.04	0.46	87.7	Pulse	0.30	3
3	Ge		155,520.21	0.71	87.3	Pulse	0.30	3
3	Rh		1,690,443.54	1.16	87.2	Pulse	0.30	3
3	Tb		3,029,894.95	1.43	91.3	Pulse	0.30	3

Quantitation Report

File Name	086_CCB.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 16:53
Sample Name	CCB
Sample Type	CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.005	ug/l	29.60	32.00	2.989E-05	Pulse	0.25	3
B			1	11.566	ug/l	1.27	51,713.91	4.835E-02	Pulse	0.15	3
Ca			1	-6.227	ug/l	-10.00	11,697.79	6.846E-03	Pulse	0.10	3
Sr			1	0.023	ug/l	3.83	803.38	3.471E-04	Pulse	0.10	3
Mo			1	0.137	ug/l	8.02	796.72	3.441E-04	Pulse	0.10	3
Ag			1	0.009	ug/l	3.05	126.67	5.472E-05	Pulse	0.10	3
Sn			1	0.440	ug/l	3.62	2,780.36	1.201E-03	Pulse	0.10	3
Sb			1	0.143	ug/l	18.87	1,940.20	5.650E-04	Pulse	0.10	3
Ba			1	0.020	ug/l	108.30	116.67	3.430E-05	Pulse	0.10	3
Tl			1	0.011	ug/l	11.07	353.35	1.637E-04	Pulse	0.10	3
Pb			1	-0.003	ug/l	-247.99	186.68	8.617E-05	Pulse	0.10	3
Pb			1	-0.004	ug/l	-57.19	200.01	9.265E-05	Pulse	0.10	3
Pb			1	-0.001	ug/l	-160.63	786.71	3.644E-04	Pulse	0.10	3
Na			2	45.997	ug/l	1.50	60,066.82	5.871E-01	Pulse	0.30	3
Mg			2	0.280	ug/l	26.02	261.12	2.552E-03	Pulse	0.30	3
Al			2	0.203	ug/l	131.95	274.45	2.685E-03	Pulse	0.30	3
K			2	-1.967	ug/l	-8.84	7,462.85	7.294E-02	Pulse	0.30	3
Ca			2	0.101	ug/l	53.90	96.67	9.449E-04	Pulse	0.30	3
Ti			2	0.011	ug/l	307.03	2.22	2.194E-05	Pulse	0.30	3
V			2	-0.108	ug/l	-8.42	114.44	1.121E-03	Pulse	0.30	3
Cr			2	0.009	ug/l	205.59	448.90	4.382E-03	Pulse	0.30	3
Mn			2	0.032	ug/l	12.68	128.89	1.260E-03	Pulse	0.30	3
Fe			2	1.853	ug/l	4.04	14,754.48	1.442E-01	Pulse	0.30	3
Co			2	0.001	ug/l	50.70	26.62	2.605E-04	Pulse	0.30	3
Ni			2	-0.056	ug/l	-27.05	282.23	2.760E-03	Pulse	0.30	3
Cu			2	-0.681	ug/l	-2.04	1,256.73	1.229E-02	Pulse	0.30	3
Zn			2	-0.539	ug/l	-3.45	365.57	3.574E-03	Pulse	0.30	3
As			2	0.005	ug/l	101.36	9.67	9.441E-05	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.002	ug/l	215.83	4.36	7.593E-06	Pulse	0.30	3
Sn			2	0.392	ug/l	11.40	1,036.71	1.820E-03	Pulse	0.30	3
Se			3	0.068	ug/l	20.21	15.13	9.602E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,069,523.97	0.76	84.4	Pulse	0.10	3
1	Sc		1,709,590.29	2.34	89.2	Pulse	0.10	3
1	Ge		327,676.49	2.05	91.9	Pulse	0.10	3
1	Ge		453,421.83	2.32	92.1	Pulse	0.10	3
1	Rh		2,313,648.35	2.36	91.9	Pulse	0.10	3
1	In		2,314,108.81	2.09	94.3	Pulse	0.10	3
1	Tb		3,428,349.33	1.89	93.4	Pulse	0.10	3
1	Ho		345,868.13	1.66	93.8	Pulse	0.10	3
1	Bi		2,161,024.14	1.92	93.3	Pulse	0.10	3
2	Sc		102,313.64	0.89	88.6	Pulse	0.30	3
2	Ge		57,594.43	1.09	94.0	Pulse	0.30	3
2	Ge		87,192.23	0.96	93.2	Pulse	0.30	3
2	Rh		1,559,771.50	0.69	91.4	Pulse	0.30	3
2	In		570,006.49	1.29	94.2	Pulse	0.30	3
2	Tb		2,104,053.94	1.40	92.5	Pulse	0.30	3
2	Ho		212,754.39	0.68	94.1	Pulse	0.30	3
2	Bi		1,446,524.87	0.92	93.3	Pulse	0.30	3
3	Sc		171,239.33	1.00	91.2	Pulse	0.30	3
3	Ge		105,615.95	0.68	90.0	Pulse	0.30	3
3	Ge		157,627.81	0.37	88.5	Pulse	0.30	3
3	Rh		1,766,747.29	1.52	91.1	Pulse	0.30	3
3	Tb		3,049,823.84	1.66	91.9	Pulse	0.30	3

Quantitation Report

File Name 087SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 16:58
Sample Name mp18786-mb1conf
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.001	ug/l	172.38	12.00	1.071E-05	Pulse	0.25	3
B			1	9.913	ug/l	2.31	47,548.55	4.259E-02	Pulse	0.15	3
Ca			1	1.137	ug/l	47.55	16,345.25	9.175E-03	Pulse	0.10	3
Sr			1	0.035	ug/l	12.19	1,186.75	4.937E-04	Pulse	0.10	3
Mo			1	0.090	ug/l	23.62	563.37	2.339E-04	Pulse	0.10	3
Ag			1	0.006	ug/l	24.43	100.00	4.170E-05	Pulse	0.10	3
Sn			1	0.292	ug/l	2.13	1,590.14	6.609E-04	Pulse	0.10	3
Sb			1	0.044	ug/l	28.50	1,016.74	2.869E-04	Pulse	0.10	3
Ba			1	0.012	ug/l	58.68	90.00	2.551E-05	Pulse	0.10	3
Tl			1	0.018	ug/l	5.15	540.03	2.443E-04	Pulse	0.10	3
Pb			1	-0.001	ug/l	-230.82	203.34	9.190E-05	Pulse	0.10	3
Pb			1	-0.003	ug/l	-203.40	216.68	9.799E-05	Pulse	0.10	3
Pb			1	0.004	ug/l	12.88	1,000.05	4.521E-04	Pulse	0.10	3
Na			2	46.392	ug/l	0.22	62,931.47	5.909E-01	Pulse	0.30	3
Mg			2	1.018	ug/l	6.16	625.57	5.874E-03	Pulse	0.30	3
Al			2	0.333	ug/l	134.81	306.67	2.880E-03	Pulse	0.30	3
K			2	-1.712	ug/l	-46.18	7,844.14	7.366E-02	Pulse	0.30	3
Ca			2	9.936	ug/l	18.95	262.23	2.462E-03	Pulse	0.30	3
Ti			2	0.125	ug/l	36.83	16.66	1.564E-04	Pulse	0.30	3
V			2	-0.104	ug/l	-0.47	134.45	1.262E-03	Pulse	0.30	3
Cr			2	0.049	ug/l	1.99	677.80	6.365E-03	Pulse	0.30	3
Mn			2	0.061	ug/l	29.71	215.56	2.024E-03	Pulse	0.30	3
Fe			2	0.818	ug/l	4.41	11,068.25	1.039E-01	Pulse	0.30	3
Co			2	0.002	ug/l	22.73	29.97	2.814E-04	Pulse	0.30	3
Ni			2	0.049	ug/l	17.56	528.90	4.966E-03	Pulse	0.30	3
Cu			2	-0.690	ug/l	-0.54	1,253.39	1.177E-02	Pulse	0.30	3
Zn			2	-0.337	ug/l	-28.99	562.24	5.280E-03	Pulse	0.30	3
As			2	0.014	ug/l	43.91	14.00	1.315E-04	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.002	ug/l	217.46	4.40	7.475E-06	Pulse	0.30	3
Sn			2	0.230	ug/l	11.19	631.13	1.072E-03	Pulse	0.30	3
Se			3	0.039	ug/l	14.89	11.07	6.886E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,116,794.04	2.01	88.1	Pulse	0.10	3
1	Sc		1,781,805.23	2.03	93.0	Pulse	0.10	3
1	Ge		343,563.05	2.56	96.4	Pulse	0.10	3
1	Ge		472,356.14	1.60	95.9	Pulse	0.10	3
1	Rh		2,405,637.57	1.81	95.6	Pulse	0.10	3
1	In		2,405,500.52	2.09	98.0	Pulse	0.10	3
1	Tb		3,547,405.57	2.72	96.7	Pulse	0.10	3
1	Ho		356,125.49	3.61	96.6	Pulse	0.10	3
1	Bi		2,212,305.28	3.14	95.5	Pulse	0.10	3
2	Sc		106,496.93	0.06	92.3	Pulse	0.30	3
2	Ge		59,778.88	1.26	97.6	Pulse	0.30	3
2	Ge		89,748.18	0.43	95.9	Pulse	0.30	3
2	Rh		1,611,664.56	0.66	94.4	Pulse	0.30	3
2	In		588,638.93	0.20	97.2	Pulse	0.30	3
2	Tb		2,159,924.77	0.37	94.9	Pulse	0.30	3
2	Ho		217,287.19	0.30	96.1	Pulse	0.30	3
2	Bi		1,485,342.89	0.70	95.8	Pulse	0.30	3
3	Sc		176,109.75	0.81	93.8	Pulse	0.30	3
3	Ge		106,366.07	0.84	90.6	Pulse	0.30	3
3	Ge		160,730.63	0.28	90.3	Pulse	0.30	3
3	Rh		1,792,628.47	0.57	92.5	Pulse	0.30	3
3	Tb		3,057,865.85	0.46	92.1	Pulse	0.30	3

Quantitation Report

File Name 088SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 17:03
Sample Name mp18786-b1conf
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	71.971	ug/l	0.35	373,133.23	3.361E-01	Pulse	0.25	3
B			1	79.729	ug/l	1.15	317,680.06	2.861E-01	Pulse	0.15	3
Ca			1	1975.839	ug/l	0.48	1,133,744.23	6.338E-01	Pulse	0.10	3
Sr			1	77.366	ug/l	0.50	2,161,877.78	8.972E-01	Pulse	0.10	3
Mo			1	77.274	ug/l	0.70	434,712.70	1.804E-01	Pulse	0.10	3
Ag			1	75.990	ug/l	0.61	1,061,536.68	4.426E-01	Pulse	0.10	3
Sn			1	75.265	ug/l	0.46	660,554.72	2.754E-01	Pulse	0.10	3
Sb			1	80.786	ug/l	0.20	820,547.70	2.266E-01	Pulse	0.10	3
Ba			1	77.539	ug/l	0.72	318,450.93	8.795E-02	Pulse	0.10	3
Tl			1	75.662	ug/l	1.54	2,121,429.34	9.552E-01	Pulse	0.10	3
Pb			1	77.772	ug/l	1.31	768,813.37	3.462E-01	Pulse	0.10	3
Pb			1	77.072	ug/l	0.43	671,921.93	3.026E-01	Pulse	0.10	3
Pb			1	77.161	ug/l	0.81	3,071,268.50	1.383E+00	Pulse	0.10	3
Na			2	1802.755	ug/l	1.50	1,876,153.74	1.753E+01	Pulse	0.30	3
Mg			2	1833.534	ug/l	1.06	883,583.44	8.256E+00	Pulse	0.30	3
Al			2	1887.634	ug/l	0.73	303,265.35	2.834E+00	Pulse	0.30	3
K			2	1958.929	ug/l	0.86	594,627.43	5.556E+00	Pulse	0.30	3
Ca			2	2322.206	ug/l	0.37	38,444.36	3.592E-01	Pulse	0.30	3
Ti			2	73.977	ug/l	1.65	9,287.13	8.678E-02	Pulse	0.30	3
V			2	76.269	ug/l	0.54	303,652.56	2.837E+00	Pulse	0.30	3
Cr			2	73.039	ug/l	1.07	388,064.85	3.626E+00	Pulse	0.30	3
Mn			2	74.856	ug/l	0.68	209,783.78	1.960E+00	Pulse	0.30	3
Fe			2	2099.970	ug/l	0.29	8,753,982.43	8.180E+01	Analog	0.30	3
Co			2	73.414	ug/l	0.39	609,486.22	5.695E+00	Pulse	0.30	3
Ni			2	72.369	ug/l	0.47	162,740.81	1.521E+00	Pulse	0.30	3
Cu			2	71.151	ug/l	1.13	439,737.19	4.109E+00	Pulse	0.30	3
Zn			2	73.240	ug/l	2.29	67,145.48	6.274E-01	Pulse	0.30	3
As			2	76.772	ug/l	0.85	33,561.64	3.136E-01	Pulse	1.00	3
Cd			2	72.809	ug/l	0.75	101,480.94	1.740E-01	Pulse	0.30	3
Sn			2	76.564	ug/l	0.45	205,480.40	3.524E-01	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	194.256	ug/l	1.12	28,804.55	1.785E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,110,210.70	0.84	87.6	Pulse	0.10	3
1	Sc		1,788,869.09	2.26	93.3	Pulse	0.10	3
1	Ge		343,519.47	2.69	96.3	Pulse	0.10	3
1	Ge		481,757.84	2.39	97.8	Pulse	0.10	3
1	Rh		2,409,666.53	2.72	95.8	Pulse	0.10	3
1	In		2,398,841.26	3.33	97.7	Pulse	0.10	3
1	Tb		3,620,294.74	3.00	98.6	Pulse	0.10	3
1	Ho		361,448.56	4.09	98.0	Pulse	0.10	3
1	Bi		2,220,433.46	2.81	95.9	Pulse	0.10	3
2	Sc		107,023.83	0.74	92.7	Pulse	0.30	3
2	Ge		59,529.03	0.68	97.2	Pulse	0.30	3
2	Ge		90,591.69	1.12	96.8	Pulse	0.30	3
2	Rh		1,592,587.79	0.53	93.3	Pulse	0.30	3
2	In		583,114.90	0.58	96.3	Pulse	0.30	3
2	Tb		2,186,744.98	0.21	96.1	Pulse	0.30	3
2	Ho		220,255.64	0.11	97.4	Pulse	0.30	3
2	Bi		1,477,252.09	0.36	95.3	Pulse	0.30	3
3	Sc		172,823.12	1.05	92.1	Pulse	0.30	3
3	Ge		105,936.05	0.35	90.3	Pulse	0.30	3
3	Ge		161,340.86	0.48	90.6	Pulse	0.30	3
3	Rh		1,754,246.14	0.55	90.5	Pulse	0.30	3
3	Tb		3,111,802.03	0.85	93.8	Pulse	0.30	3

Quantitation Report

File Name 089SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 17:08
Sample Name mp18786-s1 1
Sample Type Sample
Comment
Prep Dilution 20.000
Auto Dilution N/A
Total Dilution 20.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	75.286	ug/l	0.63	19,519.27	1.758E-02	Pulse	0.25	3
B			1	262.587	ug/l	1.84	59,731.25	5.381E-02	Pulse	0.15	3
Ca			1	95788.095	ug/l	0.98	2,756,126.00	1.524E+00	Pulse	0.10	3
Sr			1	635.109	ug/l	0.79	881,199.44	3.683E-01	Pulse	0.10	3
Mo			1	75.761	ug/l	1.39	21,208.07	8.866E-03	Pulse	0.10	3
Ag			1	75.429	ug/l	0.82	53,216.72	2.197E-02	Pulse	0.10	3
Sn			1	55.626	ug/l	1.99	23,685.13	9.782E-03	Pulse	0.10	3
Sb			1	85.612	ug/l	0.98	43,013.05	1.216E-02	Pulse	0.10	3
Ba			1	99.604	ug/l	2.67	20,003.51	5.660E-03	Pulse	0.10	3
Tl			1	76.332	ug/l	1.75	105,099.50	4.820E-02	Pulse	0.10	3
Pb			1	75.825	ug/l	2.28	37,007.27	1.697E-02	Pulse	0.10	3
Pb			1	76.281	ug/l	1.99	32,877.58	1.508E-02	Pulse	0.10	3
Pb			1	76.936	ug/l	0.83	151,118.75	6.931E-02	Pulse	0.10	3
Na			2	32465.087	ug/l	0.32	1,719,631.88	1.580E+01	Pulse	0.30	3
Mg			2	14500.885	ug/l	0.85	355,433.70	3.266E+00	Pulse	0.30	3
Al			2	1934.446	ug/l	1.05	16,048.90	1.475E-01	Pulse	0.30	3
K			2	9010.297	ug/l	0.82	145,645.16	1.338E+00	Pulse	0.30	3
Ca			2	103237.658	ug/l	0.77	86,777.63	7.973E-01	Pulse	0.30	3
Ti			2	72.245	ug/l	6.42	462.24	4.247E-03	Pulse	0.30	3
V			2	75.306	ug/l	1.67	15,777.61	1.450E-01	Pulse	0.30	3
Cr			2	73.827	ug/l	1.44	20,354.85	1.870E-01	Pulse	0.30	3
Mn			2	709.205	ug/l	1.58	101,087.45	9.288E-01	Pulse	0.30	3
Fe			2	1638.670	ug/l	1.33	354,873.44	3.261E+00	Pulse	0.30	3
Co			2	74.051	ug/l	0.88	31,274.35	2.874E-01	Pulse	0.30	3
Ni			2	73.906	ug/l	3.17	8,856.88	8.138E-02	Pulse	0.30	3
Cu			2	57.755	ug/l	1.18	23,490.26	2.158E-01	Pulse	0.30	3
Zn			2	91.216	ug/l	0.58	5,081.97	4.669E-02	Pulse	0.30	3
As			2	83.239	ug/l	1.71	1,858.11	1.707E-02	Pulse	1.00	3
Cd			2	74.167	ug/l	3.93	5,351.46	8.867E-03	Pulse	0.30	3
Sn			2	46.703	ug/l	3.30	6,495.85	1.076E-02	Pulse	0.30	3
Se			3	226.009	ug/l	2.91	1,648.15	1.042E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,110,068.10	0.34	87.6	Pulse	0.10	3
1	Sc		1,808,813.51	1.58	94.4	Pulse	0.10	3
1	Ge		346,303.47	2.18	97.1	Pulse	0.10	3

Quantitation Report

1	Ge		480,126.99	1.80	97.5	Pulse	0.10	3
1	Rh		2,392,377.98	2.00	95.1	Pulse	0.10	3
1	In		2,422,031.24	2.44	98.7	Pulse	0.10	3
1	Tb		3,535,586.82	2.31	96.3	Pulse	0.10	3
1	Ho		352,547.04	2.40	95.6	Pulse	0.10	3
1	Bi		2,180,214.86	2.48	94.2	Pulse	0.10	3
2	Sc		108,837.47	0.55	94.3	Pulse	0.30	3
2	Ge		62,414.09	0.77	101.9	Pulse	0.30	3
2	Ge		93,607.53	0.97	100.0	Pulse	0.30	3
2	Rh		1,594,031.67	1.23	93.4	Pulse	0.30	3
2	In		603,569.46	0.29	99.7	Pulse	0.30	3
2	Tb		2,163,262.90	0.66	95.1	Pulse	0.30	3
2	Ho		218,477.87	1.02	96.6	Pulse	0.30	3
2	Bi		1,471,898.83	0.56	95.0	Pulse	0.30	3
3	Sc		170,135.17	1.26	90.6	Pulse	0.30	3
3	Ge		105,482.90	0.17	89.9	Pulse	0.30	3
3	Ge		158,214.73	0.46	88.9	Pulse	0.30	3
3	Rh		1,710,291.05	0.26	88.2	Pulse	0.30	3
3	Tb		2,992,569.33	0.69	90.2	Pulse	0.30	3

Quantitation Report

File Name 090SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 17:13
Sample Name mp18786-s2
Sample Type Sample
Comment
Prep Dilution 20.000
Auto Dilution N/A
Total Dilution 20.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	76.439	ug/l	0.43	19,812.98	1.785E-02	Pulse	0.25	3
B			1	235.290	ug/l	2.07	54,433.67	4.905E-02	Pulse	0.15	3
Ca			1	96763.458	ug/l	0.84	2,775,789.13	1.539E+00	Pulse	0.10	3
Sr			1	641.327	ug/l	0.15	881,565.35	3.719E-01	Pulse	0.10	3
Mo			1	75.607	ug/l	1.65	20,974.34	8.848E-03	Pulse	0.10	3
Ag			1	76.327	ug/l	1.61	53,193.58	2.223E-02	Pulse	0.10	3
Sn			1	57.965	ug/l	1.08	24,426.47	1.021E-02	Pulse	0.10	3
Sb			1	85.367	ug/l	2.23	42,324.55	1.213E-02	Pulse	0.10	3
Ba			1	99.807	ug/l	1.46	19,789.93	5.672E-03	Pulse	0.10	3
Tl			1	76.765	ug/l	0.76	105,007.93	4.847E-02	Pulse	0.10	3
Pb			1	78.294	ug/l	0.62	37,952.87	1.752E-02	Pulse	0.10	3
Pb			1	75.777	ug/l	1.69	32,443.25	1.498E-02	Pulse	0.10	3
Pb			1	76.874	ug/l	0.57	150,044.34	6.926E-02	Pulse	0.10	3
Na			2	32476.001	ug/l	0.49	1,728,088.16	1.581E+01	Pulse	0.30	3
Mg			2	14639.231	ug/l	0.40	360,456.57	3.297E+00	Pulse	0.30	3
Al			2	1991.084	ug/l	1.11	16,586.08	1.517E-01	Pulse	0.30	3
K			2	9181.025	ug/l	1.36	148,915.26	1.362E+00	Pulse	0.30	3
Ca			2	104898.668	ug/l	1.02	88,580.21	8.101E-01	Pulse	0.30	3
Ti			2	80.776	ug/l	3.90	518.90	4.747E-03	Pulse	0.30	3
V			2	76.727	ug/l	0.73	16,137.96	1.476E-01	Pulse	0.30	3
Cr			2	73.841	ug/l	1.21	20,449.41	1.870E-01	Pulse	0.30	3
Mn			2	716.617	ug/l	0.60	102,616.63	9.385E-01	Pulse	0.30	3
Fe			2	1746.177	ug/l	1.08	379,358.74	3.470E+00	Pulse	0.30	3
Co			2	75.452	ug/l	0.58	32,013.45	2.928E-01	Pulse	0.30	3
Ni			2	73.266	ug/l	2.89	8,824.67	8.070E-02	Pulse	0.30	3
Cu			2	57.645	ug/l	0.97	23,564.77	2.155E-01	Pulse	0.30	3
Zn			2	92.699	ug/l	5.68	5,171.98	4.732E-02	Pulse	0.30	3
As			2	84.232	ug/l	2.95	1,889.11	1.727E-02	Pulse	1.00	3
Cd			2	76.432	ug/l	1.45	5,519.33	9.138E-03	Pulse	0.30	3
Sn			2	50.345	ug/l	3.72	7,006.07	1.160E-02	Pulse	0.30	3
Se			3	232.543	ug/l	0.51	1,681.42	1.072E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,109,779.35	0.59	87.6	Pulse	0.10	3
1	Sc		1,803,381.85	1.36	94.1	Pulse	0.10	3
1	Ge		347,434.06	1.50	97.4	Pulse	0.10	3

Quantitation Report

1	Ge		476,159.73	1.79	96.7	Pulse	0.10	3
1	Rh		2,370,202.99	1.64	94.2	Pulse	0.10	3
1	In		2,392,760.39	2.32	97.5	Pulse	0.10	3
1	Tb		3,488,702.76	2.27	95.1	Pulse	0.10	3
1	Ho		346,687.95	3.23	94.0	Pulse	0.10	3
1	Bi		2,166,449.19	2.38	93.6	Pulse	0.10	3
2	Sc		109,338.54	1.16	94.7	Pulse	0.30	3
2	Ge		61,490.62	0.22	100.4	Pulse	0.30	3
2	Ge		93,368.31	0.57	99.8	Pulse	0.30	3
2	Rh		1,600,423.86	0.47	93.8	Pulse	0.30	3
2	In		604,064.31	0.80	99.8	Pulse	0.30	3
2	Tb		2,179,837.41	1.24	95.8	Pulse	0.30	3
2	Ho		218,166.81	1.50	96.5	Pulse	0.30	3
2	Bi		1,466,255.43	1.37	94.6	Pulse	0.30	3
3	Sc		168,090.28	0.48	89.5	Pulse	0.30	3
3	Ge		104,443.06	0.41	89.0	Pulse	0.30	3
3	Ge		156,880.58	0.58	88.1	Pulse	0.30	3
3	Rh		1,694,092.61	0.50	87.4	Pulse	0.30	3
3	Tb		2,961,885.16	0.37	89.2	Pulse	0.30	3

Quantitation Report

File Name 091SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 17:18
Sample Name jc99833-1
Sample Type Sample
Comment
Prep Dilution 20.000
Auto Dilution N/A
Total Dilution 20.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.019	ug/l	171.00	10.67	9.615E-06	Pulse	0.25	3
B			1	149.800	ug/l	2.00	37,753.28	3.414E-02	Pulse	0.15	3
Ca			1	95738.886	ug/l	0.60	2,747,477.15	1.523E+00	Pulse	0.10	3
Sr			1	570.085	ug/l	0.42	787,419.65	3.306E-01	Pulse	0.10	3
Mo			1	2.018	ug/l	23.67	616.70	2.588E-04	Pulse	0.10	3
Ag			1	0.028	ug/l	178.22	30.00	1.220E-05	Pulse	0.10	3
Sn			1	5.782	ug/l	5.39	1,570.15	6.491E-04	Pulse	0.10	3
Sb			1	-0.492	ug/l	-28.19	336.68	9.524E-05	Pulse	0.10	3
Ba			1	21.178	ug/l	4.04	4,284.08	1.213E-03	Pulse	0.10	3
Tl			1	0.088	ug/l	34.73	166.67	7.689E-05	Pulse	0.10	3
Pb			1	-0.183	ug/l	-35.79	123.34	5.694E-05	Pulse	0.10	3
Pb			1	-0.274	ug/l	-9.49	120.01	5.532E-05	Pulse	0.10	3
Pb			1	-0.156	ug/l	-29.21	530.03	2.448E-04	Pulse	0.10	3
Na			2	30810.999	ug/l	1.12	1,653,260.94	1.500E+01	Pulse	0.30	3
Mg			2	12799.390	ug/l	0.77	317,672.73	2.883E+00	Pulse	0.30	3
Al			2	18.271	ug/l	112.99	414.51	3.750E-03	Pulse	0.30	3
K			2	7231.437	ug/l	0.85	120,068.66	1.090E+00	Pulse	0.30	3
Ca			2	102504.596	ug/l	1.23	87,246.65	7.917E-01	Pulse	0.30	3
Ti			2	0.880	ug/l	205.29	6.67	6.118E-05	Pulse	0.30	3
V			2	-2.535	ug/l	-2.30	47.78	4.340E-04	Pulse	0.30	3
Cr			2	0.189	ug/l	56.80	486.68	4.415E-03	Pulse	0.30	3
Mn			2	708.797	ug/l	1.14	102,296.63	9.283E-01	Pulse	0.30	3
Fe			2	-6.015	ug/l	-20.18	6,658.23	6.040E-02	Pulse	0.30	3
Co			2	0.040	ug/l	82.75	33.31	3.015E-04	Pulse	0.30	3
Ni			2	0.398	ug/l	59.34	478.90	4.347E-03	Pulse	0.30	3
Cu			2	-14.881	ug/l	-0.41	958.93	8.701E-03	Pulse	0.30	3
Zn			2	10.471	ug/l	5.06	1,383.41	1.255E-02	Pulse	0.30	3
As			2	0.241	ug/l	57.32	13.67	1.241E-04	Pulse	1.00	3
Cd			2	-0.015	ug/l	-177.40	1.04	1.719E-06	Pulse	0.30	3
Sn			2	4.067	ug/l	6.50	573.35	9.512E-04	Pulse	0.30	3
Se			3	0.468	ug/l	36.67	8.60	5.482E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,105,974.97	0.70	87.3	Pulse	0.10	3
1	Sc		1,804,054.77	2.36	94.1	Pulse	0.10	3
1	Ge		347,320.40	2.09	97.4	Pulse	0.10	3

Quantitation Report

1	Ge		482,495.77	2.15	98.0	Pulse	0.10	3
1	Rh		2,381,576.99	2.24	94.6	Pulse	0.10	3
1	In		2,415,905.24	2.22	98.4	Pulse	0.10	3
1	Tb		3,531,240.67	1.42	96.2	Pulse	0.10	3
1	Ho		352,518.37	1.80	95.6	Pulse	0.10	3
1	Bi		2,171,137.94	2.61	93.8	Pulse	0.10	3
2	Sc		110,208.82	1.17	95.5	Pulse	0.30	3
2	Ge		61,902.39	1.08	101.0	Pulse	0.30	3
2	Ge		92,823.13	1.54	99.2	Pulse	0.30	3
2	Rh		1,599,709.45	1.06	93.7	Pulse	0.30	3
2	In		602,553.48	0.97	99.5	Pulse	0.30	3
2	Tb		2,161,897.21	0.54	95.0	Pulse	0.30	3
2	Ho		217,018.69	1.44	96.0	Pulse	0.30	3
2	Bi		1,469,045.63	0.29	94.8	Pulse	0.30	3
3	Sc		167,114.45	0.47	89.0	Pulse	0.30	3
3	Ge		103,643.47	0.84	88.3	Pulse	0.30	3
3	Ge		156,865.33	0.30	88.1	Pulse	0.30	3
3	Rh		1,690,963.58	0.49	87.2	Pulse	0.30	3
3	Tb		2,961,526.06	1.02	89.2	Pulse	0.30	3

Quantitation Report

File Name 092SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 17:23
Sample Name jc99834-1
Sample Type Sample
Comment
Prep Dilution 20.000
Auto Dilution N/A
Total Dilution 20.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	-0.002	ug/l	-1015.44	5.33	4.850E-06	Pulse	0.25	3
B			1	145.354	ug/l	2.34	36,786.69	3.336E-02	Pulse	0.15	3
Ca			1	93681.604	ug/l	0.64	2,692,384.65	1.490E+00	Pulse	0.10	3
Sr			1	547.493	ug/l	0.42	755,435.64	3.175E-01	Pulse	0.10	3
Mo			1	1.173	ug/l	23.56	380.02	1.601E-04	Pulse	0.10	3
Ag			1	0.048	ug/l	37.54	43.33	1.804E-05	Pulse	0.10	3
Sn			1	4.255	ug/l	7.01	893.39	3.694E-04	Pulse	0.10	3
Sb			1	-0.491	ug/l	-22.79	336.68	9.532E-05	Pulse	0.10	3
Ba			1	21.026	ug/l	6.19	4,260.74	1.204E-03	Pulse	0.10	3
Tl			1	0.141	ug/l	29.51	240.01	1.105E-04	Pulse	0.10	3
Pb			1	-0.190	ug/l	-31.08	120.01	5.529E-05	Pulse	0.10	3
Pb			1	-0.288	ug/l	-20.84	113.34	5.248E-05	Pulse	0.10	3
Pb			1	-0.148	ug/l	-13.64	546.69	2.523E-04	Pulse	0.10	3
Na			2	29833.407	ug/l	0.75	1,602,007.37	1.453E+01	Pulse	0.30	3
Mg			2	12442.247	ug/l	0.77	308,934.06	2.802E+00	Pulse	0.30	3
Al			2	-13.846	ug/l	-24.19	147.78	1.341E-03	Pulse	0.30	3
K			2	6906.810	ug/l	0.83	115,114.05	1.044E+00	Pulse	0.30	3
Ca			2	99659.192	ug/l	2.06	84,855.41	7.697E-01	Pulse	0.30	3
Ti			2	0.009	ug/l	3243.64	1.11	1.010E-05	Pulse	0.30	3
V			2	-2.595	ug/l	-2.40	35.56	3.228E-04	Pulse	0.30	3
Cr			2	0.013	ug/l	1024.49	438.90	3.980E-03	Pulse	0.30	3
Mn			2	621.042	ug/l	0.44	89,675.59	8.134E-01	Pulse	0.30	3
Fe			2	-14.548	ug/l	-1.21	4,828.55	4.380E-02	Pulse	0.30	3
Co			2	0.051	ug/l	57.68	37.77	3.424E-04	Pulse	0.30	3
Ni			2	-0.010	ug/l	-1029.80	432.23	3.920E-03	Pulse	0.30	3
Cu			2	-14.862	ug/l	-2.18	965.60	8.754E-03	Pulse	0.30	3
Zn			2	10.152	ug/l	14.88	1,368.97	1.242E-02	Pulse	0.30	3
As			2	0.033	ug/l	142.04	9.00	8.167E-05	Pulse	1.00	3
Cd			2	0.016	ug/l	285.08	3.30	5.456E-06	Pulse	0.30	3
Sn			2	2.257	ug/l	17.70	324.45	5.348E-04	Pulse	0.30	3
Se			3	0.365	ug/l	123.81	7.80	5.010E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,102,724.38	0.51	87.0	Pulse	0.10	3
1	Sc		1,806,544.04	2.12	94.2	Pulse	0.10	3
1	Ge		347,317.50	1.26	97.4	Pulse	0.10	3

Quantitation Report

1	Ge		478,196.36	2.72	97.1	Pulse	0.10	3
1	Rh		2,379,033.56	2.11	94.5	Pulse	0.10	3
1	In		2,417,188.76	3.45	98.5	Pulse	0.10	3
1	Tb		3,541,410.99	2.62	96.5	Pulse	0.10	3
1	Ho		353,091.13	2.58	95.7	Pulse	0.10	3
1	Bi		2,165,617.93	1.91	93.5	Pulse	0.10	3
2	Sc		110,249.97	0.77	95.5	Pulse	0.30	3
2	Ge		61,946.95	1.16	101.1	Pulse	0.30	3
2	Ge		93,493.52	0.64	99.9	Pulse	0.30	3
2	Rh		1,600,451.26	0.64	93.8	Pulse	0.30	3
2	In		606,418.96	0.87	100.2	Pulse	0.30	3
2	Tb		2,170,606.23	1.22	95.4	Pulse	0.30	3
2	Ho		218,699.35	2.00	96.7	Pulse	0.30	3
2	Bi		1,473,703.00	0.86	95.1	Pulse	0.30	3
3	Sc		167,095.96	1.17	89.0	Pulse	0.30	3
3	Ge		103,614.49	1.30	88.3	Pulse	0.30	3
3	Ge		155,772.09	0.31	87.5	Pulse	0.30	3
3	Rh		1,699,483.61	0.81	87.7	Pulse	0.30	3
3	Tb		2,950,098.43	0.60	88.9	Pulse	0.30	3

Quantitation Report

File Name	093SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 17:28
Sample Name	EMPTYCONF
Sample Type	Sample
Comment	
Prep Dilution	2.000
Auto Dilution	N/A
Total Dilution	2.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	-0.002	ug/l	-14.55	1.33	4.078E-07	Pulse	0.25	3
B			1	0.957	ug/l	51.58	26,645.79	9.677E-03	Pulse	0.15	3
Ca			1	-39.384	ug/l	-6.30	11,617.83	2.586E-03	Pulse	0.10	3
Sr			1	0.002	ug/l	167.56	566.70	9.396E-05	Pulse	0.10	3
Mo			1	-0.015	ug/l	-7.18	33.33	5.323E-06	Pulse	0.10	3
Ag			1	0.002	ug/l	113.06	60.00	9.735E-06	Pulse	0.10	3
Sn			1	0.349	ug/l	4.65	1,463.46	2.288E-04	Pulse	0.10	3
Sb			1	-0.028	ug/l	-63.27	1,203.43	1.246E-04	Pulse	0.10	3
Ba			1	0.023	ug/l	178.56	246.84	2.482E-05	Pulse	0.10	3
Tl			1	-0.002	ug/l	-20.21	36.67	6.288E-06	Pulse	0.10	3
Pb			1	-0.024	ug/l	-30.77	263.34	4.428E-05	Pulse	0.10	3
Pb			1	-0.042	ug/l	-5.19	166.68	2.749E-05	Pulse	0.10	3
Pb			1	-0.025	ug/l	-11.25	986.73	1.617E-04	Pulse	0.10	3
Na			2	-5.963	ug/l	-25.45	36,067.28	1.147E-01	Pulse	0.30	3
Mg			2	-0.066	ug/l	-123.81	360.03	1.145E-03	Pulse	0.30	3
Al			2	-0.643	ug/l	-131.99	605.62	1.897E-03	Pulse	0.30	3
K			2	-49.276	ug/l	-1.21	2,998.11	9.546E-03	Pulse	0.30	3
Ca			2	-7.858	ug/l	-17.82	102.22	3.231E-04	Pulse	0.30	3
Ti			2	0.015	ug/l	188.92	5.56	1.825E-05	Pulse	0.30	3
V			2	-0.272	ug/l	-0.52	26.67	8.546E-05	Pulse	0.30	3
Cr			2	-0.126	ug/l	-4.85	263.34	8.314E-04	Pulse	0.30	3
Mn			2	-0.007	ug/l	-39.10	107.78	3.425E-04	Pulse	0.30	3
Fe			2	-2.879	ug/l	-1.84	5,071.99	1.609E-02	Pulse	0.30	3
Co			2	0.000	ug/l	-298.92	42.21	1.332E-04	Pulse	0.30	3
Ni			2	-0.170	ug/l	-13.34	680.02	2.153E-03	Pulse	0.30	3
Cu			2	-1.590	ug/l	-0.56	1,830.12	5.788E-03	Pulse	0.30	3
Zn			2	-1.545	ug/l	-3.19	502.24	1.596E-03	Pulse	0.30	3
As			2	-0.029	ug/l	-1.79	4.67	1.477E-05	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	-0.001	ug/l	-10.14	3.33	1.977E-06	Pulse	0.30	3
Sn			2	0.105	ug/l	14.48	431.12	2.561E-04	Pulse	0.30	3
Se			3	-0.048	ug/l	-12.87	5.27	1.104E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		2,781,509.24	17.29	219.4	Mix	0.10	3
1	Sc		4,573,819.62	18.76	238.6	Analog	0.10	3
1	Ge		752,334.82	18.16	211.0	Pulse	0.10	3
1	Ge		1,041,805.66	17.93	211.5	Pulse	0.10	3
1	Rh		6,155,097.62	17.96	244.6	Analog	0.10	3
1	In		6,487,371.38	18.30	264.3	Analog	0.10	3
1	Tb		9,890,797.56	17.64	269.5	Analog	0.10	3
1	Ho		835,329.13	17.57	226.5	Pulse	0.10	3
1	Bi		6,155,421.26	19.06	265.8	Analog	0.10	3
2	Sc		315,526.16	8.06	273.4	Pulse	0.30	3
2	Ge		168,781.95	7.93	275.5	Pulse	0.30	3
2	Ge		255,741.55	8.52	273.3	Pulse	0.30	3
2	Rh		5,206,839.93	8.67	305.1	Analog	0.30	3
2	In		1,690,974.69	7.77	279.3	Pulse	0.30	3
2	Tb		7,578,376.92	8.78	333.0	Analog	0.30	3
2	Ho		643,550.65	8.38	284.7	Pulse	0.30	3
2	Bi		5,312,284.65	9.25	342.7	Analog	0.30	3
3	Sc		557,372.61	38.00	296.9	Pulse	0.30	3
3	Ge		336,873.98	39.23	287.0	Pulse	0.30	3
3	Ge		508,446.79	38.74	285.5	Pulse	0.30	3
3	Rh		5,979,681.43	42.24	308.4	Mix	0.30	3
3	Tb		11,433,936.49	37.55	344.5	Analog	0.30	3

Quantitation Report

File Name 094SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 17:33
Sample Name mp18774-b1conf
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	69.816	ug/l	0.74	179,176.51	1.630E-01	Pulse	0.25	3
B			1	92.333	ug/l	1.26	185,800.90	1.690E-01	Pulse	0.15	3
Ca			1	3949.680	ug/l	0.82	1,090,650.32	6.335E-01	Pulse	0.10	3
Sr			1	79.197	ug/l	0.53	1,060,710.79	4.593E-01	Pulse	0.10	3
Mo			1	79.153	ug/l	0.15	213,418.55	9.241E-02	Pulse	0.10	3
Ag			1	76.948	ug/l	0.80	518,505.21	2.241E-01	Pulse	0.10	3
Sn			1	80.317	ug/l	0.92	339,583.95	1.467E-01	Pulse	0.10	3
Sb			1	79.749	ug/l	0.24	399,023.32	1.120E-01	Pulse	0.10	3
Ba			1	77.577	ug/l	0.45	156,819.05	4.400E-02	Pulse	0.10	3
Tl			1	77.292	ug/l	0.63	1,058,682.28	4.879E-01	Pulse	0.10	3
Pb			1	79.108	ug/l	0.25	382,166.70	1.761E-01	Pulse	0.10	3
Pb			1	79.514	ug/l	1.17	338,766.49	1.561E-01	Pulse	0.10	3
Pb			1	79.222	ug/l	0.21	1,541,068.55	7.101E-01	Pulse	0.10	3
Na			2	3749.213	ug/l	1.18	1,811,320.21	1.822E+01	Pulse	0.30	3
Mg			2	3735.514	ug/l	1.63	835,866.31	8.410E+00	Pulse	0.30	3
Al			2	3763.923	ug/l	1.67	280,770.21	2.825E+00	Pulse	0.30	3
K			2	3985.180	ug/l	1.46	561,570.72	5.650E+00	Pulse	0.30	3
Ca			2	4333.334	ug/l	0.27	33,318.85	3.352E-01	Pulse	0.30	3
Ti			2	76.436	ug/l	1.79	4,456.21	4.484E-02	Pulse	0.30	3
V			2	78.896	ug/l	0.87	146,101.46	1.470E+00	Pulse	0.30	3
Cr			2	77.054	ug/l	1.32	190,287.75	1.915E+00	Pulse	0.30	3
Mn			2	77.479	ug/l	1.41	100,842.35	1.015E+00	Pulse	0.30	3
Fe			2	4369.764	ug/l	1.55	8,458,242.44	8.510E+01	Analog	0.30	3
Co			2	76.163	ug/l	1.20	293,608.42	2.954E+00	Pulse	0.30	3
Ni			2	75.433	ug/l	0.48	78,955.39	7.944E-01	Pulse	0.30	3
Cu			2	74.692	ug/l	1.18	216,771.41	2.181E+00	Pulse	0.30	3
Zn			2	68.529	ug/l	3.33	29,600.14	2.979E-01	Pulse	0.30	3
As			2	74.937	ug/l	0.99	15,215.75	1.531E-01	Pulse	1.00	3
Cd			2	72.831	ug/l	1.18	47,853.78	8.704E-02	Pulse	0.30	3
Sn			2	81.909	ug/l	0.89	103,640.76	1.885E-01	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	328.224	ug/l	3.92	25,864.94	1.508E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,099,068.34	1.23	86.7	Pulse	0.10	3
1	Sc		1,721,771.38	1.90	89.8	Pulse	0.10	3
1	Ge		358,548.94	1.20	100.6	Pulse	0.10	3
1	Ge		497,627.90	2.35	101.0	Pulse	0.10	3
1	Rh		2,309,426.48	2.02	91.8	Pulse	0.10	3
1	In		2,313,717.66	2.52	94.3	Pulse	0.10	3
1	Tb		3,564,204.01	3.73	97.1	Pulse	0.10	3
1	Ho		358,542.89	3.18	97.2	Pulse	0.10	3
1	Bi		2,170,099.81	3.28	93.7	Pulse	0.10	3
2	Sc		99,394.87	1.00	86.1	Pulse	0.30	3
2	Ge		62,018.28	0.33	101.2	Pulse	0.30	3
2	Ge		94,435.83	0.22	100.9	Pulse	0.30	3
2	Rh		1,540,627.92	1.58	90.3	Pulse	0.30	3
2	In		549,814.31	0.84	90.8	Pulse	0.30	3
2	Tb		2,124,705.75	0.73	93.4	Pulse	0.30	3
2	Ho		212,969.32	0.53	94.2	Pulse	0.30	3
2	Bi		1,431,420.57	0.75	92.3	Pulse	0.30	3
3	Sc		174,262.84	0.20	92.8	Pulse	0.30	3
3	Ge		113,979.89	4.16	97.1	Pulse	0.30	3
3	Ge		171,644.78	3.80	96.4	Pulse	0.30	3
3	Rh		1,760,696.53	0.66	90.8	Pulse	0.30	3
3	Tb		3,124,959.25	0.38	94.2	Pulse	0.30	3

Quantitation Report

File Name	095_CCV.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 17:38
Sample Name	CCVA
Sample Type	CCV
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	49.343	ug/l	0.99	259,124.81	2.304E-01	Pulse	0.25	3
B			1	104.715	ug/l	0.34	419,785.24	3.733E-01	Pulse	0.15	3
Ca			1	4831.939	ug/l	0.52	2,818,087.35	1.537E+00	Pulse	0.10	3
Sr			1	53.203	ug/l	0.58	1,485,699.93	6.170E-01	Pulse	0.10	3
Mo			1	50.814	ug/l	0.37	285,666.87	1.186E-01	Pulse	0.10	3
Ag			1	48.813	ug/l	0.51	690,726.45	2.843E-01	Pulse	0.10	3
Sn			1	50.210	ug/l	0.79	446,030.93	1.836E-01	Pulse	0.10	3
Sb			1	53.589	ug/l	1.41	544,308.49	1.504E-01	Pulse	0.10	3
Ba			1	52.992	ug/l	0.06	217,617.40	6.011E-02	Pulse	0.10	3
Tl			1	51.503	ug/l	0.39	1,420,063.62	6.502E-01	Pulse	0.10	3
Pb			1	51.176	ug/l	0.54	497,685.49	2.278E-01	Pulse	0.10	3
Pb			1	51.086	ug/l	0.27	438,156.02	2.006E-01	Pulse	0.10	3
Pb			1	51.054	ug/l	0.23	1,999,115.90	9.152E-01	Pulse	0.10	3
Na			2	4854.146	ug/l	0.22	5,141,886.74	4.696E+01	Analog	0.30	3
Mg			2	4541.615	ug/l	0.72	2,238,863.38	2.045E+01	Pulse	0.30	3
Al			2	4736.037	ug/l	0.61	777,991.06	7.106E+00	Pulse	0.30	3
K			2	4937.571	ug/l	0.89	1,520,247.92	1.389E+01	Pulse	0.30	3
Ca			2	5135.300	ug/l	0.79	86,846.75	7.932E-01	Pulse	0.30	3
Ti			2	48.667	ug/l	4.85	6,250.14	5.709E-02	Pulse	0.30	3
V			2	50.737	ug/l	1.48	206,836.58	1.889E+00	Pulse	0.30	3
Cr			2	48.876	ug/l	0.80	265,816.66	2.428E+00	Pulse	0.30	3
Mn			2	49.879	ug/l	1.29	143,019.46	1.306E+00	Pulse	0.30	3
Fe			2	5134.181	ug/l	0.13	21,883,894.69	1.999E+02	Analog	0.30	3
Co			2	48.615	ug/l	1.14	412,890.99	3.771E+00	Pulse	0.30	3
Ni			2	48.084	ug/l	0.84	110,762.04	1.012E+00	Pulse	0.30	3
Cu			2	47.281	ug/l	0.54	300,828.44	2.748E+00	Pulse	0.30	3
Zn			2	48.416	ug/l	0.50	45,713.52	4.175E-01	Pulse	0.30	3
As			2	50.970	ug/l	0.79	22,797.87	2.082E-01	Pulse	1.00	3
Cd			2	49.028	ug/l	0.58	69,147.49	1.172E-01	Pulse	0.30	3
Sn			2	51.096	ug/l	0.63	138,762.22	2.352E-01	Pulse	0.30	3
Se			3	204.572	ug/l	0.73	30,120.45	1.880E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,124,560.57	0.71	88.7	Pulse	0.10	3
1	Sc		1,833,175.70	1.96	95.6	Pulse	0.10	3
1	Ge		350,898.99	2.34	98.4	Pulse	0.10	3

Quantitation Report

1	Ge		484,230.49	2.16	98.3	Pulse	0.10	3
1	Rh		2,407,777.72	2.56	95.7	Pulse	0.10	3
1	In		2,429,410.04	3.03	99.0	Pulse	0.10	3
1	Tb		3,620,196.09	3.67	98.6	Pulse	0.10	3
1	Ho		362,066.53	2.55	98.2	Pulse	0.10	3
1	Bi		2,184,299.03	3.39	94.3	Pulse	0.10	3
2	Sc		109,487.48	0.44	94.9	Pulse	0.30	3
2	Ge		60,964.31	1.28	99.5	Pulse	0.30	3
2	Ge		91,681.14	1.32	98.0	Pulse	0.30	3
2	Rh		1,596,477.89	0.45	93.5	Pulse	0.30	3
2	In		590,044.16	0.56	97.5	Pulse	0.30	3
2	Tb		2,199,882.97	0.07	96.7	Pulse	0.30	3
2	Ho		221,619.36	0.63	98.0	Pulse	0.30	3
2	Bi		1,471,189.77	0.76	94.9	Pulse	0.30	3
3	Sc		173,526.11	0.48	92.4	Pulse	0.30	3
3	Ge		105,848.80	1.35	90.2	Pulse	0.30	3
3	Ge		160,204.95	0.65	90.0	Pulse	0.30	3
3	Rh		1,724,545.07	0.22	88.9	Pulse	0.30	3
3	Tb		3,030,957.38	0.66	91.3	Pulse	0.30	3

Quantitation Report

File Name 096_CCB.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 17:43
Sample Name CCB
Sample Type CCB
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.007	ug/l	79.70	42.67	3.789E-05	Pulse	0.25	3
B			1	7.751	ug/l	1.60	39,597.41	3.505E-02	Pulse	0.15	3
Ca			1	-4.153	ug/l	-24.70	13,532.65	7.502E-03	Pulse	0.10	3
Sr			1	0.022	ug/l	18.93	810.05	3.340E-04	Pulse	0.10	3
Mo			1	0.145	ug/l	5.43	880.06	3.626E-04	Pulse	0.10	3
Ag			1	0.010	ug/l	32.54	153.34	6.289E-05	Pulse	0.10	3
Sn			1	0.430	ug/l	1.58	2,830.37	1.167E-03	Pulse	0.10	3
Sb			1	0.160	ug/l	6.84	2,186.91	6.125E-04	Pulse	0.10	3
Ba			1	0.022	ug/l	48.26	130.01	3.658E-05	Pulse	0.10	3
Tl			1	0.012	ug/l	10.65	390.02	1.777E-04	Pulse	0.10	3
Pb			1	0.006	ug/l	178.85	273.35	1.243E-04	Pulse	0.10	3
Pb			1	0.000	ug/l	-4795.02	236.68	1.083E-04	Pulse	0.10	3
Pb			1	0.009	ug/l	57.32	1,203.40	5.492E-04	Pulse	0.10	3
Na			2	20.074	ug/l	2.01	36,360.08	3.371E-01	Pulse	0.30	3
Mg			2	0.393	ug/l	29.32	330.01	3.061E-03	Pulse	0.30	3
Al			2	0.625	ug/l	16.55	357.78	3.317E-03	Pulse	0.30	3
K			2	-1.671	ug/l	-28.38	7,956.42	7.377E-02	Pulse	0.30	3
Ca			2	0.390	ug/l	279.08	106.67	9.895E-04	Pulse	0.30	3
Ti			2	0.027	ug/l	112.70	4.45	4.130E-05	Pulse	0.30	3
V			2	-0.113	ug/l	-1.73	101.11	9.371E-04	Pulse	0.30	3
Cr			2	0.012	ug/l	34.46	487.79	4.523E-03	Pulse	0.30	3
Mn			2	0.017	ug/l	22.41	94.44	8.759E-04	Pulse	0.30	3
Fe			2	1.809	ug/l	1.32	15,370.62	1.425E-01	Pulse	0.30	3
Co			2	0.004	ug/l	25.94	49.96	4.633E-04	Pulse	0.30	3
Ni			2	-0.043	ug/l	-69.41	326.67	3.031E-03	Pulse	0.30	3
Cu			2	-0.642	ug/l	-2.23	1,568.99	1.454E-02	Pulse	0.30	3
Zn			2	-0.530	ug/l	-14.46	393.34	3.647E-03	Pulse	0.30	3
As			2	0.018	ug/l	24.12	16.00	1.483E-04	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.001	ug/l	286.84	3.23	5.493E-06	Pulse	0.30	3
Sn			2	0.479	ug/l	17.09	1,310.07	2.219E-03	Pulse	0.30	3
Se			3	0.110	ug/l	14.24	21.73	1.340E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,129,953.08	0.76	89.1	Pulse	0.10	3
1	Sc		1,805,099.66	2.20	94.2	Pulse	0.10	3
1	Ge		341,791.79	2.25	95.9	Pulse	0.10	3
1	Ge		479,797.85	1.33	97.4	Pulse	0.10	3
1	Rh		2,426,085.43	2.21	96.4	Pulse	0.10	3
1	In		2,425,419.85	2.72	98.8	Pulse	0.10	3
1	Tb		3,569,770.99	2.04	97.3	Pulse	0.10	3
1	Ho		352,651.76	3.24	95.6	Pulse	0.10	3
1	Bi		2,193,024.97	2.18	94.7	Pulse	0.10	3
2	Sc		107,863.56	0.69	93.5	Pulse	0.30	3
2	Ge		60,239.41	1.16	98.3	Pulse	0.30	3
2	Ge		89,963.77	1.36	96.1	Pulse	0.30	3
2	Rh		1,609,004.76	1.05	94.3	Pulse	0.30	3
2	In		589,891.68	0.69	97.4	Pulse	0.30	3
2	Tb		2,153,021.86	0.39	94.6	Pulse	0.30	3
2	Ho		217,146.88	0.89	96.1	Pulse	0.30	3
2	Bi		1,478,256.68	0.72	95.4	Pulse	0.30	3
3	Sc		176,053.00	0.48	93.8	Pulse	0.30	3
3	Ge		108,117.68	1.20	92.1	Pulse	0.30	3
3	Ge		162,206.55	0.33	91.1	Pulse	0.30	3
3	Rh		1,785,163.54	0.51	92.1	Pulse	0.30	3
3	Tb		3,047,011.34	0.76	91.8	Pulse	0.30	3

Quantitation Report

File Name 097SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 17:50
Sample Name mp18774-mb1conf
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	-0.001	ug/l	-203.98	4.00	3.521E-06	Pulse	0.25	3
B			1	14.028	ug/l	2.15	36,991.57	3.247E-02	Pulse	0.15	3
Ca			1	1.874	ug/l	37.68	16,105.17	9.112E-03	Pulse	0.10	3
Sr			1	0.063	ug/l	1.31	1,063.41	4.470E-04	Pulse	0.10	3
Mo			1	0.143	ug/l	14.58	453.36	1.903E-04	Pulse	0.10	3
Ag			1	0.033	ug/l	33.40	240.01	1.008E-04	Pulse	0.10	3
Sn			1	1.250	ug/l	4.45	4,464.12	1.881E-03	Pulse	0.10	3
Sb			1	0.225	ug/l	9.07	1,706.82	4.800E-04	Pulse	0.10	3
Ba			1	0.165	ug/l	47.26	376.72	1.052E-04	Pulse	0.10	3
Tl			1	0.201	ug/l	3.32	2,800.36	1.288E-03	Pulse	0.10	3
Pb			1	0.070	ug/l	33.18	550.03	2.529E-04	Pulse	0.10	3
Pb			1	0.038	ug/l	38.38	400.02	1.845E-04	Pulse	0.10	3
Pb			1	0.061	ug/l	15.36	2,016.79	9.277E-04	Pulse	0.10	3
Na			2	82.656	ug/l	0.85	55,179.15	5.421E-01	Pulse	0.30	3
Mg			2	1.841	ug/l	14.44	553.35	5.436E-03	Pulse	0.30	3
Al			2	-0.305	ug/l	-98.50	218.89	2.151E-03	Pulse	0.30	3
K			2	-2.765	ug/l	-33.97	7,590.70	7.458E-02	Pulse	0.30	3
Ca			2	8.624	ug/l	25.91	162.23	1.595E-03	Pulse	0.30	3
Ti			2	0.450	ug/l	64.30	27.78	2.732E-04	Pulse	0.30	3
V			2	-0.073	ug/l	-12.50	384.45	3.777E-03	Pulse	0.30	3
Cr			2	0.313	ug/l	10.70	1,192.28	1.171E-02	Pulse	0.30	3
Mn			2	0.334	ug/l	11.59	488.90	4.805E-03	Pulse	0.30	3
Fe			2	11.904	ug/l	2.91	30,917.87	3.037E-01	Pulse	0.30	3
Co			2	0.008	ug/l	32.15	44.36	4.357E-04	Pulse	0.30	3
Ni			2	-0.036	ug/l	-75.02	362.23	3.557E-03	Pulse	0.30	3
Cu			2	-0.086	ug/l	-74.59	4,955.24	4.868E-02	Pulse	0.30	3
Zn			2	0.200	ug/l	66.04	913.37	8.973E-03	Pulse	0.30	3
As			2	0.127	ug/l	7.46	34.00	3.341E-04	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.009	ug/l	33.60	7.73	1.381E-05	Pulse	0.30	3
Sn			2	1.185	ug/l	7.41	1,535.65	2.742E-03	Pulse	0.30	3
Se			3	0.133	ug/l	9.98	16.40	9.431E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,139,263.39	1.44	89.9	Pulse	0.10	3
1	Sc		1,767,197.11	2.25	92.2	Pulse	0.10	3
1	Ge		383,958.17	2.16	107.7	Pulse	0.10	3
1	Ge		531,724.97	1.91	108.0	Pulse	0.10	3
1	Rh		2,378,805.75	2.31	94.5	Pulse	0.10	3
1	In		2,372,532.76	2.78	96.6	Pulse	0.10	3
1	Tb		3,557,625.36	2.36	96.9	Pulse	0.10	3
1	Ho		357,267.09	2.10	96.9	Pulse	0.10	3
1	Bi		2,175,094.34	3.12	93.9	Pulse	0.10	3
2	Sc		101,792.75	0.72	88.2	Pulse	0.30	3
2	Ge		65,391.39	1.98	106.7	Pulse	0.30	3
2	Ge		99,021.34	1.06	105.8	Pulse	0.30	3
2	Rh		1,576,874.90	0.43	92.4	Pulse	0.30	3
2	In		559,924.33	0.22	92.5	Pulse	0.30	3
2	Tb		2,131,582.28	0.97	93.7	Pulse	0.30	3
2	Ho		214,866.27	0.44	95.1	Pulse	0.30	3
2	Bi		1,447,424.77	0.89	93.4	Pulse	0.30	3
3	Sc		179,299.44	1.25	95.5	Pulse	0.30	3
3	Ge		116,148.80	1.84	99.0	Pulse	0.30	3
3	Ge		173,925.89	1.95	97.7	Pulse	0.30	3
3	Rh		1,833,595.27	0.82	94.6	Pulse	0.30	3
3	Tb		3,161,769.80	0.80	95.3	Pulse	0.30	3

Quantitation Report

File Name 098SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 17:55
Sample Name mp18774-s1 4
Sample Type Sample
Comment
Prep Dilution 20.000
Auto Dilution N/A
Total Dilution 20.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	80.267	ug/l	1.60	21,985.00	1.875E-02	Pulse	0.25	3
B			1	289.991	ug/l	0.44	68,700.75	5.859E-02	Pulse	0.15	3
Ca			1	11598.331	ug/l	0.62	365,145.12	1.923E-01	Pulse	0.10	3
Sr			1	225.580	ug/l	0.89	325,565.62	1.309E-01	Pulse	0.10	3
Mo			1	98.136	ug/l	1.75	28,562.95	1.148E-02	Pulse	0.10	3
Ag			1	83.067	ug/l	2.17	60,154.53	2.419E-02	Pulse	0.10	3
Sn			1	80.211	ug/l	1.15	35,527.82	1.429E-02	Pulse	0.10	3
Sb			1	93.952	ug/l	0.84	48,703.16	1.333E-02	Pulse	0.10	3
Ba			1	94.482	ug/l	3.83	19,616.31	5.370E-03	Pulse	0.10	3
Tl			1	83.952	ug/l	1.27	118,734.64	5.301E-02	Pulse	0.10	3
Pb			1	86.222	ug/l	1.74	43,184.13	1.928E-02	Pulse	0.10	3
Pb			1	87.180	ug/l	1.24	38,581.11	1.722E-02	Pulse	0.10	3
Pb			1	86.063	ug/l	0.22	173,614.92	7.749E-02	Pulse	0.10	3
Na			2	112067.392	ug/l	1.23	6,077,588.93	5.419E+01	Analog	0.30	3
Mg			2	4488.978	ug/l	2.08	113,479.66	1.012E+00	Pulse	0.30	3
Al			2	4738.765	ug/l	1.40	40,124.32	3.578E-01	Pulse	0.30	3
K			2	32144.300	ug/l	1.36	512,851.23	4.573E+00	Pulse	0.30	3
Ca			2	13006.167	ug/l	3.60	11,356.18	1.013E-01	Pulse	0.30	3
Ti			2	86.870	ug/l	14.36	572.24	5.104E-03	Pulse	0.30	3
V			2	92.718	ug/l	2.34	19,883.17	1.773E-01	Pulse	0.30	3
Cr			2	84.129	ug/l	1.21	23,839.48	2.126E-01	Pulse	0.30	3
Mn			2	88.336	ug/l	2.26	13,017.46	1.161E-01	Pulse	0.30	3
Fe			2	4511.767	ug/l	1.06	992,710.79	8.851E+00	Pulse	0.30	3
Co			2	83.844	ug/l	1.73	36,488.76	3.253E-01	Pulse	0.30	3
Ni			2	84.458	ug/l	1.55	10,366.71	9.243E-02	Pulse	0.30	3
Cu			2	69.345	ug/l	1.07	27,914.92	2.489E-01	Pulse	0.30	3
Zn			2	100.959	ug/l	1.94	5,698.83	5.081E-02	Pulse	0.30	3
As			2	124.405	ug/l	3.38	2,857.26	2.548E-02	Pulse	1.00	3
Cd			2	85.393	ug/l	2.91	6,201.24	1.021E-02	Pulse	0.30	3
Sn			2	78.427	ug/l	0.97	10,973.90	1.806E-02	Pulse	0.30	3
Se			3	476.166	ug/l	1.34	3,564.86	2.191E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,172,664.32	0.86	92.5	Pulse	0.10	3
1	Sc		1,899,336.38	1.59	99.1	Pulse	0.10	3
1	Ge		361,386.23	1.53	101.4	Pulse	0.10	3

Quantitation Report

1	Ge		499,996.45	2.25	101.5	Pulse	0.10	3
1	Rh		2,487,866.94	2.40	98.9	Pulse	0.10	3
1	In		2,487,131.31	2.51	101.3	Pulse	0.10	3
1	Tb		3,652,095.26	2.39	99.5	Pulse	0.10	3
1	Ho		362,587.69	3.23	98.3	Pulse	0.10	3
1	Bi		2,240,364.76	3.15	96.8	Pulse	0.10	3
2	Sc		112,160.67	0.67	97.2	Pulse	0.30	3
2	Ge		62,513.57	1.41	102.0	Pulse	0.30	3
2	Ge		94,374.00	0.20	100.8	Pulse	0.30	3
2	Rh		1,639,107.99	0.29	96.0	Pulse	0.30	3
2	In		607,505.22	1.15	100.3	Pulse	0.30	3
2	Tb		2,204,473.66	0.72	96.9	Pulse	0.30	3
2	Ho		221,225.40	0.74	97.9	Pulse	0.30	3
2	Bi		1,503,314.59	1.00	97.0	Pulse	0.30	3
3	Sc		175,768.80	0.39	93.6	Pulse	0.30	3
3	Ge		108,502.80	0.12	92.4	Pulse	0.30	3
3	Ge		162,713.40	1.18	91.4	Pulse	0.30	3
3	Rh		1,772,392.29	0.42	91.4	Pulse	0.30	3
3	Tb		3,053,285.78	1.29	92.0	Pulse	0.30	3

Quantitation Report

File Name 099SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 18:01
Sample Name mp18774-s2
Sample Type Sample
Comment
Prep Dilution 20.000
Auto Dilution N/A
Total Dilution 20.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	75.046	ug/l	1.58	20,225.45	1.753E-02	Pulse	0.25	3
B			1	275.277	ug/l	2.41	64,651.54	5.602E-02	Pulse	0.15	3
Ca			1	10519.312	ug/l	0.91	325,184.60	1.752E-01	Pulse	0.10	3
Sr			1	209.032	ug/l	1.76	296,233.22	1.213E-01	Pulse	0.10	3
Mo			1	90.385	ug/l	2.47	25,818.39	1.057E-02	Pulse	0.10	3
Ag			1	76.875	ug/l	0.59	54,949.38	2.239E-02	Pulse	0.10	3
Sn			1	76.944	ug/l	0.56	33,593.37	1.369E-02	Pulse	0.10	3
Sb			1	87.748	ug/l	2.06	44,794.88	1.246E-02	Pulse	0.10	3
Ba			1	84.984	ug/l	2.21	17,370.26	4.831E-03	Pulse	0.10	3
Tl			1	78.258	ug/l	1.71	108,922.28	4.942E-02	Pulse	0.10	3
Pb			1	80.561	ug/l	2.34	39,731.11	1.802E-02	Pulse	0.10	3
Pb			1	80.706	ug/l	1.10	35,165.92	1.595E-02	Pulse	0.10	3
Pb			1	80.132	ug/l	1.47	159,134.17	7.218E-02	Pulse	0.10	3
Na			2	104466.969	ug/l	1.93	5,561,726.86	5.052E+01	Analog	0.30	3
Mg			2	4106.894	ug/l	0.86	101,925.02	9.258E-01	Pulse	0.30	3
Al			2	4327.932	ug/l	0.53	35,994.00	3.269E-01	Pulse	0.30	3
K			2	29509.280	ug/l	0.55	462,849.82	4.204E+00	Pulse	0.30	3
Ca			2	11567.610	ug/l	0.79	9,926.38	9.016E-02	Pulse	0.30	3
Ti			2	89.651	ug/l	6.66	580.02	5.267E-03	Pulse	0.30	3
V			2	85.218	ug/l	2.01	17,983.21	1.634E-01	Pulse	0.30	3
Cr			2	77.338	ug/l	1.32	21,546.37	1.957E-01	Pulse	0.30	3
Mn			2	82.258	ug/l	1.44	11,902.16	1.081E-01	Pulse	0.30	3
Fe			2	4142.679	ug/l	0.87	895,331.74	8.133E+00	Pulse	0.30	3
Co			2	76.437	ug/l	0.91	32,654.43	2.966E-01	Pulse	0.30	3
Ni			2	75.572	ug/l	3.04	9,150.40	8.312E-02	Pulse	0.30	3
Cu			2	63.495	ug/l	2.79	25,559.95	2.322E-01	Pulse	0.30	3
Zn			2	101.606	ug/l	3.12	5,624.36	5.109E-02	Pulse	0.30	3
As			2	119.838	ug/l	1.54	2,702.23	2.455E-02	Pulse	1.00	3
Cd			2	76.369	ug/l	1.41	5,484.43	9.130E-03	Pulse	0.30	3
Sn			2	74.579	ug/l	2.90	10,317.91	1.718E-02	Pulse	0.30	3
Se			3	440.878	ug/l	0.45	3,242.79	2.029E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,153,863.82	1.81	91.0	Pulse	0.10	3
1	Sc		1,856,109.09	0.96	96.8	Pulse	0.10	3
1	Ge		356,549.45	1.74	100.0	Pulse	0.10	3

Quantitation Report

1	Ge		491,305.49	2.24	99.8	Pulse	0.10	3
1	Rh		2,442,412.05	1.37	97.1	Pulse	0.10	3
1	In		2,454,096.87	2.83	100.0	Pulse	0.10	3
1	Tb		3,594,531.30	2.41	97.9	Pulse	0.10	3
1	Ho		354,821.70	1.09	96.2	Pulse	0.10	3
1	Bi		2,204,814.61	2.76	95.2	Pulse	0.10	3
2	Sc		110,088.97	0.60	95.4	Pulse	0.30	3
2	Ge		62,207.81	2.30	101.5	Pulse	0.30	3
2	Ge		93,474.74	0.44	99.9	Pulse	0.30	3
2	Rh		1,620,466.60	0.46	94.9	Pulse	0.30	3
2	In		600,675.87	0.45	99.2	Pulse	0.30	3
2	Tb		2,180,677.83	0.91	95.8	Pulse	0.30	3
2	Ho		219,427.85	0.77	97.1	Pulse	0.30	3
2	Bi		1,489,991.74	0.28	96.1	Pulse	0.30	3
3	Sc		173,262.90	0.79	92.3	Pulse	0.30	3
3	Ge		105,906.88	0.71	90.2	Pulse	0.30	3
3	Ge		159,822.57	0.29	89.8	Pulse	0.30	3
3	Rh		1,738,134.72	0.49	89.7	Pulse	0.30	3
3	Tb		3,034,182.94	0.19	91.4	Pulse	0.30	3

Quantitation Report

File Name 100SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 18:06
Sample Name jc99601-1
Sample Type Sample
Comment
Prep Dilution 20.000
Auto Dilution N/A
Total Dilution 20.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.002	ug/l	767.86	6.67	5.785E-06	Pulse	0.25	3
B			1	193.460	ug/l	0.88	48,108.10	4.175E-02	Pulse	0.15	3
Ca			1	6632.627	ug/l	1.42	209,698.86	1.137E-01	Pulse	0.10	3
Sr			1	128.328	ug/l	0.33	179,878.04	7.449E-02	Pulse	0.10	3
Mo			1	15.060	ug/l	3.14	4,300.76	1.781E-03	Pulse	0.10	3
Ag			1	0.099	ug/l	110.37	80.00	3.276E-05	Pulse	0.10	3
Sn			1	5.943	ug/l	2.62	1,650.16	6.787E-04	Pulse	0.10	3
Sb			1	0.927	ug/l	14.01	1,043.41	2.942E-04	Pulse	0.10	3
Ba			1	5.828	ug/l	7.53	1,213.44	3.423E-04	Pulse	0.10	3
Tl			1	0.525	ug/l	8.51	776.72	3.526E-04	Pulse	0.10	3
Pb			1	0.948	ug/l	18.60	680.04	3.086E-04	Pulse	0.10	3
Pb			1	0.774	ug/l	14.24	573.37	2.608E-04	Pulse	0.10	3
Pb			1	0.923	ug/l	8.78	2,666.87	1.212E-03	Pulse	0.10	3
Na			2	100329.496	ug/l	1.04	5,328,866.18	4.853E+01	Analog	0.30	3
Mg			2	294.701	ug/l	1.19	7,427.27	6.763E-02	Pulse	0.30	3
Al			2	396.515	ug/l	4.36	3,526.00	3.212E-02	Pulse	0.30	3
K			2	25567.150	ug/l	2.04	401,143.14	3.653E+00	Pulse	0.30	3
Ca			2	7208.433	ug/l	2.43	6,207.88	5.654E-02	Pulse	0.30	3
Ti			2	8.114	ug/l	12.01	53.33	4.854E-04	Pulse	0.30	3
V			2	4.322	ug/l	5.79	1,445.64	1.317E-02	Pulse	0.30	3
Cr			2	0.648	ug/l	44.40	610.02	5.555E-03	Pulse	0.30	3
Mn			2	3.411	ug/l	2.86	537.80	4.898E-03	Pulse	0.30	3
Fe			2	224.981	ug/l	1.87	55,988.69	5.099E-01	Pulse	0.30	3
Co			2	0.150	ug/l	35.68	79.85	7.265E-04	Pulse	0.30	3
Ni			2	-0.188	ug/l	-35.57	410.01	3.734E-03	Pulse	0.30	3
Cu			2	-13.367	ug/l	-2.79	1,428.96	1.302E-02	Pulse	0.30	3
Zn			2	3.680	ug/l	22.14	1,063.38	9.684E-03	Pulse	0.30	3
As			2	35.346	ug/l	2.74	800.69	7.292E-03	Pulse	1.00	3
Cd			2	-0.003	ug/l	-822.82	1.86	3.113E-06	Pulse	0.30	3
Sn			2	5.233	ug/l	5.83	722.25	1.219E-03	Pulse	0.30	3
Se			3	0.388	ug/l	35.63	8.13	5.115E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,152,280.63	0.43	90.9	Pulse	0.10	3
1	Sc		1,843,964.14	0.88	96.2	Pulse	0.10	3
1	Ge		348,911.05	0.90	97.9	Pulse	0.10	3

Quantitation Report

1	Ge		485,538.17	1.84	98.6	Pulse	0.10	3
1	Rh		2,414,722.98	1.76	96.0	Pulse	0.10	3
1	In		2,430,136.63	1.87	99.0	Pulse	0.10	3
1	Tb		3,548,350.05	2.88	96.7	Pulse	0.10	3
1	Ho		350,168.51	1.05	94.9	Pulse	0.10	3
1	Bi		2,200,514.97	1.94	95.0	Pulse	0.10	3
2	Sc		109,811.70	0.80	95.1	Pulse	0.30	3
2	Ge		60,856.25	0.50	99.3	Pulse	0.30	3
2	Ge		92,011.90	1.31	98.3	Pulse	0.30	3
2	Rh		1,597,617.96	0.76	93.6	Pulse	0.30	3
2	In		592,075.03	1.09	97.8	Pulse	0.30	3
2	Tb		2,156,616.23	0.79	94.8	Pulse	0.30	3
2	Ho		215,577.62	1.36	95.4	Pulse	0.30	3
2	Bi		1,471,920.88	1.11	95.0	Pulse	0.30	3
3	Sc		171,431.19	1.01	91.3	Pulse	0.30	3
3	Ge		107,293.36	0.96	91.4	Pulse	0.30	3
3	Ge		159,106.78	0.80	89.4	Pulse	0.30	3
3	Rh		1,744,437.61	0.69	90.0	Pulse	0.30	3
3	Tb		2,995,213.49	0.72	90.2	Pulse	0.30	3

Quantitation Report

File Name 101SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 18:11
Sample Name mp18774-sd1
Sample Type Sample
Comment
Prep Dilution 100.000
Auto Dilution N/A
Total Dilution 100.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.087	ug/l	101.56	10.67	9.317E-06	Pulse	0.25	3
B			1	471.353	ug/l	0.58	28,056.75	2.445E-02	Pulse	0.15	3
Ca			1	7207.655	ug/l	1.80	57,707.61	3.161E-02	Pulse	0.10	3
Sr			1	123.212	ug/l	2.91	34,581.52	1.437E-02	Pulse	0.10	3
Mo			1	15.250	ug/l	22.12	910.06	3.792E-04	Pulse	0.10	3
Ag			1	0.216	ug/l	68.16	40.00	1.660E-05	Pulse	0.10	3
Sn			1	19.778	ug/l	2.85	760.05	3.145E-04	Pulse	0.10	3
Sb			1	0.616	ug/l	50.12	630.05	1.815E-04	Pulse	0.10	3
Ba			1	17.507	ug/l	8.11	730.05	2.103E-04	Pulse	0.10	3
Tl			1	7.105	ug/l	4.23	2,000.20	9.184E-04	Pulse	0.10	3
Pb			1	3.449	ug/l	17.12	546.70	2.511E-04	Pulse	0.10	3
Pb			1	2.020	ug/l	12.04	410.02	1.883E-04	Pulse	0.10	3
Pb			1	2.934	ug/l	3.76	1,983.47	9.106E-04	Pulse	0.10	3
Na			2	87674.057	ug/l	1.12	960,231.91	8.600E+00	Pulse	0.30	3
Mg			2	940.218	ug/l	1.80	4,870.76	4.362E-02	Pulse	0.30	3
Al			2	1689.780	ug/l	0.99	3,095.90	2.772E-02	Pulse	0.30	3
K			2	24141.740	ug/l	0.68	84,138.36	7.535E-01	Pulse	0.30	3
Ca			2	8417.298	ug/l	5.55	1,553.42	1.392E-02	Pulse	0.30	3
Ti			2	35.760	ug/l	44.61	47.78	4.290E-04	Pulse	0.30	3
V			2	-3.277	ug/l	-44.79	437.79	3.924E-03	Pulse	0.30	3
Cr			2	0.046	ug/l	1388.52	443.34	3.969E-03	Pulse	0.30	3
Mn			2	69.826	ug/l	5.38	2,089.05	1.871E-02	Pulse	0.30	3
Fe			2	2098.723	ug/l	3.02	99,250.28	8.889E-01	Pulse	0.30	3
Co			2	1.402	ug/l	16.44	137.51	1.232E-03	Pulse	0.30	3
Ni			2	-3.609	ug/l	-27.20	354.45	3.174E-03	Pulse	0.30	3
Cu			2	-71.192	ug/l	-1.73	1,175.61	1.053E-02	Pulse	0.30	3
Zn			2	26.956	ug/l	22.65	1,162.28	1.041E-02	Pulse	0.30	3
As			2	36.521	ug/l	8.41	175.00	1.566E-03	Pulse	1.00	3
Cd			2	0.157	ug/l	87.10	4.37	7.264E-06	Pulse	0.30	3
Sn			2	9.050	ug/l	18.26	260.01	4.318E-04	Pulse	0.30	3
Se			3	5.568	ug/l	27.29	13.33	8.449E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,147,540.25	0.87	90.5	Pulse	0.10	3
1	Sc		1,825,619.35	1.66	95.2	Pulse	0.10	3
1	Ge		348,238.00	2.19	97.7	Pulse	0.10	3

Quantitation Report

1	Ge		485,281.35	1.91	98.5	Pulse	0.10	3
1	Rh		2,405,487.88	1.65	95.6	Pulse	0.10	3
1	In		2,418,783.28	2.28	98.5	Pulse	0.10	3
1	Tb		3,474,477.24	2.97	94.7	Pulse	0.10	3
1	Ho		348,060.35	3.11	94.4	Pulse	0.10	3
1	Bi		2,177,909.76	1.89	94.1	Pulse	0.10	3
2	Sc		111,663.90	0.95	96.7	Pulse	0.30	3
2	Ge		61,672.42	1.08	100.7	Pulse	0.30	3
2	Ge		92,713.60	0.38	99.1	Pulse	0.30	3
2	Rh		1,611,506.84	0.38	94.4	Pulse	0.30	3
2	In		602,779.89	1.05	99.6	Pulse	0.30	3
2	Tb		2,151,777.83	0.74	94.5	Pulse	0.30	3
2	Ho		214,633.51	0.82	94.9	Pulse	0.30	3
2	Bi		1,474,701.30	1.29	95.1	Pulse	0.30	3
3	Sc		170,458.58	0.11	90.8	Pulse	0.30	3
3	Ge		105,373.22	1.14	89.8	Pulse	0.30	3
3	Ge		157,701.71	0.89	88.6	Pulse	0.30	3
3	Rh		1,715,932.47	0.33	88.5	Pulse	0.30	3
3	Tb		2,935,904.19	0.17	88.5	Pulse	0.30	3

Quantitation Report

File Name 102SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 18:16
Sample Name jc99695-2f
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.026	ug/l	32.11	73.33	6.712E-05	Pulse	0.25	3
B			1	24.203	ug/l	0.95	55,140.26	5.022E-02	Pulse	0.15	3
Ca			1	2647.655	ug/l	3.27	713,134.52	4.276E-01	Pulse	0.10	3
Sr			1	23.383	ug/l	3.13	301,902.31	1.357E-01	Pulse	0.10	3
Mo			1	1.522	ug/l	6.79	4,000.66	1.800E-03	Pulse	0.10	3
Ag			1	0.021	ug/l	44.79	143.34	6.422E-05	Pulse	0.10	3
Sn			1	1.568	ug/l	1.28	5,524.49	2.463E-03	Pulse	0.10	3
Sb			1	0.513	ug/l	3.59	3,185.43	8.831E-04	Pulse	0.10	3
Ba			1	14.151	ug/l	8.99	28,874.23	8.037E-03	Pulse	0.10	3
Tl			1	0.029	ug/l	8.28	430.02	2.064E-04	Pulse	0.10	3
Pb			1	0.316	ug/l	13.74	1,680.16	8.013E-04	Pulse	0.10	3
Pb			1	0.250	ug/l	6.81	1,250.10	5.996E-04	Pulse	0.10	3
Pb			1	0.303	ug/l	2.68	6,464.12	3.095E-03	Pulse	0.10	3
Na			2	3177.528	ug/l	0.54	1,533,800.84	1.547E+01	Pulse	0.30	3
Mg			2	2107.494	ug/l	0.43	470,590.38	4.746E+00	Pulse	0.30	3
Al			2	7.017	ug/l	1.97	757.81	7.642E-03	Pulse	0.30	3
K			2	625.430	ug/l	1.47	94,486.56	9.529E-01	Pulse	0.30	3
Ca			2	2653.476	ug/l	0.65	20,391.50	2.056E-01	Pulse	0.30	3
Ti			2	1.628	ug/l	25.25	95.55	9.642E-04	Pulse	0.30	3
V			2	0.185	ug/l	15.52	850.03	8.574E-03	Pulse	0.30	3
Cr			2	3.570	ug/l	0.44	9,170.41	9.247E-02	Pulse	0.30	3
Mn			2	2.301	ug/l	4.92	3,029.20	3.056E-02	Pulse	0.30	3
Fe			2	25.963	ug/l	2.49	57,250.02	5.773E-01	Pulse	0.30	3
Co			2	0.040	ug/l	8.72	169.85	1.714E-03	Pulse	0.30	3
Ni			2	0.769	ug/l	5.22	1,188.94	1.199E-02	Pulse	0.30	3
Cu			2	20.944	ug/l	1.22	64,296.95	6.484E-01	Pulse	0.30	3
Zn			2	9.250	ug/l	0.40	4,684.06	4.723E-02	Pulse	0.30	3
As			2	1.142	ug/l	4.89	238.67	2.407E-03	Pulse	1.00	3
Cd			2	0.012	ug/l	112.95	9.67	1.759E-05	Pulse	0.30	3
Sn			2	1.457	ug/l	5.75	1,841.24	3.367E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	0.897	ug/l	10.46	76.87	4.456E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,097,974.44	2.68	86.6	Pulse	0.10	3
1	Sc		1,669,433.26	4.33	87.1	Pulse	0.10	3
1	Ge		362,379.20	3.27	101.6	Pulse	0.10	3
1	Ge		499,046.75	4.64	101.3	Pulse	0.10	3
1	Rh		2,227,659.18	4.90	88.5	Pulse	0.10	3
1	In		2,243,793.19	4.99	91.4	Pulse	0.10	3
1	Tb		3,607,657.96	6.86	98.3	Mix	0.10	3
1	Ho		339,717.59	5.20	92.1	Pulse	0.10	3
1	Bi		2,088,837.05	5.15	90.2	Pulse	0.10	3
2	Sc		99,165.97	1.01	85.9	Pulse	0.30	3
2	Ge		62,571.49	1.24	102.1	Pulse	0.30	3
2	Ge		95,010.08	0.71	101.5	Pulse	0.30	3
2	Rh		1,530,382.23	0.95	89.7	Pulse	0.30	3
2	In		546,630.10	0.92	90.3	Pulse	0.30	3
2	Tb		2,096,691.10	0.64	92.1	Pulse	0.30	3
2	Ho		209,678.49	0.66	92.8	Pulse	0.30	3
2	Bi		1,415,733.07	1.28	91.3	Pulse	0.30	3
3	Sc		175,760.25	1.26	93.6	Pulse	0.30	3
3	Ge		115,307.72	3.24	98.2	Pulse	0.30	3
3	Ge		172,861.68	3.93	97.1	Pulse	0.30	3
3	Rh		1,797,432.98	1.18	92.7	Pulse	0.30	3
3	Tb		3,147,234.39	0.53	94.8	Pulse	0.30	3

Quantitation Report

File Name 103SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 18:21
Sample Name jc99696-2f
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.004	ug/l	73.70	17.33	1.526E-05	Pulse	0.25	3
B			1	10.703	ug/l	2.51	30,349.84	2.668E-02	Pulse	0.15	3
Ca			1	3584.299	ug/l	0.32	1,014,263.06	5.757E-01	Pulse	0.10	3
Sr			1	29.471	ug/l	0.28	398,631.21	1.710E-01	Pulse	0.10	3
Mo			1	0.077	ug/l	27.47	263.34	1.132E-04	Pulse	0.10	3
Ag			1	0.012	ug/l	44.89	93.33	3.945E-05	Pulse	0.10	3
Sn			1	0.915	ug/l	0.57	2,993.72	1.266E-03	Pulse	0.10	3
Sb			1	0.060	ug/l	20.54	896.73	2.484E-04	Pulse	0.10	3
Ba			1	9.394	ug/l	0.92	19,282.64	5.339E-03	Pulse	0.10	3
Tl			1	0.014	ug/l	10.69	250.01	1.128E-04	Pulse	0.10	3
Pb			1	0.282	ug/l	12.50	1,606.81	7.245E-04	Pulse	0.10	3
Pb			1	0.246	ug/l	17.61	1,306.77	5.909E-04	Pulse	0.10	3
Pb			1	0.280	ug/l	6.59	6,397.46	2.889E-03	Pulse	0.10	3
Na			2	3880.584	ug/l	0.85	1,876,122.98	1.886E+01	Pulse	0.30	3
Mg			2	1502.523	ug/l	0.20	336,644.91	3.384E+00	Pulse	0.30	3
Al			2	2.800	ug/l	27.05	445.57	4.480E-03	Pulse	0.30	3
K			2	456.388	ug/l	1.06	71,291.93	7.165E-01	Pulse	0.30	3
Ca			2	3716.991	ug/l	1.34	28,619.02	2.877E-01	Pulse	0.30	3
Ti			2	0.288	ug/l	49.38	17.78	1.784E-04	Pulse	0.30	3
V			2	0.631	ug/l	6.76	1,677.88	1.686E-02	Pulse	0.30	3
Cr			2	2.773	ug/l	2.34	7,232.76	7.270E-02	Pulse	0.30	3
Mn			2	1.351	ug/l	4.45	1,802.35	1.812E-02	Pulse	0.30	3
Fe			2	14.449	ug/l	2.24	35,147.49	3.533E-01	Pulse	0.30	3
Co			2	0.018	ug/l	27.84	82.13	8.262E-04	Pulse	0.30	3
Ni			2	0.748	ug/l	13.83	1,170.06	1.177E-02	Pulse	0.30	3
Cu			2	22.349	ug/l	0.90	68,496.27	6.884E-01	Pulse	0.30	3
Zn			2	12.860	ug/l	2.00	6,217.91	6.250E-02	Pulse	0.30	3
As			2	0.111	ug/l	19.91	30.00	3.017E-04	Pulse	1.00	3
Cd			2	0.011	ug/l	54.29	8.87	1.619E-05	Pulse	0.30	3
Sn			2	0.783	ug/l	9.13	993.38	1.816E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	0.041	ug/l	33.79	9.00	5.210E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,137,688.43	0.58	89.8	Pulse	0.10	3
1	Sc		1,761,837.73	1.85	91.9	Pulse	0.10	3
1	Ge		365,459.50	3.50	102.5	Pulse	0.10	3
1	Ge		503,274.55	3.00	102.2	Pulse	0.10	3
1	Rh		2,331,807.05	2.62	92.7	Pulse	0.10	3
1	In		2,364,623.76	1.95	96.3	Pulse	0.10	3
1	Tb		3,611,640.68	2.26	98.4	Pulse	0.10	3
1	Ho		360,909.63	2.14	97.9	Pulse	0.10	3
1	Bi		2,214,153.51	2.25	95.6	Pulse	0.10	3
2	Sc		99,490.00	0.68	86.2	Pulse	0.30	3
2	Ge		61,447.16	1.80	100.3	Pulse	0.30	3
2	Ge		93,122.46	1.83	99.5	Pulse	0.30	3
2	Rh		1,533,856.26	0.78	89.9	Pulse	0.30	3
2	In		546,611.47	0.94	90.3	Pulse	0.30	3
2	Tb		2,127,972.21	1.45	93.5	Pulse	0.30	3
2	Ho		214,040.42	1.30	94.7	Pulse	0.30	3
2	Bi		1,440,242.51	1.27	92.9	Pulse	0.30	3
3	Sc		177,784.69	0.26	94.7	Pulse	0.30	3
3	Ge		115,065.86	3.03	98.0	Pulse	0.30	3
3	Ge		173,130.69	2.72	97.2	Pulse	0.30	3
3	Rh		1,807,876.73	1.09	93.2	Pulse	0.30	3
3	Tb		3,189,035.36	1.04	96.1	Pulse	0.30	3

Quantitation Report

File Name 104SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 18:26
Sample Name jc99696-4f
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.003	ug/l	25.61	14.67	1.273E-05	Pulse	0.25	3
B			1	9.594	ug/l	1.36	28,475.15	2.474E-02	Pulse	0.15	3
Ca			1	3576.644	ug/l	0.61	1,009,635.24	5.745E-01	Pulse	0.10	3
Sr			1	29.025	ug/l	0.65	391,982.61	1.684E-01	Pulse	0.10	3
Mo			1	0.082	ug/l	28.45	276.68	1.192E-04	Pulse	0.10	3
Ag			1	0.018	ug/l	11.79	133.34	5.639E-05	Pulse	0.10	3
Sn			1	0.963	ug/l	2.02	3,200.44	1.354E-03	Pulse	0.10	3
Sb			1	0.080	ug/l	25.61	996.74	2.762E-04	Pulse	0.10	3
Ba			1	9.297	ug/l	4.31	19,055.55	5.284E-03	Pulse	0.10	3
Tl			1	1.081	ug/l	4.02	15,171.61	6.842E-03	Pulse	0.10	3
Pb			1	0.345	ug/l	6.54	1,920.20	8.662E-04	Pulse	0.10	3
Pb			1	0.300	ug/l	4.55	1,546.80	6.974E-04	Pulse	0.10	3
Pb			1	0.335	ug/l	7.02	7,497.70	3.382E-03	Pulse	0.10	3
Na			2	3913.147	ug/l	0.28	1,861,375.90	1.902E+01	Pulse	0.30	3
Mg			2	1497.313	ug/l	0.14	330,078.18	3.372E+00	Pulse	0.30	3
Al			2	3.002	ug/l	20.30	453.34	4.631E-03	Pulse	0.30	3
K			2	453.756	ug/l	1.85	69,782.38	7.129E-01	Pulse	0.30	3
Ca			2	3739.531	ug/l	1.57	28,329.75	2.894E-01	Pulse	0.30	3
Ti			2	0.274	ug/l	73.27	16.67	1.702E-04	Pulse	0.30	3
V			2	0.670	ug/l	2.76	1,720.11	1.757E-02	Pulse	0.30	3
Cr			2	2.601	ug/l	1.20	6,700.32	6.845E-02	Pulse	0.30	3
Mn			2	1.443	ug/l	3.30	1,891.24	1.932E-02	Pulse	0.30	3
Fe			2	14.148	ug/l	1.55	34,007.39	3.474E-01	Pulse	0.30	3
Co			2	0.024	ug/l	23.53	105.47	1.077E-03	Pulse	0.30	3
Ni			2	0.867	ug/l	10.38	1,274.51	1.302E-02	Pulse	0.30	3
Cu			2	23.042	ug/l	1.29	69,325.20	7.082E-01	Pulse	0.30	3
Zn			2	13.309	ug/l	2.53	6,303.51	6.439E-02	Pulse	0.30	3
As			2	0.143	ug/l	22.75	36.00	3.677E-04	Pulse	1.00	3
Cd			2	0.007	ug/l	140.86	6.64	1.239E-05	Pulse	0.30	3
Sn			2	0.779	ug/l	4.41	975.60	1.808E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	0.073	ug/l	6.82	11.53	6.691E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,151,003.45	0.84	90.8	Pulse	0.10	3
1	Sc		1,757,366.38	1.57	91.7	Pulse	0.10	3
1	Ge		358,789.03	2.85	100.6	Pulse	0.10	3
1	Ge		494,731.99	3.05	100.5	Pulse	0.10	3
1	Rh		2,328,279.34	2.57	92.5	Pulse	0.10	3
1	In		2,364,434.03	2.59	96.3	Pulse	0.10	3
1	Tb		3,604,138.07	2.15	98.2	Pulse	0.10	3
1	Ho		360,574.68	2.13	97.8	Pulse	0.10	3
1	Bi		2,219,011.74	2.84	95.8	Pulse	0.10	3
2	Sc		97,889.26	0.12	84.8	Pulse	0.30	3
2	Ge		59,901.46	1.06	97.8	Pulse	0.30	3
2	Ge		90,685.80	1.28	96.9	Pulse	0.30	3
2	Rh		1,535,236.22	0.78	89.9	Pulse	0.30	3
2	In		539,808.86	1.09	89.2	Pulse	0.30	3
2	Tb		2,099,584.85	0.88	92.3	Pulse	0.30	3
2	Ho		212,264.93	0.90	93.9	Pulse	0.30	3
2	Bi		1,433,330.12	0.95	92.5	Pulse	0.30	3
3	Sc		178,736.26	1.02	95.2	Pulse	0.30	3
3	Ge		115,005.59	2.36	98.0	Pulse	0.30	3
3	Ge		172,358.17	1.84	96.8	Pulse	0.30	3
3	Rh		1,816,830.62	1.76	93.7	Pulse	0.30	3
3	Tb		3,202,184.80	1.76	96.5	Pulse	0.30	3

Quantitation Report

File Name 105SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 18:31
Sample Name jc99740-11
Sample Type Sample
Comment
Prep Dilution 20.000
Auto Dilution N/A
Total Dilution 20.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.031	ug/l	144.85	14.67	1.243E-05	Pulse	0.25	3
B			1	91.845	ug/l	3.43	28,446.30	2.403E-02	Pulse	0.15	3
Ca			1	20229.684	ug/l	1.07	616,091.49	3.288E-01	Pulse	0.10	3
Sr			1	83.761	ug/l	1.53	120,351.00	4.865E-02	Pulse	0.10	3
Mo			1	1.516	ug/l	32.31	496.70	2.002E-04	Pulse	0.10	3
Ag			1	0.046	ug/l	15.35	43.33	1.731E-05	Pulse	0.10	3
Sn			1	3.993	ug/l	5.35	803.39	3.213E-04	Pulse	0.10	3
Sb			1	0.199	ug/l	12.37	703.37	1.920E-04	Pulse	0.10	3
Ba			1	52.454	ug/l	3.54	10,937.60	2.986E-03	Pulse	0.10	3
Tl			1	0.485	ug/l	13.82	733.38	3.274E-04	Pulse	0.10	3
Pb			1	0.110	ug/l	99.28	273.35	1.222E-04	Pulse	0.10	3
Pb			1	-0.017	ug/l	-591.47	236.68	1.056E-04	Pulse	0.10	3
Pb			1	0.100	ug/l	51.24	1,063.39	4.748E-04	Pulse	0.10	3
Na			2	8430.596	ug/l	0.93	465,455.85	4.209E+00	Pulse	0.30	3
Mg			2	1640.784	ug/l	2.22	40,982.87	3.707E-01	Pulse	0.30	3
Al			2	61.798	ug/l	5.00	775.58	7.014E-03	Pulse	0.30	3
K			2	1012.445	ug/l	1.35	24,327.74	2.200E-01	Pulse	0.30	3
Ca			2	21464.478	ug/l	1.94	18,411.40	1.665E-01	Pulse	0.30	3
Ti			2	3.602	ug/l	21.06	24.44	2.208E-04	Pulse	0.30	3
V			2	-0.517	ug/l	-42.58	462.24	4.180E-03	Pulse	0.30	3
Cr			2	0.082	ug/l	164.72	458.90	4.151E-03	Pulse	0.30	3
Mn			2	1242.331	ug/l	0.71	179,879.99	1.627E+00	Pulse	0.30	3
Fe			2	7111.738	ug/l	0.45	1,538,239.70	1.391E+01	Pulse	0.30	3
Co			2	0.766	ug/l	8.26	344.74	3.116E-03	Pulse	0.30	3
Ni			2	-0.595	ug/l	-24.87	365.56	3.307E-03	Pulse	0.30	3
Cu			2	-12.624	ug/l	-1.47	1,673.44	1.514E-02	Pulse	0.30	3
Zn			2	-3.080	ug/l	-36.22	754.47	6.825E-03	Pulse	0.30	3
As			2	9.697	ug/l	5.39	227.33	2.055E-03	Pulse	1.00	3
Cd			2	0.032	ug/l	166.71	4.41	7.345E-06	Pulse	0.30	3
Sn			2	1.828	ug/l	6.00	262.23	4.359E-04	Pulse	0.30	3
Se			3	0.364	ug/l	33.32	8.20	5.007E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,183,872.67	0.99	93.4	Pulse	0.10	3
1	Sc		1,873,985.13	2.09	97.8	Pulse	0.10	3
1	Ge		356,273.30	2.43	99.9	Pulse	0.10	3

Quantitation Report

1	Ge		493,685.57	1.59	100.2	Pulse	0.10	3
1	Rh		2,473,944.28	2.28	98.3	Pulse	0.10	3
1	In		2,500,269.23	1.70	101.9	Pulse	0.10	3
1	Tb		3,662,064.01	1.70	99.8	Pulse	0.10	3
1	Ho		363,762.69	2.13	98.6	Pulse	0.10	3
1	Bi		2,236,321.11	2.78	96.6	Pulse	0.10	3
2	Sc		110,585.94	1.08	95.8	Pulse	0.30	3
2	Ge		61,864.47	1.84	101.0	Pulse	0.30	3
2	Ge		94,107.89	0.58	100.6	Pulse	0.30	3
2	Rh		1,627,311.67	0.39	95.3	Pulse	0.30	3
2	In		601,734.90	0.73	99.4	Pulse	0.30	3
2	Tb		2,181,017.76	1.13	95.8	Pulse	0.30	3
2	Ho		219,183.06	0.96	97.0	Pulse	0.30	3
2	Bi		1,500,340.39	0.79	96.8	Pulse	0.30	3
3	Sc		175,938.68	0.91	93.7	Pulse	0.30	3
3	Ge		108,324.53	0.26	92.3	Pulse	0.30	3
3	Ge		163,778.70	0.53	92.0	Pulse	0.30	3
3	Rh		1,792,615.69	0.54	92.5	Pulse	0.30	3
3	Tb		3,093,150.29	0.47	93.2	Pulse	0.30	3

Quantitation Report

File Name 106_CCV.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 18:36
Sample Name CCVA 5
Sample Type CCV
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	48.349	ug/l	1.56	255,906.50	2.258E-01	Pulse	0.25	3
B			1	98.471	ug/l	2.67	398,392.51	3.515E-01	Pulse	0.15	3
Ca			1	4859.991	ug/l	0.61	2,786,943.61	1.546E+00	Pulse	0.10	3
Sr			1	53.276	ug/l	1.36	1,459,382.95	6.179E-01	Pulse	0.10	3
Mo			1	51.028	ug/l	0.67	281,379.27	1.191E-01	Pulse	0.10	3
Ag			1	48.363	ug/l	0.61	672,534.26	2.817E-01	Pulse	0.10	3
Sn			1	50.086	ug/l	0.59	437,257.09	1.831E-01	Pulse	0.10	3
Sb			1	53.218	ug/l	0.58	537,483.57	1.494E-01	Pulse	0.10	3
Ba			1	52.616	ug/l	0.65	214,777.32	5.969E-02	Pulse	0.10	3
Tl			1	51.108	ug/l	1.04	1,400,070.29	6.452E-01	Pulse	0.10	3
Pb			1	50.562	ug/l	0.78	488,440.49	2.251E-01	Pulse	0.10	3
Pb			1	50.609	ug/l	1.21	431,090.01	1.987E-01	Pulse	0.10	3
Pb			1	50.345	ug/l	0.51	1,958,177.30	9.025E-01	Pulse	0.10	3
Na			2	4903.632	ug/l	1.46	5,019,195.50	4.744E+01	Analog	0.30	3
Mg			2	4584.644	ug/l	0.36	2,184,014.29	2.064E+01	Pulse	0.30	3
Al			2	4732.715	ug/l	0.47	751,282.99	7.101E+00	Pulse	0.30	3
K			2	4967.112	ug/l	0.60	1,477,829.87	1.397E+01	Pulse	0.30	3
Ca			2	5162.020	ug/l	0.95	84,359.48	7.974E-01	Pulse	0.30	3
Ti			2	48.403	ug/l	4.74	6,007.81	5.678E-02	Pulse	0.30	3
V			2	50.755	ug/l	0.74	199,947.61	1.890E+00	Pulse	0.30	3
Cr			2	49.131	ug/l	0.59	258,202.41	2.440E+00	Pulse	0.30	3
Mn			2	50.174	ug/l	1.02	139,025.50	1.314E+00	Pulse	0.30	3
Fe			2	5196.249	ug/l	0.82	21,402,950.82	2.023E+02	Analog	0.30	3
Co			2	48.894	ug/l	0.74	401,288.03	3.793E+00	Pulse	0.30	3
Ni			2	48.412	ug/l	1.06	107,761.33	1.019E+00	Pulse	0.30	3
Cu			2	47.265	ug/l	0.62	290,606.39	2.747E+00	Pulse	0.30	3
Zn			2	48.401	ug/l	1.25	44,160.46	4.174E-01	Pulse	0.30	3
As			2	51.024	ug/l	1.65	22,053.50	2.084E-01	Pulse	1.00	3
Cd			2	48.743	ug/l	0.86	66,513.55	1.165E-01	Pulse	0.30	3
Sn			2	50.644	ug/l	0.95	133,075.55	2.331E-01	Pulse	0.30	3
Se			3	203.811	ug/l	1.27	29,838.07	1.873E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,133,419.01	0.70	89.4	Pulse	0.10	3
1	Sc		1,802,507.16	2.12	94.0	Pulse	0.10	3
1	Ge		340,209.98	2.48	95.4	Pulse	0.10	3

Quantitation Report

1	Ge		476,955.53	2.61	96.8	Pulse	0.10	3
1	Rh		2,361,595.59	1.99	93.8	Pulse	0.10	3
1	In		2,387,708.67	2.33	97.3	Pulse	0.10	3
1	Tb		3,598,974.32	3.30	98.1	Pulse	0.10	3
1	Ho		359,561.13	3.27	97.5	Pulse	0.10	3
1	Bi		2,169,657.62	3.18	93.7	Pulse	0.10	3
2	Sc		105,801.47	0.26	91.7	Pulse	0.30	3
2	Ge		58,144.13	0.67	94.9	Pulse	0.30	3
2	Ge		88,722.86	0.74	94.8	Pulse	0.30	3
2	Rh		1,559,671.26	0.27	91.4	Pulse	0.30	3
2	In		570,907.11	0.40	94.3	Pulse	0.30	3
2	Tb		2,143,497.56	0.43	94.2	Pulse	0.30	3
2	Ho		215,491.14	1.08	95.3	Pulse	0.30	3
2	Bi		1,431,913.03	0.73	92.4	Pulse	0.30	3
3	Sc		172,527.10	2.05	91.9	Pulse	0.30	3
3	Ge		104,474.41	1.54	89.0	Pulse	0.30	3
3	Ge		159,309.89	1.45	89.5	Pulse	0.30	3
3	Rh		1,734,440.14	1.42	89.5	Pulse	0.30	3
3	Tb		3,059,887.93	1.24	92.2	Pulse	0.30	3

Quantitation Report

File Name	107_CCB.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 18:41
Sample Name	CCB
Sample Type	CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.005	ug/l	25.57	29.33	2.631E-05	Pulse	0.25	3
B			1	4.197	ug/l	4.92	25,223.48	2.265E-02	Pulse	0.15	3
Ca			1	-2.380	ug/l	-34.61	13,776.20	8.063E-03	Pulse	0.10	3
Sr			1	0.025	ug/l	13.18	850.06	3.696E-04	Pulse	0.10	3
Mo			1	0.136	ug/l	15.58	783.38	3.407E-04	Pulse	0.10	3
Ag			1	0.009	ug/l	46.16	130.01	5.701E-05	Pulse	0.10	3
Sn			1	0.397	ug/l	4.47	2,400.27	1.044E-03	Pulse	0.10	3
Sb			1	0.131	ug/l	2.39	1,810.17	5.324E-04	Pulse	0.10	3
Ba			1	0.015	ug/l	53.55	96.67	2.853E-05	Pulse	0.10	3
Tl			1	0.011	ug/l	11.36	340.02	1.611E-04	Pulse	0.10	3
Pb			1	0.002	ug/l	148.08	226.68	1.072E-04	Pulse	0.10	3
Pb			1	-0.003	ug/l	-217.15	210.01	9.898E-05	Pulse	0.10	3
Pb			1	0.000	ug/l	1754.91	820.04	3.877E-04	Pulse	0.10	3
Na			2	14.546	ug/l	6.64	29,708.83	2.838E-01	Pulse	0.30	3
Mg			2	0.354	ug/l	16.20	302.23	2.886E-03	Pulse	0.30	3
Al			2	0.242	ug/l	111.97	286.67	2.742E-03	Pulse	0.30	3
K			2	-2.128	ug/l	-42.00	7,589.57	7.249E-02	Pulse	0.30	3
Ca			2	-0.174	ug/l	-290.99	94.45	9.024E-04	Pulse	0.30	3
Ti			2	0.001	ug/l	2075.39	1.11	1.043E-05	Pulse	0.30	3
V			2	-0.110	ug/l	-1.44	112.22	1.071E-03	Pulse	0.30	3
Cr			2	0.019	ug/l	54.46	512.24	4.890E-03	Pulse	0.30	3
Mn			2	0.018	ug/l	66.05	93.33	8.918E-04	Pulse	0.30	3
Fe			2	1.689	ug/l	0.94	14,437.55	1.378E-01	Pulse	0.30	3
Co			2	0.002	ug/l	108.44	28.85	2.739E-04	Pulse	0.30	3
Ni			2	-0.059	ug/l	-30.82	283.34	2.700E-03	Pulse	0.30	3
Cu			2	-0.627	ug/l	-2.05	1,611.21	1.538E-02	Pulse	0.30	3
Zn			2	-0.513	ug/l	-1.47	396.68	3.787E-03	Pulse	0.30	3
As			2	-0.004	ug/l	-200.03	6.33	6.016E-05	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.003	ug/l	73.85	6.58	1.149E-05	Pulse	0.30	3
Sn			2	0.400	ug/l	4.78	1,066.72	1.858E-03	Pulse	0.30	3
Se			3	0.086	ug/l	18.57	17.80	1.126E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,114,108.34	2.03	87.9	Pulse	0.10	3
1	Sc		1,709,337.16	3.03	89.2	Pulse	0.10	3
1	Ge		329,091.06	3.43	92.3	Pulse	0.10	3
1	Ge		457,250.57	3.11	92.8	Pulse	0.10	3
1	Rh		2,303,299.24	2.91	91.5	Pulse	0.10	3
1	In		2,300,118.38	3.11	93.7	Pulse	0.10	3
1	Tb		3,400,047.45	4.03	92.6	Pulse	0.10	3
1	Ho		338,944.38	4.18	91.9	Pulse	0.10	3
1	Bi		2,113,848.98	2.56	91.3	Pulse	0.10	3
2	Sc		104,742.85	2.03	90.7	Pulse	0.30	3
2	Ge		57,530.87	0.50	93.9	Pulse	0.30	3
2	Ge		87,315.19	0.78	93.3	Pulse	0.30	3
2	Rh		1,577,976.91	1.37	92.5	Pulse	0.30	3
2	In		574,270.79	0.88	94.9	Pulse	0.30	3
2	Tb		2,116,354.01	1.52	93.0	Pulse	0.30	3
2	Ho		211,596.89	1.26	93.6	Pulse	0.30	3
2	Bi		1,447,656.40	1.18	93.4	Pulse	0.30	3
3	Sc		171,526.47	0.94	91.4	Pulse	0.30	3
3	Ge		105,689.65	1.51	90.0	Pulse	0.30	3
3	Ge		158,215.80	1.30	88.9	Pulse	0.30	3
3	Rh		1,759,081.63	0.84	90.7	Pulse	0.30	3
3	Tb		2,999,003.35	0.86	90.4	Pulse	0.30	3

Quantitation Report

File Name	108SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 18:46
Sample Name	mp18781-s3
Sample Type	Sample
Comment	
Prep Dilution	20.000
Auto Dilution	N/A
Total Dilution	20.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	73.843	ug/l	1.25	19,782.25	1.725E-02	Pulse	0.25	3
B			1	247.321	ug/l	0.83	58,658.81	5.114E-02	Pulse	0.15	3
Ca			1	50128.339	ug/l	1.04	1,455,431.75	8.016E-01	Pulse	0.10	3
Sr			1	453.326	ug/l	0.25	621,876.62	2.629E-01	Pulse	0.10	3
Mo			1	79.256	ug/l	1.68	21,932.42	9.274E-03	Pulse	0.10	3
Ag			1	75.224	ug/l	1.72	52,487.51	2.191E-02	Pulse	0.10	3
Sn			1	78.930	ug/l	1.21	33,656.86	1.405E-02	Pulse	0.10	3
Sb			1	84.930	ug/l	1.84	42,705.68	1.207E-02	Pulse	0.10	3
Ba			1	131.662	ug/l	1.05	26,456.59	7.478E-03	Pulse	0.10	3
Tl			1	76.808	ug/l	1.69	106,459.45	4.850E-02	Pulse	0.10	3
Pb			1	79.100	ug/l	2.87	38,872.12	1.770E-02	Pulse	0.10	3
Pb			1	76.350	ug/l	1.43	33,121.27	1.509E-02	Pulse	0.10	3
Pb			1	77.997	ug/l	0.33	154,246.11	7.026E-02	Pulse	0.10	3
Na			2	16033.784	ug/l	1.46	845,844.69	7.876E+00	Pulse	0.30	3
Mg			2	10230.860	ug/l	2.19	247,472.38	2.304E+00	Pulse	0.30	3
Al			2	3915.575	ug/l	1.79	31,791.09	2.960E-01	Pulse	0.30	3
K			2	12797.408	ug/l	1.96	200,580.33	1.868E+00	Pulse	0.30	3
Ca			2	53879.424	ug/l	1.84	44,736.55	4.166E-01	Pulse	0.30	3
Ti			2	73.176	ug/l	10.05	462.23	4.301E-03	Pulse	0.30	3
V			2	76.747	ug/l	2.54	15,854.36	1.476E-01	Pulse	0.30	3
Cr			2	75.532	ug/l	0.67	20,539.52	1.912E-01	Pulse	0.30	3
Mn			2	2035.787	ug/l	2.10	286,232.97	2.665E+00	Pulse	0.30	3
Fe			2	73039.203	ug/l	1.66	15,271,620.50	1.422E+02	Analog	0.30	3
Co			2	91.103	ug/l	1.09	37,964.74	3.535E-01	Pulse	0.30	3
Ni			2	79.021	ug/l	1.96	9,316.05	8.674E-02	Pulse	0.30	3
Cu			2	62.961	ug/l	2.67	24,773.24	2.307E-01	Pulse	0.30	3
Zn			2	82.204	ug/l	6.94	4,604.02	4.288E-02	Pulse	0.30	3
As			2	1688.658	ug/l	2.22	37,037.44	3.449E-01	Pulse	1.00	3
Cd			2	78.100	ug/l	4.83	5,452.63	9.337E-03	Pulse	0.30	3
Sn			2	77.071	ug/l	1.71	10,365.72	1.775E-02	Pulse	0.30	3
Se			3	418.332	ug/l	5.09	3,156.04	1.925E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,146,902.12	1.22	90.5	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,815,580.39	2.22	94.7	Pulse	0.10	3
1	Ge		345,040.06	2.17	96.8	Pulse	0.10	3
1	Ge		479,987.58	2.10	97.5	Pulse	0.10	3
1	Rh		2,365,183.25	1.69	94.0	Pulse	0.10	3
1	In		2,395,216.18	1.83	97.6	Pulse	0.10	3
1	Tb		3,538,110.47	2.04	96.4	Pulse	0.10	3
1	Ho		351,969.54	2.94	95.4	Pulse	0.10	3
1	Bi		2,195,333.51	3.09	94.8	Pulse	0.10	3
2	Sc		107,406.37	1.07	93.1	Pulse	0.30	3
2	Ge		60,399.08	0.82	98.6	Pulse	0.30	3
2	Ge		90,434.11	0.90	96.6	Pulse	0.30	3
2	Rh		1,571,561.39	0.45	92.1	Pulse	0.30	3
2	In		583,945.15	1.31	96.5	Pulse	0.30	3
2	Tb		2,137,935.26	1.34	93.9	Pulse	0.30	3
2	Ho		214,485.15	1.91	94.9	Pulse	0.30	3
2	Bi		1,461,314.14	0.93	94.3	Pulse	0.30	3
3	Sc		178,096.91	6.77	94.9	Pulse	0.30	3
3	Ge		108,963.08	6.12	92.8	Pulse	0.30	3
3	Ge		164,214.31	5.34	92.2	Pulse	0.30	3
3	Rh		1,800,631.87	7.01	92.9	Pulse	0.30	3
3	Tb		3,265,539.03	14.82	98.4	Mix	0.30	3

Quantitation Report

File Name 109SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 18:51
Sample Name mp18781-s4
Sample Type Sample
Comment
Prep Dilution 20.000
Auto Dilution N/A
Total Dilution 20.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	74.187	ug/l	3.95	19,723.52	1.733E-02	Pulse	0.25	3
B			1	252.045	ug/l	1.44	59,177.99	5.197E-02	Pulse	0.15	3
Ca			1	51324.909	ug/l	0.93	1,470,047.48	8.206E-01	Pulse	0.10	3
Sr			1	453.053	ug/l	0.69	624,072.99	2.628E-01	Pulse	0.10	3
Mo			1	79.081	ug/l	2.48	21,975.80	9.254E-03	Pulse	0.10	3
Ag			1	77.081	ug/l	0.14	53,624.75	2.245E-02	Pulse	0.10	3
Sn			1	78.205	ug/l	0.81	33,249.37	1.392E-02	Pulse	0.10	3
Sb			1	83.765	ug/l	2.82	42,314.77	1.191E-02	Pulse	0.10	3
Ba			1	134.685	ug/l	1.20	27,171.08	7.649E-03	Pulse	0.10	3
Tl			1	76.116	ug/l	1.51	104,886.95	4.806E-02	Pulse	0.10	3
Pb			1	77.898	ug/l	1.05	38,029.92	1.743E-02	Pulse	0.10	3
Pb			1	75.819	ug/l	3.05	32,700.71	1.499E-02	Pulse	0.10	3
Pb			1	76.872	ug/l	0.76	151,116.24	6.926E-02	Pulse	0.10	3
Na			2	16021.214	ug/l	0.37	844,925.85	7.870E+00	Pulse	0.30	3
Mg			2	10271.178	ug/l	1.25	248,374.25	2.313E+00	Pulse	0.30	3
Al			2	3889.408	ug/l	2.03	31,568.50	2.941E-01	Pulse	0.30	3
K			2	12837.976	ug/l	0.98	201,124.53	1.873E+00	Pulse	0.30	3
Ca			2	54542.208	ug/l	1.24	45,270.18	4.217E-01	Pulse	0.30	3
Ti			2	79.249	ug/l	0.90	500.01	4.657E-03	Pulse	0.30	3
V			2	75.035	ug/l	3.08	15,509.61	1.445E-01	Pulse	0.30	3
Cr			2	75.109	ug/l	2.38	20,421.64	1.902E-01	Pulse	0.30	3
Mn			2	2063.937	ug/l	0.38	290,119.60	2.702E+00	Pulse	0.30	3
Fe			2	73305.319	ug/l	0.31	15,321,930.50	1.427E+02	Analog	0.30	3
Co			2	91.323	ug/l	1.13	38,045.96	3.543E-01	Pulse	0.30	3
Ni			2	79.046	ug/l	1.12	9,314.95	8.676E-02	Pulse	0.30	3
Cu			2	62.204	ug/l	1.99	24,536.20	2.285E-01	Pulse	0.30	3
Zn			2	83.267	ug/l	2.71	4,651.82	4.333E-02	Pulse	0.30	3
As			2	1721.884	ug/l	0.76	37,756.06	3.517E-01	Pulse	1.00	3
Cd			2	77.975	ug/l	0.98	5,458.17	9.322E-03	Pulse	0.30	3
Sn			2	75.294	ug/l	0.75	10,152.25	1.734E-02	Pulse	0.30	3
Se			3	437.274	ug/l	1.12	3,225.85	2.012E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,138,659.07	1.18	89.8	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,791,765.18	2.68	93.5	Pulse	0.10	3
1	Ge		344,551.09	2.10	96.6	Pulse	0.10	3
1	Ge		473,819.48	2.13	96.2	Pulse	0.10	3
1	Rh		2,375,094.44	2.22	94.4	Pulse	0.10	3
1	In		2,388,504.14	2.71	97.3	Pulse	0.10	3
1	Tb		3,552,736.93	2.26	96.8	Pulse	0.10	3
1	Ho		352,851.18	1.94	95.7	Pulse	0.10	3
1	Bi		2,181,891.89	1.45	94.2	Pulse	0.10	3
2	Sc		107,363.65	0.81	93.0	Pulse	0.30	3
2	Ge		60,717.78	1.63	99.1	Pulse	0.30	3
2	Ge		91,132.58	1.20	97.4	Pulse	0.30	3
2	Rh		1,581,427.92	0.99	92.7	Pulse	0.30	3
2	In		585,453.03	1.64	96.7	Pulse	0.30	3
2	Tb		2,134,120.75	1.22	93.8	Pulse	0.30	3
2	Ho		214,555.02	1.89	94.9	Pulse	0.30	3
2	Bi		1,463,922.72	0.98	94.4	Pulse	0.30	3
3	Sc		172,923.67	0.60	92.1	Pulse	0.30	3
3	Ge		106,700.90	1.14	90.9	Pulse	0.30	3
3	Ge		160,302.05	0.78	90.0	Pulse	0.30	3
3	Rh		1,735,568.54	0.98	89.5	Pulse	0.30	3
3	Tb		3,002,434.39	1.03	90.5	Pulse	0.30	3

Quantitation Report

File Name 110SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 18:56
Sample Name jc99822-1
Sample Type Sample
Comment
Prep Dilution 20.000
Auto Dilution N/A
Total Dilution 20.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.058	ug/l	92.10	21.33	1.876E-05	Pulse	0.25	3
B			1	173.469	ug/l	2.17	43,540.33	3.826E-02	Pulse	0.15	3
Ca			1	48448.733	ug/l	0.76	1,409,851.39	7.751E-01	Pulse	0.10	3
Sr			1	373.912	ug/l	1.01	519,651.71	2.169E-01	Pulse	0.10	3
Mo			1	3.025	ug/l	20.59	900.08	3.763E-04	Pulse	0.10	3
Ag			1	0.116	ug/l	46.39	90.00	3.769E-05	Pulse	0.10	3
Sn			1	5.246	ug/l	5.06	1,323.44	5.508E-04	Pulse	0.10	3
Sb			1	0.607	ug/l	32.89	880.06	2.493E-04	Pulse	0.10	3
Ba			1	52.594	ug/l	2.87	10,550.57	2.994E-03	Pulse	0.10	3
Tl			1	0.080	ug/l	39.29	156.67	7.178E-05	Pulse	0.10	3
Pb			1	0.460	ug/l	19.59	436.69	1.999E-04	Pulse	0.10	3
Pb			1	0.371	ug/l	68.25	396.69	1.819E-04	Pulse	0.10	3
Pb			1	1.188	ug/l	93.98	3,156.14	1.449E-03	Pulse	0.10	3
Na			2	12451.790	ug/l	0.42	661,224.26	6.148E+00	Pulse	0.30	3
Mg			2	6494.199	ug/l	1.29	157,360.69	1.463E+00	Pulse	0.30	3
Al			2	66.917	ug/l	36.92	795.69	7.398E-03	Pulse	0.30	3
K			2	8838.339	ug/l	0.32	141,330.03	1.314E+00	Pulse	0.30	3
Ca			2	51423.088	ug/l	1.77	42,760.35	3.976E-01	Pulse	0.30	3
Ti			2	4.067	ug/l	39.13	26.67	2.481E-04	Pulse	0.30	3
V			2	-1.689	ug/l	-3.65	215.56	2.004E-03	Pulse	0.30	3
Cr			2	0.325	ug/l	66.31	511.13	4.753E-03	Pulse	0.30	3
Mn			2	1971.160	ug/l	0.71	277,539.93	2.581E+00	Pulse	0.30	3
Fe			2	68699.347	ug/l	0.58	14,383,614.98	1.337E+02	Analog	0.30	3
Co			2	16.231	ug/l	3.23	6,785.99	6.310E-02	Pulse	0.30	3
Ni			2	5.172	ug/l	10.56	1,005.60	9.350E-03	Pulse	0.30	3
Cu			2	4.620	ug/l	7.06	6,915.97	6.431E-02	Pulse	0.30	3
Zn			2	19.365	ug/l	5.36	1,754.56	1.631E-02	Pulse	0.30	3
As			2	1638.084	ug/l	1.48	35,979.76	3.346E-01	Pulse	1.00	3
Cd			2	0.129	ug/l	22.33	11.03	1.888E-05	Pulse	0.30	3
Sn			2	3.732	ug/l	3.27	511.12	8.741E-04	Pulse	0.30	3
Se			3	0.325	ug/l	53.49	7.73	4.825E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,137,831.72	0.79	89.8	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,818,972.84	1.61	94.9	Pulse	0.10	3
1	Ge		346,696.15	1.93	97.2	Pulse	0.10	3
1	Ge		477,052.77	2.98	96.9	Pulse	0.10	3
1	Rh		2,395,672.36	2.73	95.2	Pulse	0.10	3
1	In		2,404,984.20	2.72	98.0	Pulse	0.10	3
1	Tb		3,523,123.91	2.52	96.0	Pulse	0.10	3
1	Ho		351,061.92	1.87	95.2	Pulse	0.10	3
1	Bi		2,188,504.50	3.03	94.5	Pulse	0.10	3
2	Sc		107,542.43	0.15	93.2	Pulse	0.30	3
2	Ge		59,922.65	1.08	97.8	Pulse	0.30	3
2	Ge		91,162.51	1.07	97.4	Pulse	0.30	3
2	Rh		1,585,101.32	0.93	92.9	Pulse	0.30	3
2	In		584,657.28	0.74	96.6	Pulse	0.30	3
2	Tb		2,138,542.76	0.35	94.0	Pulse	0.30	3
2	Ho		213,777.25	0.54	94.6	Pulse	0.30	3
2	Bi		1,463,937.55	0.43	94.4	Pulse	0.30	3
3	Sc		173,852.00	0.61	92.6	Pulse	0.30	3
3	Ge		106,247.99	0.41	90.5	Pulse	0.30	3
3	Ge		160,275.74	0.98	90.0	Pulse	0.30	3
3	Rh		1,733,827.74	0.44	89.4	Pulse	0.30	3
3	Tb		2,988,062.45	0.62	90.0	Pulse	0.30	3

Quantitation Report

File Name	111SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 19:01
Sample Name	mp18781-sd1
Sample Type	Sample
Comment	
Prep Dilution	100.000
Auto Dilution	N/A
Total Dilution	100.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.113	ug/l	114.26	12.00	1.055E-05	Pulse	0.25	3
B			1	334.455	ug/l	6.07	22,283.83	1.967E-02	Pulse	0.15	3
Ca			1	48025.816	ug/l	0.73	289,088.22	1.607E-01	Pulse	0.10	3
Sr			1	366.231	ug/l	0.94	100,526.54	4.255E-02	Pulse	0.10	3
Mo			1	3.713	ug/l	19.28	260.01	1.099E-04	Pulse	0.10	3
Ag			1	0.101	ug/l	151.25	23.33	9.945E-06	Pulse	0.10	3
Sn			1	17.892	ug/l	3.83	583.37	2.454E-04	Pulse	0.10	3
Sb			1	-1.731	ug/l	-30.32	400.02	1.157E-04	Pulse	0.10	3
Ba			1	52.644	ug/l	10.18	2,110.24	6.089E-04	Pulse	0.10	3
Tl			1	0.199	ug/l	54.47	100.00	4.661E-05	Pulse	0.10	3
Pb			1	0.022	ug/l	2068.54	213.34	9.864E-05	Pulse	0.10	3
Pb			1	-0.537	ug/l	-95.51	190.01	8.792E-05	Pulse	0.10	3
Pb			1	-0.005	ug/l	-6213.81	830.05	3.839E-04	Pulse	0.10	3
Na			2	13303.422	ug/l	1.44	156,169.99	1.427E+00	Pulse	0.30	3
Mg			2	6463.400	ug/l	1.90	31,996.90	2.923E-01	Pulse	0.30	3
Al			2	16.735	ug/l	234.52	287.78	2.631E-03	Pulse	0.30	3
K			2	8531.284	ug/l	4.06	34,706.00	3.170E-01	Pulse	0.30	3
Ca			2	50608.537	ug/l	1.89	8,648.99	7.901E-02	Pulse	0.30	3
Ti			2	2.651	ug/l	57.56	4.44	4.065E-05	Pulse	0.30	3
V			2	-12.178	ug/l	-2.63	67.78	6.186E-04	Pulse	0.30	3
Cr			2	-3.842	ug/l	-12.13	223.34	2.041E-03	Pulse	0.30	3
Mn			2	1919.777	ug/l	1.62	55,069.20	5.030E-01	Pulse	0.30	3
Fe			2	57696.858	ug/l	0.94	2,465,926.98	2.253E+01	Pulse	0.30	3
Co			2	15.461	ug/l	5.47	1,328.97	1.214E-02	Pulse	0.30	3
Ni			2	2.700	ug/l	95.58	492.23	4.496E-03	Pulse	0.30	3
Cu			2	-62.033	ug/l	-2.39	1,724.55	1.576E-02	Pulse	0.30	3
Zn			2	-4.533	ug/l	-5.86	847.81	7.744E-03	Pulse	0.30	3
As			2	1597.083	ug/l	1.86	7,148.24	6.530E-02	Pulse	1.00	3
Cd			2	-0.069	ug/l	-197.03	1.09	1.848E-06	Pulse	0.30	3
Sn			2	7.198	ug/l	4.20	204.45	3.466E-04	Pulse	0.30	3
Se			3	-1.298	ug/l	-33.42	3.33	2.140E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,132,572.98	1.01	89.4	Pulse	0.10	3
1	Sc		1,798,715.49	2.34	93.8	Pulse	0.10	3
1	Ge		341,155.38	3.68	95.7	Pulse	0.10	3

Quantitation Report

1	Ge		475,112.83	2.67	96.5	Pulse	0.10	3
1	Rh		2,362,376.63	2.43	93.9	Pulse	0.10	3
1	In		2,381,442.16	2.53	97.0	Pulse	0.10	3
1	Tb		3,463,784.22	1.73	94.4	Pulse	0.10	3
1	Ho		340,357.68	0.80	92.3	Pulse	0.10	3
1	Bi		2,156,944.71	2.66	93.2	Pulse	0.10	3
2	Sc		109,477.29	0.93	94.9	Pulse	0.30	3
2	Ge		61,579.87	1.44	100.5	Pulse	0.30	3
2	Ge		91,436.51	0.80	97.7	Pulse	0.30	3
2	Rh		1,588,473.93	1.22	93.1	Pulse	0.30	3
2	In		589,937.47	0.09	97.4	Pulse	0.30	3
2	Tb		2,121,997.76	0.78	93.2	Pulse	0.30	3
2	Ho		213,763.62	0.64	94.6	Pulse	0.30	3
2	Bi		1,456,432.16	0.86	94.0	Pulse	0.30	3
3	Sc		168,308.64	0.74	89.7	Pulse	0.30	3
3	Ge		104,391.46	0.45	88.9	Pulse	0.30	3
3	Ge		155,642.56	0.76	87.4	Pulse	0.30	3
3	Rh		1,701,354.20	0.51	87.8	Pulse	0.30	3
3	Tb		2,910,947.32	0.42	87.7	Pulse	0.30	3

Quantitation Report

File Name	112SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 19:06
Sample Name	mp18781-ps1
Sample Type	Sample
Comment	
Prep Dilution	20.000
Auto Dilution	N/A
Total Dilution	20.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	78.319	ug/l	1.14	20,794.12	1.829E-02	Pulse	0.25	3
B			1	224.799	ug/l	1.41	53,678.11	4.722E-02	Pulse	0.15	3
Ca			1	46814.338	ug/l	0.67	1,361,141.13	7.492E-01	Pulse	0.10	3
Sr			1	424.482	ug/l	0.72	586,434.00	2.462E-01	Pulse	0.10	3
Mo			1	80.686	ug/l	1.41	22,486.56	9.441E-03	Pulse	0.10	3
Ag			1	77.021	ug/l	1.44	53,705.04	2.243E-02	Pulse	0.10	3
Sn			1	79.686	ug/l	1.02	33,967.61	1.419E-02	Pulse	0.10	3
Sb			1	87.564	ug/l	1.38	43,474.32	1.244E-02	Pulse	0.10	3
Ba			1	134.069	ug/l	2.16	26,613.38	7.614E-03	Pulse	0.10	3
Tl			1	81.482	ug/l	0.75	111,529.45	5.145E-02	Pulse	0.10	3
Pb			1	77.939	ug/l	0.90	37,796.02	1.744E-02	Pulse	0.10	3
Pb			1	77.462	ug/l	2.73	33,178.17	1.531E-02	Pulse	0.10	3
Pb			1	77.761	ug/l	0.77	151,829.02	7.005E-02	Pulse	0.10	3
Na			2	14962.292	ug/l	1.61	796,301.06	7.359E+00	Pulse	0.30	3
Mg			2	9735.984	ug/l	1.77	237,287.96	2.193E+00	Pulse	0.30	3
Al			2	4055.428	ug/l	1.98	33,164.84	3.065E-01	Pulse	0.30	3
K			2	12104.612	ug/l	0.05	191,639.41	1.771E+00	Pulse	0.30	3
Ca			2	49642.914	ug/l	0.78	41,541.71	3.839E-01	Pulse	0.30	3
Ti			2	74.728	ug/l	6.55	475.57	4.392E-03	Pulse	0.30	3
V			2	79.495	ug/l	3.95	16,523.94	1.527E-01	Pulse	0.30	3
Cr			2	77.406	ug/l	1.39	21,195.90	1.959E-01	Pulse	0.30	3
Mn			2	1851.100	ug/l	0.97	262,266.55	2.424E+00	Pulse	0.30	3
Fe			2	66406.790	ug/l	2.78	13,988,083.61	1.293E+02	Analog	0.30	3
Co			2	93.306	ug/l	0.51	39,177.69	3.620E-01	Pulse	0.30	3
Ni			2	82.098	ug/l	2.05	9,734.05	8.996E-02	Pulse	0.30	3
Cu			2	64.480	ug/l	1.08	25,430.89	2.350E-01	Pulse	0.30	3
Zn			2	92.230	ug/l	2.04	5,098.63	4.712E-02	Pulse	0.30	3
As			2	1549.549	ug/l	1.94	34,243.71	3.165E-01	Pulse	1.00	3
Cd			2	78.368	ug/l	3.63	5,490.36	9.369E-03	Pulse	0.30	3
Sn			2	82.818	ug/l	5.07	11,177.07	1.907E-02	Pulse	0.30	3
Se			3	467.854	ug/l	1.29	3,429.49	2.153E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,136,838.53	0.36	89.7	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		1,816,716.07	0.79	94.8	Pulse	0.10	3
1	Ge		347,868.86	1.36	97.6	Pulse	0.10	3
1	Ge		478,844.63	1.84	97.2	Pulse	0.10	3
1	Rh		2,381,955.23	1.73	94.7	Pulse	0.10	3
1	In		2,394,034.01	1.90	97.5	Pulse	0.10	3
1	Tb		3,495,254.22	1.05	95.2	Pulse	0.10	3
1	Ho		347,643.71	1.41	94.3	Pulse	0.10	3
1	Bi		2,167,550.38	1.75	93.6	Pulse	0.10	3
2	Sc		108,217.99	1.24	93.8	Pulse	0.30	3
2	Ge		60,334.23	1.22	98.5	Pulse	0.30	3
2	Ge		90,742.71	0.85	97.0	Pulse	0.30	3
2	Rh		1,577,056.46	0.85	92.4	Pulse	0.30	3
2	In		586,020.82	0.08	96.8	Pulse	0.30	3
2	Tb		2,133,753.60	1.14	93.8	Pulse	0.30	3
2	Ho		214,419.57	0.75	94.9	Pulse	0.30	3
2	Bi		1,464,781.82	1.19	94.5	Pulse	0.30	3
3	Sc		170,674.20	0.39	90.9	Pulse	0.30	3
3	Ge		105,354.36	0.35	89.8	Pulse	0.30	3
3	Ge		159,314.61	1.45	89.5	Pulse	0.30	3
3	Rh		1,722,271.08	0.29	88.8	Pulse	0.30	3
3	Tb		2,976,794.81	0.07	89.7	Pulse	0.30	3

Quantitation Report

File Name 113_CCV.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 19:11
Sample Name CCVA 5
Sample Type CCV
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	48.054	ug/l	1.25	257,265.99	2.244E-01	Pulse	0.25	3
B			1	97.143	ug/l	0.86	397,653.55	3.469E-01	Pulse	0.15	3
Ca			1	4843.265	ug/l	0.41	2,799,344.33	1.541E+00	Pulse	0.10	3
Sr			1	53.643	ug/l	0.44	1,472,376.49	6.221E-01	Pulse	0.10	3
Mo			1	51.209	ug/l	0.78	282,929.08	1.196E-01	Pulse	0.10	3
Ag			1	48.900	ug/l	0.86	675,342.37	2.848E-01	Pulse	0.10	3
Sn			1	50.732	ug/l	1.42	439,787.27	1.855E-01	Pulse	0.10	3
Sb			1	53.512	ug/l	0.74	536,533.38	1.502E-01	Pulse	0.10	3
Ba			1	52.312	ug/l	0.12	212,028.64	5.934E-02	Pulse	0.10	3
Tl			1	51.371	ug/l	0.72	1,395,214.04	6.485E-01	Pulse	0.10	3
Pb			1	50.939	ug/l	0.59	487,836.76	2.268E-01	Pulse	0.10	3
Pb			1	50.476	ug/l	1.03	426,290.95	1.982E-01	Pulse	0.10	3
Pb			1	50.606	ug/l	0.21	1,951,497.12	9.072E-01	Pulse	0.10	3
Na			2	4967.371	ug/l	1.10	5,088,740.63	4.806E+01	Analog	0.30	3
Mg			2	4627.657	ug/l	0.55	2,206,464.49	2.084E+01	Pulse	0.30	3
Al			2	4784.084	ug/l	0.08	760,113.16	7.178E+00	Pulse	0.30	3
K			2	5003.702	ug/l	0.36	1,489,987.65	1.407E+01	Pulse	0.30	3
Ca			2	5196.578	ug/l	0.82	85,000.50	8.027E-01	Pulse	0.30	3
Ti			2	48.988	ug/l	2.42	6,085.61	5.747E-02	Pulse	0.30	3
V			2	51.868	ug/l	1.27	204,501.02	1.931E+00	Pulse	0.30	3
Cr			2	50.083	ug/l	0.50	263,435.29	2.488E+00	Pulse	0.30	3
Mn			2	50.838	ug/l	0.53	140,988.10	1.331E+00	Pulse	0.30	3
Fe			2	5303.449	ug/l	0.71	21,863,523.57	2.065E+02	Analog	0.30	3
Co			2	49.490	ug/l	0.38	406,551.81	3.839E+00	Pulse	0.30	3
Ni			2	48.765	ug/l	1.15	108,639.17	1.026E+00	Pulse	0.30	3
Cu			2	47.734	ug/l	0.64	293,695.73	2.773E+00	Pulse	0.30	3
Zn			2	48.517	ug/l	0.72	44,304.19	4.184E-01	Pulse	0.30	3
As			2	51.489	ug/l	0.83	22,275.17	2.104E-01	Pulse	1.00	3
Cd			2	49.470	ug/l	0.16	67,422.54	1.182E-01	Pulse	0.30	3
Sn			2	51.619	ug/l	1.04	135,462.87	2.376E-01	Pulse	0.30	3
Se			3	204.511	ug/l	1.53	29,803.64	1.880E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,146,435.68	0.86	90.4	Pulse	0.10	3
1	Sc		1,816,739.24	1.67	94.8	Pulse	0.10	3
1	Ge		348,278.54	2.19	97.7	Pulse	0.10	3

Quantitation Report

1	Ge		481,094.89	3.54	97.7	Pulse	0.10	3
1	Rh		2,366,494.03	2.37	94.0	Pulse	0.10	3
1	In		2,371,491.55	3.13	96.6	Pulse	0.10	3
1	Tb		3,573,080.47	3.42	97.4	Pulse	0.10	3
1	Ho		355,461.45	3.64	96.4	Pulse	0.10	3
1	Bi		2,151,111.79	2.90	92.9	Pulse	0.10	3
2	Sc		105,895.71	0.24	91.7	Pulse	0.30	3
2	Ge		59,649.64	0.58	97.4	Pulse	0.30	3
2	Ge		89,054.53	0.59	95.2	Pulse	0.30	3
2	Rh		1,566,306.19	0.16	91.8	Pulse	0.30	3
2	In		570,195.86	0.86	94.2	Pulse	0.30	3
2	Tb		2,146,284.91	0.39	94.3	Pulse	0.30	3
2	Ho		214,812.45	0.89	95.0	Pulse	0.30	3
2	Bi		1,429,466.16	1.14	92.2	Pulse	0.30	3
3	Sc		174,630.68	0.82	93.0	Pulse	0.30	3
3	Ge		106,043.28	0.73	90.3	Pulse	0.30	3
3	Ge		158,573.37	0.69	89.1	Pulse	0.30	3
3	Rh		1,726,914.76	0.28	89.1	Pulse	0.30	3
3	Tb		3,007,147.45	0.51	90.6	Pulse	0.30	3

Quantitation Report

File Name 114_CCB.d
File Path C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File
Method Path
Acq Time 12/12/2019 19:16
Sample Name CCB
Sample Type CCB
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/12/2019 11:17
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.005	ug/l	57.22	34.67	3.021E-05	Pulse	0.25	3
B			1	3.322	ug/l	6.65	22,437.35	1.960E-02	Pulse	0.15	3
Ca			1	-4.611	ug/l	-31.09	13,325.76	7.357E-03	Pulse	0.10	3
Sr			1	0.022	ug/l	15.27	813.38	3.392E-04	Pulse	0.10	3
Mo			1	0.128	ug/l	26.19	763.38	3.220E-04	Pulse	0.10	3
Ag			1	0.013	ug/l	15.67	190.01	7.886E-05	Pulse	0.10	3
Sn			1	0.422	ug/l	14.41	2,697.03	1.136E-03	Pulse	0.10	3
Sb			1	0.115	ug/l	29.40	1,793.49	4.860E-04	Pulse	0.10	3
Ba			1	0.021	ug/l	17.34	133.34	3.583E-05	Pulse	0.10	3
Tl			1	0.011	ug/l	3.35	350.02	1.621E-04	Pulse	0.10	3
Pb			1	0.005	ug/l	120.72	260.01	1.196E-04	Pulse	0.10	3
Pb			1	-0.003	ug/l	-130.71	213.34	9.918E-05	Pulse	0.10	3
Pb			1	0.003	ug/l	47.84	943.38	4.359E-04	Pulse	0.10	3
Na			2	11.562	ug/l	2.33	26,549.73	2.550E-01	Pulse	0.30	3
Mg			2	0.400	ug/l	3.91	322.23	3.094E-03	Pulse	0.30	3
Al			2	0.406	ug/l	69.14	311.12	2.989E-03	Pulse	0.30	3
K			2	-2.608	ug/l	-29.40	7,409.49	7.115E-02	Pulse	0.30	3
Ca			2	0.139	ug/l	940.58	98.89	9.507E-04	Pulse	0.30	3
Ti			2	0.010	ug/l	157.48	2.22	2.125E-05	Pulse	0.30	3
V			2	-0.104	ug/l	-0.76	132.23	1.270E-03	Pulse	0.30	3
Cr			2	0.010	ug/l	33.08	462.23	4.438E-03	Pulse	0.30	3
Mn			2	0.021	ug/l	39.81	101.11	9.711E-04	Pulse	0.30	3
Fe			2	2.893	ug/l	3.46	19,231.29	1.847E-01	Pulse	0.30	3
Co			2	0.005	ug/l	50.14	58.84	5.660E-04	Pulse	0.30	3
Ni			2	-0.059	ug/l	-25.89	280.01	2.690E-03	Pulse	0.30	3
Cu			2	-0.614	ug/l	-0.35	1,679.00	1.612E-02	Pulse	0.30	3
Zn			2	-0.536	ug/l	-4.66	374.46	3.597E-03	Pulse	0.30	3
As			2	0.022	ug/l	41.99	17.00	1.630E-04	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.003	ug/l	109.47	5.48	9.597E-06	Pulse	0.30	3
Sn			2	0.362	ug/l	14.95	957.82	1.681E-03	Pulse	0.30	3
Se			3	0.092	ug/l	14.28	18.73	1.179E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,146,556.37	5.19	90.5	Pulse	0.10	3
1	Sc		1,816,979.56	7.65	94.8	Pulse	0.10	3
1	Ge		343,152.98	5.70	96.2	Pulse	0.10	3
1	Ge		474,422.77	5.09	96.3	Pulse	0.10	3
1	Rh		2,393,114.45	5.88	95.1	Pulse	0.10	3
1	In		2,394,327.97	6.35	97.5	Pulse	0.10	3
1	Tb		3,769,219.53	16.64	102.7	Mix	0.10	3
1	Ho		348,390.33	6.64	94.5	Pulse	0.10	3
1	Bi		2,161,489.86	5.58	93.3	Pulse	0.10	3
2	Sc		104,131.15	0.89	90.2	Pulse	0.30	3
2	Ge		58,737.32	1.59	95.9	Pulse	0.30	3
2	Ge		88,416.47	0.90	94.5	Pulse	0.30	3
2	Rh		1,568,040.94	0.85	91.9	Pulse	0.30	3
2	In		569,183.28	0.88	94.0	Pulse	0.30	3
2	Tb		2,090,680.61	1.09	91.9	Pulse	0.30	3
2	Ho		208,712.82	1.15	92.3	Pulse	0.30	3
2	Bi		1,419,738.03	0.60	91.6	Pulse	0.30	3
3	Sc		173,550.51	0.86	92.5	Pulse	0.30	3
3	Ge		105,826.25	1.24	90.2	Pulse	0.30	3
3	Ge		158,942.20	1.26	89.3	Pulse	0.30	3
3	Rh		1,768,552.01	1.16	91.2	Pulse	0.30	3
3	Tb		2,990,986.90	1.08	90.1	Pulse	0.30	3

Quantitation Report

File Name	115SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Method File	
Method Path	
Acq Time	12/12/2019 19:21
Sample Name	jc99611-3f 5
Sample Type	Sample
Comment	
Prep Dilution	2.000
Auto Dilution	N/A
Total Dilution	2.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/12/2019 11:17
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.012	ug/l	47.98	36.00	3.349E-05	Pulse	0.25	3
B			1	144.278	ug/l	1.34	280,436.55	2.596E-01	Pulse	0.15	3
Ca			1	102477.330	ug/l	0.27	27,893,913.75	1.622E+01	Analog	0.10	3
Sr			1	596.874	ug/l	3.41	7,463,037.39	3.461E+00	Analog	0.10	3
Mo			1	0.574	ug/l	13.99	1,496.80	6.932E-04	Pulse	0.10	3
Ag			1	0.034	ug/l	5.03	226.68	1.017E-04	Pulse	0.10	3
Sn			1	2.052	ug/l	6.10	7,468.67	3.349E-03	Pulse	0.10	3
Sb			1	0.563	ug/l	7.02	3,280.47	9.533E-04	Pulse	0.10	3
Ba			1	202.217	ug/l	0.74	394,324.54	1.147E-01	Pulse	0.10	3
Tl			1	0.016	ug/l	20.93	236.68	1.196E-04	Pulse	0.10	3
Pb			1	0.201	ug/l	8.60	1,076.75	5.455E-04	Pulse	0.10	3
Pb			1	0.170	ug/l	11.76	873.39	4.423E-04	Pulse	0.10	3
Pb			1	0.191	ug/l	5.48	4,143.74	2.099E-03	Pulse	0.10	3
Na			2	128592.171	ug/l	2.84	60,559,124.26	6.203E+02	Analog	0.30	3
Mg			2	28602.723	ug/l	2.09	6,286,970.72	6.439E+01	Analog	0.30	3
Al			2	9.240	ug/l	10.85	910.03	9.309E-03	Pulse	0.30	3
K			2	8658.842	ug/l	1.59	1,189,822.70	1.218E+01	Pulse	0.30	3
Ca			2	95878.534	ug/l	1.19	722,407.30	7.397E+00	Pulse	0.30	3
Ti			2	0.625	ug/l	41.51	36.67	3.761E-04	Pulse	0.30	3
V			2	0.330	ug/l	6.71	1,100.05	1.127E-02	Pulse	0.30	3
Cr			2	4.398	ug/l	1.77	11,036.01	1.130E-01	Pulse	0.30	3
Mn			2	794.916	ug/l	1.16	1,016,208.29	1.041E+01	Pulse	0.30	3
Fe			2	18649.043	ug/l	2.20	35,437,459.70	3.629E+02	Analog	0.30	3
Co			2	0.547	ug/l	2.39	2,084.49	2.135E-02	Pulse	0.30	3
Ni			2	2.001	ug/l	7.83	2,430.21	2.490E-02	Pulse	0.30	3
Cu			2	0.789	ug/l	7.95	7,193.87	7.363E-02	Pulse	0.30	3
Zn			2	4.483	ug/l	3.29	2,644.70	2.708E-02	Pulse	0.30	3
As			2	3.455	ug/l	2.60	696.35	7.130E-03	Pulse	1.00	3
Cd			2	0.006	ug/l	106.81	5.41	1.034E-05	Pulse	0.30	3
Sn			2	2.004	ug/l	2.47	2,410.21	4.626E-03	Pulse	0.30	3
Se			3	0.252	ug/l	14.32	25.07	1.492E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,080,128.39	1.74	85.2	Pulse	0.10	3

NOTE: The remaining raw data for this batch is not relevant to this job. As such it has been omitted.

Current Signal

[1]



Mass	Range	Count	Avg. Count	RSD [%]
7	20000	2224	2264.5	2.42
59	500	2425	2428.3	2.74
89	200	3866	3769.6	1.86
140	500	3905	4010.4	1.77
205	100	3345	3314.2	0.79
156/140	5	0.589 %	0.623 %	19.03
70/140	1000	883.171 %	985.207 %	9.22
9	20	0	1.3	151.44
11	200	272	264.0	12.09
88	200	50	46.8	20.77
95	20	12	13.0	14.04
107	20	2	2.8	34.82
121	5000	14	20.3	24.98
137	50	18	12.8	58.12
208	500	74	61.8	14.75
Integration Time [sec]		0.10		

Plasma Parameters

RF Power	1500	W	Nebulizer Pump	0.10	rps
RF Matching	1.80	V	S/C Temp	2	℃
Smpl Depth	7.8	mm	Gas Switch	Dilution Gas	
Carrier Gas	0.55	L/min	Makeup/Dilution Gas	0.55	L/min
Option Gas	0.0	%			

Lenses Parameters

Extract 1	0.0	V	Cell Entrance	-40	V
Extract 2	-200.0	V	Cell Exit	-58	V
Omega Bias	-80	V	Deflect	13.4	V
Omega Lens	7.9	V	Plate Bias	-45	V

Cell Parameters

Use Gas	false		OctP Bias	-8.0	V
He Flow	0.0	mL/min	OctP RF	200	V
H2 Flow	0.0	mL/min	Energy Discrimination	5.0	V
3rd Gas Flow	0	%			

Meters

IF/BK Press	2.70E+2	Pa	TMP Revolution	100.0	%
Analyzer Press	1.52E-4	Pa	Water Temp	23.6	℃
Reflected Power	1	W			

US EPA Tune Check Sample Report

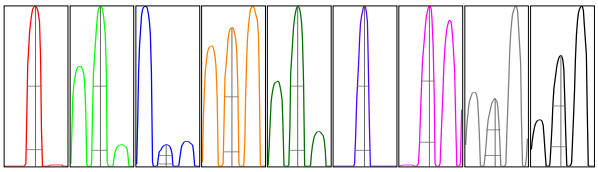
Batch Folder C:\Agilent\ICPMH\1\DATA\xa121219m1.b
Report Comment
Instrument Name G3281A JP10340551

[1]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
9	69063	0.97	5.00	
24	249728	0.71	5.00	
25	34125	1.05	5.00	
26	39277	0.96	5.00	
59	282152	0.55	5.00	
115	380639	0.62	5.00	
206	111282	0.55	5.00	
207	103003	0.56	5.00	
208	241536	0.96	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	68369	69688	69563	69391	68302
24	248038	251362	251624	249706	247908
25	33700	34392	34588	34000	33944
26	38953	39919	39163	39283	39069
59	280412	284160	283231	281931	281025
115	379601	381299	384260	380038	377995
206	110913	111650	112195	110833	110817
207	103096	103416	103500	102954	102048
208	243248	241988	243832	240585	238026

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
9	11172	9.00	8.9 - 9.1		0.763	0.900	
24	41930	23.95	23.9 - 24.1		0.728	0.900	
25	5607	24.95	24.9 - 25.1		0.734	0.900	
26	6458	25.95	25.9 - 26.1		0.730	0.900	
59	48195	58.95	58.9 - 59.1		0.720	0.900	
115	71134	115.00	114.9 - 115.1		0.707	0.900	
206	19580	205.95	205.9 - 206.1		0.729	0.900	
207	17863	206.95	206.9 - 207.1		0.726	0.900	
208	42487	207.95	207.9 - 208.1		0.723	0.900	

X% = 10 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 235 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

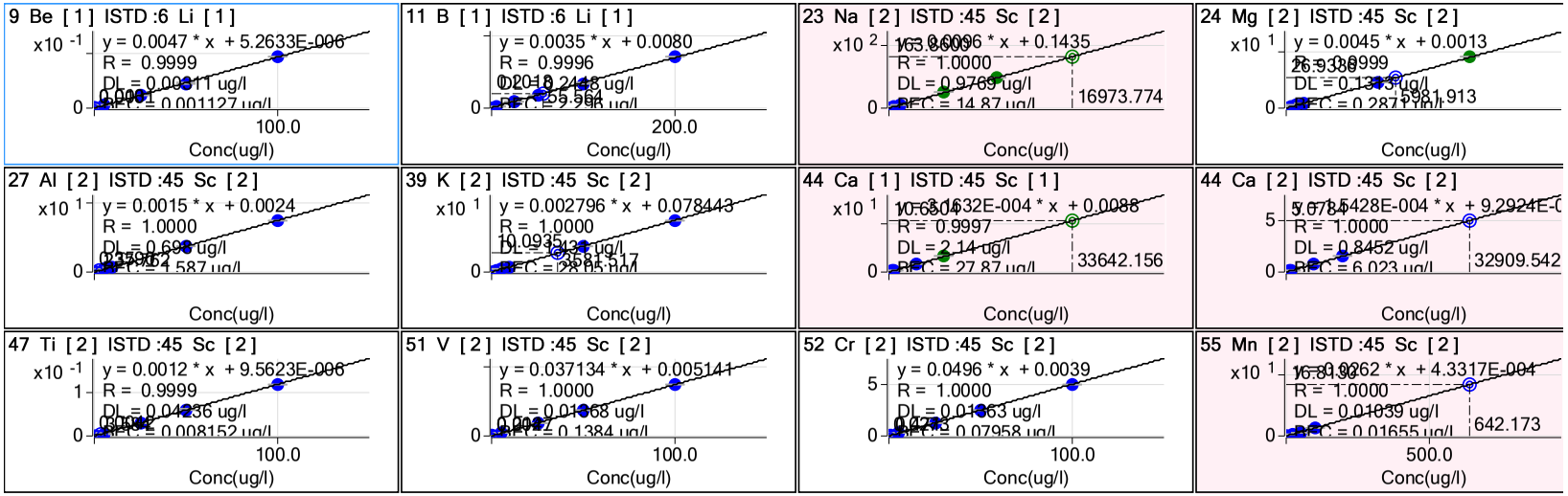
ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1500	W	Carrier Gas	0.55	L/min			
RF Matching	1.80	V	Option Gas	0.0	%			
Smpl Depth	7.8	mm	Nebulizer Pump	0.10	rps			
S/C Temp	2	℃						

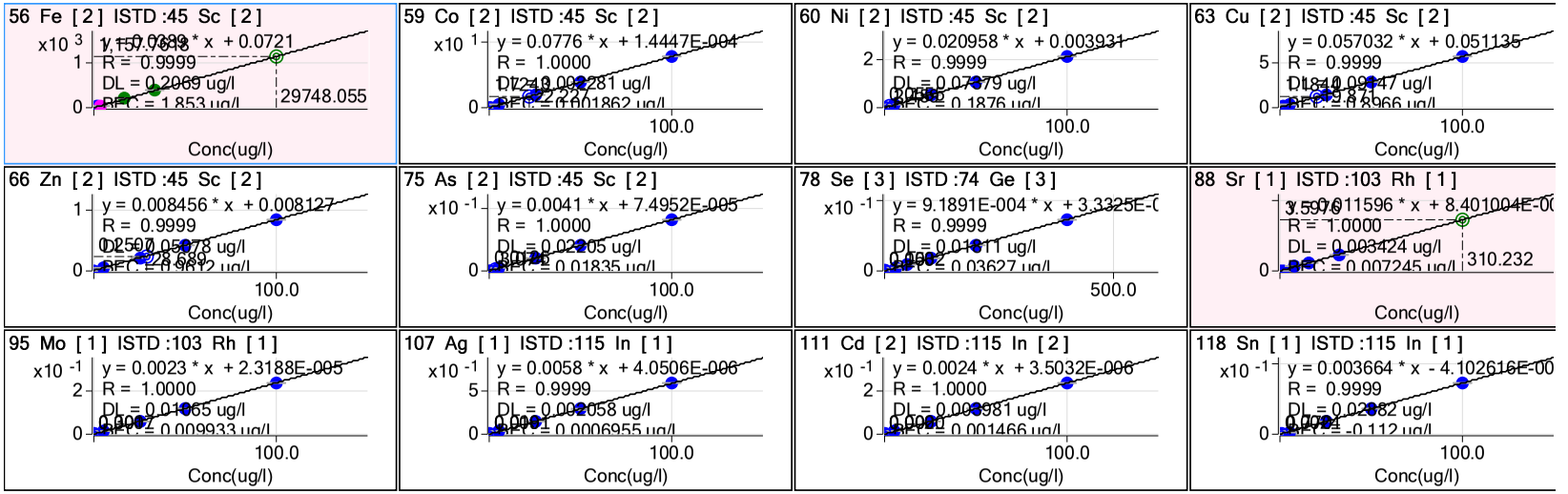
Lenses Parameters

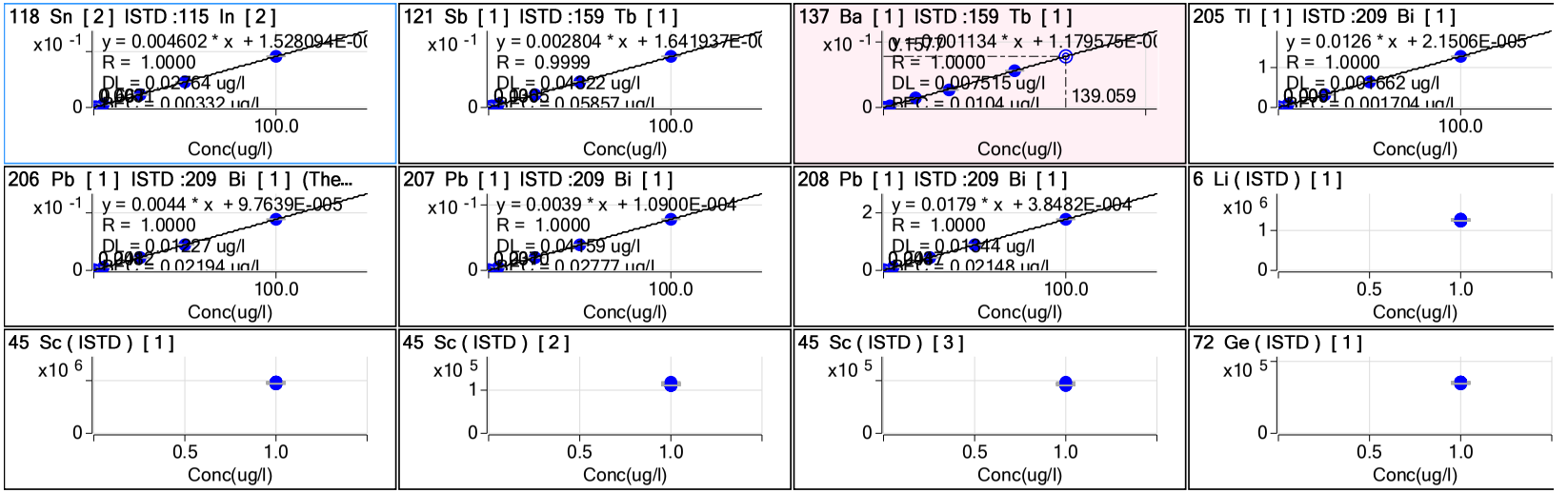
ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	7.9	V			
Extract 2	-200.0	V	Cell Entrance	-40	V			
Omega Bias	-80	V	Cell Exit	-58	V			
Deflect	13.4	V						

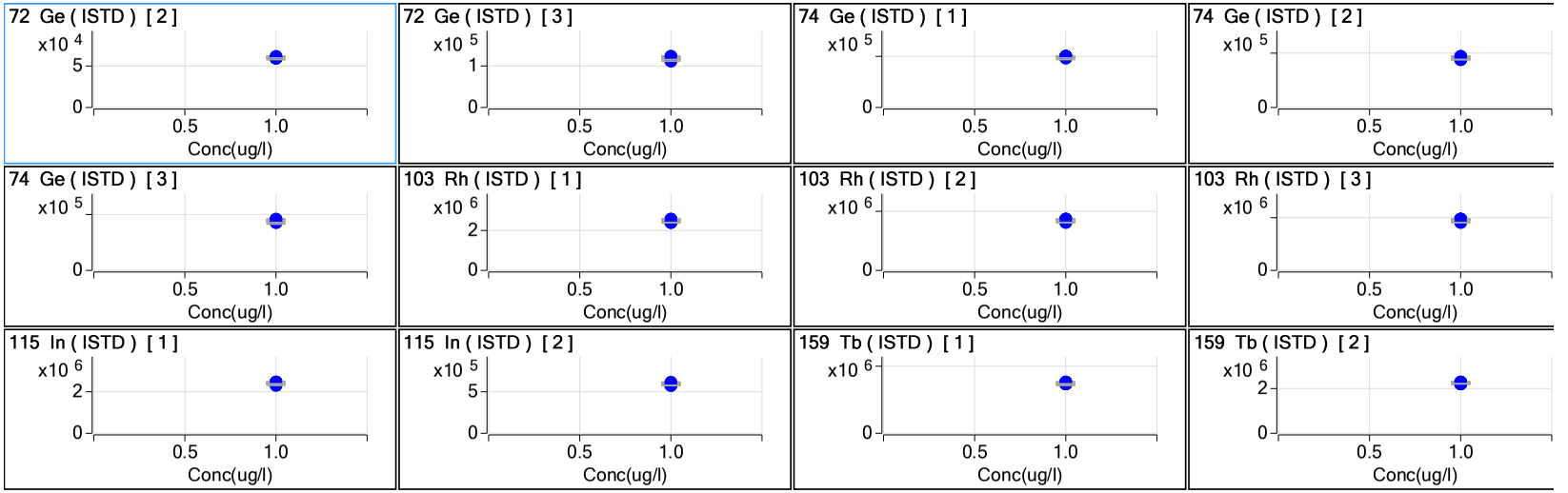
Cell Parameters

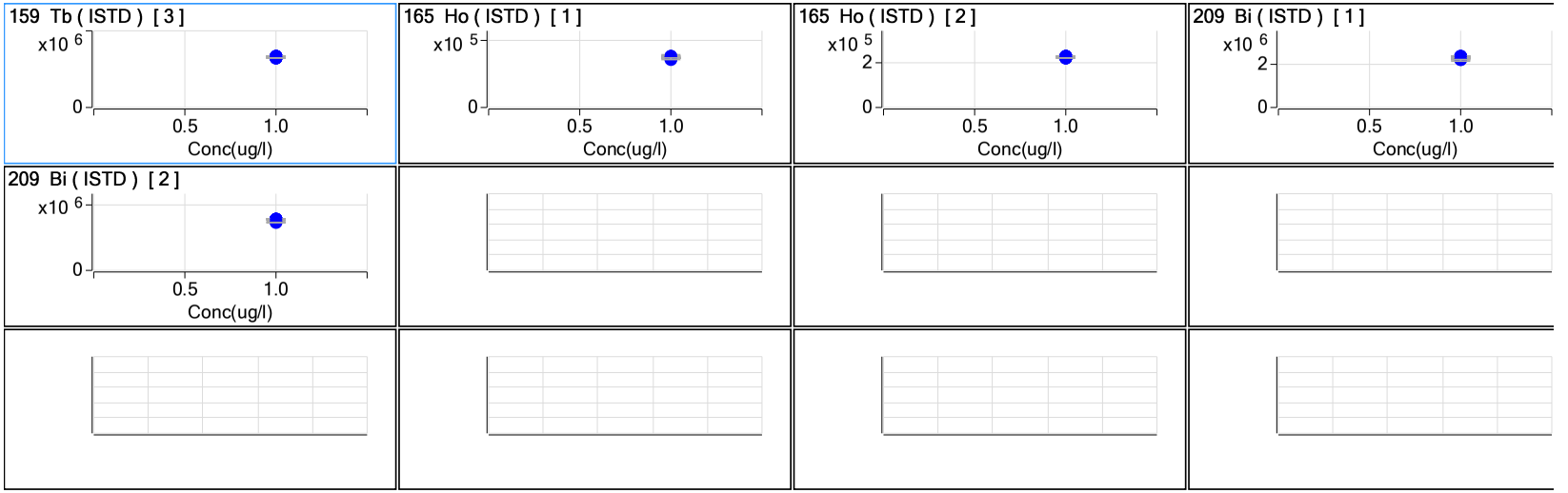
ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Use Gas	false		3rd Gas Flow	0	%			
He Flow	0.0	mL/min	OctP Bias	-8.0	V			
H2 Flow	0.0	mL/min	OctP RF	200	V			
Energy Discrimination	5.0	V						


9 Be [1] ISTD :6 Li [1]
y = 0.0047 * x + 5.2633E-006
R = 0.9999
DL = 0.00311 ug/l
Conc(ug/l)
11 B [1] ISTD :6 Li [1]
y = 0.0035 * x + 0.0080
R = 0.9996
Conc(ug/l)
23 Na [2] ISTD :45 Sc [2]
y = 0.0096 * x + 0.1435
R = 1.0000
DL = 0.9769 ug/l
16973.774
Conc(ug/l)
24 Mg [2] ISTD :45 Sc [2]
y = 0.0045 * x + 0.0013
R = 0.9999
DL = 0.1345 ug/l
5981.913
Conc(ug/l)
27 Al [2] ISTD :45 Sc [2]
y = 0.0015 * x + 0.0024
R = 1.0000
DL = 0.698 ug/l
Conc(ug/l)
39 K [2] ISTD :45 Sc [2]
y = 0.002796 * x + 0.078443
R = 1.0000
Conc(ug/l)
44 Ca [1] ISTD :45 Sc [1]
y = 8.1632E-004 * x + 0.0088
R = 0.9997
DL = 2.14 ug/l
33642.156
Conc(ug/l)
44 Ca [2] ISTD :45 Sc [2]
y = 7.5428E-004 * x + 9.2924E-0
R = 1.0000
DL = 0.8452 ug/l
32909.542
Conc(ug/l)
47 Ti [2] ISTD :45 Sc [2]
y = 0.0012 * x + 9.5623E-006
R = 0.9999
DL = 0.04236 ug/l
Conc(ug/l)
51 V [2] ISTD :45 Sc [2]
y = 0.037134 * x + 0.005141
R = 1.0000
Conc(ug/l)
52 Cr [2] ISTD :45 Sc [2]
y = 0.0496 * x + 0.0039
R = 1.0000
DL = 0.01463 ug/l
Conc(ug/l)
55 Mn [2] ISTD :45 Sc [2]
y = 0.0062 * x + 4.3317E-004
R = 1.0000
DL = 0.01039 ug/l
642.173
Conc(ug/l)


56 Fe [2] ISTD :45 Sc [2]
x10 3
y = 0.0089 * x + 0.0721
R = 0.9999
DL = 0.2069 ug/l
29748.055
Conc(ug/l)
59 Co [2] ISTD :45 Sc [2]
x10 1
y = 0.0776 * x + 1.4447E-004
R = 1.0000
100.0
Conc(ug/l)
60 Ni [2] ISTD :45 Sc [2]
y = 0.020958 * x + 0.003931
R = 0.9999
DL = 0.07379 ug/l
100.0
Conc(ug/l)
63 Cu [2] ISTD :45 Sc [2]
y = 0.057032 * x + 0.051135
R = 0.9999
100.0
Conc(ug/l)
66 Zn [2] ISTD :45 Sc [2]
y = 0.008456 * x + 0.008127
R = 0.9999
100.0
Conc(ug/l)
75 As [2] ISTD :45 Sc [2]
x10 -1
y = 0.0041 * x + 7.4952E-005
R = 1.0000
100.0
Conc(ug/l)
78 Se [3] ISTD :74 Ge [3]
x10 -1
y = 9.1891E-004 * x + 3.3325E-0
R = 0.9999
DL = 0.01611 ug/l
500.0
Conc(ug/l)
88 Sr [1] ISTD :103 Rh [1]
R = 1.0000
DL = 0.003424 ug/l
310.232
Conc(ug/l)
95 Mo [1] ISTD :103 Rh [1]
x10 -1
y = 0.0023 * x + 2.3188E-005
R = 1.0000
DL = 0.01665 ug/l
100.0
Conc(ug/l)
107 Ag [1] ISTD :115 In [1]
x10 -1
y = 0.0058 * x + 4.0506E-006
R = 0.9999
100.0
Conc(ug/l)
111 Cd [2] ISTD :115 In [2]
x10 -1
y = 0.0024 * x + 3.5032E-006
R = 1.0000
100.0
Conc(ug/l)
118 Sn [1] ISTD :115 In [1]
x10 -1
y = 0.003664 * x - 4.102616E-00
R = 0.9999
100.0
Conc(ug/l)


118 Sn [2] ISTD :115 In [2]
y = 0.004602 * x + 1.528094E-0(
R = 1.0000
DL = 0.02364 ug/l
RL = 0.00332 ug/l
Conc(ug/l)
121 Sb [1] ISTD :159 Tb [1]
y = 0.002804 * x + 1.641937E-0(
R = 0.9999
DL = 0.04322 ug/l
RL = 0.05857 ug/l
Conc(ug/l)
137 Ba [1] ISTD :159 Tb [1]
y = 0.001134 * x + 1.179575E-0(
R = 1.0000
DL = 0.007515 ug/l
RL = 0.0104 ug/l
139.059
Conc(ug/l)
205 Tl [1] ISTD :209 Bi [1]
y = 0.0126 * x + 2.1506E-005
R = 1.0000
DL = 0.000662 ug/l
RL = 0.001704 ug/l
Conc(ug/l)
206 Pb [1] ISTD :209 Bi [1] (The...
y = 0.0044 * x + 9.7639E-005
R = 1.0000
DL = 0.01227 ug/l
RL = 0.02194 ug/l
Conc(ug/l)
207 Pb [1] ISTD :209 Bi [1]
y = 0.0039 * x + 1.0900E-004
R = 1.0000
DL = 0.04159 ug/l
RL = 0.02777 ug/l
Conc(ug/l)
208 Pb [1] ISTD :209 Bi [1]
y = 0.0179 * x + 3.8482E-004
R = 1.0000
DL = 0.01344 ug/l
RL = 0.02148 ug/l
Conc(ug/l)
6 Li (ISTD) [1]
Conc(ug/l)
45 Sc (ISTD) [1]
Conc(ug/l)
45 Sc (ISTD) [2]
Conc(ug/l)
45 Sc (ISTD) [3]
Conc(ug/l)
72 Ge (ISTD) [1]
Conc(ug/l)


72 Ge (ISTD) [2]
x10 4
5
0
0.5
1.0
Conc(ug/l)
72 Ge (ISTD) [3]
x10 5
1
0
0.5
1.0
Conc(ug/l)
74 Ge (ISTD) [1]
x10 5
0
0.5
1.0
Conc(ug/l)
74 Ge (ISTD) [2]
x10 5
0
0.5
1.0
Conc(ug/l)
74 Ge (ISTD) [3]
x10 5
0
0.5
1.0
Conc(ug/l)
103 Rh (ISTD) [1]
x10 6
2
0
0.5
1.0
Conc(ug/l)
103 Rh (ISTD) [2]
x10 6
0
0.5
1.0
Conc(ug/l)
103 Rh (ISTD) [3]
x10 6
0
0.5
1.0
Conc(ug/l)
115 In (ISTD) [1]
x10 6
2
0
0.5
1.0
Conc(ug/l)
115 In (ISTD) [2]
x10 5
5
0
0.5
1.0
Conc(ug/l)
159 Tb (ISTD) [1]
x10 6
0
0.5
1.0
Conc(ug/l)
159 Tb (ISTD) [2]
x10 6
2
0
0.5
1.0
Conc(ug/l)


159 Tb (ISTD) [3]
x10 6
0
0.5
1.0
Conc(ug/l)
165 Ho (ISTD) [1]
x10 5
0
0.5
1.0
Conc(ug/l)
165 Ho (ISTD) [2]
x10 5
2
0
0.5
1.0
Conc(ug/l)
209 Bi (ISTD) [1]
x10 6
2
0
0.5
1.0
Conc(ug/l)
209 Bi (ISTD) [2]
x10 6
0
0.5
1.0
Conc(ug/l)

Quantitation Report

File Name	001CALB.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File	
Method Path	
Acq Time	12/16/2019 9:31
Sample Name	STDA 5
Sample Type	CalBlk
Comment	0
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/17/2019 6:27
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.001	ug/l	159.89	22.67	1.349E-05	Pulse	0.25	3
B			1	-0.916	ug/l	-4.68	10,165.45	5.967E-03	Pulse	0.15	3
Ca			1	-2.603	ug/l	-87.84	12,518.52	4.326E-03	Pulse	0.10	3
Sr			1	-0.008	ug/l	-31.92	680.05	1.675E-04	Pulse	0.10	3
Mo			1	-0.015	ug/l	-19.87	66.67	1.669E-05	Pulse	0.10	3
Ag			1	0.002	ug/l	40.66	66.67	1.612E-05	Pulse	0.10	3
Sn			1	-0.128	ug/l	-11.79	2,723.68	6.548E-04	Pulse	0.10	3
Sb			1	-0.063	ug/l	-8.26	376.68	5.808E-05	Pulse	0.10	3
Ba			1	0.015	ug/l	59.45	150.01	2.324E-05	Pulse	0.10	3
Tl			1	0.003	ug/l	20.78	216.68	5.524E-05	Pulse	0.10	3
Pb			1	-0.328	ug/l	-0.19	380.02	9.662E-05	Pulse	0.10	3
Pb			1	-0.307	ug/l	-1.97	250.01	6.442E-05	Pulse	0.10	3
Pb			1	-0.007	ug/l	-46.64	1,196.74	3.065E-04	Pulse	0.10	3
Na			2	-0.103	ug/l	-108.16	13,992.57	7.693E-02	Pulse	0.30	3
Mg			2	-0.421	ug/l	-26.72	382.23	2.103E-03	Pulse	0.30	3
Al			2	-3.659	ug/l	-6.97	216.67	1.190E-03	Pulse	0.30	3
K			2	0.466	ug/l	55.06	9,682.90	5.323E-02	Pulse	0.30	3
Ca			2	-4.255	ug/l	-14.00	161.12	8.854E-04	Pulse	0.30	3
Ti			2	0.007	ug/l	347.03	2.22	1.215E-05	Pulse	0.30	3
V			2	0.022	ug/l	8.21	305.56	1.680E-03	Pulse	0.30	3
Cr			2	0.022	ug/l	18.02	635.58	3.494E-03	Pulse	0.30	3
Mn			2	0.004	ug/l	84.28	111.11	6.110E-04	Pulse	0.30	3
Fe			2	3.153	ug/l	0.43	4,897.46	2.692E-02	Pulse	0.30	3
Co			2	0.008	ug/l	33.50	96.66	5.310E-04	Pulse	0.30	3
Ni			2	0.006	ug/l	222.90	498.90	2.743E-03	Pulse	0.30	3
Cu			2	-0.226	ug/l	-3.77	1,853.46	1.019E-02	Pulse	0.30	3
Zn			2	14.805	ug/l	10.94	17,787.62	9.784E-02	Pulse	0.30	3
As			2	-0.002	ug/l	-180.20	14.00	7.699E-05	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.003	ug/l	118.67	9.99	9.580E-06	Pulse	0.30	3
Sn			2	-0.115	ug/l	-22.55	848.93	8.139E-04	Pulse	0.30	3
Se			3	-0.006	ug/l	-456.63	8.67	2.980E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,704,541.01	5.37	100.0	Pulse	0.10	3
1	Sc		2,910,018.40	7.32	100.0	Pulse	0.10	3
1	Ge		593,130.30	5.63	100.0	Pulse	0.10	3
1	Ge		822,661.13	6.18	100.0	Pulse	0.10	3
1	Rh		4,053,300.04	7.77	100.0	Pulse	0.10	3
1	In		4,155,744.10	7.92	100.0	Pulse	0.10	3
1	Tb		6,513,249.27	5.74	100.0	Analog	0.10	3
1	Ho		604,179.27	7.31	100.0	Pulse	0.10	3
1	Bi		3,930,121.29	7.61	100.0	Pulse	0.10	3
2	Sc		181,905.59	0.80	100.0	Pulse	0.30	3
2	Ge		108,349.37	0.41	100.0	Pulse	0.30	3
2	Ge		162,221.47	0.19	100.0	Pulse	0.30	3
2	Rh		2,769,311.14	0.40	100.0	Pulse	0.30	3
2	In		1,043,034.58	0.21	100.0	Pulse	0.30	3
2	Tb		3,735,414.16	0.41	100.0	Pulse	0.30	3
2	Ho		377,856.43	0.50	100.0	Pulse	0.30	3
2	Bi		2,609,596.56	0.62	100.0	Pulse	0.30	3
3	Sc		308,494.58	0.31	100.0	Pulse	0.30	3
3	Ge		192,727.13	0.81	100.0	Pulse	0.30	3
3	Ge		291,152.88	0.29	100.0	Pulse	0.30	3
3	Rh		2,876,521.83	0.11	100.0	Pulse	0.30	3
3	Tb		4,916,576.75	0.32	100.0	Pulse	0.30	3

Quantitation Report

File Name	002CALB.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File	
Method Path	
Acq Time	12/16/2019 9:36
Sample Name	STDA
Sample Type	CalBlk
Comment	0
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/17/2019 6:27
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.000	ug/l	574.39	20.00	1.151E-05	Pulse	0.25	3
B			1	-0.879	ug/l	-9.53	10,565.75	6.063E-03	Pulse	0.15	3
Ca			1	-0.342	ug/l	-263.49	14,503.48	4.836E-03	Pulse	0.10	3
Sr			1	-0.002	ug/l	-10.82	883.40	2.120E-04	Pulse	0.10	3
Mo			1	-0.009	ug/l	-79.68	110.00	2.632E-05	Pulse	0.10	3
Ag			1	0.000	ug/l	-314.35	23.33	5.503E-06	Pulse	0.10	3
Sn			1	-0.154	ug/l	-15.20	2,490.30	5.856E-04	Pulse	0.10	3
Sb			1	-0.062	ug/l	-2.06	400.02	5.986E-05	Pulse	0.10	3
Ba			1	0.004	ug/l	180.46	93.34	1.396E-05	Pulse	0.10	3
Tl			1	-0.002	ug/l	-24.19	63.33	1.570E-05	Pulse	0.10	3
Pb			1	-0.037	ug/l	-47.92	4,134.07	1.026E-03	Pulse	0.10	3
Pb			1	-0.017	ug/l	-132.74	3,523.88	8.753E-04	Pulse	0.10	3
Pb			1	0.288	ug/l	5.53	16,637.72	4.130E-03	Pulse	0.10	3
Na			2	0.162	ug/l	20.44	14,098.19	7.863E-02	Pulse	0.30	3
Mg			2	0.274	ug/l	43.22	758.92	4.233E-03	Pulse	0.30	3
Al			2	-0.712	ug/l	-41.65	771.14	4.302E-03	Pulse	0.30	3
K			2	0.633	ug/l	83.02	9,607.31	5.358E-02	Pulse	0.30	3
Ca			2	-0.621	ug/l	-58.04	233.34	1.301E-03	Pulse	0.30	3
Ti			2	0.059	ug/l	112.62	10.00	5.565E-05	Pulse	0.30	3
V			2	0.016	ug/l	9.71	273.34	1.525E-03	Pulse	0.30	3
Cr			2	0.024	ug/l	68.80	640.02	3.569E-03	Pulse	0.30	3
Mn			2	0.027	ug/l	34.52	188.89	1.053E-03	Pulse	0.30	3
Fe			2	3.580	ug/l	1.05	7,012.71	3.911E-02	Pulse	0.30	3
Co			2	0.003	ug/l	58.57	53.31	2.975E-04	Pulse	0.30	3
Ni			2	0.066	ug/l	18.26	652.25	3.638E-03	Pulse	0.30	3
Cu			2	-0.200	ug/l	-8.26	2,015.71	1.125E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Zn			2	6.844	ug/l	5.46	8,555.65	4.773E-02	Pulse	0.30	3
As			2	-0.004	ug/l	-132.73	12.33	6.881E-05	Pulse	1.00	3
Cd			2	0.006	ug/l	104.28	16.66	1.603E-05	Pulse	0.30	3
Sn			2	-0.121	ug/l	-5.49	822.26	7.915E-04	Pulse	0.30	3
Se			3	-0.028	ug/l	-20.73	4.13	1.427E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,742,868.89	0.68	100.0	Pulse	0.10	3
1	Sc		2,999,400.58	0.95	100.0	Pulse	0.10	3
1	Ge		598,421.47	1.13	100.0	Pulse	0.10	3
1	Ge		829,046.99	0.92	100.0	Pulse	0.10	3
1	Rh		4,166,509.31	0.95	100.0	Pulse	0.10	3
1	In		4,252,566.68	1.67	100.0	Pulse	0.10	3
1	Tb		6,682,634.90	0.88	100.0	Analog	0.10	3
1	Ho		627,077.97	0.75	100.0	Pulse	0.10	3
1	Bi		4,027,294.31	1.52	100.0	Pulse	0.10	3
2	Sc		179,298.98	0.78	100.0	Pulse	0.30	3
2	Ge		106,025.36	1.21	100.0	Pulse	0.30	3
2	Ge		160,228.29	0.31	100.0	Pulse	0.30	3
2	Rh		2,760,310.03	0.76	100.0	Pulse	0.30	3
2	In		1,038,816.01	0.64	100.0	Pulse	0.30	3
2	Tb		3,717,602.22	0.17	100.0	Pulse	0.30	3
2	Ho		377,017.08	0.08	100.0	Pulse	0.30	3
2	Bi		2,613,425.17	0.38	100.0	Pulse	0.30	3
3	Sc		300,618.58	0.81	100.0	Pulse	0.30	3
3	Ge		190,923.85	0.95	100.0	Pulse	0.30	3
3	Ge		289,374.06	0.56	100.0	Pulse	0.30	3
3	Rh		2,922,711.34	0.25	100.0	Pulse	0.30	3
3	Tb		4,952,522.44	0.43	100.0	Pulse	0.30	3

Quantitation Report

File Name	003CALB.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File	
Method Path	
Acq Time	12/16/2019 9:41
Sample Name	STDA
Sample Type	CalBlk
Comment	0
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/17/2019 6:27
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.002	ug/l	23.07	26.67	1.556E-05	Pulse	0.25	3
B			1	-0.944	ug/l	-3.42	10,103.22	5.897E-03	Pulse	0.15	3
Ca			1	-3.618	ug/l	-19.64	12,188.26	4.097E-03	Pulse	0.10	3
Sr			1	-0.008	ug/l	-25.81	706.71	1.685E-04	Pulse	0.10	3
Mo			1	-0.019	ug/l	-8.03	40.00	9.579E-06	Pulse	0.10	3
Ag			1	0.001	ug/l	222.08	40.00	9.364E-06	Pulse	0.10	3
Sn			1	-0.134	ug/l	-13.41	2,710.36	6.395E-04	Pulse	0.10	3
Sb			1	-0.065	ug/l	-6.02	363.35	5.473E-05	Pulse	0.10	3
Ba			1	0.009	ug/l	22.30	120.01	1.808E-05	Pulse	0.10	3
Tl			1	0.002	ug/l	64.00	183.34	4.549E-05	Pulse	0.10	3
Pb			1	-0.335	ug/l	-1.97	296.68	7.352E-05	Pulse	0.10	3
Pb			1	-0.311	ug/l	-0.92	220.02	5.464E-05	Pulse	0.10	3
Pb			1	-0.008	ug/l	-22.22	1,153.41	2.865E-04	Pulse	0.10	3
Na			2	-0.480	ug/l	-15.87	13,676.74	7.450E-02	Pulse	0.30	3
Mg			2	-0.392	ug/l	-16.46	402.23	2.191E-03	Pulse	0.30	3
Al			2	-3.696	ug/l	-7.03	211.12	1.150E-03	Pulse	0.30	3
K			2	0.212	ug/l	317.85	9,675.13	5.270E-02	Pulse	0.30	3
Ca			2	-5.224	ug/l	-40.24	142.22	7.745E-04	Pulse	0.30	3
Ti			2	-0.007	ug/l	0.00	0.00	0.000E+00	Pulse	0.30	3
V			2	0.008	ug/l	54.34	236.67	1.289E-03	Pulse	0.30	3
Cr			2	0.015	ug/l	38.52	596.68	3.250E-03	Pulse	0.30	3
Mn			2	0.003	ug/l	333.93	105.56	5.750E-04	Pulse	0.30	3
Fe			2	3.108	ug/l	0.35	4,704.06	2.563E-02	Pulse	0.30	3
Co			2	0.003	ug/l	79.83	53.32	2.908E-04	Pulse	0.30	3
Ni			2	-0.003	ug/l	-941.56	478.90	2.608E-03	Pulse	0.30	3
Cu			2	-0.262	ug/l	-2.02	1,605.65	8.747E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Zn			2	4.049	ug/l	4.78	5,532.10	3.014E-02	Pulse	0.30	3
As			2	-0.001	ug/l	-888.65	14.67	7.991E-05	Pulse	1.00	3
Cd			2	0.004	ug/l	81.16	13.33	1.261E-05	Pulse	0.30	3
Sn			2	-0.130	ug/l	-16.51	804.48	7.621E-04	Pulse	0.30	3
Se			3	-0.014	ug/l	-28.58	7.07	2.444E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,713,194.99	0.33	100.0	Pulse	0.10	3
1	Sc		2,975,820.16	1.32	100.0	Pulse	0.10	3
1	Ge		597,858.22	1.33	100.0	Pulse	0.10	3
1	Ge		828,783.06	1.64	100.0	Pulse	0.10	3
1	Rh		4,191,830.25	2.15	100.0	Pulse	0.10	3
1	In		4,239,778.18	1.77	100.0	Pulse	0.10	3
1	Tb		6,643,644.69	1.20	100.0	Analog	0.10	3
1	Ho		623,790.13	2.27	100.0	Pulse	0.10	3
1	Bi		4,022,145.56	1.75	100.0	Pulse	0.10	3
2	Sc		183,567.99	0.27	100.0	Pulse	0.30	3
2	Ge		107,317.46	0.38	100.0	Pulse	0.30	3
2	Ge		162,121.53	0.77	100.0	Pulse	0.30	3
2	Rh		2,769,769.54	1.16	100.0	Pulse	0.30	3
2	In		1,055,172.15	0.76	100.0	Pulse	0.30	3
2	Tb		3,732,226.10	0.99	100.0	Pulse	0.30	3
2	Ho		378,512.65	0.65	100.0	Pulse	0.30	3
2	Bi		2,618,987.95	0.82	100.0	Pulse	0.30	3
3	Sc		305,255.33	0.45	100.0	Pulse	0.30	3
3	Ge		192,249.01	0.53	100.0	Pulse	0.30	3
3	Ge		289,258.19	0.48	100.0	Pulse	0.30	3
3	Rh		2,891,641.48	0.17	100.0	Pulse	0.30	3
3	Tb		4,945,789.53	0.62	100.0	Pulse	0.30	3

Quantitation Report

File Name 004CALS.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 9:46
Sample Name STDB
Sample Type CalStd
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.484	ug/l	3.97	2,808.27	1.627E-03	Pulse	0.25	3
B			1	21.843	ug/l	1.17	111,144.46	6.438E-02	Pulse	0.15	3
Ca			1	249.869	ug/l	0.73	182,406.40	6.128E-02	Pulse	0.10	3
Sr			1	4.722	ug/l	1.80	169,214.49	4.067E-02	Pulse	0.10	3
Mo			1	0.939	ug/l	5.11	6,678.36	1.604E-03	Pulse	0.10	3
Ag			1	0.468	ug/l	0.97	8,462.54	1.993E-03	Pulse	0.10	3
Sn			1	4.524	ug/l	3.35	54,823.18	1.292E-02	Pulse	0.10	3
Sb			1	1.811	ug/l	0.42	25,685.07	3.826E-03	Pulse	0.10	3
Ba			1	0.911	ug/l	7.08	5,107.74	7.609E-04	Pulse	0.10	3
Tl			1	0.483	ug/l	3.61	17,864.66	4.472E-03	Pulse	0.10	3
Pb			1	0.144	ug/l	13.87	6,404.97	1.603E-03	Pulse	0.10	3
Pb			1	0.181	ug/l	5.55	5,711.31	1.429E-03	Pulse	0.10	3
Pb			1	0.461	ug/l	0.71	25,486.11	6.378E-03	Pulse	0.10	3
Na			2	239.915	ug/l	1.15	295,660.69	1.619E+00	Pulse	0.30	3
Mg			2	249.716	ug/l	1.71	140,326.29	7.685E-01	Pulse	0.30	3
Al			2	22.036	ug/l	5.85	5,171.96	2.833E-02	Pulse	0.30	3
K			2	247.239	ug/l	1.65	103,454.73	5.666E-01	Pulse	0.30	3
Ca			2	252.698	ug/l	1.68	5,529.88	3.029E-02	Pulse	0.30	3
Ti			2	0.929	ug/l	19.53	143.34	7.845E-04	Pulse	0.30	3
V			2	1.006	ug/l	1.77	5,232.01	2.865E-02	Pulse	0.30	3
Cr			2	0.970	ug/l	1.11	6,724.78	3.683E-02	Pulse	0.30	3
Mn			2	0.954	ug/l	3.93	3,441.51	1.885E-02	Pulse	0.30	3
Fe			2	27.400	ug/l	0.52	131,214.51	7.186E-01	Pulse	0.30	3
Co			2	0.480	ug/l	1.78	4,918.22	2.693E-02	Pulse	0.30	3
Ni			2	0.953	ug/l	4.23	3,082.55	1.688E-02	Pulse	0.30	3
Cu			2	1.699	ug/l	1.73	15,977.87	8.750E-02	Pulse	0.30	3
Zn			2	6.748	ug/l	1.35	8,604.58	4.712E-02	Pulse	0.30	3
As			2	0.456	ug/l	5.17	281.33	1.541E-03	Pulse	1.00	3
Cd			2	0.488	ug/l	4.53	892.83	8.489E-04	Pulse	0.30	3
Sn			2	4.372	ug/l	2.06	16,737.92	1.591E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	0.448	ug/l	6.81	99.80	3.461E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,726,375.97	0.46	100.8	Pulse	0.10	3
1	Sc		2,976,714.75	1.50	100.0	Pulse	0.10	3
1	Ge		596,101.31	1.67	99.7	Pulse	0.10	3
1	Ge		829,735.58	1.50	100.1	Pulse	0.10	3
1	Rh		4,161,329.84	1.57	99.3	Pulse	0.10	3
1	In		4,246,376.92	1.71	100.2	Pulse	0.10	3
1	Tb		6,712,992.61	0.14	101.0	Analog	0.10	3
1	Ho		618,811.66	1.53	99.2	Pulse	0.10	3
1	Bi		3,996,206.71	1.49	99.4	Pulse	0.10	3
2	Sc		182,603.29	0.66	99.5	Pulse	0.30	3
2	Ge		107,038.57	1.04	99.7	Pulse	0.30	3
2	Ge		162,502.43	1.04	100.2	Pulse	0.30	3
2	Rh		2,779,828.84	0.23	100.4	Pulse	0.30	3
2	In		1,051,894.05	0.98	99.7	Pulse	0.30	3
2	Tb		3,732,380.69	1.09	100.0	Pulse	0.30	3
2	Ho		375,689.63	0.95	99.3	Pulse	0.30	3
2	Bi		2,618,192.68	1.15	100.0	Pulse	0.30	3
3	Sc		300,126.28	0.26	98.3	Pulse	0.30	3
3	Ge		190,769.88	0.56	99.2	Pulse	0.30	3
3	Ge		288,230.01	0.99	99.6	Pulse	0.30	3
3	Rh		2,899,139.68	0.38	100.3	Pulse	0.30	3
3	Tb		4,950,286.61	0.79	100.1	Pulse	0.30	3

Quantitation Report

File Name	005CALS.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File	
Method Path	
Acq Time	12/16/2019 9:51
Sample Name	STDC
Sample Type	CalStd
Comment	5
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/17/2019 6:27
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	4.903	ug/l	2.37	28,220.74	1.639E-02	Pulse	0.25	3
B			1	3.910	ug/l	3.53	31,596.25	1.835E-02	Pulse	0.15	3
Ca			1	1.623	ug/l	31.53	15,781.36	5.279E-03	Pulse	0.10	3
Sr			1	4.965	ug/l	0.93	177,432.82	4.275E-02	Pulse	0.10	3
Mo			1	4.899	ug/l	4.20	34,007.11	8.195E-03	Pulse	0.10	3
Ag			1	4.980	ug/l	2.05	89,006.45	2.113E-02	Pulse	0.10	3
Sn			1	4.626	ug/l	0.63	55,535.88	1.318E-02	Pulse	0.10	3
Sb			1	4.721	ug/l	3.18	64,580.23	9.676E-03	Pulse	0.10	3
Ba			1	4.777	ug/l	1.53	26,339.66	3.946E-03	Pulse	0.10	3
Tl			1	4.904	ug/l	1.63	179,785.08	4.508E-02	Pulse	0.10	3
Pb			1	4.589	ug/l	1.06	62,968.32	1.578E-02	Pulse	0.10	3
Pb			1	4.588	ug/l	1.56	54,789.36	1.373E-02	Pulse	0.10	3
Pb			1	4.828	ug/l	0.54	251,445.28	6.303E-02	Pulse	0.10	3
Na			2	3.219	ug/l	8.94	17,909.56	9.827E-02	Pulse	0.30	3
Mg			2	4.165	ug/l	7.99	2,943.63	1.615E-02	Pulse	0.30	3
Al			2	0.906	ug/l	64.70	1,096.71	6.011E-03	Pulse	0.30	3
K			2	4.772	ug/l	13.60	11,333.97	6.219E-02	Pulse	0.30	3
Ca			2	17.946	ug/l	5.74	624.46	3.426E-03	Pulse	0.30	3
Ti			2	4.695	ug/l	8.10	717.80	3.941E-03	Pulse	0.30	3
V			2	5.002	ug/l	0.93	25,177.01	1.381E-01	Pulse	0.30	3
Cr			2	4.886	ug/l	1.82	31,792.78	1.744E-01	Pulse	0.30	3
Mn			2	4.925	ug/l	1.08	17,329.24	9.507E-02	Pulse	0.30	3
Fe			2	7.999	ug/l	1.17	30,103.12	1.652E-01	Pulse	0.30	3
Co			2	4.988	ug/l	1.67	50,807.95	2.788E-01	Pulse	0.30	3
Ni			2	4.820	ug/l	0.61	13,591.28	7.457E-02	Pulse	0.30	3
Cu			2	4.731	ug/l	1.38	38,142.04	2.093E-01	Pulse	0.30	3
Zn			2	5.867	ug/l	2.88	7,578.50	4.158E-02	Pulse	0.30	3
As			2	4.982	ug/l	1.55	2,917.27	1.600E-02	Pulse	1.00	3
Cd			2	4.774	ug/l	0.65	8,665.32	8.263E-03	Pulse	0.30	3
Sn			2	4.540	ug/l	1.31	17,276.26	1.648E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	5.061	ug/l	1.42	1,011.56	3.560E-03	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,721,469.85	0.61	100.5	Pulse	0.10	3
1	Sc		2,989,971.00	1.58	100.5	Pulse	0.10	3
1	Ge		598,462.18	1.38	100.1	Pulse	0.10	3
1	Ge		821,449.73	1.70	99.1	Pulse	0.10	3
1	Rh		4,149,586.40	1.60	99.0	Pulse	0.10	3
1	In		4,212,230.53	1.12	99.4	Pulse	0.10	3
1	Tb		6,675,247.82	1.03	100.5	Analog	0.10	3
1	Ho		620,276.40	1.54	99.4	Pulse	0.10	3
1	Bi		3,989,054.11	1.89	99.2	Pulse	0.10	3
2	Sc		182,277.34	1.41	99.3	Pulse	0.30	3
2	Ge		107,080.30	1.49	99.8	Pulse	0.30	3
2	Ge		161,736.07	0.47	99.8	Pulse	0.30	3
2	Rh		2,760,328.50	0.72	99.7	Pulse	0.30	3
2	In		1,048,690.06	0.74	99.4	Pulse	0.30	3
2	Tb		3,734,542.07	0.52	100.1	Pulse	0.30	3
2	Ho		376,160.17	0.30	99.4	Pulse	0.30	3
2	Bi		2,599,076.35	0.20	99.2	Pulse	0.30	3
3	Sc		294,997.31	0.59	96.6	Pulse	0.30	3
3	Ge		188,889.61	0.51	98.3	Pulse	0.30	3
3	Ge		284,162.46	0.60	98.2	Pulse	0.30	3
3	Rh		2,922,359.47	0.88	101.1	Pulse	0.30	3
3	Tb		4,973,679.11	0.46	100.6	Pulse	0.30	3

Quantitation Report

File Name	006CALS.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File	
Method Path	
Acq Time	12/16/2019 9:56
Sample Name	STDD
Sample Type	CalStd
Comment	25
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/17/2019 6:27
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	25.527	ug/l	1.59	147,666.44	8.532E-02	Pulse	0.25	3
B			1	23.161	ug/l	1.32	117,291.63	6.777E-02	Pulse	0.15	3
Ca			1	35.774	ug/l	3.10	38,541.19	1.298E-02	Pulse	0.10	3
Sr			1	26.120	ug/l	0.51	923,857.22	2.239E-01	Pulse	0.10	3
Mo			1	26.176	ug/l	1.57	179,866.31	4.361E-02	Pulse	0.10	3
Ag			1	24.628	ug/l	0.32	440,261.53	1.045E-01	Pulse	0.10	3
Sn			1	25.824	ug/l	0.85	291,001.73	6.905E-02	Pulse	0.10	3
Sb			1	25.374	ug/l	1.53	336,555.63	5.119E-02	Pulse	0.10	3
Ba			1	25.553	ug/l	1.61	138,483.88	2.106E-02	Pulse	0.10	3
Tl			1	25.815	ug/l	0.48	947,332.02	2.372E-01	Pulse	0.10	3
Pb			1	25.602	ug/l	0.20	330,896.07	8.284E-02	Pulse	0.10	3
Pb			1	25.734	ug/l	0.43	290,774.63	7.279E-02	Pulse	0.10	3
Pb			1	25.629	ug/l	0.26	1,330,038.67	3.329E-01	Pulse	0.10	3
Na			2	25.194	ug/l	2.08	43,488.96	2.395E-01	Pulse	0.30	3
Mg			2	25.967	ug/l	1.80	15,065.72	8.296E-02	Pulse	0.30	3
Al			2	28.751	ug/l	0.90	6,432.40	3.542E-02	Pulse	0.30	3
K			2	26.704	ug/l	4.44	19,580.50	1.078E-01	Pulse	0.30	3
Ca			2	123.718	ug/l	5.12	2,820.28	1.553E-02	Pulse	0.30	3
Ti			2	25.131	ug/l	1.06	3,826.04	2.107E-02	Pulse	0.30	3
V			2	25.844	ug/l	0.76	128,800.26	7.092E-01	Pulse	0.30	3
Cr			2	25.702	ug/l	0.79	164,548.29	9.060E-01	Pulse	0.30	3
Mn			2	25.885	ug/l	1.25	90,337.28	4.974E-01	Pulse	0.30	3
Fe			2	30.433	ug/l	1.13	146,209.77	8.051E-01	Pulse	0.30	3
Co			2	26.089	ug/l	0.48	264,744.46	1.458E+00	Pulse	0.30	3
Ni			2	25.938	ug/l	1.17	70,754.19	3.896E-01	Pulse	0.30	3
Cu			2	25.915	ug/l	1.08	192,498.08	1.060E+00	Pulse	0.30	3
Zn			2	27.281	ug/l	1.97	32,029.12	1.764E-01	Pulse	0.30	3
As			2	25.759	ug/l	0.24	14,966.54	8.241E-02	Pulse	1.00	3
Cd			2	25.277	ug/l	0.12	45,356.98	4.373E-02	Pulse	0.30	3
Sn			2	25.891	ug/l	0.95	91,598.14	8.832E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	25.831	ug/l	0.90	5,121.14	1.803E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,730,813.77	0.14	101.0	Pulse	0.10	3
1	Sc		2,968,731.62	1.20	99.8	Pulse	0.10	3
1	Ge		591,291.18	2.33	98.9	Pulse	0.10	3
1	Ge		826,265.72	1.90	99.7	Pulse	0.10	3
1	Rh		4,125,686.40	1.95	98.4	Pulse	0.10	3
1	In		4,215,005.35	2.07	99.4	Pulse	0.10	3
1	Tb		6,573,998.03	1.21	99.0	Analog	0.10	3
1	Ho		619,453.92	2.64	99.3	Pulse	0.10	3
1	Bi		3,994,757.13	2.77	99.3	Pulse	0.10	3
2	Sc		181,608.87	0.33	98.9	Pulse	0.30	3
2	Ge		105,428.44	0.40	98.2	Pulse	0.30	3
2	Ge		160,011.50	0.68	98.7	Pulse	0.30	3
2	Rh		2,763,997.04	0.66	99.8	Pulse	0.30	3
2	In		1,037,131.77	0.30	98.3	Pulse	0.30	3
2	Tb		3,701,033.74	0.06	99.2	Pulse	0.30	3
2	Ho		375,422.49	0.29	99.2	Pulse	0.30	3
2	Bi		2,597,779.55	0.69	99.2	Pulse	0.30	3
3	Sc		293,954.79	0.53	96.3	Pulse	0.30	3
3	Ge		188,554.96	0.28	98.1	Pulse	0.30	3
3	Ge		284,002.80	0.43	98.2	Pulse	0.30	3
3	Rh		2,909,189.67	0.53	100.6	Pulse	0.30	3
3	Tb		4,988,527.16	1.01	100.9	Pulse	0.30	3

Quantitation Report

File Name 007CALS.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 10:01
Sample Name STDE
Sample Type CalStd
Comment 50
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	49.594	ug/l	0.64	283,758.48	1.657E-01	Pulse	0.25	3
B			1	47.027	ug/l	0.59	220,895.84	1.290E-01	Pulse	0.15	3
Ca			1	64.625	ug/l	2.06	57,790.86	1.949E-02	Pulse	0.10	3
Sr			1	50.124	ug/l	0.28	1,793,449.87	4.295E-01	Pulse	0.10	3
Mo			1	49.672	ug/l	0.71	345,388.55	8.271E-02	Pulse	0.10	3
Ag			1	49.270	ug/l	0.58	882,421.60	2.090E-01	Pulse	0.10	3
Sn			1	49.850	ug/l	0.70	558,925.46	1.324E-01	Pulse	0.10	3
Sb			1	49.620	ug/l	1.89	658,852.04	9.994E-02	Pulse	0.10	3
Ba			1	49.651	ug/l	1.33	269,758.90	4.092E-02	Pulse	0.10	3
Tl			1	50.044	ug/l	0.49	1,840,549.45	4.597E-01	Pulse	0.10	3
Pb			1	49.778	ug/l	0.98	640,362.76	1.600E-01	Pulse	0.10	3
Pb			1	50.373	ug/l	0.48	566,795.85	1.416E-01	Pulse	0.10	3
Pb			1	49.729	ug/l	0.58	2,584,543.44	6.456E-01	Pulse	0.10	3
Na			2	48.429	ug/l	1.65	70,963.05	3.888E-01	Pulse	0.30	3
Mg			2	49.693	ug/l	2.88	28,409.54	1.557E-01	Pulse	0.30	3
Al			2	48.039	ug/l	4.32	10,183.18	5.579E-02	Pulse	0.30	3
K			2	49.415	ug/l	2.37	28,302.94	1.551E-01	Pulse	0.30	3
Ca			2	235.165	ug/l	1.44	5,161.98	2.828E-02	Pulse	0.30	3
Ti			2	50.234	ug/l	1.91	7,685.18	4.211E-02	Pulse	0.30	3
V			2	49.961	ug/l	1.03	250,076.27	1.370E+00	Pulse	0.30	3
Cr			2	49.746	ug/l	1.06	319,628.97	1.751E+00	Pulse	0.30	3
Mn			2	49.944	ug/l	0.36	175,112.84	9.593E-01	Pulse	0.30	3
Fe			2	52.871	ug/l	0.35	263,806.47	1.445E+00	Pulse	0.30	3
Co			2	50.069	ug/l	0.60	510,661.45	2.798E+00	Pulse	0.30	3
Ni			2	49.724	ug/l	0.59	135,890.43	7.444E-01	Pulse	0.30	3
Cu			2	50.216	ug/l	0.79	371,613.90	2.036E+00	Pulse	0.30	3
Zn			2	50.036	ug/l	0.31	58,337.59	3.196E-01	Pulse	0.30	3
As			2	50.129	ug/l	1.24	29,259.12	1.603E-01	Pulse	1.00	3
Cd			2	48.283	ug/l	0.99	86,833.80	8.353E-02	Pulse	0.30	3
Sn			2	49.964	ug/l	0.36	176,014.21	1.693E-01	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	51.190	ug/l	0.79	10,018.46	3.570E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,712,033.00	1.07	99.9	Pulse	0.10	3
1	Sc		2,965,606.21	2.20	99.7	Pulse	0.10	3
1	Ge		593,010.75	2.38	99.2	Pulse	0.10	3
1	Ge		825,087.46	1.85	99.6	Pulse	0.10	3
1	Rh		4,175,407.44	2.37	99.6	Pulse	0.10	3
1	In		4,223,243.42	2.88	99.6	Pulse	0.10	3
1	Tb		6,592,258.44	0.64	99.2	Analog	0.10	3
1	Ho		626,134.17	2.68	100.4	Pulse	0.10	3
1	Bi		4,003,421.92	2.66	99.5	Pulse	0.10	3
2	Sc		182,542.37	0.87	99.4	Pulse	0.30	3
2	Ge		106,186.54	0.98	98.9	Pulse	0.30	3
2	Ge		161,953.58	0.42	99.9	Pulse	0.30	3
2	Rh		2,746,884.82	0.38	99.2	Pulse	0.30	3
2	In		1,039,521.45	0.13	98.5	Pulse	0.30	3
2	Tb		3,713,246.80	0.12	99.5	Pulse	0.30	3
2	Ho		376,005.65	0.15	99.3	Pulse	0.30	3
2	Bi		2,614,161.98	0.68	99.8	Pulse	0.30	3
3	Sc		292,550.59	0.42	95.8	Pulse	0.30	3
3	Ge		185,608.73	0.50	96.5	Pulse	0.30	3
3	Ge		280,626.31	0.84	97.0	Pulse	0.30	3
3	Rh		2,894,594.05	0.48	100.1	Pulse	0.30	3
3	Tb		4,998,845.91	1.39	101.1	Mix	0.30	3

Quantitation Report

File Name 008CALS.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 10:06
Sample Name STDF
Sample Type CalStd
Comment 100
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	100.076	ug/l	0.62	557,300.85	3.345E-01	Pulse	0.25	3
B			1	96.280	ug/l	1.19	425,648.64	2.554E-01	Pulse	0.15	3
Ca			1	126.544	ug/l	0.80	97,931.40	3.346E-02	Pulse	0.10	3
Sr			1	99.107	ug/l	0.88	3,498,634.53	8.490E-01	Pulse	0.10	3
Mo			1	99.912	ug/l	1.45	685,324.97	1.663E-01	Pulse	0.10	3
Ag			1	100.459	ug/l	0.74	1,791,036.43	4.261E-01	Pulse	0.10	3
Sn			1	99.893	ug/l	0.55	1,110,813.89	2.642E-01	Pulse	0.10	3
Sb			1	100.507	ug/l	2.12	1,314,151.02	2.022E-01	Pulse	0.10	3
Ba			1	100.140	ug/l	1.34	536,189.78	8.252E-02	Pulse	0.10	3
Tl			1	99.779	ug/l	0.30	3,691,674.01	9.166E-01	Pulse	0.10	3
Pb			1	99.983	ug/l	0.22	1,289,616.62	3.202E-01	Pulse	0.10	3
Pb			1	99.652	ug/l	0.79	1,124,472.43	2.792E-01	Pulse	0.10	3
Pb			1	98.671	ug/l	0.58	5,157,864.85	1.281E+00	Pulse	0.10	3
Na			2	96.243	ug/l	0.24	126,249.79	6.960E-01	Pulse	0.30	3
Mg			2	100.137	ug/l	0.86	56,268.78	3.102E-01	Pulse	0.30	3
Al			2	97.594	ug/l	0.74	19,613.73	1.081E-01	Pulse	0.30	3
K			2	100.326	ug/l	1.17	47,335.65	2.610E-01	Pulse	0.30	3
Ca			2	460.762	ug/l	1.13	9,811.88	5.409E-02	Pulse	0.30	3
Ti			2	99.866	ug/l	1.48	15,183.70	8.370E-02	Pulse	0.30	3
V			2	99.808	ug/l	0.72	496,254.30	2.736E+00	Pulse	0.30	3
Cr			2	99.088	ug/l	1.30	632,154.13	3.485E+00	Pulse	0.30	3
Mn			2	100.294	ug/l	0.82	349,326.88	1.926E+00	Pulse	0.30	3
Fe			2	102.989	ug/l	0.86	521,446.18	2.875E+00	Pulse	0.30	3
Co			2	99.694	ug/l	0.76	1,010,379.91	5.570E+00	Pulse	0.30	3
Ni			2	99.600	ug/l	1.20	269,987.44	1.488E+00	Pulse	0.30	3
Cu			2	99.683	ug/l	0.74	729,596.59	4.022E+00	Pulse	0.30	3
Zn			2	99.324	ug/l	0.34	114,241.81	6.298E-01	Pulse	0.30	3
As			2	99.747	ug/l	0.40	57,842.00	3.189E-01	Pulse	1.00	3
Cd			2	96.376	ug/l	0.26	173,641.01	1.667E-01	Pulse	0.30	3
Sn			2	99.826	ug/l	0.78	351,061.90	3.371E-01	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	102.031	ug/l	1.67	20,012.65	7.113E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,666,297.05	0.46	97.3	Pulse	0.10	3
1	Sc		2,927,040.90	2.87	98.4	Pulse	0.10	3
1	Ge		588,026.84	2.03	98.4	Pulse	0.10	3
1	Ge		817,285.01	2.87	98.6	Pulse	0.10	3
1	Rh		4,120,956.40	3.05	98.3	Pulse	0.10	3
1	In		4,204,227.13	2.84	99.2	Pulse	0.10	3
1	Tb		6,497,636.57	1.07	97.8	Analog	0.10	3
1	Ho		622,119.98	2.98	99.7	Pulse	0.10	3
1	Bi		4,027,915.56	2.91	100.1	Pulse	0.10	3
2	Sc		181,394.79	0.79	98.8	Pulse	0.30	3
2	Ge		107,066.56	0.38	99.8	Pulse	0.30	3
2	Ge		161,807.95	0.39	99.8	Pulse	0.30	3
2	Rh		2,744,463.71	1.12	99.1	Pulse	0.30	3
2	In		1,041,441.26	0.48	98.7	Pulse	0.30	3
2	Tb		3,721,598.05	0.21	99.7	Pulse	0.30	3
2	Ho		377,070.67	0.49	99.6	Pulse	0.30	3
2	Bi		2,622,164.62	1.00	100.1	Pulse	0.30	3
3	Sc		296,435.82	1.04	97.1	Pulse	0.30	3
3	Ge		186,299.18	0.31	96.9	Pulse	0.30	3
3	Ge		281,378.98	0.62	97.3	Pulse	0.30	3
3	Rh		2,878,999.33	0.58	99.6	Pulse	0.30	3
3	Tb		4,934,025.36	0.45	99.8	Pulse	0.30	3

Quantitation Report

File Name 009CALS.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 10:11
Sample Name STDG
Sample Type CalStd
Comment 500MIN
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.010	ug/l	43.68	73.33	4.411E-05	Pulse	0.25	3
B			1	203.255	ug/l	0.41	882,071.15	5.300E-01	Pulse	0.15	3
Ca			1	509.373	ug/l	0.69	350,690.48	1.198E-01	Pulse	0.10	3
Sr			1	0.024	ug/l	8.89	1,800.18	4.421E-04	Pulse	0.10	3
Mo			1	0.184	ug/l	16.69	1,423.46	3.488E-04	Pulse	0.10	3
Ag			1	0.011	ug/l	12.83	226.68	5.432E-05	Pulse	0.10	3
Sn			1	0.376	ug/l	25.19	8,275.83	1.983E-03	Pulse	0.10	3
Sb			1	0.653	ug/l	7.64	9,873.50	1.498E-03	Pulse	0.10	3
Ba			1	0.040	ug/l	9.26	286.68	4.349E-05	Pulse	0.10	3
Tl			1	0.024	ug/l	20.75	986.74	2.511E-04	Pulse	0.10	3
Pb			1	-0.310	ug/l	-1.42	603.37	1.540E-04	Pulse	0.10	3
Pb			1	-0.289	ug/l	-2.28	456.69	1.162E-04	Pulse	0.10	3
Pb			1	0.014	ug/l	6.71	2,256.83	5.755E-04	Pulse	0.10	3
Na			2	487.421	ug/l	0.42	590,522.30	3.210E+00	Pulse	0.30	3
Mg			2	499.140	ug/l	0.64	282,015.92	1.533E+00	Pulse	0.30	3
Al			2	501.518	ug/l	1.35	98,382.86	5.347E-01	Pulse	0.30	3
K			2	500.560	ug/l	0.25	201,204.31	1.094E+00	Pulse	0.30	3
Ca			2	503.192	ug/l	0.41	10,845.87	5.895E-02	Pulse	0.30	3
Ti			2	0.086	ug/l	57.18	14.44	7.836E-05	Pulse	0.30	3
V			2	0.004	ug/l	115.24	218.89	1.190E-03	Pulse	0.30	3
Cr			2	0.055	ug/l	18.61	858.92	4.667E-03	Pulse	0.30	3
Mn			2	0.045	ug/l	20.88	254.45	1.383E-03	Pulse	0.30	3
Fe			2	494.539	ug/l	0.54	2,583,955.04	1.404E+01	Pulse	0.30	3
Co			2	0.031	ug/l	21.57	341.92	1.859E-03	Pulse	0.30	3
Ni			2	0.064	ug/l	37.24	665.58	3.618E-03	Pulse	0.30	3
Cu			2	-0.198	ug/l	-8.28	2,085.72	1.134E-02	Pulse	0.30	3
Zn			2	0.503	ug/l	11.32	1,437.86	7.815E-03	Pulse	0.30	3
As			2	0.002	ug/l	418.77	16.33	8.869E-05	Pulse	1.00	3
Cd			2	0.018	ug/l	29.77	37.60	3.572E-05	Pulse	0.30	3
Sn			2	0.643	ug/l	6.68	3,541.55	3.363E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	201.202	ug/l	0.88	39,546.59	1.402E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,664,282.97	0.52	97.1	Pulse	0.10	3
1	Sc		2,926,932.35	0.52	98.4	Pulse	0.10	3
1	Ge		581,688.04	1.64	97.3	Pulse	0.10	3
1	Ge		812,239.99	1.91	98.0	Pulse	0.10	3
1	Rh		4,072,514.94	2.16	97.2	Pulse	0.10	3
1	In		4,168,669.08	1.56	98.3	Pulse	0.10	3
1	Tb		6,590,810.53	0.48	99.2	Analog	0.10	3
1	Ho		612,389.11	2.45	98.2	Pulse	0.10	3
1	Bi		3,922,308.17	1.74	97.5	Pulse	0.10	3
2	Sc		183,992.94	0.49	100.2	Pulse	0.30	3
2	Ge		107,866.15	0.69	100.5	Pulse	0.30	3
2	Ge		161,467.69	0.94	99.6	Pulse	0.30	3
2	Rh		2,747,453.02	0.57	99.2	Pulse	0.30	3
2	In		1,052,822.40	1.01	99.8	Pulse	0.30	3
2	Tb		3,727,323.05	1.21	99.9	Pulse	0.30	3
2	Ho		374,796.53	1.03	99.0	Pulse	0.30	3
2	Bi		2,595,281.98	1.33	99.1	Pulse	0.30	3
3	Sc		294,423.45	1.31	96.5	Pulse	0.30	3
3	Ge		185,861.19	1.42	96.7	Pulse	0.30	3
3	Ge		282,022.79	0.49	97.5	Pulse	0.30	3
3	Rh		2,849,410.02	0.90	98.5	Pulse	0.30	3
3	Tb		4,916,643.69	0.71	99.4	Pulse	0.30	3

Quantitation Report

File Name 010CALS.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 10:16
Sample Name STDH
Sample Type CalStd
Comment 1000MIN
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.000	ug/l	1760.31	17.33	1.022E-05	Pulse	0.25	3
B			1	3.989	ug/l	6.24	31,587.56	1.856E-02	Pulse	0.15	3
Ca			1	1006.374	ug/l	1.04	686,705.80	2.319E-01	Pulse	0.10	3
Sr			1	0.017	ug/l	13.94	1,553.47	3.777E-04	Pulse	0.10	3
Mo			1	0.035	ug/l	15.88	413.36	1.005E-04	Pulse	0.10	3
Ag			1	0.002	ug/l	53.52	60.00	1.439E-05	Pulse	0.10	3
Sn			1	-0.044	ug/l	-32.50	3,650.55	8.758E-04	Pulse	0.10	3
Sb			1	0.216	ug/l	11.21	4,107.35	6.192E-04	Pulse	0.10	3
Ba			1	0.010	ug/l	56.75	126.67	1.910E-05	Pulse	0.10	3
Tl			1	0.004	ug/l	21.26	263.34	6.705E-05	Pulse	0.10	3
Pb			1	-0.327	ug/l	-1.33	386.69	9.821E-05	Pulse	0.10	3
Pb			1	-0.301	ug/l	-2.56	323.35	8.215E-05	Pulse	0.10	3
Pb			1	-0.001	ug/l	-307.06	1,490.09	3.783E-04	Pulse	0.10	3
Na			2	962.439	ug/l	0.81	1,173,662.94	6.262E+00	Pulse	0.30	3
Mg			2	992.697	ug/l	0.60	570,750.67	3.045E+00	Pulse	0.30	3
Al			2	995.662	ug/l	0.58	198,049.93	1.057E+00	Pulse	0.30	3
K			2	994.731	ug/l	0.16	397,657.84	2.122E+00	Pulse	0.30	3
Ca			2	992.542	ug/l	0.86	21,542.93	1.149E-01	Pulse	0.30	3
Ti			2	0.028	ug/l	115.58	5.56	2.964E-05	Pulse	0.30	3
V			2	-0.008	ug/l	-50.29	163.34	8.712E-04	Pulse	0.30	3
Cr			2	0.052	ug/l	11.42	853.37	4.552E-03	Pulse	0.30	3
Mn			2	0.040	ug/l	34.23	243.34	1.298E-03	Pulse	0.30	3
Fe			2	1007.216	ug/l	0.95	5,373,398.67	2.867E+01	Analog	0.30	3
Co			2	0.046	ug/l	12.48	498.83	2.662E-03	Pulse	0.30	3
Ni			2	0.066	ug/l	10.58	682.25	3.640E-03	Pulse	0.30	3
Cu			2	-0.185	ug/l	-8.34	2,220.18	1.185E-02	Pulse	0.30	3
Zn			2	0.430	ug/l	9.74	1,378.97	7.356E-03	Pulse	0.30	3
As			2	-0.001	ug/l	-623.44	14.67	7.831E-05	Pulse	1.00	3
Cd			2	0.005	ug/l	54.89	14.39	1.350E-05	Pulse	0.30	3
Sn			2	0.033	ug/l	108.36	1,397.86	1.311E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	398.690	ug/l	0.38	78,883.52	2.778E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,702,597.58	1.21	99.4	Pulse	0.10	3
1	Sc		2,961,156.31	1.33	99.5	Pulse	0.10	3
1	Ge		593,856.53	1.93	99.3	Pulse	0.10	3
1	Ge		828,458.56	1.32	100.0	Pulse	0.10	3
1	Rh		4,114,026.60	1.84	98.1	Pulse	0.10	3
1	In		4,168,766.75	1.24	98.3	Pulse	0.10	3
1	Tb		6,632,900.32	0.66	99.8	Analog	0.10	3
1	Ho		613,285.54	2.19	98.3	Pulse	0.10	3
1	Bi		3,933,582.13	2.17	97.8	Pulse	0.10	3
2	Sc		187,437.72	0.47	102.1	Pulse	0.30	3
2	Ge		110,018.47	0.39	102.5	Pulse	0.30	3
2	Ge		165,322.45	0.55	102.0	Pulse	0.30	3
2	Rh		2,753,328.78	0.64	99.4	Pulse	0.30	3
2	In		1,065,436.47	1.00	101.0	Pulse	0.30	3
2	Tb		3,744,406.10	0.67	100.3	Pulse	0.30	3
2	Ho		378,203.73	0.41	99.9	Pulse	0.30	3
2	Bi		2,613,090.87	0.73	99.8	Pulse	0.30	3
3	Sc		295,275.41	0.42	96.7	Pulse	0.30	3
3	Ge		186,942.97	0.44	97.2	Pulse	0.30	3
3	Ge		283,928.58	0.53	98.2	Pulse	0.30	3
3	Rh		2,853,130.10	0.26	98.7	Pulse	0.30	3
3	Tb		4,896,492.86	0.64	99.0	Pulse	0.30	3

Quantitation Report

File Name 011CALS.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 10:21
Sample Name STDI
Sample Type CalStd
Comment 5000MIN
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.000	ug/l	313.23	18.67	1.105E-05	Pulse	0.25	3
B			1	1.138	ug/l	6.79	18,971.01	1.124E-02	Pulse	0.15	3
Ca			1	4981.759	ug/l	0.24	3,343,206.20	1.129E+00	Pulse	0.10	3
Sr			1	0.032	ug/l	4.86	2,060.20	5.080E-04	Pulse	0.10	3
Mo			1	0.011	ug/l	62.10	243.34	6.003E-05	Pulse	0.10	3
Ag			1	0.001	ug/l	168.80	46.67	1.120E-05	Pulse	0.10	3
Sn			1	-0.140	ug/l	-20.30	2,606.99	6.249E-04	Pulse	0.10	3
Sb			1	0.092	ug/l	3.98	2,463.62	3.709E-04	Pulse	0.10	3
Ba			1	0.007	ug/l	85.24	110.01	1.655E-05	Pulse	0.10	3
Tl			1	0.002	ug/l	27.76	200.01	5.167E-05	Pulse	0.10	3
Pb			1	-0.333	ug/l	-1.10	316.68	8.155E-05	Pulse	0.10	3
Pb			1	-0.303	ug/l	-1.94	300.02	7.753E-05	Pulse	0.10	3
Pb			1	-0.004	ug/l	-48.52	1,346.75	3.473E-04	Pulse	0.10	3
Na			2	4934.594	ug/l	1.51	5,908,026.57	3.178E+01	Analog	0.30	3
Mg			2	4962.070	ug/l	1.15	2,826,543.08	1.521E+01	Pulse	0.30	3
Al			2	5042.649	ug/l	0.59	990,835.55	5.331E+00	Pulse	0.30	3
K			2	5012.549	ug/l	0.11	1,947,904.44	1.048E+01	Pulse	0.30	3
Ca			2	4963.270	ug/l	0.90	105,807.99	5.693E-01	Pulse	0.30	3
Ti			2	0.021	ug/l	231.77	4.44	2.409E-05	Pulse	0.30	3
V			2	-0.015	ug/l	-26.39	124.45	6.700E-04	Pulse	0.30	3
Cr			2	0.081	ug/l	18.62	1,035.60	5.571E-03	Pulse	0.30	3
Mn			2	0.077	ug/l	5.94	373.34	2.009E-03	Pulse	0.30	3
Fe			2	4968.750	ug/l	0.69	26,332,748.95	1.417E+02	Analog	0.30	3
Co			2	0.215	ug/l	7.77	2,255.76	1.214E-02	Pulse	0.30	3
Ni			2	0.214	ug/l	5.64	1,088.94	5.859E-03	Pulse	0.30	3
Cu			2	-0.023	ug/l	-35.83	3,413.73	1.837E-02	Pulse	0.30	3
Zn			2	0.195	ug/l	19.31	1,092.27	5.877E-03	Pulse	0.30	3
As			2	0.025	ug/l	33.09	30.33	1.631E-04	Pulse	1.00	3
Cd			2	0.005	ug/l	55.37	14.42	1.360E-05	Pulse	0.30	3
Sn			2	-0.087	ug/l	-16.72	961.15	9.071E-04	Pulse	0.30	3
Se			3	0.165	ug/l	2.04	41.93	1.491E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,687,750.24	0.57	98.5	Pulse	0.10	3
1	Sc		2,962,045.48	1.32	99.5	Pulse	0.10	3
1	Ge		580,196.51	1.00	97.0	Pulse	0.10	3

Quantitation Report

1	Ge		809,579.18	1.77	97.7	Pulse	0.10	3
1	Rh		4,056,580.56	1.95	96.8	Pulse	0.10	3
1	In		4,167,123.04	2.18	98.3	Pulse	0.10	3
1	Tb		6,642,471.57	0.84	100.0	Analog	0.10	3
1	Ho		614,470.38	2.68	98.5	Pulse	0.10	3
1	Bi		3,878,745.46	2.84	96.4	Pulse	0.10	3
2	Sc		185,876.57	0.68	101.3	Pulse	0.30	3
2	Ge		109,760.87	0.21	102.3	Pulse	0.30	3
2	Ge		164,538.94	0.90	101.5	Pulse	0.30	3
2	Rh		2,731,450.38	0.75	98.6	Pulse	0.30	3
2	In		1,059,771.97	0.82	100.4	Pulse	0.30	3
2	Tb		3,778,988.74	0.70	101.3	Pulse	0.30	3
2	Ho		381,631.13	1.38	100.8	Pulse	0.30	3
2	Bi		2,579,879.13	1.03	98.5	Pulse	0.30	3
3	Sc		298,130.19	0.63	97.7	Pulse	0.30	3
3	Ge		186,309.21	1.32	96.9	Pulse	0.30	3
3	Ge		281,340.18	0.72	97.3	Pulse	0.30	3
3	Rh		2,809,768.64	0.45	97.2	Pulse	0.30	3
3	Tb		4,903,270.36	0.73	99.1	Pulse	0.30	3

Quantitation Report

File Name 012CALS.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 10:26
Sample Name STDJ
Sample Type CalStd
Comment 10000MIN
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.000	ug/l	-912.53	16.00	9.641E-06	Pulse	0.25	3
B			1	0.500	ug/l	10.55	15,929.97	9.603E-03	Pulse	0.15	3
Ca			1	10472.571	ug/l	1.35	6,972,071.56	2.367E+00	Analog	0.10	3
Sr			1	0.088	ug/l	11.63	3,903.95	9.824E-04	Pulse	0.10	3
Mo			1	0.008	ug/l	176.88	220.01	5.524E-05	Pulse	0.10	3
Ag			1	0.002	ug/l	30.60	63.33	1.543E-05	Pulse	0.10	3
Sn			1	-0.076	ug/l	-18.24	3,247.13	7.918E-04	Pulse	0.10	3
Sb			1	0.087	ug/l	11.83	2,370.27	3.609E-04	Pulse	0.10	3
Ba			1	0.018	ug/l	33.19	166.68	2.538E-05	Pulse	0.10	3
Tl			1	0.001	ug/l	170.41	140.01	3.739E-05	Pulse	0.10	3
Pb			1	-0.327	ug/l	-1.12	370.02	9.826E-05	Pulse	0.10	3
Pb			1	-0.297	ug/l	-1.75	346.69	9.219E-05	Pulse	0.10	3
Pb			1	0.000	ug/l	1120.39	1,490.10	3.960E-04	Pulse	0.10	3
Na			2	10037.340	ug/l	0.70	12,092,183.96	6.457E+01	Analog	0.30	3
Mg			2	10131.700	ug/l	0.64	5,814,052.83	3.105E+01	Analog	0.30	3
Al			2	9967.647	ug/l	0.90	1,972,289.30	1.053E+01	Pulse	0.30	3
K			2	9994.442	ug/l	1.03	3,903,133.60	2.084E+01	Pulse	0.30	3
Ca			2	9947.398	ug/l	0.50	213,395.32	1.140E+00	Pulse	0.30	3
Ti			2	0.000	ug/l	-7506.95	1.11	5.950E-06	Pulse	0.30	3
V			2	-0.007	ug/l	-87.50	166.67	8.897E-04	Pulse	0.30	3
Cr			2	0.047	ug/l	10.39	822.26	4.391E-03	Pulse	0.30	3
Mn			2	0.144	ug/l	10.36	615.58	3.288E-03	Pulse	0.30	3
Fe			2	10015.126	ug/l	0.83	53,487,168.98	2.856E+02	Analog	0.30	3
Co			2	0.437	ug/l	1.08	4,594.10	2.453E-02	Pulse	0.30	3
Ni			2	0.368	ug/l	7.79	1,526.76	8.154E-03	Pulse	0.30	3
Cu			2	-0.193	ug/l	-4.71	2,161.28	1.154E-02	Pulse	0.30	3
Zn			2	0.546	ug/l	17.77	1,513.98	8.087E-03	Pulse	0.30	3
As			2	0.042	ug/l	23.62	40.33	2.155E-04	Pulse	1.00	3
Cd			2	0.003	ug/l	85.52	11.10	1.065E-05	Pulse	0.30	3
Sn			2	-0.015	ug/l	-118.05	1,200.06	1.150E-03	Pulse	0.30	3
Se			3	0.049	ug/l	22.72	19.00	6.807E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,658,849.32	0.56	96.8	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		2,945,612.04	1.82	99.0	Pulse	0.10	3
1	Ge		585,572.72	1.89	97.9	Pulse	0.10	3
1	Ge		809,371.65	1.55	97.7	Pulse	0.10	3
1	Rh		3,973,164.32	1.35	94.8	Pulse	0.10	3
1	In		4,100,857.42	1.17	96.7	Pulse	0.10	3
1	Tb		6,568,426.99	0.26	98.9	Analog	0.10	3
1	Ho		611,397.69	2.26	98.0	Pulse	0.10	3
1	Bi		3,767,283.38	2.91	93.7	Pulse	0.10	3
2	Sc		187,269.35	0.58	102.0	Pulse	0.30	3
2	Ge		108,533.00	0.38	101.1	Pulse	0.30	3
2	Ge		164,023.62	1.21	101.2	Pulse	0.30	3
2	Rh		2,702,557.39	0.42	97.6	Pulse	0.30	3
2	In		1,043,368.41	0.93	98.9	Pulse	0.30	3
2	Tb		3,764,087.07	0.55	100.9	Pulse	0.30	3
2	Ho		379,314.62	1.24	100.2	Pulse	0.30	3
2	Bi		2,529,753.86	1.22	96.6	Pulse	0.30	3
3	Sc		297,935.13	0.60	97.6	Pulse	0.30	3
3	Ge		184,204.04	1.57	95.8	Pulse	0.30	3
3	Ge		279,116.58	0.02	96.5	Pulse	0.30	3
3	Rh		2,779,657.74	0.60	96.1	Pulse	0.30	3
3	Tb		4,939,947.58	3.12	99.9	Mix	0.30	3

Quantitation Report

File Name 013SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 10:32
Sample Name STDA
Sample Type CalBlk
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.000	ug/l	---	16.00	9.903E-06	Pulse	0.25	3
B			1	0.000	ug/l	---	13,454.47	8.319E-03	Pulse	0.15	3
Ca			1	-1.858	ug/l	-90.00	12,658.51	4.494E-03	Pulse	0.10	3
Sr			1	0.001	ug/l	531.62	950.06	2.381E-04	Pulse	0.10	3
Mo			1	0.002	ug/l	468.49	180.01	4.494E-05	Pulse	0.10	3
Ag			1	0.000	ug/l	---	26.67	6.652E-06	Pulse	0.10	3
Sn			1	-0.091	ug/l	-12.63	3,027.08	7.530E-04	Pulse	0.10	3
Sb			1	0.016	ug/l	70.66	1,390.12	2.167E-04	Pulse	0.10	3
Ba			1	0.002	ug/l	279.17	76.67	1.205E-05	Pulse	0.10	3
Tl			1	0.000	ug/l	---	116.67	3.053E-05	Pulse	0.10	3
Pb			1	0.000	ug/l	---	4,374.12	1.143E-03	Pulse	0.10	3
Pb			1	0.000	ug/l	---	3,527.24	9.226E-04	Pulse	0.10	3
Pb			1	0.308	ug/l	2.97	16,771.02	4.384E-03	Pulse	0.10	3
Na			2	0.000	ug/l	---	14,118.21	7.759E-02	Pulse	0.30	3
Mg			2	0.002	ug/l	3797.11	618.91	3.400E-03	Pulse	0.30	3
Al			2	0.961	ug/l	12.34	1,104.50	6.069E-03	Pulse	0.30	3
K			2	0.246	ug/l	239.08	9,602.84	5.278E-02	Pulse	0.30	3
Ca			2	-4.316	ug/l	-55.45	160.00	8.784E-04	Pulse	0.30	3
Ti			2	0.000	ug/l	---	1.11	6.088E-06	Pulse	0.30	3
V			2	0.000	ug/l	---	196.67	1.081E-03	Pulse	0.30	3
Cr			2	0.021	ug/l	43.10	631.13	3.468E-03	Pulse	0.30	3
Mn			2	0.010	ug/l	135.93	132.23	7.258E-04	Pulse	0.30	3
Fe			2	6.108	ug/l	1.27	20,238.11	1.112E-01	Pulse	0.30	3
Co			2	0.000	ug/l	---	18.83	1.037E-04	Pulse	0.30	3
Ni			2	0.010	ug/l	124.94	510.01	2.802E-03	Pulse	0.30	3
Cu			2	-0.244	ug/l	-6.85	1,725.67	9.484E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Zn			2	0.000	ug/l	---	846.70	4.652E-03	Pulse	0.30	3
As			2	0.000	ug/l	---	15.00	8.240E-05	Pulse	1.00	3
Cd			2	0.000	ug/l	1253.23	5.54	5.300E-06	Pulse	0.30	3
Sn			2	-0.054	ug/l	-36.02	1,065.61	1.018E-03	Pulse	0.30	3
Se			3	0.000	ug/l	---	9.67	3.395E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,617,112.78	2.24	100.0	Pulse	0.10	3
1	Sc		2,818,987.35	2.60	100.0	Pulse	0.10	3
1	Ge		564,818.48	2.53	100.0	Pulse	0.10	3
1	Ge		790,313.27	2.01	100.0	Pulse	0.10	3
1	Rh		3,990,095.67	2.64	100.0	Pulse	0.10	3
1	In		4,022,931.34	2.55	100.0	Pulse	0.10	3
1	Tb		6,407,782.82	3.05	100.0	Analog	0.10	3
1	Ho		591,683.45	2.60	100.0	Pulse	0.10	3
1	Bi		3,826,388.27	1.81	100.0	Pulse	0.10	3
2	Sc		181,969.99	0.45	100.0	Pulse	0.30	3
2	Ge		107,404.37	0.51	100.0	Pulse	0.30	3
2	Ge		162,435.50	0.56	100.0	Pulse	0.30	3
2	Rh		2,755,992.18	1.15	100.0	Pulse	0.30	3
2	In		1,046,742.00	0.52	100.0	Pulse	0.30	3
2	Tb		3,708,294.02	0.51	100.0	Pulse	0.30	3
2	Ho		374,211.73	0.77	100.0	Pulse	0.30	3
2	Bi		2,601,043.09	0.51	100.0	Pulse	0.30	3
3	Sc		297,765.32	0.45	100.0	Pulse	0.30	3
3	Ge		189,112.39	0.57	100.0	Pulse	0.30	3
3	Ge		284,771.91	0.54	100.0	Pulse	0.30	3
3	Rh		2,905,763.08	0.62	100.0	Pulse	0.30	3
3	Tb		4,916,989.67	0.40	100.0	Pulse	0.30	3

Quantitation Report

File Name	014SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File	
Method Path	
Acq Time	12/16/2019 10:40
Sample Name	ICVA
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/17/2019 6:27
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	60.522	ug/l	0.37	338,244.00	2.023E-01	Pulse	0.25	3
B			1	119.054	ug/l	0.36	524,907.53	3.139E-01	Pulse	0.15	3
Ca			1	5531.545	ug/l	1.17	3,811,992.96	1.253E+00	Pulse	0.10	3
Sr			1	58.332	ug/l	0.34	2,073,291.12	4.998E-01	Pulse	0.10	3
Mo			1	58.897	ug/l	0.92	406,730.78	9.806E-02	Pulse	0.10	3
Ag			1	58.433	ug/l	0.78	1,055,129.07	2.478E-01	Pulse	0.10	3
Sn			1	58.581	ug/l	1.86	661,657.88	1.554E-01	Pulse	0.10	3
Sb			1	62.600	ug/l	2.75	853,794.13	1.260E-01	Pulse	0.10	3
Ba			1	59.067	ug/l	2.36	329,767.59	4.868E-02	Pulse	0.10	3
Tl			1	62.458	ug/l	0.48	2,249,304.50	5.737E-01	Pulse	0.10	3
Pb			1	60.778	ug/l	0.97	764,935.48	1.951E-01	Pulse	0.10	3
Pb			1	57.821	ug/l	1.66	636,839.47	1.624E-01	Pulse	0.10	3
Pb			1	58.732	ug/l	1.01	2,989,751.44	7.625E-01	Pulse	0.10	3
Na			2	5332.133	ug/l	2.36	6,814,567.09	3.434E+01	Analog	0.30	3
Mg			2	5596.061	ug/l	0.42	3,403,359.38	1.715E+01	Pulse	0.30	3
Al			2	5781.390	ug/l	0.28	1,212,709.22	6.111E+00	Pulse	0.30	3
K			2	5428.743	ug/l	0.13	2,251,461.37	1.135E+01	Pulse	0.30	3
Ca			2	5667.133	ug/l	0.22	128,950.09	6.498E-01	Pulse	0.30	3
Ti			2	56.050	ug/l	1.61	9,322.71	4.698E-02	Pulse	0.30	3
V			2	58.569	ug/l	0.42	318,687.26	1.606E+00	Pulse	0.30	3
Cr			2	56.835	ug/l	0.34	396,940.22	2.000E+00	Pulse	0.30	3
Mn			2	58.893	ug/l	0.87	224,460.61	1.131E+00	Pulse	0.30	3
Fe			2	5313.799	ug/l	1.42	30,067,103.25	1.515E+02	Analog	0.30	3
Co			2	56.443	ug/l	0.18	625,844.09	3.154E+00	Pulse	0.30	3
Ni			2	55.571	ug/l	0.70	165,040.77	8.317E-01	Pulse	0.30	3
Cu			2	55.664	ug/l	0.64	447,419.93	2.255E+00	Pulse	0.30	3
Zn			2	56.618	ug/l	0.94	71,640.97	3.610E-01	Pulse	0.30	3
As			2	60.925	ug/l	0.61	38,657.84	1.948E-01	Pulse	1.00	3
Cd			2	55.648	ug/l	0.44	106,887.12	9.627E-02	Pulse	0.30	3
Sn			2	58.115	ug/l	0.13	218,436.26	1.967E-01	Pulse	0.30	3
Se			3	267.999	ug/l	0.94	53,855.43	1.868E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,672,224.08	1.33	103.4	Pulse	0.10	3
1	Sc		3,043,351.00	2.38	108.0	Pulse	0.10	3
1	Ge		606,519.22	2.77	107.4	Pulse	0.10	3

Quantitation Report

1	Ge		845,326.42	2.77	107.0	Pulse	0.10	3
1	Rh		4,148,322.12	2.71	104.0	Pulse	0.10	3
1	In		4,257,600.59	2.62	105.8	Pulse	0.10	3
1	Tb		6,774,371.15	0.91	105.7	Analog	0.10	3
1	Ho		629,590.11	3.68	106.4	Pulse	0.10	3
1	Bi		3,920,502.13	3.44	102.5	Pulse	0.10	3
2	Sc		198,447.45	0.24	109.1	Pulse	0.30	3
2	Ge		115,219.44	0.18	107.3	Pulse	0.30	3
2	Ge		172,992.13	0.16	106.5	Pulse	0.30	3
2	Rh		2,811,340.51	0.14	102.0	Pulse	0.30	3
2	In		1,110,231.10	0.37	106.1	Pulse	0.30	3
2	Tb		3,894,326.93	0.45	105.0	Pulse	0.30	3
2	Ho		392,924.10	0.46	105.0	Pulse	0.30	3
2	Bi		2,642,005.17	0.40	101.6	Pulse	0.30	3
3	Sc		309,929.50	0.53	104.1	Pulse	0.30	3
3	Ge		193,124.00	0.64	102.1	Pulse	0.30	3
3	Ge		288,372.50	1.12	101.3	Pulse	0.30	3
3	Rh		2,810,231.42	0.60	96.7	Pulse	0.30	3
3	Tb		4,875,294.39	0.68	99.2	Pulse	0.30	3

Quantitation Report

File Name 015SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 10:45
Sample Name ICV
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.001	ug/l	55.61	24.00	1.404E-05	Pulse	0.25	3
B			1	1.302	ug/l	12.11	19,920.86	1.166E-02	Pulse	0.15	3
Ca			1	3.515	ug/l	14.44	17,376.38	5.706E-03	Pulse	0.10	3
Sr			1	0.104	ug/l	0.95	4,690.85	1.124E-03	Pulse	0.10	3
Mo			1	0.182	ug/l	12.80	1,443.45	3.456E-04	Pulse	0.10	3
Ag			1	0.020	ug/l	36.70	383.35	9.058E-05	Pulse	0.10	3
Sn			1	1.521	ug/l	1.07	21,252.15	5.001E-03	Pulse	0.10	3
Sb			1	-0.049	ug/l	-11.37	583.37	8.750E-05	Pulse	0.10	3
Ba			1	0.005	ug/l	173.46	96.67	1.449E-05	Pulse	0.10	3
Tl			1	0.003	ug/l	105.38	243.34	6.168E-05	Pulse	0.10	3
Pb			1	-0.329	ug/l	-2.50	370.02	9.443E-05	Pulse	0.10	3
Pb			1	-0.299	ug/l	-2.37	340.02	8.677E-05	Pulse	0.10	3
Pb			1	-0.002	ug/l	-337.22	1,456.75	3.716E-04	Pulse	0.10	3
Na			2	1.626	ug/l	27.04	17,552.56	8.804E-02	Pulse	0.30	3
Mg			2	2.525	ug/l	4.54	2,219.06	1.113E-02	Pulse	0.30	3
Al			2	65.650	ug/l	2.12	14,833.38	7.439E-02	Pulse	0.30	3
K			2	2.163	ug/l	16.14	11,318.37	5.676E-02	Pulse	0.30	3
Ca			2	1.889	ug/l	104.30	316.67	1.588E-03	Pulse	0.30	3
Ti			2	0.139	ug/l	21.31	24.44	1.225E-04	Pulse	0.30	3
V			2	-0.013	ug/l	-18.21	146.67	7.357E-04	Pulse	0.30	3
Cr			2	1.991	ug/l	1.61	14,493.12	7.269E-02	Pulse	0.30	3
Mn			2	-0.004	ug/l	-159.25	91.11	4.565E-04	Pulse	0.30	3
Fe			2	25.079	ug/l	1.73	130,077.75	6.524E-01	Pulse	0.30	3
Co			2	0.000	ug/l	51.50	24.10	1.208E-04	Pulse	0.30	3
Ni			2	0.024	ug/l	61.25	601.13	3.014E-03	Pulse	0.30	3
Cu			2	-0.140	ug/l	-17.92	2,726.92	1.367E-02	Pulse	0.30	3
Zn			2	0.046	ug/l	106.31	985.60	4.941E-03	Pulse	0.30	3
As			2	-0.001	ug/l	-1091.11	16.00	8.035E-05	Pulse	1.00	3
Cd			2	0.003	ug/l	197.79	10.99	9.663E-06	Pulse	0.30	3
Sn			2	1.348	ug/l	3.53	6,509.20	5.734E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	0.080	ug/l	6.87	25.27	8.956E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,708,378.91	0.42	105.6	Pulse	0.10	3
1	Sc		3,044,920.16	1.30	108.0	Pulse	0.10	3
1	Ge		604,241.25	1.52	107.0	Pulse	0.10	3
1	Ge		843,610.14	1.25	106.7	Pulse	0.10	3
1	Rh		4,174,171.81	1.17	104.6	Pulse	0.10	3
1	In		4,249,573.36	1.93	105.6	Pulse	0.10	3
1	Tb		6,665,798.23	1.05	104.0	Analog	0.10	3
1	Ho		613,542.39	1.95	103.7	Pulse	0.10	3
1	Bi		3,928,921.92	1.80	102.7	Pulse	0.10	3
2	Sc		199,406.80	0.85	109.6	Pulse	0.30	3
2	Ge		116,918.40	0.43	108.9	Pulse	0.30	3
2	Ge		173,378.18	0.58	106.7	Pulse	0.30	3
2	Rh		2,856,556.21	0.67	103.6	Pulse	0.30	3
2	In		1,135,219.23	0.46	108.5	Pulse	0.30	3
2	Tb		3,835,506.65	0.90	103.4	Pulse	0.30	3
2	Ho		384,461.93	0.71	102.7	Pulse	0.30	3
2	Bi		2,664,009.27	1.06	102.4	Pulse	0.30	3
3	Sc		297,390.26	0.43	99.9	Pulse	0.30	3
3	Ge		188,066.08	0.22	99.4	Pulse	0.30	3
3	Ge		282,157.08	0.42	99.1	Pulse	0.30	3
3	Rh		2,776,420.24	0.39	95.5	Pulse	0.30	3
3	Tb		4,697,683.01	0.19	95.5	Pulse	0.30	3

Quantitation Report

File Name	016_CCB.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File	
Method Path	
Acq Time	12/16/2019 10:51
Sample Name	ICB
Sample Type	CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/17/2019 6:27
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.001	ug/l	112.85	20.00	1.201E-05	Pulse	0.25	3
B			1	-0.198	ug/l	-49.33	13,003.03	7.810E-03	Pulse	0.15	3
Ca			1	-5.899	ug/l	-3.47	10,520.36	3.583E-03	Pulse	0.10	3
Sr			1	-0.016	ug/l	-8.17	390.02	9.510E-05	Pulse	0.10	3
Mo			1	-0.008	ug/l	-65.71	120.00	2.916E-05	Pulse	0.10	3
Ag			1	0.001	ug/l	24.42	53.33	1.276E-05	Pulse	0.10	3
Sn			1	-0.069	ug/l	-49.87	3,400.50	8.118E-04	Pulse	0.10	3
Sb			1	-0.033	ug/l	-40.34	786.72	1.181E-04	Pulse	0.10	3
Ba			1	-0.002	ug/l	-260.48	56.67	8.499E-06	Pulse	0.10	3
Tl			1	0.000	ug/l	-281.83	110.01	2.801E-05	Pulse	0.10	3
Pb			1	-0.334	ug/l	-1.75	303.35	7.752E-05	Pulse	0.10	3
Pb			1	-0.303	ug/l	-2.22	303.35	7.777E-05	Pulse	0.10	3
Pb			1	-0.005	ug/l	-50.37	1,270.07	3.247E-04	Pulse	0.10	3
Na			2	-1.294	ug/l	-35.14	13,019.54	6.927E-02	Pulse	0.30	3
Mg			2	-0.818	ug/l	-2.43	166.67	8.866E-04	Pulse	0.30	3
Al			2	-3.835	ug/l	-7.63	188.89	1.004E-03	Pulse	0.30	3
K			2	-1.226	ug/l	-29.36	9,343.81	4.971E-02	Pulse	0.30	3
Ca			2	-7.397	ug/l	-6.56	98.89	5.260E-04	Pulse	0.30	3
Ti			2	0.084	ug/l	38.63	14.44	7.689E-05	Pulse	0.30	3
V			2	0.001	ug/l	730.87	206.67	1.100E-03	Pulse	0.30	3
Cr			2	0.006	ug/l	164.89	552.24	2.939E-03	Pulse	0.30	3
Mn			2	-0.003	ug/l	-423.55	88.89	4.734E-04	Pulse	0.30	3
Fe			2	4.619	ug/l	0.62	12,921.89	6.875E-02	Pulse	0.30	3
Co			2	0.001	ug/l	1.59	26.63	1.417E-04	Pulse	0.30	3
Ni			2	-0.021	ug/l	-74.29	440.01	2.342E-03	Pulse	0.30	3
Cu			2	-0.273	ug/l	-2.02	1,561.20	8.306E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Zn			2	-0.248	ug/l	-2.68	581.13	3.092E-03	Pulse	0.30	3
As			2	-0.001	ug/l	-70.03	14.67	7.803E-05	Pulse	1.00	3
Cd			2	0.001	ug/l	486.94	6.65	6.182E-06	Pulse	0.30	3
Sn			2	0.033	ug/l	15.04	1,408.97	1.311E-03	Pulse	0.30	3
Se			3	0.013	ug/l	10.53	12.13	4.273E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,664,882.35	0.37	103.0	Pulse	0.10	3
1	Sc		2,936,455.48	1.52	104.2	Pulse	0.10	3
1	Ge		588,077.65	2.17	104.1	Pulse	0.10	3
1	Ge		813,682.90	1.20	103.0	Pulse	0.10	3
1	Rh		4,103,622.23	1.59	102.8	Pulse	0.10	3
1	In		4,183,492.56	2.16	104.0	Pulse	0.10	3
1	Tb		6,664,320.74	0.12	104.0	Analog	0.10	3
1	Ho		609,900.38	2.36	103.1	Pulse	0.10	3
1	Bi		3,913,003.17	2.12	102.3	Pulse	0.10	3
2	Sc		187,960.42	0.42	103.3	Pulse	0.30	3
2	Ge		110,704.21	0.17	103.1	Pulse	0.30	3
2	Ge		165,497.37	0.37	101.9	Pulse	0.30	3
2	Rh		2,779,897.25	0.81	100.9	Pulse	0.30	3
2	In		1,074,319.35	0.14	102.6	Pulse	0.30	3
2	Tb		3,768,538.46	0.52	101.6	Pulse	0.30	3
2	Ho		378,959.68	0.93	101.3	Pulse	0.30	3
2	Bi		2,639,947.74	0.65	101.5	Pulse	0.30	3
3	Sc		300,854.94	0.55	101.0	Pulse	0.30	3
3	Ge		188,950.58	0.30	99.9	Pulse	0.30	3
3	Ge		283,949.95	0.42	99.7	Pulse	0.30	3
3	Rh		2,864,827.25	0.34	98.6	Pulse	0.30	3
3	Tb		4,867,343.70	0.31	99.0	Pulse	0.30	3

Quantitation Report

File Name	017_CCV.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File	
Method Path	
Acq Time	12/16/2019 10:56
Sample Name	CCVA
Sample Type	CCV
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/17/2019 6:27
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	52.589	ug/l	0.51	295,718.62	1.758E-01	Pulse	0.25	3
B			1	103.259	ug/l	1.10	459,890.54	2.734E-01	Pulse	0.15	3
Ca			1	5214.707	ug/l	2.05	3,543,883.18	1.181E+00	Pulse	0.10	3
Sr			1	52.645	ug/l	2.75	1,857,625.28	4.511E-01	Pulse	0.10	3
Mo			1	52.806	ug/l	3.35	362,016.45	8.793E-02	Pulse	0.10	3
Ag			1	52.023	ug/l	2.15	931,475.79	2.206E-01	Pulse	0.10	3
Sn			1	52.179	ug/l	2.30	584,714.21	1.385E-01	Pulse	0.10	3
Sb			1	51.626	ug/l	1.25	699,805.09	1.040E-01	Pulse	0.10	3
Ba			1	50.619	ug/l	1.81	280,733.88	4.172E-02	Pulse	0.10	3
Tl			1	52.266	ug/l	1.49	1,881,874.24	4.801E-01	Pulse	0.10	3
Pb			1	52.131	ug/l	1.19	656,548.02	1.675E-01	Pulse	0.10	3
Pb			1	51.985	ug/l	1.19	572,675.29	1.461E-01	Pulse	0.10	3
Pb			1	51.655	ug/l	1.07	2,628,919.96	6.706E-01	Pulse	0.10	3
Na			2	5121.897	ug/l	0.24	6,277,340.58	3.299E+01	Analog	0.30	3
Mg			2	5037.995	ug/l	0.89	2,937,987.04	1.544E+01	Pulse	0.30	3
Al			2	5134.465	ug/l	1.04	1,032,818.71	5.428E+00	Pulse	0.30	3
K			2	5153.402	ug/l	0.05	2,049,907.14	1.077E+01	Pulse	0.30	3
Ca			2	5294.699	ug/l	0.99	115,542.40	6.072E-01	Pulse	0.30	3
Ti			2	51.244	ug/l	1.64	8,173.22	4.295E-02	Pulse	0.30	3
V			2	51.165	ug/l	1.15	266,973.62	1.403E+00	Pulse	0.30	3
Cr			2	50.014	ug/l	1.17	334,998.45	1.760E+00	Pulse	0.30	3
Mn			2	51.016	ug/l	1.08	186,457.02	9.799E-01	Pulse	0.30	3
Fe			2	5127.828	ug/l	1.49	27,821,286.12	1.462E+02	Analog	0.30	3
Co			2	50.031	ug/l	0.87	531,945.59	2.795E+00	Pulse	0.30	3
Ni			2	49.364	ug/l	0.46	140,637.53	7.391E-01	Pulse	0.30	3
Cu			2	49.704	ug/l	0.48	383,481.37	2.015E+00	Pulse	0.30	3
Zn			2	49.580	ug/l	0.44	60,265.72	3.167E-01	Pulse	0.30	3
As			2	50.755	ug/l	0.77	30,883.07	1.623E-01	Pulse	1.00	3
Cd			2	48.548	ug/l	0.95	90,321.99	8.399E-02	Pulse	0.30	3
Sn			2	51.352	ug/l	0.75	187,107.39	1.740E-01	Pulse	0.30	3
Se			3	202.401	ug/l	0.85	40,018.99	1.411E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,682,626.56	1.81	104.1	Pulse	0.10	3
1	Sc		3,001,672.35	3.60	106.5	Pulse	0.10	3
1	Ge		600,650.97	1.62	106.3	Pulse	0.10	3

Quantitation Report

1	Ge		837,062.17	2.04	105.9	Pulse	0.10	3
1	Rh		4,120,809.83	3.84	103.3	Pulse	0.10	3
1	In		4,224,297.12	4.11	105.0	Pulse	0.10	3
1	Tb		6,732,052.19	3.23	105.1	Analog	0.10	3
1	Ho		627,930.33	4.61	106.1	Pulse	0.10	3
1	Bi		3,921,201.82	4.08	102.5	Pulse	0.10	3
2	Sc		190,289.00	0.36	104.6	Pulse	0.30	3
2	Ge		110,265.53	0.68	102.7	Pulse	0.30	3
2	Ge		166,525.24	0.65	102.5	Pulse	0.30	3
2	Rh		2,786,411.42	0.14	101.1	Pulse	0.30	3
2	In		1,075,438.79	1.07	102.7	Pulse	0.30	3
2	Tb		3,833,470.54	0.55	103.4	Pulse	0.30	3
2	Ho		388,829.08	0.55	103.9	Pulse	0.30	3
2	Bi		2,623,480.11	0.31	100.9	Pulse	0.30	3
3	Sc		300,262.02	0.66	100.8	Pulse	0.30	3
3	Ge		187,248.78	0.18	99.0	Pulse	0.30	3
3	Ge		283,712.78	1.23	99.6	Pulse	0.30	3
3	Rh		2,823,750.38	0.76	97.2	Pulse	0.30	3
3	Tb		4,912,691.33	0.38	99.9	Pulse	0.30	3

Quantitation Report

File Name	018_CCB.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File	
Method Path	
Acq Time	12/16/2019 11:01
Sample Name	CCB
Sample Type	CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/17/2019 6:27
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	-0.001	ug/l	-252.56	13.33	7.946E-06	Pulse	0.25	3
B			1	1.392	ug/l	10.15	19,923.04	1.189E-02	Pulse	0.15	3
Ca			1	-5.428	ug/l	-28.39	10,900.69	3.689E-03	Pulse	0.10	3
Sr			1	-0.016	ug/l	-10.93	416.69	9.979E-05	Pulse	0.10	3
Mo			1	0.119	ug/l	20.45	1,006.74	2.406E-04	Pulse	0.10	3
Ag			1	0.004	ug/l	61.05	93.34	2.214E-05	Pulse	0.10	3
Sn			1	0.042	ug/l	35.54	4,647.52	1.102E-03	Pulse	0.10	3
Sb			1	0.224	ug/l	11.86	4,330.75	6.355E-04	Pulse	0.10	3
Ba			1	-0.001	ug/l	-424.72	66.67	9.789E-06	Pulse	0.10	3
Tl			1	0.004	ug/l	52.48	256.68	6.494E-05	Pulse	0.10	3
Pb			1	-0.328	ug/l	-2.02	376.69	9.563E-05	Pulse	0.10	3
Pb			1	-0.301	ug/l	-2.62	320.02	8.128E-05	Pulse	0.10	3
Pb			1	-0.001	ug/l	-160.41	1,496.76	3.793E-04	Pulse	0.10	3
Na			2	-1.247	ug/l	-8.42	12,889.46	6.958E-02	Pulse	0.30	3
Mg			2	-0.798	ug/l	-9.70	175.56	9.476E-04	Pulse	0.30	3
Al			2	-3.218	ug/l	-8.09	306.67	1.656E-03	Pulse	0.30	3
K			2	-0.651	ug/l	-107.08	9,430.55	5.091E-02	Pulse	0.30	3
Ca			2	-7.171	ug/l	-16.45	102.22	5.518E-04	Pulse	0.30	3
Ti			2	0.000	ug/l	-10996.36	1.11	5.993E-06	Pulse	0.30	3
V			2	0.000	ug/l	2857.49	201.12	1.086E-03	Pulse	0.30	3
Cr			2	0.018	ug/l	11.22	620.02	3.347E-03	Pulse	0.30	3
Mn			2	-0.004	ug/l	-178.09	82.22	4.440E-04	Pulse	0.30	3
Fe			2	5.236	ug/l	1.91	15,993.45	8.633E-02	Pulse	0.30	3
Co			2	0.001	ug/l	116.62	31.07	1.676E-04	Pulse	0.30	3
Ni			2	-0.005	ug/l	-569.42	477.79	2.579E-03	Pulse	0.30	3
Cu			2	-0.277	ug/l	-5.08	1,508.98	8.146E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Zn			2	-0.244	ug/l	-17.52	577.79	3.119E-03	Pulse	0.30	3
As			2	-0.006	ug/l	-97.05	11.67	6.296E-05	Pulse	1.00	3
Cd			2	0.003	ug/l	122.85	9.90	9.378E-06	Pulse	0.30	3
Sn			2	0.150	ug/l	11.81	1,800.13	1.705E-03	Pulse	0.30	3
Se			3	0.094	ug/l	14.75	27.93	9.948E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,675,371.94	0.50	103.6	Pulse	0.10	3
1	Sc		2,958,058.08	1.69	104.9	Pulse	0.10	3
1	Ge		587,720.08	1.24	104.1	Pulse	0.10	3
1	Ge		825,134.91	1.01	104.4	Pulse	0.10	3
1	Rh		4,177,466.19	2.29	104.7	Pulse	0.10	3
1	In		4,214,734.53	2.33	104.8	Pulse	0.10	3
1	Tb		6,814,987.81	0.65	106.4	Analog	0.10	3
1	Ho		614,253.53	1.50	103.8	Pulse	0.10	3
1	Bi		3,948,529.73	2.05	103.2	Pulse	0.10	3
2	Sc		185,252.28	0.23	101.8	Pulse	0.30	3
2	Ge		110,020.50	0.97	102.4	Pulse	0.30	3
2	Ge		164,211.61	1.06	101.1	Pulse	0.30	3
2	Rh		2,773,317.39	0.77	100.6	Pulse	0.30	3
2	In		1,055,901.07	1.16	100.9	Pulse	0.30	3
2	Tb		3,729,945.13	0.29	100.6	Pulse	0.30	3
2	Ho		376,107.03	0.19	100.5	Pulse	0.30	3
2	Bi		2,611,251.91	0.85	100.4	Pulse	0.30	3
3	Sc		294,740.73	0.92	99.0	Pulse	0.30	3
3	Ge		186,138.68	0.67	98.4	Pulse	0.30	3
3	Ge		280,588.14	1.10	98.5	Pulse	0.30	3
3	Rh		2,885,149.40	0.32	99.3	Pulse	0.30	3
3	Tb		4,988,417.72	1.98	101.5	Mix	0.30	3

Quantitation Report

File Name	019LCCV.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File	
Method Path	
Acq Time	12/16/2019 11:06
Sample Name	CRI
Sample Type	LLCCV
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/17/2019 6:27
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.474	ug/l	1.90	2,693.59	1.593E-03	Pulse	0.25	3
B			1	22.915	ug/l	0.20	113,521.91	6.713E-02	Pulse	0.15	3
Ca			1	249.429	ug/l	2.08	183,533.71	6.118E-02	Pulse	0.10	3
Sr			1	4.778	ug/l	1.17	171,305.89	4.115E-02	Pulse	0.10	3
Mo			1	1.030	ug/l	4.45	7,311.98	1.757E-03	Pulse	0.10	3
Ag			1	0.488	ug/l	3.57	8,799.51	2.076E-03	Pulse	0.10	3
Sn			1	4.668	ug/l	1.27	56,365.03	1.330E-02	Pulse	0.10	3
Sb			1	1.869	ug/l	0.57	26,513.28	3.942E-03	Pulse	0.10	3
Ba			1	0.950	ug/l	8.02	5,334.45	7.932E-04	Pulse	0.10	3
Tl			1	0.487	ug/l	1.39	17,774.58	4.501E-03	Pulse	0.10	3
Pb			1	0.127	ug/l	19.39	6,114.84	1.548E-03	Pulse	0.10	3
Pb			1	0.180	ug/l	2.00	5,627.94	1.425E-03	Pulse	0.10	3
Pb			1	0.469	ug/l	2.36	25,566.37	6.474E-03	Pulse	0.10	3
Na			2	240.152	ug/l	1.13	301,643.53	1.621E+00	Pulse	0.30	3
Mg			2	247.596	ug/l	1.65	141,826.28	7.620E-01	Pulse	0.30	3
Al			2	21.442	ug/l	3.89	5,155.30	2.770E-02	Pulse	0.30	3
K			2	251.809	ug/l	0.46	107,223.54	5.761E-01	Pulse	0.30	3
Ca			2	273.008	ug/l	2.32	6,068.96	3.261E-02	Pulse	0.30	3
Ti			2	1.168	ug/l	13.54	183.34	9.853E-04	Pulse	0.30	3
V			2	0.952	ug/l	3.09	5,055.28	2.716E-02	Pulse	0.30	3
Cr			2	0.970	ug/l	1.94	6,853.73	3.683E-02	Pulse	0.30	3
Mn			2	0.959	ug/l	4.58	3,524.86	1.894E-02	Pulse	0.30	3
Fe			2	28.687	ug/l	1.06	140,569.94	7.553E-01	Pulse	0.30	3
Co			2	0.478	ug/l	5.79	4,991.55	2.682E-02	Pulse	0.30	3
Ni			2	0.907	ug/l	2.69	3,012.53	1.618E-02	Pulse	0.30	3
Cu			2	1.935	ug/l	1.77	18,050.01	9.698E-02	Pulse	0.30	3
Zn			2	4.753	ug/l	2.01	6,433.56	3.457E-02	Pulse	0.30	3
As			2	0.479	ug/l	10.63	300.33	1.614E-03	Pulse	1.00	3
Cd			2	0.470	ug/l	4.38	873.87	8.175E-04	Pulse	0.30	3
Sn			2	4.650	ug/l	2.41	18,007.07	1.685E-02	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	0.473	ug/l	3.11	102.27	3.632E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,690,977.04	1.44	104.6	Pulse	0.10	3
1	Sc		3,000,743.50	2.07	106.4	Pulse	0.10	3
1	Ge		594,885.31	2.11	105.3	Pulse	0.10	3
1	Ge		828,058.24	2.27	104.8	Pulse	0.10	3
1	Rh		4,163,632.23	2.30	104.3	Pulse	0.10	3
1	In		4,239,324.89	2.32	105.4	Pulse	0.10	3
1	Tb		6,725,433.02	0.16	105.0	Analog	0.10	3
1	Ho		615,879.11	1.90	104.1	Pulse	0.10	3
1	Bi		3,948,363.07	2.41	103.2	Pulse	0.10	3
2	Sc		186,127.00	0.72	102.3	Pulse	0.30	3
2	Ge		109,572.15	1.01	102.0	Pulse	0.30	3
2	Ge		165,571.00	0.82	101.9	Pulse	0.30	3
2	Rh		2,798,960.79	0.59	101.6	Pulse	0.30	3
2	In		1,068,943.18	0.61	102.1	Pulse	0.30	3
2	Tb		3,744,894.16	1.25	101.0	Pulse	0.30	3
2	Ho		377,919.85	0.43	101.0	Pulse	0.30	3
2	Bi		2,614,920.73	1.38	100.5	Pulse	0.30	3
3	Sc		294,952.61	1.16	99.1	Pulse	0.30	3
3	Ge		187,323.52	1.06	99.1	Pulse	0.30	3
3	Ge		281,596.45	0.72	98.9	Pulse	0.30	3
3	Rh		2,889,970.03	0.41	99.5	Pulse	0.30	3
3	Tb		4,905,513.14	0.49	99.8	Pulse	0.30	3

Quantitation Report

File Name 020ICSA.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 11:14
Sample Name ICSA
Sample Type ICSA
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	-0.001	ug/l	-115.11	12.00	7.658E-06	Pulse	0.25	3
B			1	0.497	ug/l	17.44	15,053.64	9.596E-03	Pulse	0.15	3
Ca			1	91513.959	ug/l	2.12	59,006,932.45	2.065E+01	Analog	0.10	3
Sr			1	2010.903	ug/l	2.89	62,461,000.74	1.722E+01	Analog	0.10	3
Mo			1	2025.775	ug/l	2.23	12,229,110.24	3.372E+00	Analog	0.10	3
Ag			1	0.022	ug/l	14.54	363.35	1.002E-04	Pulse	0.10	3
Sn			1	1986.012	ug/l	2.34	18,951,905.14	5.235E+00	Analog	0.10	3
Sb			1	0.141	ug/l	7.54	3,083.77	4.692E-04	Pulse	0.10	3
Ba			1	0.198	ug/l	6.51	1,140.08	1.735E-04	Pulse	0.10	3
Tl			1	0.002	ug/l	64.80	163.34	4.659E-05	Pulse	0.10	3
Pb			1	-0.262	ug/l	-3.87	1,066.75	3.058E-04	Pulse	0.10	3
Pb			1	-0.215	ug/l	-4.70	1,126.75	3.230E-04	Pulse	0.10	3
Pb			1	0.071	ug/l	4.25	4,607.14	1.319E-03	Pulse	0.10	3
Na			2	86020.222	ug/l	0.81	100,678,236.00	5.528E+02	Analog	0.30	3
Mg			2	86400.236	ug/l	0.78	48,212,606.97	2.647E+02	Analog	0.30	3
Al			2	90183.231	ug/l	0.27	17,346,676.53	9.525E+01	Analog	0.30	3
K			2	91202.709	ug/l	0.44	34,561,965.30	1.898E+02	Analog	0.30	3
Ca			2	92787.824	ug/l	1.15	1,933,638.25	1.062E+01	Pulse	0.30	3
Ti			2	1694.631	ug/l	0.81	258,640.50	1.420E+00	Pulse	0.30	3
V			2	0.012	ug/l	65.64	255.56	1.403E-03	Pulse	0.30	3
Cr			2	0.244	ug/l	4.28	2,056.82	1.130E-02	Pulse	0.30	3
Mn			2	0.338	ug/l	9.47	1,275.62	7.006E-03	Pulse	0.30	3
Fe			2	83982.518	ug/l	0.45	436,273,787.11	2.396E+03	Analog	0.30	3
Co			2	0.174	ug/l	8.80	1,793.47	9.850E-03	Pulse	0.30	3
Ni			2	0.499	ug/l	10.78	1,840.13	1.011E-02	Pulse	0.30	3
Cu			2	-0.044	ug/l	-26.80	3,187.02	1.750E-02	Pulse	0.30	3
Zn			2	0.195	ug/l	40.48	1,070.05	5.877E-03	Pulse	0.30	3
As			2	0.044	ug/l	34.66	40.67	2.235E-04	Pulse	1.00	3
Cd			2	-0.256	ug/l	-10.87	-398.21	-4.384E-04	Pulse	0.30	3
Sn			2	1969.722	ug/l	0.55	6,022,337.68	6.629E+00	Analog	0.30	3
Se			3	0.081	ug/l	8.35	24.00	9.049E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,568,687.18	0.55	97.0	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		2,858,431.94	1.78	101.4	Pulse	0.10	3
1	Ge		563,134.85	1.02	99.7	Pulse	0.10	3
1	Ge		769,190.27	1.11	97.3	Pulse	0.10	3
1	Rh		3,628,720.88	2.87	90.9	Pulse	0.10	3
1	In		3,621,894.17	2.67	90.0	Pulse	0.10	3
1	Tb		6,572,518.03	0.67	102.6	Analog	0.10	3
1	Ho		587,614.47	2.52	99.3	Pulse	0.10	3
1	Bi		3,492,008.70	2.64	91.3	Pulse	0.10	3
2	Sc		182,118.62	0.61	100.1	Pulse	0.30	3
2	Ge		104,208.62	0.43	97.0	Pulse	0.30	3
2	Ge		154,285.98	0.66	95.0	Pulse	0.30	3
2	Rh		2,438,537.33	0.69	88.5	Pulse	0.30	3
2	In		908,495.66	0.53	86.8	Pulse	0.30	3
2	Tb		3,558,455.41	0.45	96.0	Pulse	0.30	3
2	Ho		360,088.48	0.73	96.2	Pulse	0.30	3
2	Bi		2,282,893.80	1.42	87.8	Pulse	0.30	3
3	Sc		297,050.85	0.63	99.8	Pulse	0.30	3
3	Ge		179,897.78	1.03	95.1	Pulse	0.30	3
3	Ge		265,234.86	0.06	93.1	Pulse	0.30	3
3	Rh		2,516,524.34	0.32	86.6	Pulse	0.30	3
3	Tb		4,674,956.90	1.30	95.1	Pulse	0.30	3

Quantitation Report

File Name 021ICSB.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 11:19
Sample Name ICSAB
Sample Type ICSB
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	-0.001	ug/l	-188.36	10.67	6.998E-06	Pulse	0.25	3
B			1	51.061	ug/l	0.74	212,747.69	1.394E-01	Pulse	0.15	3
Ca			1	92430.200	ug/l	1.73	59,334,694.12	2.085E+01	Analog	0.10	3
Sr			1	2024.420	ug/l	0.84	63,594,820.72	1.734E+01	Analog	0.10	3
Mo			1	2029.853	ug/l	1.14	12,390,746.48	3.378E+00	Analog	0.10	3
Ag			1	20.072	ug/l	1.00	314,680.05	8.513E-02	Pulse	0.10	3
Sn			1	1979.431	ug/l	3.30	19,275,963.46	5.217E+00	Analog	0.10	3
Sb			1	0.118	ug/l	4.63	2,790.36	4.225E-04	Pulse	0.10	3
Ba			1	0.187	ug/l	14.23	1,086.75	1.646E-04	Pulse	0.10	3
Tl			1	0.003	ug/l	44.96	213.34	5.986E-05	Pulse	0.10	3
Pb			1	-0.251	ug/l	-4.09	1,220.10	3.428E-04	Pulse	0.10	3
Pb			1	-0.196	ug/l	-5.02	1,336.78	3.746E-04	Pulse	0.10	3
Pb			1	0.087	ug/l	6.78	5,437.29	1.525E-03	Pulse	0.10	3
Na			2	86985.091	ug/l	1.28	99,175,824.95	5.590E+02	Analog	0.30	3
Mg			2	86532.451	ug/l	1.31	47,040,067.02	2.651E+02	Analog	0.30	3
Al			2	89415.215	ug/l	2.36	16,754,261.00	9.444E+01	Analog	0.30	3
K			2	91212.171	ug/l	0.44	33,674,000.88	1.898E+02	Analog	0.30	3
Ca			2	92592.001	ug/l	0.93	1,879,843.47	1.060E+01	Pulse	0.30	3
Ti			2	1708.459	ug/l	0.99	254,023.87	1.432E+00	Pulse	0.30	3
V			2	19.878	ug/l	1.28	96,825.83	5.458E-01	Pulse	0.30	3
Cr			2	19.713	ug/l	0.48	123,402.33	6.955E-01	Pulse	0.30	3
Mn			2	19.798	ug/l	0.43	67,522.87	3.806E-01	Pulse	0.30	3
Fe			2	84688.650	ug/l	1.19	428,586,205.19	2.416E+03	Analog	0.30	3
Co			2	19.180	ug/l	0.70	190,148.40	1.072E+00	Pulse	0.30	3
Ni			2	18.705	ug/l	1.66	49,977.72	2.817E-01	Pulse	0.30	3
Cu			2	17.956	ug/l	0.97	131,356.03	7.403E-01	Pulse	0.30	3
Zn			2	17.159	ug/l	3.09	19,984.48	1.126E-01	Pulse	0.30	3
As			2	19.248	ug/l	0.81	10,929.33	6.160E-02	Pulse	1.00	3
Cd			2	19.290	ug/l	1.63	29,914.14	3.338E-02	Pulse	0.30	3
Sn			2	2008.611	ug/l	1.69	6,058,787.26	6.760E+00	Analog	0.30	3
Se			3	20.070	ug/l	1.74	3,724.22	1.402E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,526,442.42	0.40	94.4	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		2,845,812.56	2.10	101.0	Pulse	0.10	3
1	Ge		561,873.16	2.57	99.5	Pulse	0.10	3
1	Ge		767,032.25	3.27	97.1	Pulse	0.10	3
1	Rh		3,668,320.68	2.16	91.9	Pulse	0.10	3
1	In		3,697,106.58	3.17	91.9	Pulse	0.10	3
1	Tb		6,604,904.90	0.52	103.1	Analog	0.10	3
1	Ho		608,862.02	2.04	102.9	Pulse	0.10	3
1	Bi		3,565,150.99	2.99	93.2	Pulse	0.10	3
2	Sc		177,424.86	0.61	97.5	Pulse	0.30	3
2	Ge		102,211.72	0.59	95.2	Pulse	0.30	3
2	Ge		151,930.92	0.39	93.5	Pulse	0.30	3
2	Rh		2,448,926.36	0.74	88.9	Pulse	0.30	3
2	In		896,387.48	1.31	85.6	Pulse	0.30	3
2	Tb		3,551,054.72	1.49	95.8	Pulse	0.30	3
2	Ho		361,933.22	1.71	96.7	Pulse	0.30	3
2	Bi		2,284,592.55	1.55	87.8	Pulse	0.30	3
3	Sc		297,913.71	0.31	100.0	Pulse	0.30	3
3	Ge		179,274.39	0.53	94.8	Pulse	0.30	3
3	Ge		265,664.30	0.37	93.3	Pulse	0.30	3
3	Rh		2,528,045.25	0.32	87.0	Pulse	0.30	3
3	Tb		4,703,514.81	0.26	95.7	Pulse	0.30	3

Quantitation Report

File Name 022SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 11:24
Sample Name rinseconf
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	-0.001	ug/l	-239.50	12.00	7.749E-06	Pulse	0.25	3
B			1	-0.585	ug/l	-13.54	10,567.92	6.816E-03	Pulse	0.15	3
Ca			1	-5.575	ug/l	-12.49	10,363.64	3.656E-03	Pulse	0.10	3
Sr			1	0.001	ug/l	248.22	990.07	2.426E-04	Pulse	0.10	3
Mo			1	1.109	ug/l	9.61	7,722.16	1.888E-03	Pulse	0.10	3
Ag			1	0.008	ug/l	4.16	163.34	3.882E-05	Pulse	0.10	3
Sn			1	0.120	ug/l	10.95	5,514.51	1.310E-03	Pulse	0.10	3
Sb			1	-0.039	ug/l	-12.59	736.71	1.062E-04	Pulse	0.10	3
Ba			1	-0.006	ug/l	-31.68	40.00	5.776E-06	Pulse	0.10	3
Tl			1	-0.002	ug/l	-23.53	56.67	1.402E-05	Pulse	0.10	3
Pb			1	-0.336	ug/l	-1.12	290.02	7.172E-05	Pulse	0.10	3
Pb			1	-0.299	ug/l	-2.14	353.35	8.711E-05	Pulse	0.10	3
Pb			1	-0.004	ug/l	-16.34	1,383.41	3.416E-04	Pulse	0.10	3
Na			2	2.317	ug/l	12.59	16,057.75	9.247E-02	Pulse	0.30	3
Mg			2	-0.360	ug/l	-5.09	397.79	2.291E-03	Pulse	0.30	3
Al			2	-2.799	ug/l	-10.38	364.45	2.098E-03	Pulse	0.30	3
K			2	-0.204	ug/l	-335.60	9,001.41	5.184E-02	Pulse	0.30	3
Ca			2	-8.137	ug/l	-14.71	76.67	4.413E-04	Pulse	0.30	3
Ti			2	0.787	ug/l	20.85	115.56	6.657E-04	Pulse	0.30	3
V			2	-0.006	ug/l	-167.26	161.11	9.274E-04	Pulse	0.30	3
Cr			2	0.011	ug/l	75.48	543.35	3.129E-03	Pulse	0.30	3
Mn			2	0.034	ug/l	23.82	204.45	1.177E-03	Pulse	0.30	3
Fe			2	11.642	ug/l	3.32	46,726.03	2.691E-01	Pulse	0.30	3
Co			2	0.000	ug/l	2040.39	18.76	1.081E-04	Pulse	0.30	3
Ni			2	-0.008	ug/l	-248.44	442.23	2.547E-03	Pulse	0.30	3
Cu			2	-0.248	ug/l	-3.44	1,615.65	9.305E-03	Pulse	0.30	3
Zn			2	-0.238	ug/l	-8.02	547.80	3.155E-03	Pulse	0.30	3
As			2	-0.007	ug/l	-69.34	10.67	6.143E-05	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	-0.001	ug/l	-2.82	2.39	2.342E-06	Pulse	0.30	3
Sn			2	0.221	ug/l	5.23	1,982.37	1.942E-03	Pulse	0.30	3
Se			3	-0.005	ug/l	-31.45	8.67	3.045E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,550,184.74	0.69	95.9	Pulse	0.10	3
1	Sc		2,834,204.02	0.99	100.5	Pulse	0.10	3
1	Ge		575,365.07	1.56	101.9	Pulse	0.10	3
1	Ge		795,477.28	2.42	100.7	Pulse	0.10	3
1	Rh		4,086,779.52	2.40	102.4	Pulse	0.10	3
1	In		4,208,552.00	2.25	104.6	Pulse	0.10	3
1	Tb		6,936,778.23	1.16	108.3	Analog	0.10	3
1	Ho		629,807.19	1.86	106.4	Pulse	0.10	3
1	Bi		4,048,980.15	1.91	105.8	Pulse	0.10	3
2	Sc		173,651.08	0.29	95.4	Pulse	0.30	3
2	Ge		103,482.94	0.26	96.3	Pulse	0.30	3
2	Ge		156,394.06	0.83	96.3	Pulse	0.30	3
2	Rh		2,724,935.45	0.75	98.9	Pulse	0.30	3
2	In		1,020,834.31	0.77	97.5	Pulse	0.30	3
2	Tb		3,703,468.05	1.04	99.9	Pulse	0.30	3
2	Ho		375,782.88	1.04	100.4	Pulse	0.30	3
2	Bi		2,619,477.40	0.71	100.7	Pulse	0.30	3
3	Sc		297,140.03	0.61	99.8	Pulse	0.30	3
3	Ge		188,262.52	0.66	99.6	Pulse	0.30	3
3	Ge		284,584.09	0.62	99.9	Pulse	0.30	3
3	Rh		2,921,783.43	0.56	100.6	Pulse	0.30	3
3	Tb		5,291,540.90	0.55	107.6	Analog	0.30	3

Quantitation Report

File Name 023_CCV.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 11:29
Sample Name CCVA
Sample Type CCV
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	52.217	ug/l	0.08	273,230.89	1.745E-01	Pulse	0.25	3
B			1	102.901	ug/l	0.20	426,546.05	2.724E-01	Pulse	0.15	3
Ca			1	5192.108	ug/l	1.01	3,407,177.87	1.176E+00	Pulse	0.10	3
Sr			1	53.126	ug/l	0.44	1,852,239.66	4.552E-01	Pulse	0.10	3
Mo			1	53.123	ug/l	0.53	359,903.71	8.845E-02	Pulse	0.10	3
Ag			1	51.564	ug/l	0.54	931,126.08	2.187E-01	Pulse	0.10	3
Sn			1	52.170	ug/l	0.59	589,637.12	1.385E-01	Pulse	0.10	3
Sb			1	50.623	ug/l	3.38	703,811.03	1.020E-01	Pulse	0.10	3
Ba			1	49.241	ug/l	2.81	280,141.88	4.058E-02	Pulse	0.10	3
Tl			1	52.289	ug/l	0.39	1,924,576.95	4.803E-01	Pulse	0.10	3
Pb			1	51.995	ug/l	0.56	669,276.01	1.671E-01	Pulse	0.10	3
Pb			1	52.376	ug/l	0.84	589,622.95	1.472E-01	Pulse	0.10	3
Pb			1	51.656	ug/l	0.44	2,686,892.47	6.706E-01	Pulse	0.10	3
Na			2	5156.639	ug/l	0.10	5,863,367.13	3.321E+01	Analog	0.30	3
Mg			2	5040.652	ug/l	1.14	2,727,224.47	1.545E+01	Pulse	0.30	3
Al			2	5013.991	ug/l	0.94	935,763.16	5.300E+00	Pulse	0.30	3
K			2	5142.029	ug/l	0.81	1,897,646.59	1.075E+01	Pulse	0.30	3
Ca			2	5277.954	ug/l	0.65	106,856.30	6.053E-01	Pulse	0.30	3
Ti			2	53.421	ug/l	2.25	7,905.29	4.478E-02	Pulse	0.30	3
V			2	52.346	ug/l	0.67	253,408.64	1.435E+00	Pulse	0.30	3
Cr			2	51.858	ug/l	0.81	322,240.35	1.825E+00	Pulse	0.30	3
Mn			2	52.387	ug/l	1.58	177,632.52	1.006E+00	Pulse	0.30	3
Fe			2	5307.381	ug/l	0.62	26,716,768.94	1.513E+02	Analog	0.30	3
Co			2	52.088	ug/l	1.38	513,801.30	2.910E+00	Pulse	0.30	3
Ni			2	51.195	ug/l	1.67	135,297.33	7.664E-01	Pulse	0.30	3
Cu			2	51.785	ug/l	1.26	370,529.95	2.099E+00	Pulse	0.30	3
Zn			2	51.908	ug/l	1.78	58,498.32	3.314E-01	Pulse	0.30	3
As			2	52.403	ug/l	1.61	29,581.66	1.676E-01	Pulse	1.00	3
Cd			2	49.947	ug/l	0.18	88,704.74	8.641E-02	Pulse	0.30	3
Sn			2	52.532	ug/l	0.82	182,685.93	1.780E-01	Pulse	0.30	3
Se			3	202.585	ug/l	0.37	40,233.19	1.412E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,565,679.63	0.98	96.8	Pulse	0.10	3
1	Sc		2,896,959.65	1.44	102.8	Pulse	0.10	3
1	Ge		582,955.12	2.67	103.2	Pulse	0.10	3

Quantitation Report

1	Ge		811,387.15	2.33	102.7	Pulse	0.10	3
1	Rh		4,068,708.59	2.76	102.0	Pulse	0.10	3
1	In		4,257,600.68	2.67	105.8	Pulse	0.10	3
1	Tb		6,903,386.98	0.05	107.7	Analog	0.10	3
1	Ho		638,749.35	3.24	108.0	Pulse	0.10	3
1	Bi		4,006,746.61	3.19	104.7	Pulse	0.10	3
2	Sc		176,545.45	0.32	97.0	Pulse	0.30	3
2	Ge		104,902.84	1.18	97.7	Pulse	0.30	3
2	Ge		158,284.80	0.48	97.4	Pulse	0.30	3
2	Rh		2,700,685.73	0.48	98.0	Pulse	0.30	3
2	In		1,026,531.22	0.53	98.1	Pulse	0.30	3
2	Tb		3,779,854.71	0.54	101.9	Pulse	0.30	3
2	Ho		380,993.02	0.43	101.8	Pulse	0.30	3
2	Bi		2,601,820.73	0.64	100.0	Pulse	0.30	3
3	Sc		300,729.71	0.35	101.0	Pulse	0.30	3
3	Ge		188,012.06	0.88	99.4	Pulse	0.30	3
3	Ge		284,960.33	0.53	100.1	Pulse	0.30	3
3	Rh		2,877,219.26	0.26	99.0	Pulse	0.30	3
3	Tb		5,158,290.49	3.03	104.9	Mix	0.30	3

Quantitation Report

File Name 024_CCB.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 11:34
Sample Name CCB
Sample Type CCB
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.001	ug/l	184.77	18.67	1.200E-05	Pulse	0.25	3
B			1	0.895	ug/l	7.58	16,497.20	1.062E-02	Pulse	0.15	3
Ca			1	-6.929	ug/l	-4.09	9,583.07	3.350E-03	Pulse	0.10	3
Sr			1	-0.011	ug/l	-11.89	576.70	1.403E-04	Pulse	0.10	3
Mo			1	0.185	ug/l	14.53	1,440.14	3.493E-04	Pulse	0.10	3
Ag			1	0.011	ug/l	31.90	230.01	5.439E-05	Pulse	0.10	3
Sn			1	0.039	ug/l	56.80	4,647.54	1.094E-03	Pulse	0.10	3
Sb			1	0.211	ug/l	5.74	4,227.40	6.102E-04	Pulse	0.10	3
Ba			1	-0.003	ug/l	-124.36	53.33	7.729E-06	Pulse	0.10	3
Tl			1	0.004	ug/l	45.24	286.68	7.146E-05	Pulse	0.10	3
Pb			1	-0.324	ug/l	-0.25	440.02	1.094E-04	Pulse	0.10	3
Pb			1	-0.300	ug/l	-1.54	340.02	8.451E-05	Pulse	0.10	3
Pb			1	0.000	ug/l	-238.99	1,566.77	3.893E-04	Pulse	0.10	3
Na			2	0.108	ug/l	100.08	13,652.28	7.828E-02	Pulse	0.30	3
Mg			2	-0.606	ug/l	-13.96	267.78	1.537E-03	Pulse	0.30	3
Al			2	-3.181	ug/l	-4.36	295.56	1.695E-03	Pulse	0.30	3
K			2	-0.555	ug/l	-42.12	8,912.46	5.111E-02	Pulse	0.30	3
Ca			2	-6.540	ug/l	-23.45	108.89	6.240E-04	Pulse	0.30	3
Ti			2	0.130	ug/l	98.58	20.00	1.153E-04	Pulse	0.30	3
V			2	-0.008	ug/l	-32.97	150.00	8.604E-04	Pulse	0.30	3
Cr			2	0.009	ug/l	25.62	533.35	3.059E-03	Pulse	0.30	3
Mn			2	0.013	ug/l	65.35	136.67	7.844E-04	Pulse	0.30	3
Fe			2	5.831	ug/l	0.65	18,015.48	1.033E-01	Pulse	0.30	3
Co			2	0.000	ug/l	456.33	21.06	1.205E-04	Pulse	0.30	3
Ni			2	-0.005	ug/l	-449.28	450.01	2.579E-03	Pulse	0.30	3
Cu			2	-0.243	ug/l	-2.20	1,663.44	9.539E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Zn			2	-0.300	ug/l	-12.16	482.24	2.767E-03	Pulse	0.30	3
As			2	-0.008	ug/l	-80.54	10.00	5.723E-05	Pulse	1.00	3
Cd			2	0.000	ug/l	1144.60	5.38	5.240E-06	Pulse	0.30	3
Sn			2	0.117	ug/l	37.15	1,636.77	1.594E-03	Pulse	0.30	3
Se			3	0.061	ug/l	4.42	21.67	7.639E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,554,053.14	0.71	96.1	Pulse	0.10	3
1	Sc		2,859,856.52	1.78	101.4	Pulse	0.10	3
1	Ge		579,970.17	1.63	102.7	Pulse	0.10	3
1	Ge		804,641.42	2.28	101.8	Pulse	0.10	3
1	Rh		4,114,841.29	2.40	103.1	Pulse	0.10	3
1	In		4,244,182.75	1.97	105.5	Pulse	0.10	3
1	Tb		6,929,812.81	1.41	108.1	Analog	0.10	3
1	Ho		626,985.73	2.02	106.0	Pulse	0.10	3
1	Bi		4,023,089.21	2.35	105.1	Pulse	0.10	3
2	Sc		174,390.44	0.81	95.8	Pulse	0.30	3
2	Ge		103,662.66	0.42	96.5	Pulse	0.30	3
2	Ge		156,255.06	0.56	96.2	Pulse	0.30	3
2	Rh		2,733,567.32	0.47	99.2	Pulse	0.30	3
2	In		1,026,898.72	0.18	98.1	Pulse	0.30	3
2	Tb		3,695,486.66	0.71	99.7	Pulse	0.30	3
2	Ho		373,043.55	1.01	99.7	Pulse	0.30	3
2	Bi		2,611,198.23	1.00	100.4	Pulse	0.30	3
3	Sc		297,944.36	0.72	100.1	Pulse	0.30	3
3	Ge		188,318.54	0.31	99.6	Pulse	0.30	3
3	Ge		283,616.47	0.37	99.6	Pulse	0.30	3
3	Rh		2,954,297.17	0.57	101.7	Pulse	0.30	3
3	Tb		5,285,022.98	0.11	107.5	Analog	0.30	3

Quantitation Report

File Name	025SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File	
Method Path	
Acq Time	12/16/2019 11:45
Sample Name	MDL-LODAQCONF
Sample Type	Sample
Comment	
Prep Dilution	2.000
Auto Dilution	N/A
Total Dilution	2.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/17/2019 6:27
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.001	ug/l	165.58	17.33	1.087E-05	Pulse	0.25	3
B			1	-1.496	ug/l	-4.55	10,212.16	6.399E-03	Pulse	0.15	3
Ca			1	60.100	ug/l	2.08	33,858.80	1.169E-02	Pulse	0.10	3
Sr			1	0.196	ug/l	7.79	4,434.11	1.071E-03	Pulse	0.10	3
Mo			1	0.051	ug/l	30.31	350.02	8.427E-05	Pulse	0.10	3
Ag			1	0.004	ug/l	136.68	60.00	1.440E-05	Pulse	0.10	3
Sn			1	-0.171	ug/l	-16.71	3,247.11	7.675E-04	Pulse	0.10	3
Sb			1	-0.014	ug/l	-46.26	1,216.77	1.715E-04	Pulse	0.10	3
Ba			1	0.110	ug/l	1.51	396.69	5.593E-05	Pulse	0.10	3
Tl			1	0.000	ug/l	777.25	130.01	3.221E-05	Pulse	0.10	3
Pb			1	-0.645	ug/l	-3.38	463.36	1.139E-04	Pulse	0.10	3
Pb			1	-0.593	ug/l	-0.83	383.36	9.487E-05	Pulse	0.10	3
Pb			1	0.003	ug/l	101.48	1,666.77	4.124E-04	Pulse	0.10	3
Na			2	16.015	ug/l	7.20	23,518.65	1.290E-01	Pulse	0.30	3
Mg			2	3.328	ug/l	2.86	1,547.87	8.491E-03	Pulse	0.30	3
Al			2	-3.118	ug/l	-5.07	621.13	3.408E-03	Pulse	0.30	3
K			2	5.070	ug/l	27.62	10,490.05	5.754E-02	Pulse	0.30	3
Ca			2	52.919	ug/l	8.43	802.25	4.400E-03	Pulse	0.30	3
Ti			2	0.073	ug/l	120.49	6.67	3.652E-05	Pulse	0.30	3
V			2	-0.012	ug/l	-82.49	166.67	9.135E-04	Pulse	0.30	3
Cr			2	0.094	ug/l	7.64	798.92	4.382E-03	Pulse	0.30	3
Mn			2	0.102	ug/l	9.72	274.45	1.506E-03	Pulse	0.30	3
Fe			2	10.249	ug/l	1.83	15,157.46	8.316E-02	Pulse	0.30	3
Co			2	0.006	ug/l	65.05	47.74	2.616E-04	Pulse	0.30	3
Ni			2	0.069	ug/l	41.09	578.91	3.175E-03	Pulse	0.30	3
Cu			2	-0.225	ug/l	-9.60	2,691.37	1.476E-02	Pulse	0.30	3
Zn			2	6.135	ug/l	5.22	4,368.41	2.396E-02	Pulse	0.30	3
As			2	-0.009	ug/l	-144.40	12.33	6.753E-05	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.005	ug/l	69.89	9.96	9.321E-06	Pulse	0.30	3
Sn			2	-0.114	ug/l	-33.70	1,076.72	1.008E-03	Pulse	0.30	3
Se			3	0.999	ug/l	2.07	111.47	3.820E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,596,127.37	1.43	98.7	Pulse	0.10	3
1	Sc		2,895,669.54	1.35	102.7	Pulse	0.10	3
1	Ge		579,863.15	1.94	102.7	Pulse	0.10	3
1	Ge		810,717.96	2.90	102.6	Pulse	0.10	3
1	Rh		4,141,930.04	2.98	103.8	Pulse	0.10	3
1	In		4,226,303.56	3.13	105.1	Pulse	0.10	3
1	Tb		7,093,139.06	0.78	110.7	Analog	0.10	3
1	Ho		631,367.04	1.73	106.7	Pulse	0.10	3
1	Bi		4,044,827.23	2.93	105.7	Pulse	0.10	3
2	Sc		182,291.26	0.90	100.2	Pulse	0.30	3
2	Ge		108,763.57	1.31	101.3	Pulse	0.30	3
2	Ge		163,518.16	0.46	100.7	Pulse	0.30	3
2	Rh		2,812,571.69	0.96	102.1	Pulse	0.30	3
2	In		1,068,481.79	0.53	102.1	Pulse	0.30	3
2	Tb		3,789,737.63	0.64	102.2	Pulse	0.30	3
2	Ho		383,872.49	0.70	102.6	Pulse	0.30	3
2	Bi		2,660,319.34	0.51	102.3	Pulse	0.30	3
3	Sc		309,546.70	1.08	104.0	Pulse	0.30	3
3	Ge		194,673.21	0.21	102.9	Pulse	0.30	3
3	Ge		291,844.95	0.76	102.5	Pulse	0.30	3
3	Rh		2,977,511.69	0.39	102.5	Pulse	0.30	3
3	Tb		5,280,122.15	0.72	107.4	Analog	0.30	3

Quantitation Report

File Name 026SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 11:51
Sample Name MDL-LOQAQCONF
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.003	ug/l	148.79	24.00	1.489E-05	Pulse	0.25	3
B			1	-1.558	ug/l	-8.10	10,181.08	6.320E-03	Pulse	0.15	3
Ca			1	171.538	ug/l	0.64	72,046.37	2.426E-02	Pulse	0.10	3
Sr			1	0.229	ug/l	2.56	5,127.69	1.212E-03	Pulse	0.10	3
Mo			1	0.073	ug/l	43.87	433.36	1.027E-04	Pulse	0.10	3
Ag			1	1.861	ug/l	5.61	17,490.28	3.953E-03	Pulse	0.10	3
Sn			1	-0.131	ug/l	-64.37	3,633.88	8.202E-04	Pulse	0.10	3
Sb			1	-0.005	ug/l	-391.87	1,263.44	1.797E-04	Pulse	0.10	3
Ba			1	0.166	ug/l	37.55	553.37	7.881E-05	Pulse	0.10	3
Tl			1	0.038	ug/l	17.27	856.73	2.065E-04	Pulse	0.10	3
Pb			1	-0.640	ug/l	-2.48	506.70	1.225E-04	Pulse	0.10	3
Pb			1	-0.608	ug/l	-2.42	306.68	7.385E-05	Pulse	0.10	3
Pb			1	0.007	ug/l	8.22	1,820.11	4.393E-04	Pulse	0.10	3
Na			2	36.523	ug/l	1.61	35,759.90	1.949E-01	Pulse	0.30	3
Mg			2	15.056	ug/l	2.81	4,854.08	2.646E-02	Pulse	0.30	3
Al			2	-1.831	ug/l	-41.55	750.03	4.087E-03	Pulse	0.30	3
K			2	7.780	ug/l	22.41	11,071.53	6.036E-02	Pulse	0.30	3
Ca			2	179.731	ug/l	2.32	2,137.94	1.165E-02	Pulse	0.30	3
Ti			2	0.304	ug/l	50.78	24.44	1.335E-04	Pulse	0.30	3
V			2	0.010	ug/l	111.53	223.34	1.217E-03	Pulse	0.30	3
Cr			2	0.137	ug/l	46.60	941.24	5.134E-03	Pulse	0.30	3
Mn			2	0.176	ug/l	8.82	405.56	2.211E-03	Pulse	0.30	3
Fe			2	10.558	ug/l	1.69	16,067.20	8.757E-02	Pulse	0.30	3
Co			2	0.013	ug/l	8.57	86.62	4.722E-04	Pulse	0.30	3
Ni			2	0.230	ug/l	11.19	802.25	4.372E-03	Pulse	0.30	3
Cu			2	-0.224	ug/l	-18.66	2,711.36	1.478E-02	Pulse	0.30	3
Zn			2	7.558	ug/l	4.04	5,217.56	2.844E-02	Pulse	0.30	3
As			2	-0.017	ug/l	-37.78	10.00	5.446E-05	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	-0.006	ug/l	-0.11	-0.03	-3.060E-08	Pulse	0.30	3
Sn			2	-0.100	ug/l	-29.71	1,124.50	1.031E-03	Pulse	0.30	3
Se			3	-0.007	ug/l	-218.16	9.13	3.136E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,610,959.95	0.20	99.6	Pulse	0.10	3
1	Sc		2,969,870.27	1.68	105.4	Pulse	0.10	3
1	Ge		599,525.98	2.18	106.1	Pulse	0.10	3
1	Ge		833,855.53	2.16	105.5	Pulse	0.10	3
1	Rh		4,230,646.71	2.02	106.0	Pulse	0.10	3
1	In		4,421,672.16	2.23	109.9	Pulse	0.10	3
1	Tb		7,034,027.60	0.80	109.8	Analog	0.10	3
1	Ho		644,482.76	1.76	108.9	Pulse	0.10	3
1	Bi		4,143,276.29	1.45	108.3	Pulse	0.10	3
2	Sc		183,458.82	0.63	100.8	Pulse	0.30	3
2	Ge		109,368.01	0.46	101.8	Pulse	0.30	3
2	Ge		163,934.36	0.66	100.9	Pulse	0.30	3
2	Rh		2,843,380.58	1.16	103.2	Pulse	0.30	3
2	In		1,089,959.56	0.88	104.1	Pulse	0.30	3
2	Tb		3,803,925.82	0.28	102.6	Pulse	0.30	3
2	Ho		383,869.44	0.30	102.6	Pulse	0.30	3
2	Bi		2,673,474.34	0.50	102.8	Pulse	0.30	3
3	Sc		309,617.01	0.45	104.0	Pulse	0.30	3
3	Ge		193,632.80	0.87	102.4	Pulse	0.30	3
3	Ge		291,099.89	0.38	102.2	Pulse	0.30	3
3	Rh		2,985,096.41	0.25	102.7	Pulse	0.30	3
3	Tb		5,338,971.59	0.41	108.6	Analog	0.30	3

Quantitation Report

File Name 027SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 11:55
Sample Name MDL-LOQSOILCONF
Sample Type Sample
Comment
Prep Dilution 5.000
Auto Dilution N/A
Total Dilution 5.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.004	ug/l	208.57	20.00	1.232E-05	Pulse	0.25	3
B			1	-5.207	ug/l	-2.37	9,184.91	5.646E-03	Pulse	0.15	3
Ca			1	46.653	ug/l	11.40	20,837.06	7.018E-03	Pulse	0.10	3
Sr			1	0.035	ug/l	29.53	1,243.43	2.923E-04	Pulse	0.10	3
Mo			1	0.060	ug/l	79.15	263.34	6.187E-05	Pulse	0.10	3
Ag			1	4.907	ug/l	1.49	18,177.77	4.169E-03	Pulse	0.10	3
Sn			1	-0.983	ug/l	-8.87	2,070.24	4.747E-04	Pulse	0.10	3
Sb			1	-0.020	ug/l	-192.93	1,263.44	1.773E-04	Pulse	0.10	3
Ba			1	0.135	ug/l	37.18	233.34	3.283E-05	Pulse	0.10	3
Tl			1	-0.001	ug/l	-545.67	120.01	2.913E-05	Pulse	0.10	3
Pb			1	-1.650	ug/l	-0.89	370.02	8.956E-05	Pulse	0.10	3
Pb			1	-1.486	ug/l	-1.36	383.36	9.280E-05	Pulse	0.10	3
Pb			1	-0.007	ug/l	-142.57	1,550.10	3.753E-04	Pulse	0.10	3
Na			2	10.890	ug/l	7.64	16,790.65	9.158E-02	Pulse	0.30	3
Mg			2	2.285	ug/l	33.93	878.92	4.793E-03	Pulse	0.30	3
Al			2	-15.741	ug/l	-15.04	316.68	1.729E-03	Pulse	0.30	3
K			2	0.094	ug/l	2197.60	9,588.41	5.230E-02	Pulse	0.30	3
Ca			2	37.524	ug/l	21.93	408.90	2.231E-03	Pulse	0.30	3
Ti			2	3.467	ug/l	39.32	107.78	5.872E-04	Pulse	0.30	3
V			2	0.001	ug/l	11225.11	198.90	1.084E-03	Pulse	0.30	3
Cr			2	0.117	ug/l	35.65	651.13	3.551E-03	Pulse	0.30	3
Mn			2	0.139	ug/l	6.14	194.45	1.061E-03	Pulse	0.30	3
Fe			2	24.884	ug/l	1.79	14,474.21	7.895E-02	Pulse	0.30	3
Co			2	0.006	ug/l	15.65	32.18	1.756E-04	Pulse	0.30	3
Ni			2	0.092	ug/l	37.60	537.79	2.933E-03	Pulse	0.30	3
Cu			2	-1.076	ug/l	-10.19	1,950.14	1.064E-02	Pulse	0.30	3
Zn			2	2.092	ug/l	4.18	1,335.62	7.285E-03	Pulse	0.30	3
As			2	0.030	ug/l	144.91	18.67	1.019E-04	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	-0.005	ug/l	-1.51	3.30	3.110E-06	Pulse	0.30	3
Sn			2	-0.813	ug/l	-3.07	693.36	6.527E-04	Pulse	0.30	3
Se			3	-0.012	ug/l	-494.76	9.40	3.224E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,626,706.10	1.19	100.6	Pulse	0.10	3
1	Sc		2,969,259.44	1.48	105.3	Pulse	0.10	3
1	Ge		604,018.12	2.11	106.9	Pulse	0.10	3
1	Ge		834,245.22	1.55	105.6	Pulse	0.10	3
1	Rh		4,254,134.94	1.84	106.6	Pulse	0.10	3
1	In		4,359,794.95	1.71	108.4	Pulse	0.10	3
1	Tb		7,121,797.19	1.84	111.1	Analog	0.10	3
1	Ho		637,202.58	1.29	107.7	Pulse	0.10	3
1	Bi		4,127,507.75	1.53	107.9	Pulse	0.10	3
2	Sc		183,337.46	0.57	100.8	Pulse	0.30	3
2	Ge		108,458.60	0.15	101.0	Pulse	0.30	3
2	Ge		163,583.86	0.41	100.7	Pulse	0.30	3
2	Rh		2,829,062.11	0.43	102.7	Pulse	0.30	3
2	In		1,062,364.91	1.01	101.5	Pulse	0.30	3
2	Tb		3,776,620.82	0.54	101.8	Pulse	0.30	3
2	Ho		383,452.72	1.01	102.5	Pulse	0.30	3
2	Bi		2,671,099.89	0.66	102.7	Pulse	0.30	3
3	Sc		309,955.06	0.38	104.1	Pulse	0.30	3
3	Ge		195,035.11	0.51	103.1	Pulse	0.30	3
3	Ge		291,592.55	0.40	102.4	Pulse	0.30	3
3	Rh		2,996,403.63	0.79	103.1	Pulse	0.30	3
3	Tb		5,332,753.95	0.51	108.5	Analog	0.30	3

Quantitation Report

File Name 028SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 12:08
Sample Name MDL-LODEPACONF
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.000	ug/l	177.80	17.33	1.070E-05	Pulse	0.25	3
B			1	-1.380	ug/l	-4.64	7,735.26	4.776E-03	Pulse	0.15	3
Ca			1	44.156	ug/l	0.69	43,714.82	1.487E-02	Pulse	0.10	3
Sr			1	0.113	ug/l	5.62	4,997.62	1.197E-03	Pulse	0.10	3
Mo			1	0.972	ug/l	4.17	6,921.73	1.659E-03	Pulse	0.10	3
Ag			1	0.003	ug/l	93.99	73.34	1.729E-05	Pulse	0.10	3
Sn			1	-0.244	ug/l	-4.52	1,500.13	3.502E-04	Pulse	0.10	3
Sb			1	-0.029	ug/l	-32.11	910.06	1.275E-04	Pulse	0.10	3
Ba			1	0.053	ug/l	8.23	386.69	5.418E-05	Pulse	0.10	3
Tl			1	0.000	ug/l	753.17	130.01	3.213E-05	Pulse	0.10	3
Pb			1	-0.311	ug/l	-1.40	606.70	1.494E-04	Pulse	0.10	3
Pb			1	-0.280	ug/l	-4.22	566.70	1.396E-04	Pulse	0.10	3
Pb			1	0.016	ug/l	14.40	2,460.19	6.055E-04	Pulse	0.10	3
Na			2	39.427	ug/l	1.18	61,597.96	3.309E-01	Pulse	0.30	3
Mg			2	6.286	ug/l	4.25	4,217.25	2.265E-02	Pulse	0.30	3
Al			2	24.407	ug/l	0.26	5,738.81	3.083E-02	Pulse	0.30	3
K			2	3.995	ug/l	2.33	11,275.03	6.057E-02	Pulse	0.30	3
Ca			2	42.422	ug/l	1.40	1,158.95	6.226E-03	Pulse	0.30	3
Ti			2	0.007	ug/l	352.85	2.22	1.196E-05	Pulse	0.30	3
V			2	-0.001	ug/l	-1347.30	197.78	1.062E-03	Pulse	0.30	3
Cr			2	0.039	ug/l	44.64	760.03	4.083E-03	Pulse	0.30	3
Mn			2	0.999	ug/l	3.98	3,667.12	1.970E-02	Pulse	0.30	3
Fe			2	27.904	ug/l	0.49	136,427.85	7.329E-01	Pulse	0.30	3
Co			2	0.005	ug/l	59.55	72.96	3.924E-04	Pulse	0.30	3
Ni			2	0.034	ug/l	57.73	588.91	3.163E-03	Pulse	0.30	3
Cu			2	0.048	ug/l	7.78	3,944.96	2.119E-02	Pulse	0.30	3
Zn			2	2.303	ug/l	9.39	3,564.88	1.915E-02	Pulse	0.30	3
As			2	-0.004	ug/l	-86.02	12.67	6.804E-05	Pulse	1.00	3
Cd			2	-0.001	ug/l	-2.73	2.78	2.577E-06	Pulse	0.30	3
Sn			2	-0.200	ug/l	-7.13	568.91	5.275E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	-0.013	ug/l	-49.04	7.33	2.499E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,619,232.99	0.87	100.1	Pulse	0.10	3
1	Sc		2,938,931.73	1.82	104.3	Pulse	0.10	3
1	Ge		587,413.53	2.05	104.0	Pulse	0.10	3
1	Ge		823,189.68	1.51	104.2	Pulse	0.10	3
1	Rh		4,173,341.19	2.94	104.6	Pulse	0.10	3
1	In		4,282,001.65	2.76	106.4	Pulse	0.10	3
1	Tb		7,138,888.23	0.74	111.4	Analog	0.10	3
1	Ho		630,417.17	3.33	106.5	Pulse	0.10	3
1	Bi		4,066,628.06	2.59	106.3	Pulse	0.10	3
2	Sc		186,139.84	0.37	102.3	Pulse	0.30	3
2	Ge		109,605.11	0.69	102.0	Pulse	0.30	3
2	Ge		165,660.34	0.66	102.0	Pulse	0.30	3
2	Rh		2,828,380.10	1.17	102.6	Pulse	0.30	3
2	In		1,079,007.25	0.90	103.1	Pulse	0.30	3
2	Tb		3,813,745.40	0.98	102.8	Pulse	0.30	3
2	Ho		388,102.03	1.06	103.7	Pulse	0.30	3
2	Bi		2,673,800.66	1.06	102.8	Pulse	0.30	3
3	Sc		312,213.99	0.85	104.9	Pulse	0.30	3
3	Ge		195,505.74	1.54	103.4	Pulse	0.30	3
3	Ge		293,767.55	1.01	103.2	Pulse	0.30	3
3	Rh		2,972,000.51	0.70	102.3	Pulse	0.30	3
3	Tb		5,328,776.04	0.74	108.4	Analog	0.30	3

Quantitation Report

File Name 029SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 12:13
Sample Name MP18784A-MB1CONF
Sample Type Sample
Comment
Prep Dilution 5.000
Auto Dilution N/A
Total Dilution 5.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.052	ug/l	44.82	73.33	4.483E-05	Pulse	0.25	3
B			1	-6.660	ug/l	-6.03	8,013.19	4.901E-03	Pulse	0.15	3
Ca			1	36.246	ug/l	7.76	19,562.25	6.548E-03	Pulse	0.10	3
Sr			1	0.243	ug/l	5.29	2,746.99	6.485E-04	Pulse	0.10	3
Mo			1	1.056	ug/l	3.45	1,666.82	3.935E-04	Pulse	0.10	3
Ag			1	0.022	ug/l	21.53	110.00	2.534E-05	Pulse	0.10	3
Sn			1	9.937	ug/l	2.20	27,050.98	6.230E-03	Pulse	0.10	3
Sb			1	-0.010	ug/l	-331.10	1,276.77	1.810E-04	Pulse	0.10	3
Ba			1	0.318	ug/l	36.81	443.36	6.291E-05	Pulse	0.10	3
Tl			1	0.069	ug/l	10.34	660.04	1.577E-04	Pulse	0.10	3
Pb			1	-1.530	ug/l	-1.71	696.72	1.666E-04	Pulse	0.10	3
Pb			1	-1.391	ug/l	-2.36	610.04	1.456E-04	Pulse	0.10	3
Pb			1	0.112	ug/l	11.68	2,860.24	6.833E-04	Pulse	0.10	3
Na			2	56.684	ug/l	3.98	27,717.25	1.504E-01	Pulse	0.30	3
Mg			2	10.322	ug/l	6.61	1,791.23	9.718E-03	Pulse	0.30	3
Al			2	-13.304	ug/l	-3.32	413.35	2.244E-03	Pulse	0.30	3
K			2	10.804	ug/l	24.05	10,460.04	5.676E-02	Pulse	0.30	3
Ca			2	35.257	ug/l	30.75	401.12	2.179E-03	Pulse	0.30	3
Ti			2	0.681	ug/l	35.53	22.22	1.203E-04	Pulse	0.30	3
V			2	0.313	ug/l	20.98	515.57	2.794E-03	Pulse	0.30	3
Cr			2	0.843	ug/l	2.38	1,594.54	8.653E-03	Pulse	0.30	3
Mn			2	0.249	ug/l	10.82	273.34	1.482E-03	Pulse	0.30	3
Fe			2	31.018	ug/l	0.32	20,995.72	1.139E-01	Pulse	0.30	3
Co			2	0.067	ug/l	37.40	156.61	8.527E-04	Pulse	0.30	3
Ni			2	0.368	ug/l	23.94	692.25	3.759E-03	Pulse	0.30	3
Cu			2	-0.591	ug/l	-6.35	2,678.03	1.453E-02	Pulse	0.30	3
Zn			2	5.513	ug/l	9.05	2,136.83	1.159E-02	Pulse	0.30	3
As			2	0.106	ug/l	35.13	27.67	1.504E-04	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.052	ug/l	62.26	24.33	2.273E-05	Pulse	0.30	3
Sn			2	10.074	ug/l	4.55	8,555.79	7.979E-03	Pulse	0.30	3
Se			3	-0.008	ug/l	-616.66	9.73	3.288E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,635,632.13	1.04	101.1	Pulse	0.10	3
1	Sc		2,987,248.39	1.36	106.0	Pulse	0.10	3
1	Ge		596,682.83	1.59	105.6	Pulse	0.10	3
1	Ge		833,092.04	1.85	105.4	Pulse	0.10	3
1	Rh		4,236,116.40	1.50	106.2	Pulse	0.10	3
1	In		4,342,700.22	1.92	107.9	Pulse	0.10	3
1	Tb		7,053,165.31	0.74	110.1	Analog	0.10	3
1	Ho		644,617.67	3.94	108.9	Pulse	0.10	3
1	Bi		4,184,399.00	2.12	109.4	Pulse	0.10	3
2	Sc		184,276.52	1.56	101.3	Pulse	0.30	3
2	Ge		109,253.30	0.66	101.7	Pulse	0.30	3
2	Ge		164,319.97	0.57	101.2	Pulse	0.30	3
2	Rh		2,848,707.94	0.65	103.4	Pulse	0.30	3
2	In		1,072,417.26	0.83	102.5	Pulse	0.30	3
2	Tb		3,812,564.71	0.81	102.8	Pulse	0.30	3
2	Ho		385,148.61	0.61	102.9	Pulse	0.30	3
2	Bi		2,692,044.06	1.06	103.5	Pulse	0.30	3
3	Sc		312,528.77	0.99	105.0	Pulse	0.30	3
3	Ge		195,674.89	0.55	103.5	Pulse	0.30	3
3	Ge		295,933.70	0.53	103.9	Pulse	0.30	3
3	Rh		2,983,133.21	0.49	102.7	Pulse	0.30	3
3	Tb		5,189,254.65	3.86	105.5	Mix	0.30	3

Quantitation Report

File Name	030SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File	
Method Path	
Acq Time	12/16/2019 12:18
Sample Name	MP18784A-B2CONF
Sample Type	Sample
Comment	
Prep Dilution	5.000
Auto Dilution	N/A
Total Dilution	5.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/17/2019 6:27
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	171.165	ug/l	0.47	185,404.57	1.144E-01	Pulse	0.25	3
B			1	157.580	ug/l	1.13	144,564.93	8.921E-02	Pulse	0.15	3
Ca			1	9019.607	ug/l	0.72	1,234,003.97	4.118E-01	Pulse	0.10	3
Sr			1	171.750	ug/l	0.26	1,244,520.66	2.944E-01	Pulse	0.10	3
Mo			1	174.376	ug/l	1.51	245,486.86	5.808E-02	Pulse	0.10	3
Ag			1	84.182	ug/l	0.55	311,568.37	7.141E-02	Pulse	0.10	3
Sn			1	182.535	ug/l	0.63	424,109.82	9.720E-02	Pulse	0.10	3
Sb			1	169.483	ug/l	1.97	489,153.17	6.833E-02	Pulse	0.10	3
Ba			1	161.327	ug/l	1.95	190,399.59	2.659E-02	Pulse	0.10	3
Tl			1	170.070	ug/l	0.74	1,282,348.97	3.125E-01	Pulse	0.10	3
Pb			1	174.635	ug/l	0.68	462,038.56	1.126E-01	Pulse	0.10	3
Pb			1	175.537	ug/l	1.08	406,151.40	9.896E-02	Pulse	0.10	3
Pb			1	173.962	ug/l	0.54	1,854,257.34	4.518E-01	Pulse	0.10	3
Na			2	8547.076	ug/l	0.37	2,043,260.27	1.106E+01	Pulse	0.30	3
Mg			2	8626.434	ug/l	0.24	977,110.03	5.290E+00	Pulse	0.30	3
Al			2	8498.272	ug/l	0.80	332,511.79	1.800E+00	Pulse	0.30	3
K			2	8841.990	ug/l	1.04	689,169.03	3.731E+00	Pulse	0.30	3
Ca			2	9381.672	ug/l	1.23	39,910.00	2.161E-01	Pulse	0.30	3
Ti			2	170.895	ug/l	1.84	5,292.02	2.865E-02	Pulse	0.30	3
V			2	169.960	ug/l	0.19	172,246.56	9.325E-01	Pulse	0.30	3
Cr			2	169.715	ug/l	0.97	220,864.96	1.196E+00	Pulse	0.30	3
Mn			2	170.171	ug/l	0.11	120,783.55	6.539E-01	Pulse	0.30	3
Fe			2	9044.314	ug/l	1.40	9,519,351.57	5.154E+01	Analog	0.30	3
Co			2	170.234	ug/l	0.70	351,407.43	1.902E+00	Pulse	0.30	3
Ni			2	168.545	ug/l	0.77	93,380.13	5.055E-01	Pulse	0.30	3
Cu			2	169.798	ug/l	0.22	255,469.56	1.383E+00	Pulse	0.30	3
Zn			2	168.000	ug/l	0.84	39,923.07	2.161E-01	Pulse	0.30	3
As			2	170.395	ug/l	0.42	20,134.40	1.090E-01	Pulse	1.00	3
Cd			2	160.848	ug/l	2.01	59,288.64	5.566E-02	Pulse	0.30	3
Sn			2	182.143	ug/l	0.54	131,854.36	1.238E-01	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	422.406	ug/l	0.93	17,329.94	5.890E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,620,484.27	0.21	100.2	Pulse	0.10	3
1	Sc		2,996,431.10	1.25	106.3	Pulse	0.10	3
1	Ge		603,994.95	1.09	106.9	Pulse	0.10	3
1	Ge		840,733.66	1.61	106.4	Pulse	0.10	3
1	Rh		4,226,924.63	1.50	105.9	Pulse	0.10	3
1	In		4,363,023.35	1.61	108.5	Pulse	0.10	3
1	Tb		7,159,131.77	0.69	111.7	Analog	0.10	3
1	Ho		652,303.38	2.30	110.2	Pulse	0.10	3
1	Bi		4,103,595.15	1.95	107.2	Pulse	0.10	3
2	Sc		184,719.89	0.32	101.5	Pulse	0.30	3
2	Ge		109,418.93	0.38	101.9	Pulse	0.30	3
2	Ge		164,623.18	0.72	101.3	Pulse	0.30	3
2	Rh		2,827,000.17	0.52	102.6	Pulse	0.30	3
2	In		1,065,278.42	0.43	101.8	Pulse	0.30	3
2	Tb		3,829,502.90	0.22	103.3	Pulse	0.30	3
2	Ho		386,796.44	0.70	103.4	Pulse	0.30	3
2	Bi		2,640,581.77	0.14	101.5	Pulse	0.30	3
3	Sc		312,958.87	0.27	105.1	Pulse	0.30	3
3	Ge		196,229.34	2.06	103.8	Pulse	0.30	3
3	Ge		294,254.04	1.26	103.3	Pulse	0.30	3
3	Rh		2,955,077.10	0.41	101.7	Pulse	0.30	3
3	Tb		5,220,196.60	3.62	106.2	Mix	0.30	3

Quantitation Report

File Name	031SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File	
Method Path	
Acq Time	12/16/2019 12:24
Sample Name	JC99739-1 4
Sample Type	Sample
Comment	
Prep Dilution	25.000
Auto Dilution	N/A
Total Dilution	25.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/17/2019 6:27
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	18.236	ug/l	7.96	4,140.56	2.448E-03	Pulse	0.25	3
B			1	206.956	ug/l	2.61	50,044.86	2.957E-02	Pulse	0.15	3
Ca			1	61445.136	ug/l	0.90	1,747,603.57	5.593E-01	Pulse	0.10	3
Sr			1	1158.808	ug/l	0.59	1,722,792.89	3.972E-01	Pulse	0.10	3
Mo			1	75.470	ug/l	3.04	21,965.78	5.066E-03	Pulse	0.10	3
Ag			1	0.280	ug/l	31.91	240.01	5.414E-05	Pulse	0.10	3
Sn			1	23.484	ug/l	1.89	15,348.09	3.468E-03	Pulse	0.10	3
Sb			1	-0.685	ug/l	-37.30	950.07	1.302E-04	Pulse	0.10	3
Ba			1	875.998	ug/l	2.56	210,841.73	2.888E-02	Pulse	0.10	3
Tl			1	0.362	ug/l	10.96	686.71	1.636E-04	Pulse	0.10	3
Pb			1	-3.401	ug/l	-4.66	2,977.10	7.087E-04	Pulse	0.10	3
Pb			1	-2.654	ug/l	-13.10	2,630.34	6.261E-04	Pulse	0.10	3
Pb			1	4.655	ug/l	3.30	11,792.36	2.809E-03	Pulse	0.10	3
Na			2	2036.910	ug/l	0.14	116,600.27	6.011E-01	Pulse	0.30	3
Mg			2	4285.709	ug/l	1.49	102,549.84	5.287E-01	Pulse	0.30	3
Al			2	77467.949	ug/l	0.67	635,802.32	3.278E+00	Pulse	0.30	3
K			2	613.356	ug/l	6.25	20,039.30	1.033E-01	Pulse	0.30	3
Ca			2	65783.163	ug/l	1.34	58,668.26	3.024E-01	Pulse	0.30	3
Ti			2	50.035	ug/l	11.53	326.67	1.683E-03	Pulse	0.30	3
V			2	215.211	ug/l	0.43	45,963.48	2.370E-01	Pulse	0.30	3
Cr			2	75.529	ug/l	1.33	21,124.69	1.089E-01	Pulse	0.30	3
Mn			2	68703.848	ug/l	0.19	10,233,211.82	5.276E+01	Analog	0.30	3
Fe			2	590798.125	ug/l	0.83	130,742,203.69	6.740E+02	Analog	0.30	3
Co			2	195.975	ug/l	1.27	84,980.49	4.381E-01	Pulse	0.30	3
Ni			2	321.280	ug/l	1.18	37,704.30	1.944E-01	Pulse	0.30	3
Cu			2	108.290	ug/l	1.78	37,482.64	1.932E-01	Pulse	0.30	3
Zn			2	817.645	ug/l	2.29	40,835.27	2.105E-01	Pulse	0.30	3
As			2	1734.292	ug/l	0.97	43,024.33	2.218E-01	Pulse	1.00	3
Cd			2	2.193	ug/l	7.72	172.64	1.567E-04	Pulse	0.30	3
Sn			2	24.439	ug/l	3.20	4,947.51	4.489E-03	Pulse	0.30	3
Se			3	14.517	ug/l	2.45	129.47	4.386E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,692,632.57	1.95	104.7	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		3,124,253.39	1.70	110.8	Pulse	0.10	3
1	Ge		627,167.39	1.91	111.0	Pulse	0.10	3
1	Ge		860,126.11	2.69	108.8	Pulse	0.10	3
1	Rh		4,337,555.25	2.18	108.7	Pulse	0.10	3
1	In		4,426,153.29	2.34	110.0	Pulse	0.10	3
1	Tb		7,300,963.23	0.41	113.9	Analog	0.10	3
1	Ho		683,973.14	3.06	115.6	Pulse	0.10	3
1	Bi		4,198,849.83	3.21	109.7	Pulse	0.10	3
2	Sc		193,972.65	0.60	106.6	Pulse	0.30	3
2	Ge		115,585.27	0.53	107.6	Pulse	0.30	3
2	Ge		170,587.62	0.92	105.0	Pulse	0.30	3
2	Rh		2,865,171.83	0.75	104.0	Pulse	0.30	3
2	In		1,102,091.90	0.91	105.3	Pulse	0.30	3
2	Tb		3,898,408.73	1.67	105.1	Pulse	0.30	3
2	Ho		411,854.83	1.84	110.1	Pulse	0.30	3
2	Bi		2,719,671.00	1.16	104.6	Pulse	0.30	3
3	Sc		314,670.01	0.50	105.7	Pulse	0.30	3
3	Ge		199,296.69	0.63	105.4	Pulse	0.30	3
3	Ge		295,224.55	0.41	103.7	Pulse	0.30	3
3	Rh		2,953,604.12	0.19	101.6	Pulse	0.30	3
3	Tb		5,225,448.40	3.12	106.3	Mix	0.30	3

Quantitation Report

File Name	032SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File	
Method Path	
Acq Time	12/16/2019 12:37
Sample Name	MP18781-MB1CONF
Sample Type	Sample
Comment	
Prep Dilution	2.000
Auto Dilution	N/A
Total Dilution	2.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/17/2019 6:27
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	-0.001	ug/l	-219.98	12.00	7.865E-06	Pulse	0.25	3
B			1	-2.299	ug/l	-6.68	8,171.03	5.369E-03	Pulse	0.15	3
Ca			1	9.848	ug/l	9.18	16,952.49	6.024E-03	Pulse	0.10	3
Sr			1	0.005	ug/l	73.76	1,023.40	2.558E-04	Pulse	0.10	3
Mo			1	0.061	ug/l	31.70	370.02	9.229E-05	Pulse	0.10	3
Ag			1	0.012	ug/l	65.78	136.67	3.305E-05	Pulse	0.10	3
Sn			1	0.062	ug/l	157.00	4,430.79	1.074E-03	Pulse	0.10	3
Sb			1	0.061	ug/l	6.26	1,750.17	2.465E-04	Pulse	0.10	3
Ba			1	0.034	ug/l	57.91	173.34	2.437E-05	Pulse	0.10	3
Tl			1	-0.001	ug/l	-95.40	96.67	2.439E-05	Pulse	0.10	3
Pb			1	-0.646	ug/l	-0.78	443.35	1.115E-04	Pulse	0.10	3
Pb			1	-0.597	ug/l	-1.57	356.68	8.960E-05	Pulse	0.10	3
Pb			1	-0.001	ug/l	-295.21	1,536.75	3.863E-04	Pulse	0.10	3
Na			2	11.901	ug/l	5.95	20,553.74	1.158E-01	Pulse	0.30	3
Mg			2	0.680	ug/l	43.92	786.69	4.434E-03	Pulse	0.30	3
Al			2	0.921	ug/l	77.66	983.38	5.540E-03	Pulse	0.30	3
K			2	2.997	ug/l	27.96	9,828.61	5.538E-02	Pulse	0.30	3
Ca			2	6.105	ug/l	77.93	305.56	1.722E-03	Pulse	0.30	3
Ti			2	0.195	ug/l	109.10	15.55	8.787E-05	Pulse	0.30	3
V			2	0.130	ug/l	15.06	507.79	2.861E-03	Pulse	0.30	3
Cr			2	0.518	ug/l	2.95	2,099.05	1.183E-02	Pulse	0.30	3
Mn			2	0.126	ug/l	39.18	307.78	1.733E-03	Pulse	0.30	3
Fe			2	13.936	ug/l	1.64	24,090.99	1.357E-01	Pulse	0.30	3
Co			2	0.004	ug/l	80.63	36.60	2.064E-04	Pulse	0.30	3
Ni			2	0.039	ug/l	113.69	523.35	2.950E-03	Pulse	0.30	3
Cu			2	-0.154	ug/l	-6.75	2,871.40	1.618E-02	Pulse	0.30	3
Zn			2	0.038	ug/l	180.07	846.70	4.771E-03	Pulse	0.30	3
As			2	0.050	ug/l	61.28	28.67	1.617E-04	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	-0.001	ug/l	-1118.26	4.42	4.249E-06	Pulse	0.30	3
Sn			2	0.147	ug/l	18.28	1,492.31	1.447E-03	Pulse	0.30	3
Se			3	-0.017	ug/l	-38.58	8.40	2.817E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,521,925.93	0.82	94.1	Pulse	0.10	3
1	Sc		2,813,702.56	1.53	99.8	Pulse	0.10	3
1	Ge		576,908.87	2.06	102.1	Pulse	0.10	3
1	Ge		801,820.14	2.84	101.5	Pulse	0.10	3
1	Rh		4,001,627.23	1.80	100.3	Pulse	0.10	3
1	In		4,119,936.90	1.86	102.4	Pulse	0.10	3
1	Tb		7,100,825.10	1.01	110.8	Analog	0.10	3
1	Ho		623,757.83	2.95	105.4	Pulse	0.10	3
1	Bi		3,978,402.55	2.46	104.0	Pulse	0.10	3
2	Sc		177,466.11	0.40	97.5	Pulse	0.30	3
2	Ge		106,795.26	1.53	99.4	Pulse	0.30	3
2	Ge		161,318.28	1.46	99.3	Pulse	0.30	3
2	Rh		2,732,281.35	1.47	99.1	Pulse	0.30	3
2	In		1,031,175.33	0.89	98.5	Pulse	0.30	3
2	Tb		3,701,710.69	1.41	99.8	Pulse	0.30	3
2	Ho		377,140.06	1.25	100.8	Pulse	0.30	3
2	Bi		2,586,592.74	0.91	99.4	Pulse	0.30	3
3	Sc		316,554.62	1.04	106.3	Pulse	0.30	3
3	Ge		198,106.28	0.80	104.8	Pulse	0.30	3
3	Ge		298,110.86	0.65	104.7	Pulse	0.30	3
3	Rh		2,979,336.13	0.27	102.5	Pulse	0.30	3
3	Tb		5,190,307.15	3.80	105.6	Mix	0.30	3

Quantitation Report

File Name 033SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 12:42
Sample Name MP18781-B2CONF
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	76.817	ug/l	1.76	198,244.51	1.284E-01	Pulse	0.25	3
B			1	78.684	ug/l	0.86	168,798.56	1.093E-01	Pulse	0.15	3
Ca			1	4122.104	ug/l	0.53	1,361,350.92	4.698E-01	Pulse	0.10	3
Sr			1	78.716	ug/l	0.43	1,379,615.08	3.373E-01	Pulse	0.10	3
Mo			1	79.522	ug/l	0.58	270,831.22	6.622E-02	Pulse	0.10	3
Ag			1	77.030	ug/l	0.68	690,380.85	1.633E-01	Pulse	0.10	3
Sn			1	78.158	ug/l	0.32	439,471.69	1.040E-01	Pulse	0.10	3
Sb			1	73.426	ug/l	1.02	524,638.55	7.399E-02	Pulse	0.10	3
Ba			1	72.378	ug/l	1.36	211,509.48	2.983E-02	Pulse	0.10	3
Tl			1	77.807	ug/l	0.31	1,453,181.80	3.574E-01	Pulse	0.10	3
Pb			1	80.425	ug/l	0.09	526,378.77	1.295E-01	Pulse	0.10	3
Pb			1	80.037	ug/l	0.32	458,155.03	1.127E-01	Pulse	0.10	3
Pb			1	79.693	ug/l	0.10	2,103,852.87	5.174E-01	Pulse	0.10	3
Na			2	3935.405	ug/l	1.08	2,251,657.69	1.272E+01	Pulse	0.30	3
Mg			2	3969.093	ug/l	0.32	1,076,896.79	6.084E+00	Pulse	0.30	3
Al			2	3847.402	ug/l	0.04	360,507.01	2.037E+00	Pulse	0.30	3
K			2	4012.893	ug/l	0.64	748,038.32	4.226E+00	Pulse	0.30	3
Ca			2	4262.557	ug/l	1.94	43,405.38	2.452E-01	Pulse	0.30	3
Ti			2	77.946	ug/l	0.55	5,782.18	3.267E-02	Pulse	0.30	3
V			2	78.273	ug/l	0.49	190,000.89	1.073E+00	Pulse	0.30	3
Cr			2	77.746	ug/l	0.36	242,304.70	1.369E+00	Pulse	0.30	3
Mn			2	77.127	ug/l	0.57	131,127.77	7.408E-01	Pulse	0.30	3
Fe			2	4163.044	ug/l	0.55	10,498,615.97	5.931E+01	Analog	0.30	3
Co			2	77.818	ug/l	0.24	384,813.82	2.174E+00	Pulse	0.30	3
Ni			2	76.508	ug/l	0.73	101,481.71	5.733E-01	Pulse	0.30	3
Cu			2	77.574	ug/l	1.78	279,107.84	1.577E+00	Pulse	0.30	3
Zn			2	68.173	ug/l	1.44	38,797.10	2.192E-01	Pulse	0.30	3
As			2	71.902	ug/l	0.22	20,352.32	1.150E-01	Pulse	1.00	3
Cd			2	71.750	ug/l	1.77	63,560.85	6.207E-02	Pulse	0.30	3
Sn			2	79.011	ug/l	0.36	137,360.23	1.341E-01	Pulse	0.30	3
Se			3	338.323	ug/l	0.85	34,996.28	1.179E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,544,450.70	0.58	95.5	Pulse	0.10	3
1	Sc		2,897,367.98	1.55	102.8	Pulse	0.10	3
1	Ge		592,244.17	1.62	104.9	Pulse	0.10	3

Quantitation Report

1	Ge		827,015.38	2.14	104.6	Pulse	0.10	3
1	Rh		4,089,893.48	1.53	102.5	Pulse	0.10	3
1	In		4,226,777.41	2.22	105.1	Pulse	0.10	3
1	Tb		7,090,588.64	1.13	110.7	Analog	0.10	3
1	Ho		651,726.45	3.24	110.1	Pulse	0.10	3
1	Bi		4,066,074.83	2.35	106.3	Pulse	0.10	3
2	Sc		177,002.49	0.18	97.3	Pulse	0.30	3
2	Ge		106,400.18	1.32	99.1	Pulse	0.30	3
2	Ge		160,296.48	0.51	98.7	Pulse	0.30	3
2	Rh		2,736,184.13	0.91	99.3	Pulse	0.30	3
2	In		1,024,089.93	0.31	97.8	Pulse	0.30	3
2	Tb		3,769,159.99	0.54	101.6	Pulse	0.30	3
2	Ho		381,831.95	0.91	102.0	Pulse	0.30	3
2	Bi		2,576,340.25	1.15	99.1	Pulse	0.30	3
3	Sc		316,402.48	0.54	106.3	Pulse	0.30	3
3	Ge		196,217.38	0.79	103.8	Pulse	0.30	3
3	Ge		296,837.63	0.77	104.2	Pulse	0.30	3
3	Rh		2,954,976.55	0.11	101.7	Pulse	0.30	3
3	Tb		5,378,707.14	0.66	109.4	Analog	0.30	3

Quantitation Report

File Name	034_CCV.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File	
Method Path	
Acq Time	12/16/2019 12:47
Sample Name	CCVA 5
Sample Type	CCV
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/17/2019 6:27
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	52.986	ug/l	1.07	286,919.02	1.771E-01	Pulse	0.25	3
B			1	104.457	ug/l	0.58	447,875.40	2.764E-01	Pulse	0.15	3
Ca			1	5193.919	ug/l	0.34	3,610,967.55	1.177E+00	Pulse	0.10	3
Sr			1	53.252	ug/l	1.09	1,934,549.92	4.563E-01	Pulse	0.10	3
Mo			1	53.160	ug/l	0.58	375,298.19	8.852E-02	Pulse	0.10	3
Ag			1	52.081	ug/l	0.49	967,333.76	2.209E-01	Pulse	0.10	3
Sn			1	52.043	ug/l	0.29	605,020.51	1.381E-01	Pulse	0.10	3
Sb			1	50.919	ug/l	2.44	738,542.83	1.025E-01	Pulse	0.10	3
Ba			1	49.819	ug/l	2.48	295,688.95	4.106E-02	Pulse	0.10	3
Tl			1	52.309	ug/l	0.10	1,979,299.45	4.805E-01	Pulse	0.10	3
Pb			1	52.221	ug/l	0.85	691,133.92	1.678E-01	Pulse	0.10	3
Pb			1	52.394	ug/l	0.68	606,529.01	1.472E-01	Pulse	0.10	3
Pb			1	51.933	ug/l	0.50	2,777,347.29	6.742E-01	Pulse	0.10	3
Na			2	5251.330	ug/l	1.54	6,353,958.08	3.382E+01	Analog	0.30	3
Mg			2	5034.710	ug/l	0.73	2,898,987.25	1.543E+01	Pulse	0.30	3
Al			2	4971.817	ug/l	0.31	987,513.92	5.256E+00	Pulse	0.30	3
K			2	5146.444	ug/l	0.52	2,021,272.97	1.076E+01	Pulse	0.30	3
Ca			2	5260.327	ug/l	0.24	113,342.07	6.032E-01	Pulse	0.30	3
Ti			2	50.705	ug/l	1.94	7,985.35	4.250E-02	Pulse	0.30	3
V			2	52.273	ug/l	0.88	269,305.54	1.433E+00	Pulse	0.30	3
Cr			2	51.748	ug/l	0.29	342,220.48	1.821E+00	Pulse	0.30	3
Mn			2	51.783	ug/l	0.32	186,869.10	9.946E-01	Pulse	0.30	3
Fe			2	5223.181	ug/l	0.54	27,982,481.11	1.489E+02	Analog	0.30	3
Co			2	51.549	ug/l	0.87	541,152.41	2.880E+00	Pulse	0.30	3
Ni			2	50.588	ug/l	0.92	142,286.62	7.573E-01	Pulse	0.30	3
Cu			2	51.366	ug/l	1.27	391,161.76	2.082E+00	Pulse	0.30	3
Zn			2	50.801	ug/l	0.84	60,947.22	3.244E-01	Pulse	0.30	3
As			2	51.737	ug/l	1.40	31,081.45	1.654E-01	Pulse	1.00	3
Cd			2	49.494	ug/l	0.71	91,521.08	8.563E-02	Pulse	0.30	3
Sn			2	52.178	ug/l	0.52	188,938.67	1.768E-01	Pulse	0.30	3
Se			3	200.810	ug/l	0.15	41,467.45	1.400E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,620,255.24	0.55	100.2	Pulse	0.10	3
1	Sc		3,069,210.89	0.64	108.9	Pulse	0.10	3
1	Ge		612,941.68	1.21	108.5	Pulse	0.10	3

Quantitation Report

1	Ge		853,976.29	1.15	108.1	Pulse	0.10	3
1	Rh		4,240,133.48	1.71	106.3	Pulse	0.10	3
1	In		4,379,638.78	2.15	108.9	Pulse	0.10	3
1	Tb		7,201,724.27	0.23	112.4	Analog	0.10	3
1	Ho		665,042.28	2.85	112.4	Pulse	0.10	3
1	Bi		4,119,062.33	2.27	107.6	Pulse	0.10	3
2	Sc		187,886.36	0.61	103.3	Pulse	0.30	3
2	Ge		111,078.45	0.26	103.4	Pulse	0.30	3
2	Ge		167,033.95	0.68	102.8	Pulse	0.30	3
2	Rh		2,812,533.43	0.14	102.1	Pulse	0.30	3
2	In		1,068,838.65	0.24	102.1	Pulse	0.30	3
2	Tb		3,870,381.10	0.20	104.4	Pulse	0.30	3
2	Ho		393,663.19	0.69	105.2	Pulse	0.30	3
2	Bi		2,645,648.23	0.76	101.7	Pulse	0.30	3
3	Sc		314,977.36	0.87	105.8	Pulse	0.30	3
3	Ge		194,444.21	0.76	102.8	Pulse	0.30	3
3	Ge		296,293.79	0.23	104.0	Pulse	0.30	3
3	Rh		2,935,120.65	0.45	101.0	Pulse	0.30	3
3	Tb		5,370,186.04	0.34	109.2	Analog	0.30	3

Quantitation Report

File Name	035_CCB.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File	
Method Path	
Acq Time	12/16/2019 12:52
Sample Name	CCB
Sample Type	CCB
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/17/2019 6:27
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.006	ug/l	41.71	46.67	2.868E-05	Pulse	0.25	3
B			1	0.435	ug/l	32.24	15,342.73	9.436E-03	Pulse	0.15	3
Ca			1	-3.895	ug/l	-1.55	12,188.18	4.035E-03	Pulse	0.10	3
Sr			1	-0.010	ug/l	-22.85	610.04	1.431E-04	Pulse	0.10	3
Mo			1	0.105	ug/l	9.88	923.40	2.167E-04	Pulse	0.10	3
Ag			1	0.011	ug/l	8.86	233.34	5.361E-05	Pulse	0.10	3
Sn			1	0.017	ug/l	160.63	4,520.83	1.039E-03	Pulse	0.10	3
Sb			1	0.208	ug/l	5.51	4,350.77	6.028E-04	Pulse	0.10	3
Ba			1	0.001	ug/l	279.96	83.34	1.153E-05	Pulse	0.10	3
Tl			1	0.011	ug/l	23.66	543.37	1.312E-04	Pulse	0.10	3
Pb			1	-0.325	ug/l	-1.77	443.36	1.073E-04	Pulse	0.10	3
Pb			1	-0.295	ug/l	-1.46	413.36	1.001E-04	Pulse	0.10	3
Pb			1	0.000	ug/l	-1154.42	1,620.10	3.918E-04	Pulse	0.10	3
Na			2	0.343	ug/l	124.18	14,766.56	7.979E-02	Pulse	0.30	3
Mg			2	-0.388	ug/l	-15.37	407.79	2.204E-03	Pulse	0.30	3
Al			2	-2.875	ug/l	-8.16	373.34	2.018E-03	Pulse	0.30	3
K			2	-0.525	ug/l	-107.66	9,470.56	5.117E-02	Pulse	0.30	3
Ca			2	-6.903	ug/l	-8.73	107.78	5.824E-04	Pulse	0.30	3
Ti			2	0.029	ug/l	156.54	5.55	2.998E-05	Pulse	0.30	3
V			2	0.000	ug/l	-1729.44	198.89	1.075E-03	Pulse	0.30	3
Cr			2	0.014	ug/l	16.43	598.91	3.236E-03	Pulse	0.30	3
Mn			2	-0.002	ug/l	-212.47	91.11	4.922E-04	Pulse	0.30	3
Fe			2	5.455	ug/l	0.46	17,135.70	9.259E-02	Pulse	0.30	3
Co			2	0.004	ug/l	45.14	63.28	3.418E-04	Pulse	0.30	3
Ni			2	0.002	ug/l	1288.44	497.79	2.690E-03	Pulse	0.30	3
Cu			2	-0.248	ug/l	-3.26	1,723.44	9.313E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Zn			2	-0.263	ug/l	-12.54	554.46	2.996E-03	Pulse	0.30	3
As			2	-0.003	ug/l	-133.28	13.33	7.207E-05	Pulse	1.00	3
Cd			2	0.007	ug/l	81.87	17.66	1.665E-05	Pulse	0.30	3
Sn			2	0.120	ug/l	12.61	1,701.22	1.604E-03	Pulse	0.30	3
Se			3	0.084	ug/l	8.56	27.33	9.245E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,625,913.74	0.41	100.5	Pulse	0.10	3
1	Sc		3,021,080.79	1.74	107.2	Pulse	0.10	3
1	Ge		606,929.24	2.35	107.5	Pulse	0.10	3
1	Ge		846,544.88	2.20	107.1	Pulse	0.10	3
1	Rh		4,257,230.46	1.85	106.7	Pulse	0.10	3
1	In		4,350,546.22	2.18	108.1	Pulse	0.10	3
1	Tb		7,219,422.39	1.14	112.7	Analog	0.10	3
1	Ho		645,275.14	2.08	109.1	Pulse	0.10	3
1	Bi		4,133,674.00	2.53	108.0	Pulse	0.10	3
2	Sc		185,065.94	0.26	101.7	Pulse	0.30	3
2	Ge		109,948.95	0.45	102.4	Pulse	0.30	3
2	Ge		164,971.12	0.96	101.6	Pulse	0.30	3
2	Rh		2,829,744.26	0.23	102.7	Pulse	0.30	3
2	In		1,060,719.09	0.16	101.3	Pulse	0.30	3
2	Tb		3,777,337.35	0.76	101.9	Pulse	0.30	3
2	Ho		381,974.75	1.29	102.1	Pulse	0.30	3
2	Bi		2,641,439.20	0.57	101.6	Pulse	0.30	3
3	Sc		312,883.22	0.57	105.1	Pulse	0.30	3
3	Ge		194,381.15	0.90	102.8	Pulse	0.30	3
3	Ge		295,695.42	0.32	103.8	Pulse	0.30	3
3	Rh		3,011,764.12	0.75	103.6	Pulse	0.30	3
3	Tb		5,298,476.18	0.60	107.8	Analog	0.30	3

Quantitation Report

File Name 036SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 12:57
Sample Name JC99822-2 5
Sample Type Sample
Comment
Prep Dilution 50.000
Auto Dilution N/A
Total Dilution 50.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.077	ug/l	96.09	25.33	1.506E-05	Pulse	0.25	3
B			1	-16.517	ug/l	-25.87	12,573.78	7.471E-03	Pulse	0.15	3
Ca			1	25877.964	ug/l	1.25	376,516.84	1.217E-01	Pulse	0.10	3
Sr			1	177.525	ug/l	0.17	131,806.85	3.064E-02	Pulse	0.10	3
Mo			1	3.216	ug/l	13.34	640.04	1.489E-04	Pulse	0.10	3
Ag			1	0.196	ug/l	42.75	103.34	2.325E-05	Pulse	0.10	3
Sn			1	-11.177	ug/l	-5.36	1,793.51	4.037E-04	Pulse	0.10	3
Sb			1	0.541	ug/l	68.70	1,493.47	2.070E-04	Pulse	0.10	3
Ba			1	22.154	ug/l	10.11	2,710.34	3.756E-04	Pulse	0.10	3
Tl			1	4.204	ug/l	5.37	3,323.84	8.028E-04	Pulse	0.10	3
Pb			1	-10.594	ug/l	-6.94	1,930.20	4.667E-04	Pulse	0.10	3
Pb			1	-9.942	ug/l	-10.33	1,520.14	3.673E-04	Pulse	0.10	3
Pb			1	5.374	ug/l	10.52	7,397.70	1.788E-03	Pulse	0.10	3
Na			2	6234.224	ug/l	1.00	169,273.24	8.788E-01	Pulse	0.30	3
Mg			2	2936.643	ug/l	0.52	35,321.32	1.834E-01	Pulse	0.30	3
Al			2	-185.946	ug/l	-4.60	216.67	1.126E-03	Pulse	0.30	3
K			2	3738.758	ug/l	2.53	40,032.32	2.078E-01	Pulse	0.30	3
Ca			2	26256.191	ug/l	0.86	11,838.76	6.146E-02	Pulse	0.30	3
Ti			2	3.789	ug/l	83.71	13.33	6.959E-05	Pulse	0.30	3
V			2	-1.141	ug/l	-10.50	87.78	4.557E-04	Pulse	0.30	3
Cr			2	-1.710	ug/l	-18.79	294.45	1.528E-03	Pulse	0.30	3
Mn			2	2167.053	ug/l	0.98	160,371.06	8.325E-01	Pulse	0.30	3
Fe			2	37948.980	ug/l	0.49	4,158,516.64	2.159E+01	Pulse	0.30	3
Co			2	13.703	ug/l	2.63	2,969.08	1.542E-02	Pulse	0.30	3
Ni			2	5.791	ug/l	15.20	845.59	4.387E-03	Pulse	0.30	3
Cu			2	-13.457	ug/l	-2.71	1,631.21	8.470E-03	Pulse	0.30	3
Zn			2	12.333	ug/l	7.88	1,195.62	6.205E-03	Pulse	0.30	3
As			2	3321.366	ug/l	0.44	40,916.30	2.124E-01	Pulse	1.00	3
Cd			2	-0.056	ug/l	-158.94	3.28	2.987E-06	Pulse	0.30	3
Sn			2	-10.683	ug/l	-8.79	528.90	4.806E-04	Pulse	0.30	3
Se			3	1.895	ug/l	24.66	17.67	6.037E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,683,307.72	1.09	104.1	Pulse	0.10	3
1	Sc		3,094,829.64	1.18	109.8	Pulse	0.10	3
1	Ge		620,304.18	1.73	109.8	Pulse	0.10	3

Quantitation Report

1	Ge		864,039.15	1.82	109.3	Pulse	0.10	3
1	Rh		4,301,708.90	1.87	107.8	Pulse	0.10	3
1	In		4,441,177.36	1.66	110.4	Pulse	0.10	3
1	Tb		7,215,361.97	0.31	112.6	Analog	0.10	3
1	Ho		644,927.06	2.37	109.0	Pulse	0.10	3
1	Bi		4,140,775.14	2.10	108.2	Pulse	0.10	3
2	Sc		192,650.41	1.88	105.9	Pulse	0.30	3
2	Ge		114,802.78	0.89	106.9	Pulse	0.30	3
2	Ge		173,460.78	1.22	106.8	Pulse	0.30	3
2	Rh		2,880,679.68	1.23	104.5	Pulse	0.30	3
2	In		1,100,699.18	0.63	105.2	Pulse	0.30	3
2	Tb		3,846,231.24	0.68	103.7	Pulse	0.30	3
2	Ho		389,125.71	0.62	104.0	Pulse	0.30	3
2	Bi		2,714,221.97	0.81	104.4	Pulse	0.30	3
3	Sc		304,837.53	0.61	102.4	Pulse	0.30	3
3	Ge		193,636.73	0.90	102.4	Pulse	0.30	3
3	Ge		292,565.70	0.49	102.7	Pulse	0.30	3
3	Rh		2,958,634.74	0.38	101.8	Pulse	0.30	3
3	Tb		5,325,389.23	0.84	108.3	Analog	0.30	3

Quantitation Report

File Name 037SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 13:02
Sample Name MDL-LOQEPACONF
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.001	ug/l	265.57	20.00	1.235E-05	Pulse	0.25	3
B			1	-1.178	ug/l	-2.80	8,573.51	5.296E-03	Pulse	0.15	3
Ca			1	3.761	ug/l	16.23	17,152.73	5.762E-03	Pulse	0.10	3
Sr			1	0.016	ug/l	30.50	1,566.80	3.699E-04	Pulse	0.10	3
Mo			1	0.025	ug/l	76.11	356.68	8.398E-05	Pulse	0.10	3
Ag			1	0.646	ug/l	2.62	11,918.19	2.747E-03	Pulse	0.10	3
Sn			1	9.282	ug/l	0.93	110,430.15	2.545E-02	Pulse	0.10	3
Sb			1	0.020	ug/l	45.38	1,596.81	2.247E-04	Pulse	0.10	3
Ba			1	0.017	ug/l	52.50	176.68	2.482E-05	Pulse	0.10	3
Tl			1	0.001	ug/l	28.33	166.68	4.079E-05	Pulse	0.10	3
Pb			1	-0.330	ug/l	-1.05	366.69	8.985E-05	Pulse	0.10	3
Pb			1	-0.303	ug/l	-1.73	313.35	7.653E-05	Pulse	0.10	3
Pb			1	-0.001	ug/l	-78.79	1,530.10	3.749E-04	Pulse	0.10	3
Na			2	5.596	ug/l	4.06	20,761.72	1.135E-01	Pulse	0.30	3
Mg			2	0.529	ug/l	17.03	916.71	5.014E-03	Pulse	0.30	3
Al			2	-1.377	ug/l	-36.00	657.80	3.600E-03	Pulse	0.30	3
K			2	0.222	ug/l	284.48	9,641.76	5.272E-02	Pulse	0.30	3
Ca			2	2.416	ug/l	141.29	301.12	1.649E-03	Pulse	0.30	3
Ti			2	0.036	ug/l	103.98	6.67	3.645E-05	Pulse	0.30	3
V			2	-0.011	ug/l	-46.31	144.45	7.892E-04	Pulse	0.30	3
Cr			2	0.016	ug/l	23.35	603.35	3.300E-03	Pulse	0.30	3
Mn			2	0.017	ug/l	18.58	155.56	8.509E-04	Pulse	0.30	3
Fe			2	6.450	ug/l	0.90	22,123.83	1.210E-01	Pulse	0.30	3
Co			2	0.002	ug/l	46.25	37.72	2.065E-04	Pulse	0.30	3
Ni			2	-0.010	ug/l	-44.85	460.01	2.516E-03	Pulse	0.30	3
Cu			2	0.348	ug/l	3.52	6,080.09	3.325E-02	Pulse	0.30	3
Zn			2	0.635	ug/l	21.71	1,581.21	8.651E-03	Pulse	0.30	3
As			2	0.046	ug/l	46.32	42.00	2.300E-04	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	-0.002	ug/l	-64.49	2.19	2.079E-06	Pulse	0.30	3
Sn			2	9.380	ug/l	1.89	34,514.53	3.276E-02	Pulse	0.30	3
Se			3	-0.003	ug/l	-208.77	9.33	3.182E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,618,681.56	1.35	100.1	Pulse	0.10	3
1	Sc		2,977,574.44	1.14	105.6	Pulse	0.10	3
1	Ge		603,006.53	1.59	106.8	Pulse	0.10	3
1	Ge		837,282.51	1.57	105.9	Pulse	0.10	3
1	Rh		4,230,676.39	1.61	106.0	Pulse	0.10	3
1	In		4,338,648.87	2.07	107.8	Pulse	0.10	3
1	Tb		7,102,485.52	1.35	110.8	Analog	0.10	3
1	Ho		638,294.04	1.51	107.9	Pulse	0.10	3
1	Bi		4,082,395.88	2.39	106.7	Pulse	0.10	3
2	Sc		182,866.22	0.79	100.5	Pulse	0.30	3
2	Ge		108,806.75	0.13	101.3	Pulse	0.30	3
2	Ge		164,346.10	0.44	101.2	Pulse	0.30	3
2	Rh		2,809,816.70	0.76	102.0	Pulse	0.30	3
2	In		1,053,617.87	0.83	100.7	Pulse	0.30	3
2	Tb		3,737,582.91	0.46	100.8	Pulse	0.30	3
2	Ho		378,816.99	0.47	101.2	Pulse	0.30	3
2	Bi		2,627,411.42	0.44	101.0	Pulse	0.30	3
3	Sc		310,833.99	0.82	104.4	Pulse	0.30	3
3	Ge		193,283.13	0.20	102.2	Pulse	0.30	3
3	Ge		293,202.46	0.35	103.0	Pulse	0.30	3
3	Rh		3,000,484.60	0.57	103.3	Pulse	0.30	3
3	Tb		5,098,297.99	3.91	103.7	Mix	0.30	3

Quantitation Report

File Name	038SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File	
Method Path	
Acq Time	12/16/2019 13:07
Sample Name	MDL-EPAMB1CONF
Sample Type	Sample
Comment	
Prep Dilution	1.000
Auto Dilution	N/A
Total Dilution	1.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/17/2019 6:27
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.000	ug/l	484.32	17.33	1.069E-05	Pulse	0.25	3
B			1	-1.323	ug/l	-7.90	7,988.73	4.925E-03	Pulse	0.15	3
Ca			1	16.064	ug/l	1.05	25,500.32	8.537E-03	Pulse	0.10	3
Sr			1	0.013	ug/l	10.67	1,436.79	3.407E-04	Pulse	0.10	3
Mo			1	0.076	ug/l	12.88	710.05	1.683E-04	Pulse	0.10	3
Ag			1	0.009	ug/l	32.35	190.01	4.427E-05	Pulse	0.10	3
Sn			1	-0.106	ug/l	-16.39	3,063.74	7.134E-04	Pulse	0.10	3
Sb			1	0.016	ug/l	46.02	1,530.13	2.176E-04	Pulse	0.10	3
Ba			1	0.025	ug/l	34.91	220.01	3.131E-05	Pulse	0.10	3
Tl			1	1.166	ug/l	0.71	43,578.45	1.074E-02	Pulse	0.10	3
Pb			1	-0.328	ug/l	-1.29	393.35	9.688E-05	Pulse	0.10	3
Pb			1	-0.299	ug/l	-1.43	353.35	8.713E-05	Pulse	0.10	3
Pb			1	-0.002	ug/l	-131.73	1,500.09	3.697E-04	Pulse	0.10	3
Na			2	5.097	ug/l	13.97	20,236.68	1.103E-01	Pulse	0.30	3
Mg			2	0.447	ug/l	37.72	873.37	4.764E-03	Pulse	0.30	3
Al			2	-3.833	ug/l	-1.71	184.45	1.006E-03	Pulse	0.30	3
K			2	-0.615	ug/l	-97.57	9,352.71	5.098E-02	Pulse	0.30	3
Ca			2	13.899	ug/l	9.43	543.35	2.963E-03	Pulse	0.30	3
Ti			2	0.058	ug/l	37.75	10.00	5.456E-05	Pulse	0.30	3
V			2	-0.006	ug/l	-141.45	170.00	9.255E-04	Pulse	0.30	3
Cr			2	0.017	ug/l	67.42	612.24	3.339E-03	Pulse	0.30	3
Mn			2	0.012	ug/l	66.26	137.78	7.512E-04	Pulse	0.30	3
Fe			2	4.499	ug/l	3.16	11,976.75	6.531E-02	Pulse	0.30	3
Co			2	0.002	ug/l	63.43	44.41	2.417E-04	Pulse	0.30	3
Ni			2	0.000	ug/l	-14761.87	487.79	2.657E-03	Pulse	0.30	3
Cu			2	-0.229	ug/l	-0.70	1,852.35	1.010E-02	Pulse	0.30	3
Zn			2	0.071	ug/l	68.01	935.59	5.101E-03	Pulse	0.30	3
As			2	0.028	ug/l	26.47	31.67	1.725E-04	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	0.000	ug/l	-689.52	4.39	4.202E-06	Pulse	0.30	3
Sn			2	-0.071	ug/l	-26.22	1,005.60	9.602E-04	Pulse	0.30	3
Se			3	0.019	ug/l	41.20	13.73	4.707E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,622,545.54	0.70	100.3	Pulse	0.10	3
1	Sc		2,987,001.62	1.40	106.0	Pulse	0.10	3
1	Ge		596,669.18	1.68	105.6	Pulse	0.10	3
1	Ge		834,260.61	1.27	105.6	Pulse	0.10	3
1	Rh		4,216,817.86	1.30	105.7	Pulse	0.10	3
1	In		4,293,253.02	0.90	106.7	Pulse	0.10	3
1	Tb		7,031,644.48	0.47	109.7	Analog	0.10	3
1	Ho		635,236.07	2.15	107.4	Pulse	0.10	3
1	Bi		4,058,033.48	0.81	106.1	Pulse	0.10	3
2	Sc		183,450.45	0.84	100.8	Pulse	0.30	3
2	Ge		107,285.07	0.38	99.9	Pulse	0.30	3
2	Ge		163,381.81	0.25	100.6	Pulse	0.30	3
2	Rh		2,799,160.30	0.30	101.6	Pulse	0.30	3
2	In		1,047,081.65	0.34	100.0	Pulse	0.30	3
2	Tb		3,743,275.54	0.20	100.9	Pulse	0.30	3
2	Ho		377,850.49	0.82	101.0	Pulse	0.30	3
2	Bi		2,612,471.91	0.18	100.4	Pulse	0.30	3
3	Sc		308,371.45	0.37	103.6	Pulse	0.30	3
3	Ge		192,528.41	0.86	101.8	Pulse	0.30	3
3	Ge		291,682.18	0.52	102.4	Pulse	0.30	3
3	Rh		2,975,832.80	0.53	102.4	Pulse	0.30	3
3	Tb		5,275,555.07	0.94	107.3	Analog	0.30	3

Quantitation Report

File Name 039SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 13:13
Sample Name MDL-AQMB1CONF
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.001	ug/l	212.35	20.00	1.222E-05	Pulse	0.25	3
B			1	-3.148	ug/l	-7.53	7,008.27	4.280E-03	Pulse	0.15	3
Ca			1	-9.222	ug/l	-9.42	11,797.91	3.873E-03	Pulse	0.10	3
Sr			1	-0.024	ug/l	-4.57	556.70	1.304E-04	Pulse	0.10	3
Mo			1	0.069	ug/l	28.25	423.36	9.897E-05	Pulse	0.10	3
Ag			1	0.002	ug/l	38.98	43.33	9.998E-06	Pulse	0.10	3
Sn			1	-0.553	ug/l	-5.41	1,143.42	2.635E-04	Pulse	0.10	3
Sb			1	-0.036	ug/l	-17.20	1,056.75	1.490E-04	Pulse	0.10	3
Ba			1	0.022	ug/l	51.55	140.01	1.972E-05	Pulse	0.10	3
Tl			1	0.143	ug/l	6.69	2,800.37	6.872E-04	Pulse	0.10	3
Pb			1	-0.655	ug/l	-1.15	396.69	9.724E-05	Pulse	0.10	3
Pb			1	-0.598	ug/l	-1.73	353.35	8.693E-05	Pulse	0.10	3
Pb			1	-0.008	ug/l	-86.35	1,403.41	3.442E-04	Pulse	0.10	3
Na			2	-1.799	ug/l	-33.09	13,621.14	7.181E-02	Pulse	0.30	3
Mg			2	-0.930	ug/l	-18.37	373.34	1.969E-03	Pulse	0.30	3
Al			2	-8.251	ug/l	-1.02	132.23	6.970E-04	Pulse	0.30	3
K			2	-2.905	ug/l	-60.08	9,340.47	4.924E-02	Pulse	0.30	3
Ca			2	-10.064	ug/l	-21.50	151.11	7.965E-04	Pulse	0.30	3
Ti			2	0.083	ug/l	29.54	7.78	4.104E-05	Pulse	0.30	3
V			2	-0.032	ug/l	-46.93	121.11	6.388E-04	Pulse	0.30	3
Cr			2	-0.041	ug/l	-46.30	381.12	2.008E-03	Pulse	0.30	3
Mn			2	0.001	ug/l	361.46	101.11	5.330E-04	Pulse	0.30	3
Fe			2	6.905	ug/l	1.37	6,727.01	3.546E-02	Pulse	0.30	3
Co			2	0.002	ug/l	170.82	29.98	1.580E-04	Pulse	0.30	3
Ni			2	-0.043	ug/l	-78.76	443.35	2.337E-03	Pulse	0.30	3
Cu			2	-0.534	ug/l	-3.48	1,621.77	8.549E-03	Pulse	0.30	3
Zn			2	-0.533	ug/l	-19.20	564.46	2.976E-03	Pulse	0.30	3
As			2	0.030	ug/l	62.20	24.67	1.300E-04	Pulse	1.00	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Cd			2	-0.004	ug/l	-46.95	1.08	1.025E-06	Pulse	0.30	3
Sn			2	-0.511	ug/l	-2.46	362.23	3.403E-04	Pulse	0.30	3
Se			3	-0.007	ug/l	-166.55	9.13	3.146E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,637,967.60	0.48	101.3	Pulse	0.10	3
1	Sc		3,047,212.14	2.17	108.1	Pulse	0.10	3
1	Ge		610,309.02	2.64	108.1	Pulse	0.10	3
1	Ge		843,131.11	3.01	106.7	Pulse	0.10	3
1	Rh		4,265,032.96	2.77	106.9	Pulse	0.10	3
1	In		4,333,806.88	1.99	107.7	Pulse	0.10	3
1	Tb		7,091,954.69	0.92	110.7	Analog	0.10	3
1	Ho		631,931.34	2.48	106.8	Pulse	0.10	3
1	Bi		4,070,183.59	2.91	106.4	Pulse	0.10	3
2	Sc		189,701.03	0.41	104.2	Pulse	0.30	3
2	Ge		110,489.17	0.86	102.9	Pulse	0.30	3
2	Ge		167,810.88	0.41	103.3	Pulse	0.30	3
2	Rh		2,824,124.47	0.90	102.5	Pulse	0.30	3
2	In		1,064,870.24	0.98	101.7	Pulse	0.30	3
2	Tb		3,752,911.10	1.20	101.2	Pulse	0.30	3
2	Ho		378,301.51	0.83	101.1	Pulse	0.30	3
2	Bi		2,627,299.41	0.56	101.0	Pulse	0.30	3
3	Sc		303,372.16	0.64	101.9	Pulse	0.30	3
3	Ge		192,650.65	0.37	101.9	Pulse	0.30	3
3	Ge		290,343.90	0.65	102.0	Pulse	0.30	3
3	Rh		2,915,934.54	0.59	100.4	Pulse	0.30	3
3	Tb		5,219,366.18	0.37	106.1	Analog	0.30	3

Quantitation Report

File Name 040SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 13:17
Sample Name MDL-SOILMB1CONF
Sample Type Sample
Comment
Prep Dilution 5.000
Auto Dilution N/A
Total Dilution 5.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.007	ug/l	182.60	24.00	1.454E-05	Pulse	0.25	3
B			1	-7.363	ug/l	-5.54	7,504.05	4.539E-03	Pulse	0.15	3
Ca			1	136.841	ug/l	2.53	33,624.88	1.109E-02	Pulse	0.10	3
Sr			1	1.095	ug/l	6.18	8,896.13	2.108E-03	Pulse	0.10	3
Mo			1	0.131	ug/l	40.10	360.03	8.543E-05	Pulse	0.10	3
Ag			1	0.002	ug/l	200.10	50.00	8.360E-06	Pulse	0.10	3
Sn			1	-1.417	ug/l	-5.27	1,473.51	2.460E-04	Pulse	0.10	3
Sb			1	-0.272	ug/l	-21.86	533.36	7.596E-05	Pulse	0.10	3
Ba			1	0.126	ug/l	38.31	220.01	3.133E-05	Pulse	0.10	3
Tl			1	0.077	ug/l	16.66	690.05	1.723E-04	Pulse	0.10	3
Pb			1	-1.630	ug/l	-0.97	410.02	1.023E-04	Pulse	0.10	3
Pb			1	-1.490	ug/l	-1.30	363.35	9.064E-05	Pulse	0.10	3
Pb			1	0.005	ug/l	201.43	1,623.44	4.052E-04	Pulse	0.10	3
Na			2	357.921	ug/l	0.65	102,400.60	5.376E-01	Pulse	0.30	3
Mg			2	51.491	ug/l	3.79	6,655.83	3.495E-02	Pulse	0.30	3
Al			2	57.652	ug/l	8.49	3,281.48	1.723E-02	Pulse	0.30	3
K			2	11.041	ug/l	13.84	10,831.36	5.686E-02	Pulse	0.30	3
Ca			2	140.449	ug/l	12.41	873.37	4.586E-03	Pulse	0.30	3
Ti			2	0.068	ug/l	1.49	3.33	1.748E-05	Pulse	0.30	3
V			2	-0.061	ug/l	-43.06	142.23	7.458E-04	Pulse	0.30	3
Cr			2	0.060	ug/l	24.50	600.02	3.150E-03	Pulse	0.30	3
Mn			2	0.164	ug/l	20.62	220.00	1.154E-03	Pulse	0.30	3
Fe			2	21.653	ug/l	0.54	11,526.36	6.051E-02	Pulse	0.30	3
Co			2	0.314	ug/l	7.35	687.77	3.612E-03	Pulse	0.30	3
Ni			2	0.094	ug/l	39.70	560.02	2.939E-03	Pulse	0.30	3
Cu			2	-1.150	ug/l	-0.74	1,912.36	1.004E-02	Pulse	0.30	3
Zn			2	755.707	ug/l	0.17	182,093.77	9.559E-01	Pulse	0.30	3
As			2	-0.006	ug/l	-20.91	15.00	7.875E-05	Pulse	1.00	3
Cd			2	-0.007	ug/l	-98.46	3.29	2.423E-06	Pulse	0.30	3
Sn			2	-1.267	ug/l	-3.96	466.68	3.469E-04	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Se			3	-0.104	ug/l	-34.16	5.60	1.951E-05	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,653,316.33	0.83	102.2	Pulse	0.10	3
1	Sc		3,033,157.87	1.28	107.6	Pulse	0.10	3
1	Ge		607,538.75	1.47	107.6	Pulse	0.10	3
1	Ge		846,191.86	1.61	107.1	Pulse	0.10	3
1	Rh		4,220,640.87	2.20	105.8	Pulse	0.10	3
1	In		5,995,558.64	0.97	149.0	Analog	0.10	3
1	Tb		7,024,713.86	0.28	109.6	Analog	0.10	3
1	Ho		626,792.86	1.43	105.9	Pulse	0.10	3
1	Bi		4,004,864.94	1.90	104.7	Pulse	0.10	3
2	Sc		190,488.93	0.97	104.7	Pulse	0.30	3
2	Ge		112,282.15	1.81	104.5	Pulse	0.30	3
2	Ge		169,078.89	2.02	104.1	Pulse	0.30	3
2	Rh		2,813,756.00	1.20	102.1	Pulse	0.30	3
2	In		1,346,391.66	1.45	128.6	Pulse	0.30	3
2	Tb		3,761,508.74	1.24	101.4	Pulse	0.30	3
2	Ho		378,699.83	1.09	101.2	Pulse	0.30	3
2	Bi		2,616,243.51	1.24	100.6	Pulse	0.30	3
3	Sc		303,979.67	0.76	102.1	Pulse	0.30	3
3	Ge		190,778.09	1.06	100.9	Pulse	0.30	3
3	Ge		287,234.54	0.44	100.9	Pulse	0.30	3
3	Rh		2,899,836.00	0.67	99.8	Pulse	0.30	3
3	Tb		4,952,417.16	4.67	100.7	Mix	0.30	3

Quantitation Report

File Name 041SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 13:23
Sample Name MDL-B1EPACONF
Sample Type Sample
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	73.911	ug/l	0.45	392,760.52	2.470E-01	Pulse	0.25	3
B			1	70.329	ug/l	1.26	300,243.65	1.888E-01	Pulse	0.15	3
Ca			1	2045.247	ug/l	0.37	1,395,026.18	4.663E-01	Pulse	0.10	3
Sr			1	72.723	ug/l	0.81	2,592,810.79	6.231E-01	Pulse	0.10	3
Mo			1	81.606	ug/l	0.35	565,361.32	1.359E-01	Pulse	0.10	3
Ag			1	81.136	ug/l	1.28	1,474,395.60	3.441E-01	Pulse	0.10	3
Sn			1	79.491	ug/l	0.81	901,789.23	2.105E-01	Pulse	0.10	3
Sb			1	80.618	ug/l	1.98	1,131,980.17	1.623E-01	Pulse	0.10	3
Ba			1	68.267	ug/l	1.82	392,465.61	5.626E-02	Pulse	0.10	3
Tl			1	71.461	ug/l	0.53	2,644,516.52	6.564E-01	Pulse	0.10	3
Pb			1	70.277	ug/l	0.34	908,071.29	2.254E-01	Pulse	0.10	3
Pb			1	70.199	ug/l	0.56	793,588.50	1.970E-01	Pulse	0.10	3
Pb			1	69.775	ug/l	0.19	3,649,138.57	9.057E-01	Pulse	0.10	3
Na			2	1939.183	ug/l	0.32	2,332,303.93	1.254E+01	Pulse	0.30	3
Mg			2	1974.079	ug/l	0.51	1,125,790.75	6.052E+00	Pulse	0.30	3
Al			2	1955.052	ug/l	0.83	385,027.44	2.070E+00	Pulse	0.30	3
K			2	2018.198	ug/l	0.87	790,695.07	4.251E+00	Pulse	0.30	3
Ca			2	2257.204	ug/l	0.70	48,297.57	2.596E-01	Pulse	0.30	3
Ti			2	77.313	ug/l	1.73	12,053.36	6.480E-02	Pulse	0.30	3
V			2	71.103	ug/l	0.68	362,621.31	1.949E+00	Pulse	0.30	3
Cr			2	70.249	ug/l	0.39	459,774.72	2.472E+00	Pulse	0.30	3
Mn			2	70.698	ug/l	0.38	252,563.70	1.358E+00	Pulse	0.30	3
Fe			2	2045.456	ug/l	0.83	10,842,049.02	5.828E+01	Analog	0.30	3
Co			2	70.650	ug/l	0.57	734,313.42	3.947E+00	Pulse	0.30	3
Ni			2	69.719	ug/l	0.09	193,969.37	1.043E+00	Pulse	0.30	3
Cu			2	70.556	ug/l	0.82	530,658.42	2.853E+00	Pulse	0.30	3
Zn			2	71.060	ug/l	0.66	84,062.73	4.519E-01	Pulse	0.30	3
As			2	79.640	ug/l	0.36	47,363.87	2.546E-01	Pulse	1.00	3
Cd			2	68.171	ug/l	0.20	124,085.32	1.179E-01	Pulse	0.30	3
Sn			2	79.230	ug/l	1.22	281,739.92	2.678E-01	Pulse	0.30	3
Se			3	182.450	ug/l	0.92	36,501.90	1.272E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,590,112.84	1.29	98.3	Pulse	0.10	3
1	Sc		2,992,017.67	1.98	106.1	Pulse	0.10	3
1	Ge		603,036.63	1.75	106.8	Pulse	0.10	3

Quantitation Report

1	Ge		838,855.27	1.52	106.1	Pulse	0.10	3
1	Rh		4,161,433.37	2.08	104.3	Pulse	0.10	3
1	In		4,284,175.90	2.26	106.5	Pulse	0.10	3
1	Tb		6,976,539.90	1.04	108.9	Analog	0.10	3
1	Ho		636,056.23	2.75	107.5	Pulse	0.10	3
1	Bi		4,029,034.42	3.10	105.3	Pulse	0.10	3
2	Sc		186,021.81	0.45	102.2	Pulse	0.30	3
2	Ge		109,313.46	0.98	101.8	Pulse	0.30	3
2	Ge		165,051.56	1.25	101.6	Pulse	0.30	3
2	Rh		2,760,177.18	1.05	100.2	Pulse	0.30	3
2	In		1,052,124.36	0.62	100.5	Pulse	0.30	3
2	Tb		3,779,051.24	0.22	101.9	Pulse	0.30	3
2	Ho		382,366.26	0.16	102.2	Pulse	0.30	3
2	Bi		2,599,732.47	1.09	99.9	Pulse	0.30	3
3	Sc		309,103.78	1.02	103.8	Pulse	0.30	3
3	Ge		191,624.47	0.77	101.3	Pulse	0.30	3
3	Ge		287,067.34	0.97	100.8	Pulse	0.30	3
3	Rh		2,878,290.79	0.41	99.1	Pulse	0.30	3
3	Tb		5,024,670.22	3.40	102.2	Mix	0.30	3

Quantitation Report

File Name 042SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 13:28
Sample Name MDL-B1AQCONFF
Sample Type Sample
Comment
Prep Dilution 2.000
Auto Dilution N/A
Total Dilution 2.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	71.971	ug/l	1.25	179,071.40	1.203E-01	Pulse	0.25	3
B			1	75.699	ug/l	1.33	157,032.87	1.055E-01	Pulse	0.15	3
Ca			1	4137.046	ug/l	0.35	1,314,065.37	4.715E-01	Pulse	0.10	3
Sr			1	72.322	ug/l	0.81	1,213,469.62	3.099E-01	Pulse	0.10	3
Mo			1	81.719	ug/l	1.38	266,428.08	6.804E-02	Pulse	0.10	3
Ag			1	80.777	ug/l	0.93	697,855.28	1.713E-01	Pulse	0.10	3
Sn			1	82.265	ug/l	0.76	445,616.99	1.094E-01	Pulse	0.10	3
Sb			1	74.899	ug/l	0.84	524,191.92	7.547E-02	Pulse	0.10	3
Ba			1	65.671	ug/l	0.97	187,989.61	2.706E-02	Pulse	0.10	3
Tl			1	71.296	ug/l	0.38	1,272,828.73	3.275E-01	Pulse	0.10	3
Pb			1	70.340	ug/l	0.82	440,639.21	1.134E-01	Pulse	0.10	3
Pb			1	70.912	ug/l	0.22	388,382.98	9.993E-02	Pulse	0.10	3
Pb			1	70.259	ug/l	0.35	1,773,090.17	4.562E-01	Pulse	0.10	3
Na			2	3907.758	ug/l	0.21	2,168,298.73	1.263E+01	Pulse	0.30	3
Mg			2	3931.718	ug/l	0.36	1,034,500.52	6.027E+00	Pulse	0.30	3
Al			2	3830.021	ug/l	0.55	348,029.94	2.028E+00	Pulse	0.30	3
K			2	3987.662	ug/l	0.41	720,914.78	4.200E+00	Pulse	0.30	3
Ca			2	4184.550	ug/l	1.82	41,329.11	2.408E-01	Pulse	0.30	3
Ti			2	79.678	ug/l	3.21	5,732.17	3.339E-02	Pulse	0.30	3
V			2	71.051	ug/l	0.84	167,274.05	9.745E-01	Pulse	0.30	3
Cr			2	70.828	ug/l	0.14	214,107.97	1.247E+00	Pulse	0.30	3
Mn			2	70.150	ug/l	0.58	115,664.94	6.739E-01	Pulse	0.30	3
Fe			2	4210.961	ug/l	1.06	10,297,899.03	6.000E+01	Analog	0.30	3
Co			2	70.876	ug/l	0.30	339,878.07	1.980E+00	Pulse	0.30	3
Ni			2	70.172	ug/l	0.41	90,300.20	5.261E-01	Pulse	0.30	3
Cu			2	70.897	ug/l	0.44	247,655.06	1.443E+00	Pulse	0.30	3
Zn			2	64.096	ug/l	0.37	35,421.59	2.064E-01	Pulse	0.30	3
As			2	74.758	ug/l	0.35	20,519.87	1.195E-01	Pulse	1.00	3
Cd			2	66.169	ug/l	0.43	56,060.50	5.724E-02	Pulse	0.30	3
Sn			2	82.310	ug/l	0.53	136,801.05	1.397E-01	Pulse	0.30	3
Se			3	324.572	ug/l	0.98	32,135.19	1.131E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,488,873.16	0.54	92.1	Pulse	0.10	3
1	Sc		2,786,884.33	1.65	98.9	Pulse	0.10	3
1	Ge		564,956.73	2.51	100.0	Pulse	0.10	3

Quantitation Report

1	Ge		781,998.64	2.56	98.9	Pulse	0.10	3
1	Rh		3,915,750.15	2.53	98.1	Pulse	0.10	3
1	In		4,074,162.72	2.67	101.3	Pulse	0.10	3
1	Tb		6,945,671.36	1.25	108.4	Analog	0.10	3
1	Ho		623,217.45	2.61	105.3	Pulse	0.10	3
1	Bi		3,886,528.80	2.83	101.6	Pulse	0.10	3
2	Sc		171,647.31	0.48	94.3	Pulse	0.30	3
2	Ge		101,577.48	0.43	94.6	Pulse	0.30	3
2	Ge		154,288.90	0.68	95.0	Pulse	0.30	3
2	Rh		2,619,419.90	0.94	95.0	Pulse	0.30	3
2	In		979,387.26	0.82	93.6	Pulse	0.30	3
2	Tb		3,620,974.16	0.75	97.6	Pulse	0.30	3
2	Ho		364,931.57	1.09	97.5	Pulse	0.30	3
2	Bi		2,484,718.79	0.88	95.5	Pulse	0.30	3
3	Sc		302,812.12	0.50	101.7	Pulse	0.30	3
3	Ge		187,346.19	0.64	99.1	Pulse	0.30	3
3	Ge		284,116.65	0.70	99.8	Pulse	0.30	3
3	Rh		2,864,506.00	0.39	98.6	Pulse	0.30	3
3	Tb		5,265,402.15	0.40	107.1	Analog	0.30	3

Quantitation Report

File Name 043SMPL.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 13:33
Sample Name MDL-B1SOILCONF
Sample Type Sample
Comment
Prep Dilution 5.000
Auto Dilution N/A
Total Dilution 5.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	178.981	ug/l	1.11	185,741.93	1.196E-01	Pulse	0.25	3
B			1	170.853	ug/l	1.11	149,080.73	9.602E-02	Pulse	0.15	3
Ca			1	10242.755	ug/l	1.06	1,352,115.60	4.670E-01	Pulse	0.10	3
Sr			1	178.352	ug/l	0.53	1,238,181.54	3.057E-01	Pulse	0.10	3
Mo			1	197.902	ug/l	0.36	266,947.83	6.592E-02	Pulse	0.10	3
Ag			1	92.267	ug/l	0.71	352,116.28	7.827E-02	Pulse	0.10	3
Sn			1	204.569	ug/l	0.80	489,521.52	1.088E-01	Pulse	0.10	3
Sb			1	189.832	ug/l	4.02	534,938.25	7.651E-02	Pulse	0.10	3
Ba			1	163.115	ug/l	2.66	188,016.08	2.689E-02	Pulse	0.10	3
Tl			1	174.300	ug/l	0.58	1,269,872.56	3.202E-01	Pulse	0.10	3
Pb			1	171.627	ug/l	0.53	438,849.81	1.107E-01	Pulse	0.10	3
Pb			1	172.302	ug/l	0.02	385,230.34	9.715E-02	Pulse	0.10	3
Pb			1	171.022	ug/l	0.48	1,761,343.55	4.442E-01	Pulse	0.10	3
Na			2	9730.521	ug/l	0.53	2,228,617.62	1.258E+01	Pulse	0.30	3
Mg			2	9740.880	ug/l	0.71	1,057,885.41	5.973E+00	Pulse	0.30	3
Al			2	9581.168	ug/l	0.42	359,357.01	2.029E+00	Pulse	0.30	3
K			2	9932.675	ug/l	0.78	741,207.73	4.185E+00	Pulse	0.30	3
Ca			2	10547.262	ug/l	1.59	42,992.06	2.427E-01	Pulse	0.30	3
Ti			2	192.742	ug/l	1.90	5,723.27	3.231E-02	Pulse	0.30	3
V			2	174.473	ug/l	1.09	169,546.60	9.572E-01	Pulse	0.30	3
Cr			2	173.768	ug/l	0.44	216,825.52	1.224E+00	Pulse	0.30	3
Mn			2	173.752	ug/l	1.22	118,254.52	6.676E-01	Pulse	0.30	3
Fe			2	10299.167	ug/l	1.05	10,396,013.75	5.869E+01	Analog	0.30	3
Co			2	174.340	ug/l	0.40	345,084.81	1.948E+00	Pulse	0.30	3
Ni			2	171.771	ug/l	0.63	91,245.86	5.152E-01	Pulse	0.30	3
Cu			2	179.829	ug/l	0.45	259,236.68	1.464E+00	Pulse	0.30	3
Zn			2	374.216	ug/l	0.87	84,260.29	4.757E-01	Pulse	0.30	3
As			2	193.203	ug/l	0.77	21,888.63	1.236E-01	Pulse	1.00	3
Cd			2	155.885	ug/l	0.28	58,516.10	5.394E-02	Pulse	0.30	3
Sn			2	204.893	ug/l	0.75	150,887.98	1.391E-01	Pulse	0.30	3
Se			3	446.221	ug/l	0.57	17,577.14	6.222E-02	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,552,438.80	1.05	96.0	Pulse	0.10	3

Quantitation Report

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Sc		2,895,678.19	2.22	102.7	Pulse	0.10	3
1	Ge		580,431.36	1.59	102.8	Pulse	0.10	3
1	Ge		806,216.45	2.63	102.0	Pulse	0.10	3
1	Rh		4,050,120.98	2.57	101.5	Pulse	0.10	3
1	In		4,498,840.33	2.09	111.8	Pulse	0.10	3
1	Tb		6,993,376.56	0.85	109.1	Analog	0.10	3
1	Ho		630,147.41	2.19	106.5	Pulse	0.10	3
1	Bi		3,965,133.07	1.93	103.6	Pulse	0.10	3
2	Sc		177,125.27	0.44	97.3	Pulse	0.30	3
2	Ge		103,961.11	1.04	96.8	Pulse	0.30	3
2	Ge		157,036.97	0.52	96.7	Pulse	0.30	3
2	Rh		2,692,660.73	0.17	97.7	Pulse	0.30	3
2	In		1,084,840.31	0.27	103.6	Pulse	0.30	3
2	Tb		3,671,803.05	0.86	99.0	Pulse	0.30	3
2	Ho		371,571.18	0.58	99.3	Pulse	0.30	3
2	Bi		2,521,223.58	0.81	96.9	Pulse	0.30	3
3	Sc		300,101.15	0.35	100.8	Pulse	0.30	3
3	Ge		187,055.45	0.42	98.9	Pulse	0.30	3
3	Ge		282,516.83	0.42	99.2	Pulse	0.30	3
3	Rh		2,864,985.72	0.44	98.6	Pulse	0.30	3
3	Tb		5,260,617.29	1.05	107.0	Analog	0.30	3

Quantitation Report

File Name 044_CCV.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 13:38
Sample Name CCVA
Sample Type CCV
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	53.677	ug/l	0.63	276,820.87	1.794E-01	Pulse	0.25	3
B			1	106.595	ug/l	1.54	435,032.24	2.819E-01	Pulse	0.15	3
Ca			1	5225.405	ug/l	0.16	3,435,009.74	1.184E+00	Pulse	0.10	3
Sr			1	53.566	ug/l	0.42	1,844,975.18	4.590E-01	Pulse	0.10	3
Mo			1	53.339	ug/l	0.93	356,945.20	8.881E-02	Pulse	0.10	3
Ag			1	51.922	ug/l	0.63	916,787.62	2.202E-01	Pulse	0.10	3
Sn			1	52.495	ug/l	0.60	580,031.66	1.393E-01	Pulse	0.10	3
Sb			1	49.832	ug/l	1.69	695,488.01	1.004E-01	Pulse	0.10	3
Ba			1	49.048	ug/l	2.05	280,116.35	4.042E-02	Pulse	0.10	3
Tl			1	52.937	ug/l	0.16	1,887,740.86	4.863E-01	Pulse	0.10	3
Pb			1	52.608	ug/l	0.41	656,077.87	1.690E-01	Pulse	0.10	3
Pb			1	53.221	ug/l	0.71	580,486.00	1.495E-01	Pulse	0.10	3
Pb			1	52.318	ug/l	0.36	2,636,730.82	6.792E-01	Pulse	0.10	3
Na			2	5247.653	ug/l	2.25	6,112,530.45	3.380E+01	Analog	0.30	3
Mg			2	5034.909	ug/l	0.70	2,790,930.24	1.543E+01	Pulse	0.30	3
Al			2	4968.648	ug/l	0.39	950,075.97	5.253E+00	Pulse	0.30	3
K			2	5117.256	ug/l	0.27	1,934,911.38	1.070E+01	Pulse	0.30	3
Ca			2	5233.206	ug/l	0.57	108,549.19	6.001E-01	Pulse	0.30	3
Ti			2	50.871	ug/l	1.22	7,711.89	4.264E-02	Pulse	0.30	3
V			2	51.613	ug/l	0.87	255,985.59	1.415E+00	Pulse	0.30	3
Cr			2	50.659	ug/l	1.72	322,505.00	1.783E+00	Pulse	0.30	3
Mn			2	51.038	ug/l	1.16	177,304.21	9.803E-01	Pulse	0.30	3
Fe			2	5231.692	ug/l	0.85	26,981,061.15	1.492E+02	Analog	0.30	3
Co			2	50.934	ug/l	1.45	514,728.56	2.846E+00	Pulse	0.30	3
Ni			2	50.300	ug/l	1.49	136,197.58	7.530E-01	Pulse	0.30	3
Cu			2	50.447	ug/l	1.14	369,898.76	2.045E+00	Pulse	0.30	3
Zn			2	50.388	ug/l	0.87	58,202.76	3.218E-01	Pulse	0.30	3
As			2	50.857	ug/l	1.32	29,413.04	1.626E-01	Pulse	1.00	3
Cd			2	49.373	ug/l	1.54	87,275.89	8.542E-02	Pulse	0.30	3
Sn			2	51.891	ug/l	0.85	179,636.43	1.758E-01	Pulse	0.30	3
Se			3	203.499	ug/l	1.38	40,000.03	1.418E-01	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,543,075.10	0.94	95.4	Pulse	0.10	3
1	Sc		2,902,108.50	2.34	102.9	Pulse	0.10	3
1	Ge		582,618.91	2.93	103.2	Pulse	0.10	3

Quantitation Report

1	Ge		813,092.65	3.00	102.9	Pulse	0.10	3
1	Rh		4,019,728.17	3.07	100.7	Pulse	0.10	3
1	In		4,163,077.57	2.91	103.5	Pulse	0.10	3
1	Tb		6,929,436.77	0.57	108.1	Analog	0.10	3
1	Ho		629,260.81	2.08	106.4	Pulse	0.10	3
1	Bi		3,882,102.13	3.05	101.5	Pulse	0.10	3
2	Sc		180,875.80	0.64	99.4	Pulse	0.30	3
2	Ge		106,851.98	2.41	99.5	Pulse	0.30	3
2	Ge		160,138.23	0.10	98.6	Pulse	0.30	3
2	Rh		2,677,629.13	0.56	97.2	Pulse	0.30	3
2	In		1,021,807.46	0.59	97.6	Pulse	0.30	3
2	Tb		3,698,569.02	0.22	99.7	Pulse	0.30	3
2	Ho		375,244.17	1.17	100.3	Pulse	0.30	3
2	Bi		2,520,461.77	0.34	96.9	Pulse	0.30	3
3	Sc		300,083.76	0.67	100.8	Pulse	0.30	3
3	Ge		185,900.76	0.82	98.3	Pulse	0.30	3
3	Ge		282,070.39	1.39	99.1	Pulse	0.30	3
3	Rh		2,816,785.79	0.55	96.9	Pulse	0.30	3
3	Tb		4,969,232.72	3.87	101.1	Mix	0.30	3

Quantitation Report

File Name 045_CCB.d
File Path C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File
Method Path
Acq Time 12/16/2019 13:43
Sample Name CCB
Sample Type CCB
Comment
Prep Dilution 1.000
Auto Dilution N/A
Total Dilution 1.000
Operator Name admin
Acq Mode Spectrum
Cal Title
Cal Type External Calibration
Last Calib 12/17/2019 6:27
Bkg File
Bkg Mode Count Subtraction except for ISTD
Interference File
FQ Blank File
VIS Fit Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.006	ug/l	16.68	49.33	3.139E-05	Pulse	0.25	3
B			1	0.794	ug/l	26.63	16,261.41	1.036E-02	Pulse	0.15	3
Ca			1	-3.057	ug/l	-29.92	12,318.40	4.224E-03	Pulse	0.10	3
Sr			1	-0.007	ug/l	-70.25	700.04	1.707E-04	Pulse	0.10	3
Mo			1	0.127	ug/l	20.71	1,036.74	2.525E-04	Pulse	0.10	3
Ag			1	0.020	ug/l	14.48	393.35	9.318E-05	Pulse	0.10	3
Sn			1	0.046	ug/l	88.07	4,707.56	1.113E-03	Pulse	0.10	3
Sb			1	0.235	ug/l	9.46	4,557.55	6.576E-04	Pulse	0.10	3
Ba			1	0.003	ug/l	153.63	90.00	1.298E-05	Pulse	0.10	3
Tl			1	0.011	ug/l	12.62	510.03	1.283E-04	Pulse	0.10	3
Pb			1	-0.323	ug/l	-2.62	446.69	1.122E-04	Pulse	0.10	3
Pb			1	-0.288	ug/l	-3.30	466.69	1.174E-04	Pulse	0.10	3
Pb			1	0.007	ug/l	24.99	1,943.46	4.882E-04	Pulse	0.10	3
Na			2	0.617	ug/l	52.91	14,559.70	8.155E-02	Pulse	0.30	3
Mg			2	-0.374	ug/l	-4.96	401.12	2.246E-03	Pulse	0.30	3
Al			2	-3.016	ug/l	-8.19	333.34	1.868E-03	Pulse	0.30	3
K			2	-0.471	ug/l	-136.50	9,155.92	5.128E-02	Pulse	0.30	3
Ca			2	-6.114	ug/l	-17.47	120.00	6.728E-04	Pulse	0.30	3
Ti			2	0.060	ug/l	74.99	10.00	5.616E-05	Pulse	0.30	3
V			2	-0.011	ug/l	-19.52	137.78	7.714E-04	Pulse	0.30	3
Cr			2	0.026	ug/l	37.23	653.36	3.660E-03	Pulse	0.30	3
Mn			2	0.000	ug/l	2217.99	95.56	5.348E-04	Pulse	0.30	3
Fe			2	5.418	ug/l	0.48	16,344.85	9.154E-02	Pulse	0.30	3
Co			2	0.007	ug/l	11.12	87.74	4.916E-04	Pulse	0.30	3
Ni			2	0.016	ug/l	151.40	517.79	2.901E-03	Pulse	0.30	3
Cu			2	-0.237	ug/l	-3.27	1,745.67	9.777E-03	Pulse	0.30	3

Quantitation Report

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Zn			2	-0.258	ug/l	-27.17	540.02	3.027E-03	Pulse	0.30	3
As			2	0.015	ug/l	38.33	23.33	1.306E-04	Pulse	1.00	3
Cd			2	0.003	ug/l	69.57	9.87	9.676E-06	Pulse	0.30	3
Sn			2	0.248	ug/l	68.73	2,080.02	2.034E-03	Pulse	0.30	3
Se			3	0.095	ug/l	20.48	28.73	1.004E-04	Pulse	5.00	3

ISTD Table

Tune	Element	Mass	CPS	RSD(%)	ISTD Recovery%	Det	Time(sec)	Rep
1	Li		1,570,565.09	1.02	97.1	Pulse	0.10	3
1	Sc		2,915,682.98	1.84	103.4	Pulse	0.10	3
1	Ge		581,350.25	1.53	102.9	Pulse	0.10	3
1	Ge		814,797.36	2.18	103.1	Pulse	0.10	3
1	Rh		4,099,319.11	1.94	102.7	Pulse	0.10	3
1	In		4,223,546.47	1.74	105.0	Pulse	0.10	3
1	Tb		6,929,734.48	0.32	108.1	Analog	0.10	3
1	Ho		623,915.21	1.46	105.4	Pulse	0.10	3
1	Bi		3,978,023.38	1.99	104.0	Pulse	0.10	3
2	Sc		178,559.04	0.91	98.1	Pulse	0.30	3
2	Ge		105,428.09	0.53	98.2	Pulse	0.30	3
2	Ge		160,052.96	0.44	98.5	Pulse	0.30	3
2	Rh		2,725,182.18	0.33	98.9	Pulse	0.30	3
2	In		1,021,812.72	0.70	97.6	Pulse	0.30	3
2	Tb		3,640,757.08	0.60	98.2	Pulse	0.30	3
2	Ho		365,303.97	1.10	97.6	Pulse	0.30	3
2	Bi		2,522,933.86	0.81	97.0	Pulse	0.30	3
3	Sc		304,812.85	0.59	102.4	Pulse	0.30	3
3	Ge		191,501.60	0.78	101.3	Pulse	0.30	3
3	Ge		286,264.76	0.42	100.5	Pulse	0.30	3
3	Rh		2,914,303.63	0.30	100.3	Pulse	0.30	3
3	Tb		4,979,662.02	3.80	101.3	Mix	0.30	3

Quantitation Report

File Name	046SMPL.d
File Path	C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Method File	
Method Path	
Acq Time	12/16/2019 13:48
Sample Name	MP18787-MB1 4
Sample Type	Sample
Comment	1
Prep Dilution	2.000
Auto Dilution	N/A
Total Dilution	2.000
Operator Name	admin
Acq Mode	Spectrum
Cal Title	
Cal Type	External Calibration
Last Calib	12/17/2019 6:27
Bkg File	
Bkg Mode	Count Subtraction except for ISTD
Interference File	
FQ Blank File	
VIS Fit	Point to Point

Tune Step	Tune File
1	
2	
3	

FullQuant Table

Element	Mass	ISTD	Tune	Conc	Units	RSD(%)	CPS	Ratio	Det	Time(sec)	Rep
Be			1	0.007	ug/l	63.40	32.00	2.129E-05	Pulse	0.25	3
B			1	-0.029	ug/l	-534.26	12,467.07	8.282E-03	Pulse	0.15	3
Ca			1	9.833	ug/l	24.54	16,909.14	6.022E-03	Pulse	0.10	3
Sr			1	0.101	ug/l	6.15	2,630.32	6.641E-04	Pulse	0.10	3
Mo			1	0.219	ug/l	7.12	890.06	2.244E-04	Pulse	0.10	3
Ag			1	0.035	ug/l	16.38	333.35	8.165E-05	Pulse	0.10	3
Sn			1	0.426	ug/l	7.84	6,351.53	1.554E-03	Pulse	0.10	3
Sb			1	0.375	ug/l	13.23	3,917.32	5.626E-04	Pulse	0.10	3
Ba			1	0.050	ug/l	25.69	216.68	3.110E-05	Pulse	0.10	3
Tl			1	0.004	ug/l	41.86	190.01	4.863E-05	Pulse	0.10	3
Pb			1	-0.620	ug/l	-2.36	600.04	1.529E-04	Pulse	0.10	3
Pb			1	-0.566	ug/l	-2.98	520.03	1.325E-04	Pulse	0.10	3
Pb			1	0.035	ug/l	27.19	2,420.19	6.174E-04	Pulse	0.10	3
Na			2	9.669	ug/l	1.67	18,584.73	1.087E-01	Pulse	0.30	3
Mg			2	4.472	ug/l	5.66	1,752.34	1.024E-02	Pulse	0.30	3
Al			2	-5.341	ug/l	-5.14	382.23	2.234E-03	Pulse	0.30	3
K			2	2.389	ug/l	52.27	9,363.82	5.475E-02	Pulse	0.30	3
Ca			2	9.883	ug/l	63.10	331.12	1.938E-03	Pulse	0.30	3
Ti			2	0.992	ug/l	20.68	72.22	4.219E-04	Pulse	0.30	3
V			2	0.141	ug/l	19.03	514.46	3.008E-03	Pulse	0.30	3
Cr			2	0.606	ug/l	7.64	2,287.96	1.338E-02	Pulse	0.30	3
Mn			2	0.261	ug/l	16.72	518.90	3.036E-03	Pulse	0.30	3
Fe			2	12.891	ug/l	1.16	20,673.11	1.208E-01	Pulse	0.30	3
Co			2	0.006	ug/l	56.72	44.39	2.589E-04	Pulse	0.30	3
Ni			2	0.114	ug/l	28.70	600.02	3.509E-03	Pulse	0.30	3
Cu			2	-0.009	ug/l	-420.06	3,268.14	1.910E-02	Pulse	0.30	3
Zn			2	-0.045	ug/l	-267.79	772.25	4.512E-03	Pulse	0.30	3
As			2	0.080	ug/l	7.34	36.00	2.104E-04	Pulse	1.00	3

Current Signal

[1]



Mass	Range	Count	Avg. Count	RSD [%]
7	20000	2313	2313.0	0.96
59	500	2885	2934.6	2.79
89	200	4922	4974.3	1.52
140	500	5299	5344.3	1.32
205	100	3747	3809.6	2.00
156/140	5	0.830 %	0.642 %	22.45
70/140	1000	1391.117 %	902.257 %	41.28
9	20	5	5.8	51.93
11	200	608	589.9	3.24
88	200	49	53.3	22.56
95	20	15	9.0	52.12
107	20	3	2.3	98.55
121	5000	36	27.3	23.47
137	50	16	13.0	34.97
208	500	36	40.5	14.18
Integration Time [sec]		0.10		

Plasma Parameters

RF Power	1500	W	Nebulizer Pump	0.10	rps
RF Matching	1.80	V	S/C Temp	2	℃
Smpl Depth	7.8	mm	Gas Switch	Dilution Gas	
Carrier Gas	0.55	L/min	Makeup/Dilution Gas	0.55	L/min
Option Gas	0.0	%			

Lenses Parameters

Extract 1	0.0	V	Cell Entrance	-24	V
Extract 2	-180.0	V	Cell Exit	-60	V
Omega Bias	-85	V	Deflect	14.2	V
Omega Lens	7.6	V	Plate Bias	-45	V

Cell Parameters

Use Gas	false		OctP Bias	-8.0	V
He Flow	0.0	mL/min	OctP RF	200	V
H2 Flow	0.0	mL/min	Energy Discrimination	5.0	V
3rd Gas Flow	0	%			

Meters

IF/BK Press	2.62E+2	Pa	TMP Revolution	100.0	%
Analyzer Press	1.39E-4	Pa	Water Temp	24.5	℃
Reflected Power	1	W			

US EPA Tune Check Sample Report

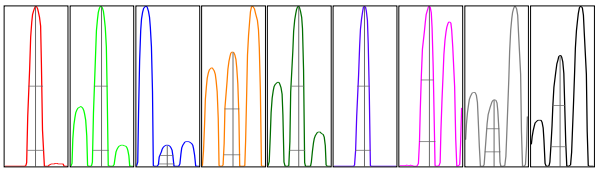
Batch Folder C:\Agilent\ICPMH\1\DATA\xa121619m1.b
Report Comment
Instrument Name G3281A JP10340551

[1]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
9	75265	0.84	5.00	
24	294849	0.26	5.00	
25	39436	0.28	5.00	
26	46534	0.50	5.00	
59	341901	0.38	5.00	
115	506397	0.76	5.00	
206	146586	0.59	5.00	
207	136148	0.53	5.00	
208	318056	0.75	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	74801	74691	75007	75627	76199
24	294790	294939	294799	293769	295951
25	39537	39354	39482	39285	39522
26	46234	46840	46479	46680	46437
59	343163	343062	341736	339992	341555
115	503560	511977	508450	502458	505541
206	146392	147709	147187	145512	146131
207	137104	136729	135593	135547	135768
208	319464	321498	317369	316078	315871

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
9	12288	9.00	8.9 - 9.1		0.764	0.900	
24	49601	24.00	23.9 - 24.1		0.727	0.900	
25	6524	25.00	24.9 - 25.1		0.736	0.900	
26	7596	26.00	25.9 - 26.1		0.765	0.900	
59	59029	59.00	58.9 - 59.1		0.711	0.900	
115	94738	115.00	114.9 - 115.1		0.689	0.900	
206	25777	205.95	205.9 - 206.1		0.723	0.900	
207	23190	206.90	206.9 - 207.1		0.693	0.900	
208	55837	207.90	207.9 - 208.1		0.714	0.900	

X% = 10 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 235 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1500	W	Carrier Gas	0.55	L/min			
RF Matching	1.80	V	Option Gas	0.0	%			
Smpl Depth	7.8	mm	Nebulizer Pump	0.10	rps			
S/C Temp	2	℃						

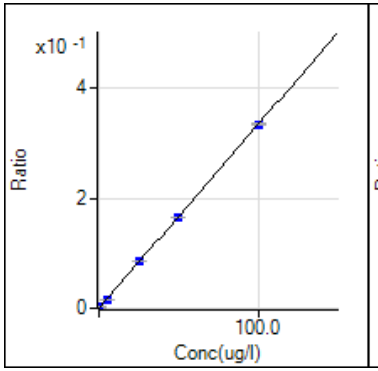
Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	7.6	V			
Extract 2	-180.0	V	Cell Entrance	-24	V			
Omega Bias	-85	V	Cell Exit	-60	V			
Deflect	14.2	V						

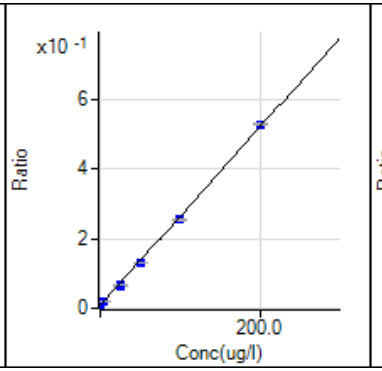
Cell Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Use Gas	false		3rd Gas Flow	0	%			
He Flow	0.0	mL/min	OctP Bias	-8.0	V			
H2 Flow	0.0	mL/min	OctP RF	200	V			
Energy Discrimination	5.0	V						

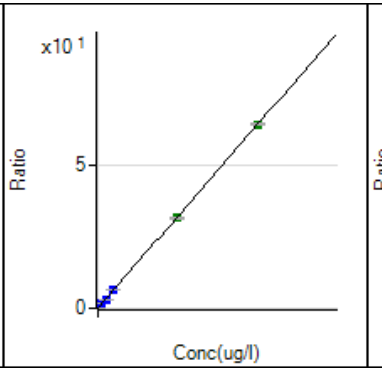
Calibration for C:\Agilent\ICPMH\1\DATA\xa121619m1.b\127_CCB.d



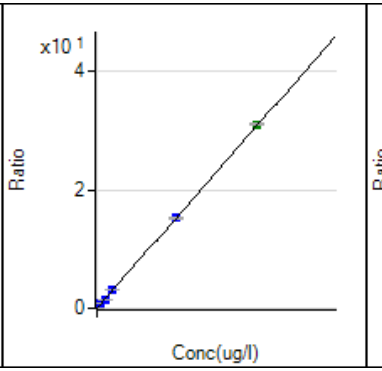
9 Be [1] / ISTD: 6 Li
y = 3.342E-3 x + 9.903E-6
R 1.0000
DL 0.009736
BEC 0.002963



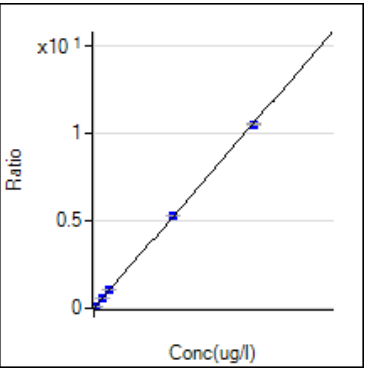
11 B [1] / ISTD: 6 Li
y = 2.567E-3 x + 8.319E-3
R 0.9996
DL 0.09313
BEC 3.241



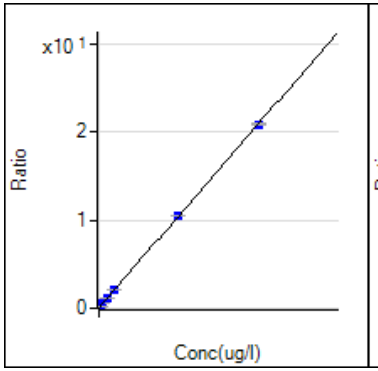
23 Na [2] / ISTD: 45 Sc
y = 6.426E-3 x + 7.759E-2
R 1.0000
DL 0.6378
BEC 12.07



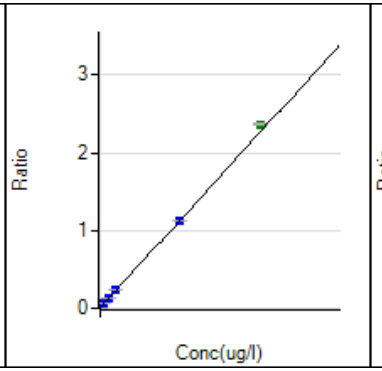
24 Mg [2] / ISTD: 45 Sc
y = 3.064E-3 x + 3.393E-3
R 1.0000
DL 0.2758
BEC 1.107



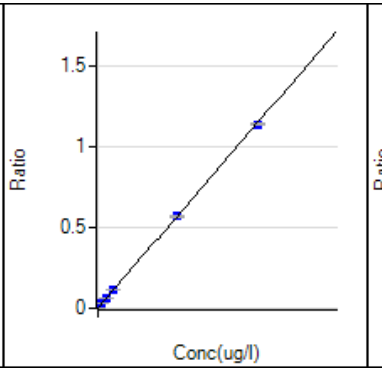
27 Al [2] / ISTD: 45 Sc
y = 1.056E-3 x + 5.054E-3
R 1.0000
DL 0.3559
BEC 4.785



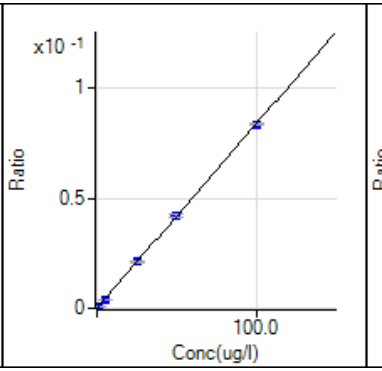
39 K [2] / ISTD: 45 Sc
y = 2.080E-3 x + 5.226E-2
R 1.0000
DL 1.765
BEC 25.12



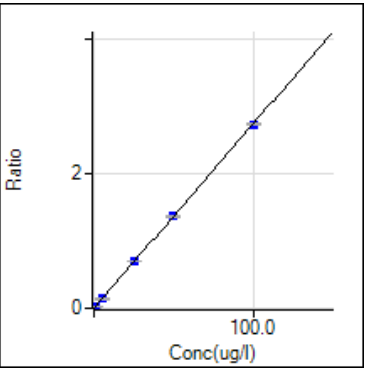
44 Ca [1] / ISTD: 45 Sc
y = 2.256E-4 x + 4.913E-3
R 0.9997
DL 5.015
BEC 21.78



44 Ca [2] / ISTD: 45 Sc
y = 1.144E-4 x + 1.372E-3
R 1.0000
DL 7.181
BEC 11.99

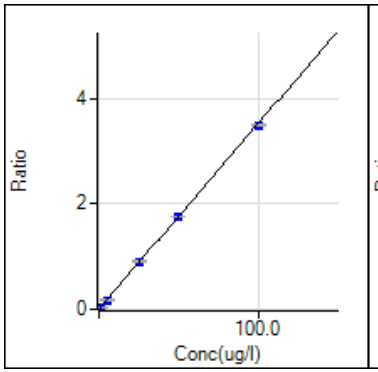


47 Ti [2] / ISTD: 45 Sc
y = 8.381E-4 x + 6.088E-6
R 1.0000
DL 0.03775
BEC 0.007264

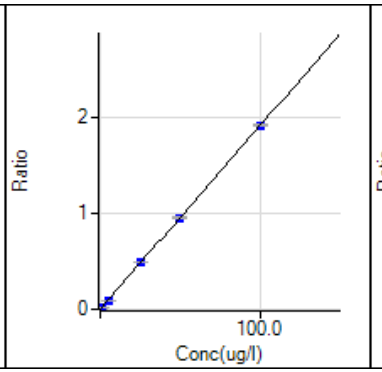


51 V [2] / ISTD: 45 Sc
y = 2.740E-2 x + 1.081E-3
R 1.0000
DL 0.02282
BEC 0.03945

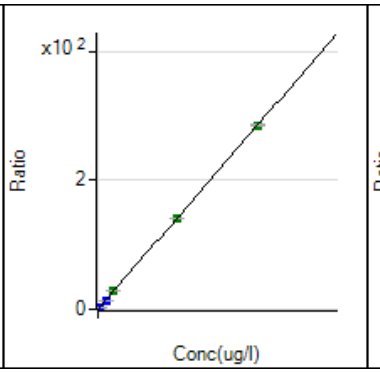
Calibration for C:\Agilent\ICPMH\1\DATA\xa121619m1.b\127_CCB.d



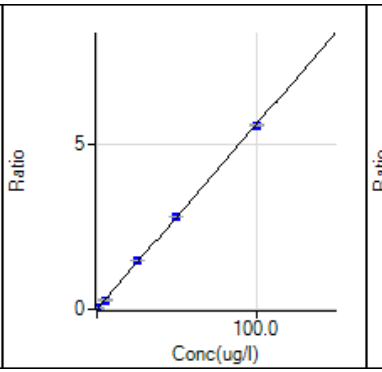
52 Cr [2] / ISTD: 45 Sc
y = 3.515E-2 x + 2.730E-3
R 1.0000
DL 0.02715
BEC 0.07767



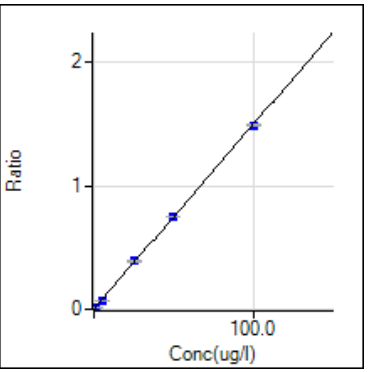
55 Mn [2] / ISTD: 45 Sc
y = 1.920E-2 x + 5.260E-4
R 1.0000
DL 0.04246
BEC 0.0274



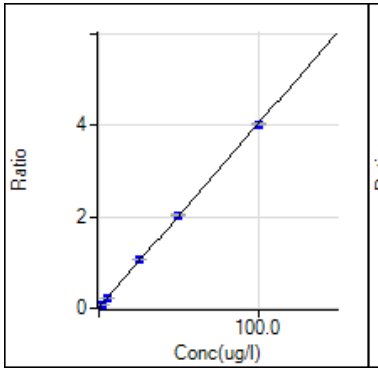
56 Fe [2] / ISTD: 45 Sc
y = 2.853E-2 x - 6.302E-2
R 1.0000
DL 0.232
BEC -2.209



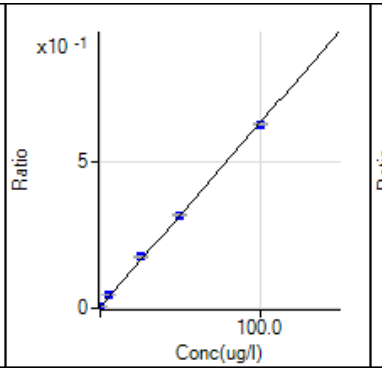
59 Co [2] / ISTD: 45 Sc
y = 5.587E-2 x + 1.037E-4
R 0.9999
DL 0.004683
BEC 0.001857



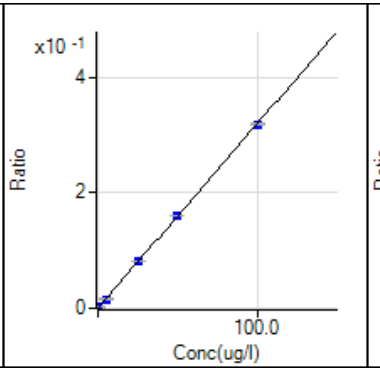
60 Ni [2] / ISTD: 45 Sc
y = 1.492E-2 x + 2.659E-3
R 0.9999
DL 0.03586
BEC 0.1783



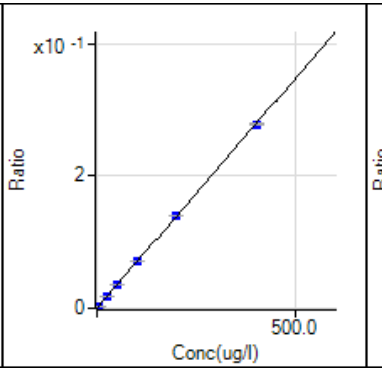
63 Cu [2] / ISTD: 45 Sc
y = 4.016E-2 x + 1.928E-2
R 0.9999
DL 0.05013
BEC 0.4801



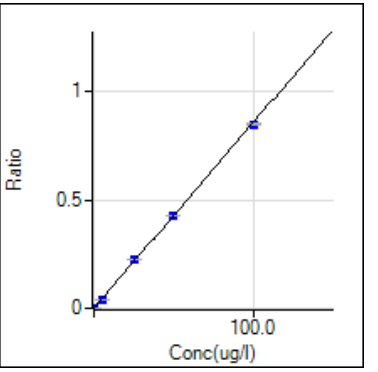
66 Zn [2] / ISTD: 45 Sc
y = 6.294E-3 x + 4.652E-3
R 0.9997
DL 0.2541
BEC 0.7392



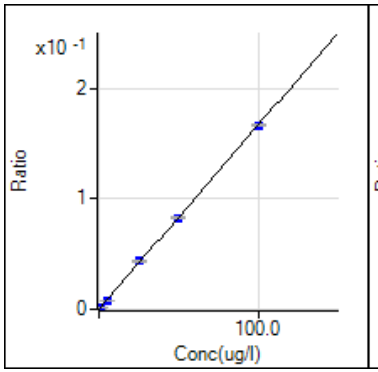
75 As [2] / ISTD: 45 Sc
y = 3.196E-3 x + 8.240E-5
R 1.0000
DL 0.03365
BEC 0.02578



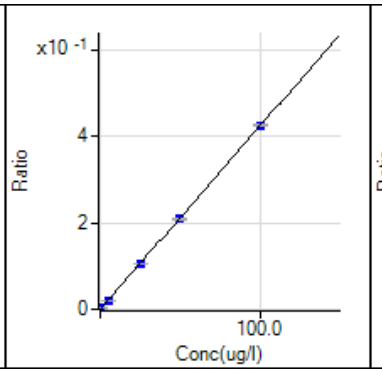
78 Se [3] / ISTD: 74 Ge
y = 6.968E-4 x + 3.395E-5
R 1.0000
DL 0.01141
BEC 0.04873



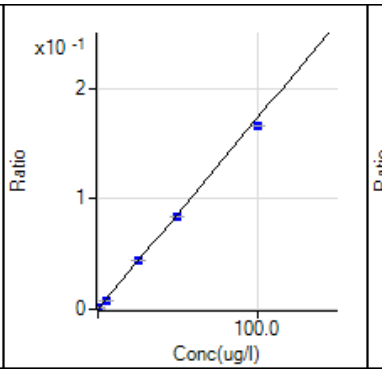
88 Sr [1] / ISTD: 103 Rh
y = 8.564E-3 x + 2.328E-4
R 0.9999
DL 0.009898
BEC 0.02718



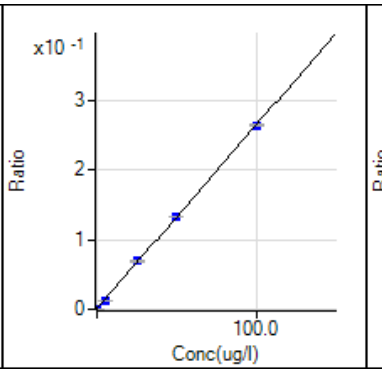
95 Mo [1] / ISTD: 103 Rh
y = 1.664E-3 x + 4.188E-5
R 0.9999
DL 0.02585
BEC 0.02516



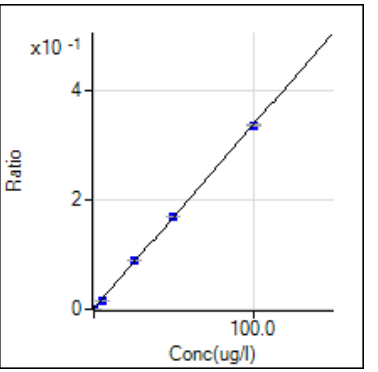
107 Ag [1] / ISTD: 115 In
y = 4.241E-3 x + 6.652E-6
R 1.0000
DL 0.004079
BEC 0.001568



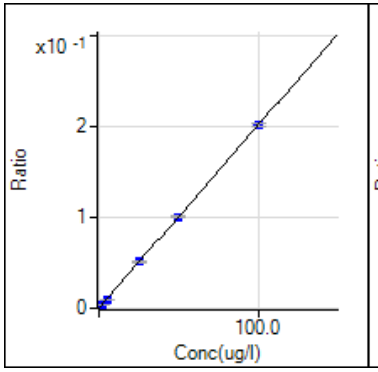
111 Cd [2] / ISTD: 115 In
y = 1.730E-3 x + 4.910E-6
R 0.9999
DL 0.008478
BEC 0.002838



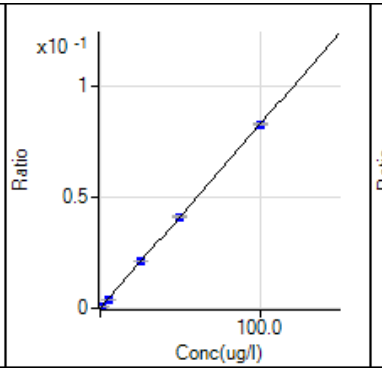
118 Sn [1] / ISTD: 115 In
y = 2.635E-3 x + 9.928E-4
R 0.9999
DL 0.03447
BEC 0.3767



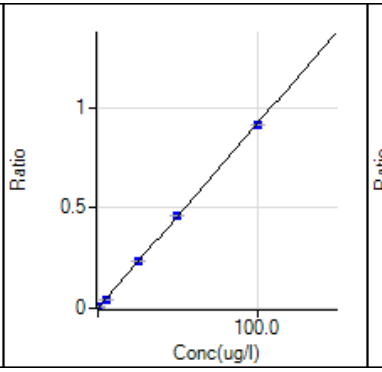
118 Sn [2] / ISTD: 115 In
y = 3.365E-3 x + 1.200E-3
R 0.9999
DL 0.05834
BEC 0.3565



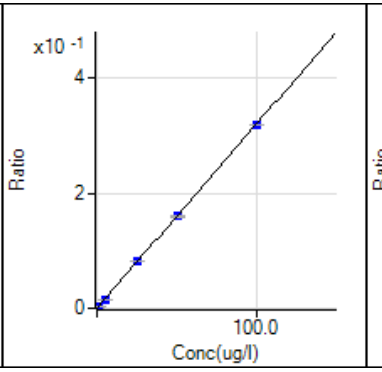
121 Sb [1] / ISTD: 159 Tb
y = 2.010E-3 x + 1.852E-4
R 1.0000
DL 0.03315
BEC 0.09214



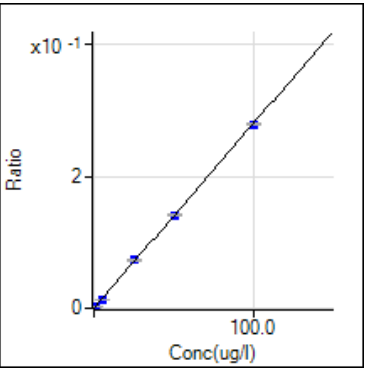
137 Ba [1] / ISTD: 159 Tb
y = 8.239E-4 x + 1.052E-5
R 1.0000
DL 0.01558
BEC 0.01277



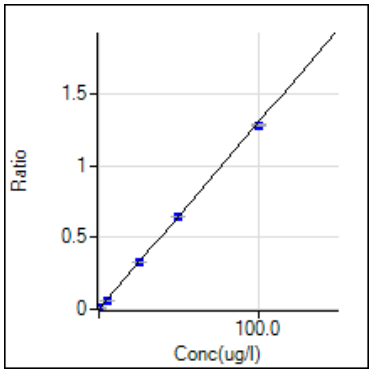
205 Tl [1] / ISTD: 209 Bi
y = 9.185E-3 x + 3.053E-5
R 1.0000
DL 0.002811
BEC 0.003324



206 Pb [1] / ISTD: 209 Bi
y = 3.191E-3 x + 1.143E-3
R 1.0000
DL 0.04981
BEC 0.3581



207 Pb [1] / ISTD: 209 Bi
y = 2.793E-3 x + 9.226E-4
R 0.9999
DL 0.07175
BEC 0.3304



208 Pb [1] / ISTD: 209 Bi

y = 1.298E-2 x + 3.930E-4

R	0.9999
DL	0.02738
BEC	0.03029

SGS North America Inc.

Aqueous Metals Digestion Form

Batch Information

Batch ID	Start Date	Start Time	End Date	End time	QC Samp 1	QC Samp 2
MP18781	12/10/2019	11:10	12/10/2019	16:45	JC99822-1	

Temperature

		Block ID1	Therm. ID#	Temperature	Correction	Corrected Temp
1	Start	5	2106305	94	0	94
1	End	5	2106305	94	0	94
2	Start					
2	End					

Methods and Equipment

	Dig. Method	Heating Method		Auto Pipette #	Digestion Tube Lot #	
	SW846 3010A	Digestion Block		M-74	1906257	

Sample ID	Bottle Number	Pres (Y/N)	Initial Sample Volume	Final Volume in ML	Reagent Groups Added	Spike Groups Added	Comments
MP18781-MB1	N/A	N	50	50	AB		
MP18781-B1	N/A	N	50	50	AB	ABCD	
MP18781-S1	1	Y	50	50	AB	ABCD	
MP18781-S2	1	Y	50	50	AB	ABCD	
MP18781-SD1	1	Y	50	50	AB		
JC99611-10F	1	Y	50	50	AB		
JC99611-11F	1	Y	50	50	AB		
JC99611-12F	1	Y	50	50	AB		
JC99611-13F	1	Y	50	50	AB		
JC99611-14F	1	Y	50	50	AB		
JC99611-15F	1	Y	50	50	AB		
JC99611-16F	1	Y	50	50	AB		
JC99611-17F	1	Y	50	50	AB		
JC99611-1F	1	Y	50	50	AB		
JC99611-2F	1	Y	50	50	AB		
JC99611-3F	1	Y	50	50	AB		
JC99611-4F	1	Y	50	50	AB		
JC99611-5F	1	Y	50	50	AB		
JC99611-6F	1	Y	50	50	AB		
JC99611-7F	1	Y	50	50	AB		
JC99611-8F	1	Y	50	50	AB		
JC99611-9F	1	Y	50	50	AB		
JC99810-1	1	Y	50	50	AB		
JC99822-1	1	Y	50	50	AB		
JC99822-2	1	Y	50	50	AB		
MP18781-B2	N/A	N	50	50	AB	EFGHI	
MP18781-S3	1	Y	50	50	AB	EFGHI	
MP18781-S4	1	Y	50	50	AB	EFGHI	

Reagents Groups

Group	Description	MLs Used
A	CONC HNO3	3
B	1:1 HCL	5
C		
D		
E		
F		
G		
H		

Spike Groups

Group	Description	MLs Used
A	ACCUTEST 13A REV1	0.5
B	ACCUTEST 14A REV1	0.5
C	MINERALS 5000PPM	0.25
D	AG 20PPM	0.625
E	ACCUTEST 13B REV1	0.2
F	ACCUTEST 14B REV1	0.2
G	MINERALS 1000PPM	0.2
H	AG 20PPM	0.2
I		

Comments:

Analyst TAYLORG **Approved by** Wendyz **Approved on** 12/11/2019

Note: Reagent traceability for batch Start Date can be seen on the reagent traceability page for this batch.
Serial Dilution samples shown for QC purposes only.
Acceptable Temperature range is 90-95 degrees C unless otherwise noted

SGS North America Inc

Aqueous Metals Digestion Form

Batch Information

Batch ID	Start Date	Start Time	End Date	End time	QC Samp 1	QC Samp 2
MP18781	12/10/2019	11:10	12/10/2019	16:45	JC99822-1	

Temperature

		Block ID1	Therm. ID#	Temperature	Correction	Corrected Temp
1	Start	5	2106305	94	0	94
1	End	5	2106305	94	0	94
2	Start					
2	End					

Methods and Equipment

	Dig. Method	Heating Method		Auto Pipette #	Digestion Tube Lot #	
	SW846 3010A	Digestion Block		M-74	1906257	

Sample ID	Bottle Number	Pres (Y/N)	Initial Sample Volume	Final Volume in ML	Reagent Groups Added	Spike Groups Added	Comments
MP18781-MB1	N/A	N	50	50	AB		
MP18781-B1	N/A	N	50	50	AB	ABCD	
MP18781-S1	1	Y	50	50	AB	ABCD	
MP18781-S2	1	Y	50	50	AB	ABCD	
MP18781-SD1	1	Y	50	50	AB		
JC99611-10F	1	Y	50	50	AB		
JC99611-11F	1	Y	50	50	AB		
JC99611-12F	1	Y	50	50	AB		
JC99611-13F	1	Y	50	50	AB		
JC99611-14F	1	Y	50	50	AB		
JC99611-15F	1	Y	50	50	AB		
JC99611-16F	1	Y	50	50	AB		
JC99611-17F	1	Y	50	50	AB		
JC99611-1F	1	Y	50	50	AB		
JC99611-2F	1	Y	50	50	AB		
JC99611-3F	1	Y	50	50	AB		
JC99611-4F	1	Y	50	50	AB		
JC99611-5F	1	Y	50	50	AB		
JC99611-6F	1	Y	50	50	AB		
JC99611-7F	1	Y	50	50	AB		
JC99611-8F	1	Y	50	50	AB		
JC99611-9F	1	Y	50	50	AB		
JC99810-1	1	Y	50	50	AB		
JC99822-1	1	Y	50	50	AB		
JC99822-2	1	Y	50	50	AB		
MP18781-B2	N/A	N	50	50	AB	EFGHI	
MP18781-S3	1	Y	50	50	AB	EFGHI	
MP18781-S4	1	Y	50	50	AB	EFGHI	

Reagents Groups

Group	Description	MLs Used
A	CONC HNO3	3
B	1:1 HCL	5
C		
D		
E		
F		
G		
H		

Spike Groups

Group	Description	MLs Used
A	ACCUTEST 13A REV1	0.5
B	ACCUTEST 14A REV1	0.5
C	MINERALS 5000PPM	0.25
D	AG 20PPM	0.825
E	ACCUTEST 13B REV1	0.2
F	ACCUTEST 14B REV1	0.2
G	MINERALS 1000PPM	0.2
H	AG 20PPM	0.2
I	SE 20 PPM	0.8

Comments: _____

Analyst TAYLORG Approved by _____ Approved on _____

Note: Reagent traceability for batch Start Date can be seen on the reagent traceability page for this batch.
Serial Dilution samples shown for QC purposes only.
Acceptable Temperature range is 90-95 degrees C unless otherwise noted

SGS

Metals Digestion Reagents Information Log

Digestion Batch ID: MP 18781 **Date:** 12/10/19

Matrix: ALL

Standard/Reagent Type	Exp. Date	Standard/Reagent ID
Spiking Solution - (ACCUTEST-13A REV1)	4/28/2020	MP-015-1244
Spiking Solution - (ACCUTEST-14A REV1)	4/28/2020	MP-015-1245
Spiking Solution - 5000 mg/l Minerals	10/24/2020	P2-MEB684097 MFG: INO. VENT.
Spiking Solution - Sulfur 1000ppm	9/25/2021	LOT: 092518 MFG: ABS. STANDARDS
Spiking Solution - Si 1000ppm	9/24/2020	P2-SI676242 MFG: INO. VENT.
Spiking Solution - Bi 1000ppm	8/29/2020	N2-BI669548 MFG: INO. VENT.
Spiking Solution - Se 20ppm	5/27/2020	MP-015-1252
Spiking Solution - Li 1000ppm	11/4/2020	P2-LI675235 MFG: INO. VENT.
Spiking Solution- Ag 20 ppm	5/27/2020	MP-015-1253
Spiking Solution - (ACCUTEST-13B REV1)	4/28/2020	MP-015-1246
Spiking Solution - (ACCUTEST-14B REV1)	4/28/2020	MP-015-1247
Spiking Solution - 1000ppm Minerals	2/22/2020	MP-015-1213
Spiking Solution- P		
Nitric Acid	12/10/2021	LOT: 237365 MFG: J T. BAKER
Nitric Acid (1:1)	6/4/2020	MP-018-42-353 1 1 HNO3
Hydrochloric Acid	12/10/2021	LOT: 240180 MFG: BAKER
Hydrochloric Acid (1:1)	6/3/2020	MP-018-42-352 1:1 HCL
Hydrogen Peroxide	12/2/2021	LOT: 192235 MFG: FISHER
Soil Lab Control/Soil LC	10/22/2022	LOT: D105-540 MFG: ERA
Teflon Chips(For Soil MB and Blank Spike)	N/A	LOT: 24635764 MFG: SAINT-GOBAIN
Digestion Tubes	N/A	LOT: 1906257 MFG: ENV. EXPRESS
pH Paper	11/1/2021	LOT: 231018 MFG: HYDRION
Filter paper Q8	N/A	LOT: 16939084 MFG: FISHER
Filter paper 0.45µm	N/A	LOT: F9HA99962E MFG: FISHER

Spike witnessed By: CH

Validated By

Validated On:

Metals Prep Reagent
1/17/18

7.4.1

7

Date 12/10/19 Analyst NP MP # 18771/18736/18818

Post spike for ICP Method 6010D

QC sample #

Spiking solution	Elements	Spike added (Y/N)	Vendor	Intermediate Lot #	Exp. Date	Conc. (mg/l)	Amt of Spike added (ml)	Digestate sample volume (ml)	Final Digestate volume in ml (Spike+ Sample)	Final Conc at the instrument (mg/l)
Mixed ICP intermediate Metals Solution (ACCUTEST-13A-REV1)	Ba,Be,B Cd,Cr,Co,Cu,Pb, Mn,Ni,P,Se,Sr,Tl, V,Zn	Yes	in house	MP-015-1242	4/28/20	200	0.2	19.25	20	2
Mixed ICP intermediate Metals Solution (ACCUTEST-14A-REV1)	Sb,As,Mo,Sn,Ti, W,Zr	Yes	in house	mp-015-1243	4/28/20	200	0.2			2
Ag Spike Intermediate	Ag	Yes	in house	mp-015-1249	5/13/20	20	0.25			0.25
Metals Mix	Ca,Al,Fe,Mg,K, Na	Yes	inorganic Venture	IV-MEB 678659	4/25/20	5000	0.1			25
S spike	S					200	0.2			2
Bi Spike	Bi					200	0.2			2
Li Spike	Li					200	0.2			2
Si spike	Si					1000	0.1			5

Form: DAYT-MET-0095-01-FORM
Rev. Date : 7/10/2018

Reviewed by:

SGS North America Inc.

Aqueous Metals Digestion Form

Batch Information

Batch ID	Start Date	Start Time	End Date	End time	QC Samp 1	QC Samp 2
MP18781	12/10/2019	11:10	12/10/2019	16:45	JC99822-1	

Temperature

		Block ID1	Therm. ID#	Temperature	Correction	Corrected Temp
1	Start	5	2106305	94	0	94
1	End	5	2106305	94	0	94
2	Start					
2	End					

Methods and Equipment

	Dig. Method	Heating Method		Auto Pipette #	Digestion Tube Lot #	
	SW846 3010A	Digestion Block		M-74	1906257	

Sample ID	Bottle Number	Pres (Y/N)	Initial Sample Volume	Final Volume in ML	Reagent Groups Added	Spike Groups Added	Comments
MP18781-MB1	N/A	N	50	50	AB		
MP18781-B1	N/A	N	50	50	AB	ABCD	
MP18781-S1	1	Y	50	50	AB	ABCD	
MP18781-S2	1	Y	50	50	AB	ABCD	
MP18781-SD1	1	Y	50	50	AB		
JC99611-10F	1	Y	50	50	AB		
JC99611-11F	1	Y	50	50	AB		
JC99611-12F	1	Y	50	50	AB		
JC99611-13F	1	Y	50	50	AB		
JC99611-14F	1	Y	50	50	AB		
JC99611-15F	1	Y	50	50	AB		
JC99611-16F	1	Y	50	50	AB		
JC99611-17F	1	Y	50	50	AB		
JC99611-1F	1	Y	50	50	AB		
JC99611-2F	1	Y	50	50	AB		
JC99611-3F	1	Y	50	50	AB		
JC99611-4F	1	Y	50	50	AB		
JC99611-5F	1	Y	50	50	AB		
JC99611-6F	1	Y	50	50	AB		
JC99611-7F	1	Y	50	50	AB		
JC99611-8F	1	Y	50	50	AB		
JC99611-9F	1	Y	50	50	AB		
JC99810-1	1	Y	50	50	AB		
JC99822-1	1	Y	50	50	AB		
JC99822-2	1	Y	50	50	AB		
MP18781-B2	N/A	N	50	50	AB	EFGHI	
MP18781-S3	1	Y	50	50	AB	EFGHI	
MP18781-S4	1	Y	50	50	AB	EFGHI	

Reagents Groups

Group	Description	MLs Used
A	CONC HNO3	3
B	1:1 HCL	5
C		
D		
E		
F		
G		
H		

Spike Groups

Group	Description	MLs Used
A	ACCUTEST 13A REV1	0.5
B	ACCUTEST 14A REV1	0.5
C	MINERALS 5000PPM	0.25
D	AG 20PPM	0.625
E	ACCUTEST 13B REV1	0.2
F	ACCUTEST 14B REV1	0.2
G	MINERALS 1000PPM	0.2
H	AG 20PPM	0.2
I		

Comments:

Analyst TAYLORG **Approved by** Wendyz **Approved on** 12/11/2019

Note: Reagent traceability for batch Start Date can be seen on the reagent traceability page for this batch.
Serial Dilution samples shown for QC purposes only.
Acceptable Temperature range is 90-95 degrees C unless otherwise noted

SGS North America Inc

Aqueous Metals Digestion Form

Batch Information

Batch ID	Start Date	Start Time	End Date	End time	QC Samp 1	QC Samp 2
MP18781	12/10/2019	11:10	12/10/2019	16:45	JC99822-1	

Temperature

		Block ID1	Therm. ID#	Temperature	Correction	Corrected Temp
1	Start	5	2106305	94	0	94
1	End	5	2106305	94	0	94
2	Start					
2	End					

Methods and Equipment

	Dig. Method	Heating Method		Auto Pipette #	Digestion Tube Lot #	
	SW846 3010A	Digestion Block		M-74	1906257	

Sample ID	Bottle Number	Pres (Y/N)	Initial Sample Volume	Final Volume in ML	Reagent Groups Added	Spike Groups Added	Comments
MP18781-MB1	N/A	N	50	50	AB		
MP18781-B1	N/A	N	50	50	AB	ABCD	
MP18781-S1	1	Y	50	50	AB	ABCD	
MP18781-S2	1	Y	50	50	AB	ABCD	
MP18781-SD1	1	Y	50	50	AB		
JC99611-10F	1	Y	50	50	AB		
JC99611-11F	1	Y	50	50	AB		
JC99611-12F	1	Y	50	50	AB		
JC99611-13F	1	Y	50	50	AB		
JC99611-14F	1	Y	50	50	AB		
JC99611-15F	1	Y	50	50	AB		
JC99611-16F	1	Y	50	50	AB		
JC99611-17F	1	Y	50	50	AB		
JC99611-1F	1	Y	50	50	AB		
JC99611-2F	1	Y	50	50	AB		
JC99611-3F	1	Y	50	50	AB		
JC99611-4F	1	Y	50	50	AB		
JC99611-5F	1	Y	50	50	AB		
JC99611-6F	1	Y	50	50	AB		
JC99611-7F	1	Y	50	50	AB		
JC99611-8F	1	Y	50	50	AB		
JC99611-9F	1	Y	50	50	AB		
JC99810-1	1	Y	50	50	AB		
JC99822-1	1	Y	50	50	AB		
JC99822-2	1	Y	50	50	AB		
MP18781-B2	N/A	N	50	50	AB	EFGHI	
MP18781-S3	1	Y	50	50	AB	EFGHI	
MP18781-S4	1	Y	50	50	AB	EFGHI	

Reagents Groups		
Group	Description	MLs Used
A	CONC HNO3	3
B	1:1 HCL	5
C		
D		
E		
F		
G		
H		

Spike Groups		
Group	Description	MLs Used
A	ACCUTEST 13A REV1	0.5
B	ACCUTEST 14A REV1	0.5
C	MINERALS 5000PPM	0.25
D	AG 20PPM	0.825
E	ACCUTEST 13B REV1	0.2
F	ACCUTEST 14B REV1	0.2
G	MINERALS 1000PPM	0.2
H	AG 20PPM	0.2
I	SE 20 PPM	0.8

Comments: _____

Analyst TAYLORG Approved by _____ Approved on _____

Note: Reagent traceability for batch Start Date can be seen on the reagent traceability page for this batch.
Serial Dilution samples shown for QC purposes only.
Acceptable Temperature range is 90-95 degrees C unless otherwise noted

Document Control # NJ-MET-PREP-AQ-01 (2456468 4378704432) Validated by: Validated on

SGS

Metals Digestion Reagents Information Log

Digestion Batch ID: MP 18781 **Date:** 12/10/19

Matrix: ALL

Standard/Reagent Type	Exp. Date	Standard/Reagent ID
Spiking Solution - (ACCUTEST-13A REV1)	4/28/2020	MP-015-1244
Spiking Solution - (ACCUTEST-14A REV1)	4/28/2020	MP-015-1245
Spiking Solution - 5000 mg/l Minerals	10/24/2020	P2-MEB684097 MFG: INO. VENT.
Spiking Solution - Sulfur 1000ppm	9/25/2021	LOT: 092518 MFG: ABS. STANDARDS
Spiking Solution - Si 1000ppm	9/24/2020	P2-SI676242 MFG: INO. VENT.
Spiking Solution - Bi 1000ppm	8/29/2020	N2-BI669548 MFG: INO. VENT.
Spiking Solution - Se 20ppm	5/27/2020	MP-015-1252
Spiking Solution - Li 1000ppm	11/4/2020	P2-LI675235 MFG: INO. VENT.
Spiking Solution- Ag 20 ppm	5/27/2020	MP-015-1253
Spiking Solution - (ACCUTEST-13B REV1)	4/28/2020	MP-015-1246
Spiking Solution - (ACCUTEST-14B REV1)	4/28/2020	MP-015-1247
Spiking Solution - 1000ppm Minerals	2/22/2020	MP-015-1213
Spiking Solution- P		
Nitric Acid	12/10/2021	LOT: 237365 MFG: J T. BAKER
Nitric Acid (1:1)	6/4/2020	MP-018-42-353 1 1 HNO3
Hydrochloric Acid	12/10/2021	LOT: 240180 MFG: BAKER
Hydrochloric Acid (1:1)	6/3/2020	MP-018-42-352 1:1 HCL
Hydrogen Peroxide	12/2/2021	LOT: 192235 MFG: FISHER
Soil Lab Control/Soil LC	10/22/2022	LOT: D105-540 MFG: ERA
Teflon Chips(For Soil MB and Blank Spike)	N/A	LOT: 24635764 MFG: SAINT-GOBAIN
Digestion Tubes	N/A	LOT: 1906257 MFG: ENV. EXPRESS
pH Paper	11/1/2021	LOT: 231018 MFG: HYDRION
Filter paper Q8	N/A	LOT: 16939084 MFG: FISHER
Filter paper 0.45µm	N/A	LOT: F9HA99962E MFG: FISHER

Spike witnessed By: CH

Validated By

Validated On:

Metals Prep Reagent
1/17/18

7.4.2

7

Date 12/10/19 Analyst NP MP # 18771/18736/18781A

Post spike for ICP Method 6010D

QC sample #

Spiking solution	Elements	Spike added (Y/N)	Vendor	Intermediate Lot #	Exp. Date	Conc. (mg/l)	Amt of Spike added (ml)	Digestate sample volume (ml)	Final Digestate volume in ml (Spike+ Sample)	Final Conc at the instrument (mg/l)
Mixed ICP intermediate Metals Solution (ACCUTEST-13A-REV1)	Ba,Be,B Cd,Cr,Co,Cu,Pb, Mn,Ni,P,Se,Sr,TL, V,Zn	Yes	in house	MP-015-1242	4/28/20	200	0.2	19.25	20	2
Mixed ICP intermediate Metals Solution (ACCUTEST-14A-REV1)	Sb,As,Mo,Sn,Ti, W,Zr	Yes	in house	mp-015-1243	4/28/20	200	0.2			2
Ag Spike Intermediate	Ag	Yes	in house	mp-015-1249	5/13/20	20	0.25			0.25
Metals Mix	Ca,Al,Fe,Mg,K, Na	Yes	inorganic Venture	19-MEB 678659	4/25/20	5000	0.1			25
S spike	S					200	0.2			2
Bi Spike	Bi					200	0.2			2
Li Spike	Li					200	0.2			2
Si spike	Si					1000	0.1			5

Form: DAYT-MET-0095-01-FORM
Rev. Date : 7/10/2018

Reviewed by:

APPENDIX C.2
SHL LTM Spring Laboratory Reports

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

Laboratory Job ID: 680-167630-1
Client Project/Site: LTM, SHL (AOC 5) Spring 2019

For:
KOMAN Government Solutions, LLC
293 Boston Post Road
Suite 100
Marlborough, Massachusetts 01752

Attn: Laurie Ekes

Jerry Lanier

Authorized for release by:
5/20/2019 6:12:11 PM

Jerry Lanier, Project Manager I
(912)250-0281
jerry.lanier@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Receipt Checklists 38
Certification Summary 40

Job ID: 680-167630-1

Laboratory: Eurofins TestAmerica, Savannah

Narrative

CASE NARRATIVE

Client: KOMAN Government Solutions, LLC

Project: LTM, SHL (AOC 5) Spring 2019

Report Number: 680-167630-1

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 the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT
The samples were received on 04/13/2019; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 3.1 C.

METALS (ICP) - DISSOLVED
Samples EW-1@ATP Port_SPR19 (680-167630-1), EW-4@ATP Port_SPR19 (680-167630-2), SHL-10_SPR19 (680-167630-3), SHL-19_SPR19 (680-167630-5), PZ-12-08_SPR19 (680-167630-6), SHP-01-36X_SPR19 (680-167630-7), SHP-01-37X_SPR19 (680-167630-8), SHP-01-38A_SPR19 (680-167630-9), EPA-PZ-2012-5A_SPR19 (680-167630-10), EPA-PZ-2012-5B_SPR19 (680-167630-11), EPA-PZ-2012-2A_SPR19 (680-167630-12), EPA-PZ-2012-2B_SPR19 (680-167630-13) and SHM-93-22B_SPR19 (680-167630-14) were analyzed for Metals (ICP) - Dissolved in accordance with EPA SW-846 Method 6010C. The samples were prepared on 04/17/2019 and 05/07/2019 and analyzed on 04/19/2019 and 05/08/2019.

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

METALS (ICP)
Sample SHL-EB01_SPR19 (680-167630-4) was analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 04/25/2019 and analyzed on 04/26/2019.

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

METALS (ICPMS) - DISSOLVED
Samples EW-1@ATP Port_SPR19 (680-167630-1), EW-4@ATP Port_SPR19 (680-167630-2), SHL-10_SPR19 (680-167630-3), SHL-19_SPR19 (680-167630-5), PZ-12-08_SPR19 (680-167630-6), SHP-01-36X_SPR19 (680-167630-7), SHP-01-37X_SPR19 (680-167630-8), SHP-01-38A_SPR19 (680-167630-9), EPA-PZ-2012-5A_SPR19 (680-167630-10), EPA-PZ-2012-5B_SPR19 (680-167630-11), EPA-PZ-2012-2A_SPR19 (680-167630-12), EPA-PZ-2012-2B_SPR19 (680-167630-13) and SHM-93-22B_SPR19 (680-167630-14) were analyzed for Metals (ICPMS) - Dissolved in accordance with EPA SW-846 Method 6020A. The samples were prepared on 04/17/2019 and 05/07/2019 and analyzed on 04/18/2019, 04/19/2019, 04/29/2019 and 05/08/2019.

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

METALS
Sample SHL-EB01_SPR19 (680-167630-4) was analyzed for Metals in accordance with EPA SW-846 Method 6020. The samples were prepared on 04/25/2019 and analyzed on 04/27/2019.

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

Job ID: 680-167630-1 (Continued)

Laboratory: Eurofins TestAmerica, Savannah (Continued)

ALKALINITY

Samples EW-1@ATP Port_SPR19 (680-167630-1), EW-4@ATP Port_SPR19 (680-167630-2), SHL-10_SPR19 (680-167630-3), SHL-EB01_SPR19 (680-167630-4), SHL-19_SPR19 (680-167630-5), PZ-12-08_SPR19 (680-167630-6), SHP-01-36X_SPR19 (680-167630-7), SHP-01-37X_SPR19 (680-167630-8), SHP-01-38A_SPR19 (680-167630-9), EPA-PZ-2012-5A_SPR19 (680-167630-10), EPA-PZ-2012-5B_SPR19 (680-167630-11), EPA-PZ-2012-2A_SPR19 (680-167630-12), EPA-PZ-2012-2B_SPR19 (680-167630-13) and SHM-93-22B_SPR19 (680-167630-14) were analyzed for alkalinity in accordance with SM 2320B. The samples were analyzed on 04/17/2019 and 04/18/2019.

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

ANIONS BY ION CHROMATOGRAPHY (28 DAY)

Samples EW-1@ATP Port_SPR19 (680-167630-1), EW-4@ATP Port_SPR19 (680-167630-2), SHL-10_SPR19 (680-167630-3), SHL-EB01_SPR19 (680-167630-4), SHL-19_SPR19 (680-167630-5), PZ-12-08_SPR19 (680-167630-6), SHP-01-36X_SPR19 (680-167630-7), SHP-01-37X_SPR19 (680-167630-8), SHP-01-38A_SPR19 (680-167630-9), EPA-PZ-2012-5A_SPR19 (680-167630-10), EPA-PZ-2012-5B_SPR19 (680-167630-11), EPA-PZ-2012-2A_SPR19 (680-167630-12), EPA-PZ-2012-2B_SPR19 (680-167630-13) and SHM-93-22B_SPR19 (680-167630-14) were analyzed for Anions by Ion Chromatography (28 Day) in accordance with SW 846 9056A. The samples were analyzed on 04/27/2019.

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

DISSOLVED ORGANIC CARBON

Samples EW-1@ATP Port_SPR19 (680-167630-1), EW-4@ATP Port_SPR19 (680-167630-2), SHL-10_SPR19 (680-167630-3), SHL-19_SPR19 (680-167630-5), PZ-12-08_SPR19 (680-167630-6), SHP-01-36X_SPR19 (680-167630-7), SHP-01-37X_SPR19 (680-167630-8), SHP-01-38A_SPR19 (680-167630-9), EPA-PZ-2012-5A_SPR19 (680-167630-10), EPA-PZ-2012-5B_SPR19 (680-167630-11), EPA-PZ-2012-2A_SPR19 (680-167630-12), EPA-PZ-2012-2B_SPR19 (680-167630-13) and SHM-93-22B_SPR19 (680-167630-14) were analyzed for dissolved organic carbon in accordance with EPA SW-846 Method 9060. The samples were analyzed on 04/18/2019.

Dissolved Organic Carbon was detected in method blank MB 280-455211/4 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. No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL ORGANIC CARBON

Sample SHL-EB01_SPR19 (680-167630-4) was analyzed for total organic carbon in accordance with EPA SW-846 Method 9060A. The samples were analyzed on 04/18/2019.

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

Sample Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-167630-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-167630-1	EW-1@ATP Port_SPR19	WG	04/12/19 07:45	04/13/19 10:11
680-167630-2	EW-4@ATP Port_SPR19	WG	04/12/19 08:00	04/13/19 10:11
680-167630-3	SHL-10_SPR19	WG	04/12/19 10:00	04/13/19 10:11
680-167630-4	SHL-EB01_SPR19	WQ	04/12/19 10:35	04/13/19 10:11
680-167630-5	SHL-19_SPR19	WG	04/12/19 11:30	04/13/19 10:11
680-167630-6	PZ-12-08_SPR19	WG	04/12/19 13:15	04/13/19 10:11
680-167630-7	SHP-01-36X_SPR19	WG	04/12/19 09:20	04/13/19 10:11
680-167630-8	SHP-01-37X_SPR19	WG	04/12/19 10:35	04/13/19 10:11
680-167630-9	SHP-01-38A_SPR19	WG	04/12/19 12:05	04/13/19 10:11
680-167630-10	EPA-PZ-2012-5A_SPR19	GW	04/12/19 11:12	04/13/19 10:11
680-167630-11	EPA-PZ-2012-5B_SPR19	GW	04/12/19 12:05	04/13/19 10:11
680-167630-12	EPA-PZ-2012-2A_SPR19	GW	04/12/19 08:46	04/13/19 10:11
680-167630-13	EPA-PZ-2012-2B_SPR19	GW	04/12/19 09:53	04/13/19 10:11
680-167630-14	SHM-93-22B_SPR19	GW	04/12/19 13:14	04/13/19 10:11

Method Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-167630-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV
6020A	Metals (ICP/MS)	SW846	TAL SAV
9060	Organic Carbon, Dissolved (DOC)	SW846	TAL DEN
9060A	Organic Carbon, Total (TOC)	SW846	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL SAV
3010A	Preparation, Total Metals	SW846	TAL SAV

Protocol References:

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

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

Laboratory References:

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

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Qualifiers

HPLC/IC

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

Metals

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

General Chemistry

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

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)

Client Sample Results

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-167630-1

Client Sample ID: EW-1@ATP Port_SPR19

Lab Sample ID: 680-167630-1
Date Collected: 04/12/19 07:45
Matrix: WG
Date Received: 04/13/19 10:11

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	15		0.50	0.50	0.20	mg/L		04/27/19 19:20	1
Sulfate	4.0	M	1.0	1.0	0.40	mg/L		04/27/19 19:20	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	64000		50	50	17	ug/L		04/19/19 22:47	1
Manganese	2100		10	3.0	1.0	ug/L		04/19/19 22:47	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	1500		3.0	3.0	1.5	ug/L		04/18/19 23:38	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	200		10	10	3.1	mg/L		04/17/19 04:01	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	4.4		1.0	0.50	0.16	mg/L		04/18/19 15:57	1

Client Sample ID: EW-4@ATP Port_SPR19

Lab Sample ID: 680-167630-2
Date Collected: 04/12/19 08:00
Matrix: WG
Date Received: 04/13/19 10:11

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	5.2		0.50	0.50	0.20	mg/L		04/27/19 19:33	1
Sulfate	4.4	M	1.0	1.0	0.40	mg/L		04/27/19 19:33	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	41000		50	50	17	ug/L		04/19/19 23:00	1
Manganese	2400		10	3.0	1.0	ug/L		04/19/19 23:00	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	2900		3.0	3.0	1.5	ug/L		04/18/19 23:49	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	100		10	10	3.1	mg/L		04/17/19 04:05	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.9		1.0	0.50	0.16	mg/L		04/18/19 16:15	1

Client Sample ID: SHL-10_SPR19

Lab Sample ID: 680-167630-3
Date Collected: 04/12/19 10:00
Matrix: WG
Date Received: 04/13/19 10:11

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	**0.97**		0.50	0.50	0.20	mg/L		04/27/19 19:46	1
Sulfate	**2.5**	**M**	1.0	1.0	0.40	mg/L		04/27/19 19:46	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		04/19/19 22:51	1
Manganese	3.0	U	10	3.0	1.0	ug/L		04/19/19 22:51	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		04/18/19 23:41	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	**14**		10	10	3.1	mg/L		04/17/19 04:11	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	**0.62**	**J**	1.0	0.50	0.16	mg/L		04/18/19 17:08	1

Client Sample ID: SHL-EB01_SPR19

Lab Sample ID: 680-167630-4
Date Collected: 04/12/19 10:35
Matrix: WQ
Date Received: 04/13/19 10:11

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	**0.27**	**J**	0.50	0.50	0.20	mg/L		04/27/19 20:37	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		04/27/19 20:37	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		04/26/19 16:37	1
Manganese	3.0	U	10	3.0	1.0	ug/L		04/26/19 16:37	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		04/27/19 00:08	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	**0.33**	**J**	1.0	0.50	0.16	mg/L		04/18/19 17:27	1
Alkalinity	10	U	10	10	3.1	mg/L		04/17/19 04:15	1

Client Sample ID: SHL-19_SPR19

Lab Sample ID: 680-167630-5
Date Collected: 04/12/19 11:30
Matrix: WG
Date Received: 04/13/19 10:11

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	**1.3**		0.50	0.50	0.20	mg/L		04/27/19 20:50	1
Sulfate	**26**	**M**	1.0	1.0	0.40	mg/L		04/27/19 20:50	1

Client Sample ID: SHL-19_SPR19

Lab Sample ID: 680-167630-5
Date Collected: 04/12/19 11:30
Matrix: WG
Date Received: 04/13/19 10:11

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	23	J	50	50	17	ug/L		04/19/19 22:09	1
Manganese	3.0	U	10	3.0	1.0	ug/L		04/19/19 22:09	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		04/18/19 22:47	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	71		10	10	3.1	mg/L		04/17/19 04:21	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.86	J	1.0	0.50	0.16	mg/L		04/18/19 14:21	1

Client Sample ID: PZ-12-08_SPR19

Lab Sample ID: 680-167630-6
Date Collected: 04/12/19 13:15
Matrix: WG
Date Received: 04/13/19 10:11

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	1.0		0.50	0.50	0.20	mg/L		04/27/19 21:28	1
Sulfate	26	M	1.0	1.0	0.40	mg/L		04/27/19 21:28	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	23000		50	50	17	ug/L		05/08/19 18:02	1
Manganese	1200		10	3.0	1.0	ug/L		05/08/19 18:02	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	160		3.0	3.0	1.5	ug/L		05/08/19 16:54	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	70		10	10	3.1	mg/L		04/17/19 04:26	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.92	J	1.0	0.50	0.16	mg/L		04/18/19 17:44	1

Client Sample ID: SHP-01-36X_SPR19

Lab Sample ID: 680-167630-7
Date Collected: 04/12/19 09:20
Matrix: WG
Date Received: 04/13/19 10:11

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	81		0.50	0.50	0.20	mg/L		04/27/19 21:40	1
Sulfate	7.3		1.0	1.0	0.40	mg/L		04/27/19 21:40	1

Client Sample ID: SHP-01-36X_SPR19

Lab Sample ID: 680-167630-7
Date Collected: 04/12/19 09:20
Matrix: WG
Date Received: 04/13/19 10:11

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	870		50	50	17	ug/L		04/19/19 23:21	1
Manganese	33		10	3.0	1.0	ug/L		04/19/19 23:21	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	6.3		3.0	3.0	1.5	ug/L		04/19/19 00:29	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	22		10	10	3.1	mg/L		04/17/19 04:31	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.1		1.0	0.50	0.16	mg/L		04/18/19 18:00	1

Client Sample ID: SHP-01-37X_SPR19

Lab Sample ID: 680-167630-8
Date Collected: 04/12/19 10:35
Matrix: WG
Date Received: 04/13/19 10:11

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	28		0.50	0.50	0.20	mg/L		04/27/19 21:53	1
Sulfate	21	M	1.0	1.0	0.40	mg/L		04/27/19 21:53	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	5400		50	50	17	ug/L		04/19/19 23:04	1
Manganese	440		10	3.0	1.0	ug/L		04/19/19 23:04	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	15		3.0	3.0	1.5	ug/L		04/18/19 23:53	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	65		10	10	3.1	mg/L		04/17/19 04:36	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.1		1.0	0.50	0.16	mg/L		04/18/19 18:17	1

Client Sample ID: SHP-01-38A_SPR19

Lab Sample ID: 680-167630-9
Date Collected: 04/12/19 12:05
Matrix: WG
Date Received: 04/13/19 10:11

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	1.3		0.50	0.50	0.20	mg/L		04/27/19 22:06	1
Sulfate	8.6	M	1.0	1.0	0.40	mg/L		04/27/19 22:06	1

Client Sample ID: SHP-01-38A_SPR19

Lab Sample ID: 680-167630-9
Matrix: WG
Date Collected: 04/12/19 12:05
Date Received: 04/13/19 10:11

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	15000		50	50	17	ug/L		04/19/19 22:30	1
Manganese	1300		10	3.0	1.0	ug/L		04/19/19 22:30	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	79		3.0	3.0	1.5	ug/L		04/18/19 23:30	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	41		10	10	3.1	mg/L		04/17/19 04:41	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.3		1.0	0.50	0.16	mg/L		04/18/19 19:34	1

Client Sample ID: EPA-PZ-2012-5A_SPR19

Lab Sample ID: 680-167630-10
Matrix: GW
Date Collected: 04/12/19 11:12
Date Received: 04/13/19 10:11

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	15		0.50	0.50	0.20	mg/L		04/27/19 22:18	1
Sulfate	4.2		1.0	1.0	0.40	mg/L		04/27/19 22:18	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	7200		50	50	17	ug/L		04/19/19 23:12	1
Manganese	96		10	3.0	1.0	ug/L		04/19/19 23:12	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	1.5	J	3.0	3.0	1.5	ug/L		04/19/19 00:21	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	22		10	10	3.1	mg/L		04/17/19 04:46	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	6.5		1.0	0.50	0.16	mg/L		04/18/19 19:51	1

Client Sample ID: EPA-PZ-2012-5B_SPR19

Lab Sample ID: 680-167630-11
Matrix: GW
Date Collected: 04/12/19 12:05
Date Received: 04/13/19 10:11

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	42		0.50	0.50	0.20	mg/L		04/27/19 22:31	1
Sulfate	8.9	M	1.0	1.0	0.40	mg/L		04/27/19 22:31	1

Client Sample ID: EPA-PZ-2012-5B_SPR19

Lab Sample ID: 680-167630-11
Date Collected: 04/12/19 12:05
Matrix: GW
Date Received: 04/13/19 10:11

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	390		50	50	17	ug/L		04/19/19 22:35	1
Manganese	11000		10	3.0	1.0	ug/L		04/19/19 22:35	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	2.7	J	3.0	3.0	1.5	ug/L		04/18/19 23:34	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	200		10	10	3.1	mg/L		04/18/19 21:28	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.7		1.0	0.50	0.16	mg/L		04/18/19 20:46	1

Client Sample ID: EPA-PZ-2012-2A_SPR19

Lab Sample ID: 680-167630-12
Date Collected: 04/12/19 08:46
Matrix: GW
Date Received: 04/13/19 10:11

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	2.6		0.50	0.50	0.20	mg/L		04/27/19 22:43	1
Sulfate	5.8	M	1.0	1.0	0.40	mg/L		04/27/19 22:43	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		04/19/19 23:17	1
Manganese	1.5	J	10	3.0	1.0	ug/L		04/19/19 23:17	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		04/19/19 00:25	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10		10	10	3.1	mg/L		04/18/19 21:21	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.64	J	1.0	0.50	0.16	mg/L		04/18/19 21:05	1

Client Sample ID: EPA-PZ-2012-2B_SPR19

Lab Sample ID: 680-167630-13
Date Collected: 04/12/19 09:53
Matrix: GW
Date Received: 04/13/19 10:11

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	35		0.50	0.50	0.20	mg/L		04/27/19 22:56	1
Sulfate	13	M	1.0	1.0	0.40	mg/L		04/27/19 22:56	1

Client Sample ID: EPA-PZ-2012-2B_SPR19

Lab Sample ID: 680-167630-13

Date Collected: 04/12/19 09:53

Matrix: GW

Date Received: 04/13/19 10:11

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	97		50	50	17	ug/L		04/19/19 23:25	1
Manganese	6400		10	3.0	1.0	ug/L		04/19/19 23:25	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		04/29/19 11:43	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	130		10	10	3.1	mg/L		04/18/19 21:43	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.7		1.0	0.50	0.16	mg/L		04/18/19 21:21	1

Client Sample ID: SHM-93-22B_SPR19

Lab Sample ID: 680-167630-14

Date Collected: 04/12/19 13:14

Matrix: GW

Date Received: 04/13/19 10:11

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	31		0.50	0.50	0.20	mg/L		04/27/19 23:59	1
Sulfate	5.6	M	1.0	1.0	0.40	mg/L		04/27/19 23:59	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	3000		50	50	17	ug/L		04/19/19 23:08	1
Manganese	9500		10	3.0	1.0	ug/L		04/19/19 23:08	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	83		3.0	3.0	1.5	ug/L		04/19/19 00:17	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	260		10	10	3.1	mg/L		04/18/19 21:36	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.8		1.0	0.50	0.16	mg/L		04/18/19 21:40	1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 680-568165/2
Matrix: Water
Analysis Batch: 568165

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		04/27/19 13:24	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		04/27/19 13:24	1

Lab Sample ID: LCS 680-568165/4
Matrix: Water
Analysis Batch: 568165

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.2		mg/L		102	87 - 111
Sulfate	10.0	10.4		mg/L		104	87 - 112

Lab Sample ID: LCSD 680-568165/6
Matrix: Water
Analysis Batch: 568165

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
Chloride	10.0	10.4		mg/L		104	87 - 111	2	15
Sulfate	10.0	10.7		mg/L		107	87 - 112	2	15

Lab Sample ID: 680-167630-5 MS
Matrix: WG
Analysis Batch: 568165

Client Sample ID: SHL-19_SPR19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1.3		10.0	11.7		mg/L		105	87 - 111
Sulfate	26	M	10.0	36.3		mg/L		108	87 - 112

Lab Sample ID: 680-167630-5 MSD
Matrix: WG
Analysis Batch: 568165

Client Sample ID: SHL-19_SPR19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1.3		10.0	11.9		mg/L		106	87 - 111	1	15
Sulfate	26	M	10.0	36.4		mg/L		109	87 - 112	0	15

Lab Sample ID: MB 680-568179/34
Matrix: Water
Analysis Batch: 568179

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		04/27/19 23:21	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		04/27/19 23:21	1

Lab Sample ID: LCS 680-568179/35
Matrix: Water
Analysis Batch: 568179

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.2		mg/L		102	87 - 111
Sulfate	10.0	10.4		mg/L		104	87 - 112

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: LCSD 680-568179/36
Matrix: Water
Analysis Batch: 568179

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
Chloride			10.0	10.2		mg/L		102	87 - 111	0	15
Sulfate			10.0	10.4		mg/L		104	87 - 112	0	15

Lab Sample ID: 680-167630-14 MS
Matrix: GW
Analysis Batch: 568179

Client Sample ID: SHM-93-22B_SPR19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	31		10.0	41.9		mg/L		105	87 - 111
Sulfate	5.6	M	10.0	16.1		mg/L		105	87 - 112

Lab Sample ID: 680-167630-14 MSD
Matrix: GW
Analysis Batch: 568179

Client Sample ID: SHM-93-22B_SPR19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	31		10.0	41.9		mg/L		104	87 - 111	0	15
Sulfate	5.6	M	10.0	16.2		mg/L		106	87 - 112	0	15

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-567855/1-A
Matrix: Water
Analysis Batch: 568096

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 567855

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		04/26/19 15:02	1
Manganese	3.0	U	10	3.0	1.0	ug/L		04/26/19 15:02	1

Lab Sample ID: LCS 680-567855/2-A
Matrix: Water
Analysis Batch: 568096

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 567855

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron			5000	5020		ug/L		100	87 - 115
Manganese			400	425		ug/L		106	90 - 114

Lab Sample ID: MB 680-566799/1-A
Matrix: Water
Analysis Batch: 567186

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 566799

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		04/19/19 22:01	1
Manganese	3.0	U	10	3.0	1.0	ug/L		04/19/19 22:01	1

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

Lab Sample ID: LCS 680-566799/2-A
Matrix: Water
Analysis Batch: 567186

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 566799

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5000	5350		ug/L		107	87 - 115
Manganese	400	440		ug/L		110	90 - 114

Lab Sample ID: MB 680-569312/1-A
Matrix: Water
Analysis Batch: 569728

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 569312

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		05/08/19 17:04	1
Manganese	3.0	U	10	3.0	1.0	ug/L		05/08/19 17:04	1

Lab Sample ID: LCS 680-569312/2-A
Matrix: Water
Analysis Batch: 569728

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 569312

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5000	4890		ug/L		98	87 - 115
Manganese	400	401		ug/L		100	90 - 114

Lab Sample ID: 680-167630-5 MS
Matrix: WG
Analysis Batch: 567186

Client Sample ID: SHL-19_SPR19
Prep Type: Dissolved
Prep Batch: 566799

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	23	J	5000	5140		ug/L		102	87 - 115
Manganese	3.0	U	400	418		ug/L		104	90 - 114

Lab Sample ID: 680-167630-5 MSD
Matrix: WG
Analysis Batch: 567186

Client Sample ID: SHL-19_SPR19
Prep Type: Dissolved
Prep Batch: 566799

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	23	J	5000	5070		ug/L		101	87 - 115	1	20
Manganese	3.0	U	400	411		ug/L		103	90 - 114	2	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 680-567852/1-A
Matrix: Water
Analysis Batch: 568118

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 567852

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		04/26/19 23:20	1

Lab Sample ID: LCS 680-567852/2-A
Matrix: Water
Analysis Batch: 568118

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 567852

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	102		ug/L		102	84 - 116

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

Lab Sample ID: MB 680-566798/1-A
Matrix: Water
Analysis Batch: 567081

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 566798

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		04/18/19 22:39	1

Lab Sample ID: LCS 680-566798/2-A
Matrix: Water
Analysis Batch: 567081

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 566798

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	108		ug/L		108	84 - 116

Lab Sample ID: MB 680-569311/1-A
Matrix: Water
Analysis Batch: 569676

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 569311

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		05/08/19 16:19	1

Lab Sample ID: LCS 680-569311/2-A
Matrix: Water
Analysis Batch: 569676

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 569311

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	103		ug/L		103	84 - 116

Lab Sample ID: 680-167630-5 MS
Matrix: WG
Analysis Batch: 567081

Client Sample ID: SHL-19_SPR19
Prep Type: Dissolved
Prep Batch: 566798

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	3.0	U	100	104		ug/L		104	84 - 116

Lab Sample ID: 680-167630-5 MSD
Matrix: WG
Analysis Batch: 567081

Client Sample ID: SHL-19_SPR19
Prep Type: Dissolved
Prep Batch: 566798

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	3.0	U	100	104		ug/L		104	84 - 116	1	20

Method: 9060 - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 280-455212/4
Matrix: Water
Analysis Batch: 455212

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.189	J	1.0	0.50	0.16	mg/L		04/18/19 13:14	1

Method: 9060 - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: LCS 280-455212/3
Matrix: Water
Analysis Batch: 455212

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Dissolved Organic Carbon - Duplicate			25.0	24.9		mg/L		100	88 - 112		

Lab Sample ID: 680-167630-5 MS
Matrix: WG
Analysis Batch: 455212

Client Sample ID: SHL-19_SPR19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Dissolved Organic Carbon - Duplicate	0.86	J	25.0	26.5		mg/L		103	88 - 112		

Lab Sample ID: 680-167630-5 MSD
Matrix: WG
Analysis Batch: 455212

Client Sample ID: SHL-19_SPR19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon - Duplicate	0.86	J	25.0	26.5		mg/L		103	88 - 112	0	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-454904/57
Matrix: Water
Analysis Batch: 454904

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		04/16/19 23:59	1

Lab Sample ID: MB 280-454904/83
Matrix: Water
Analysis Batch: 454904

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		04/17/19 02:47	1

Lab Sample ID: LCS 280-454904/56
Matrix: Water
Analysis Batch: 454904

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity			200	195		mg/L		97	89 - 109		

Lab Sample ID: LCS 280-454904/82
Matrix: Water
Analysis Batch: 454904

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity			200	196		mg/L		98	89 - 109		

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-167630-1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: MB 280-455259/30
Matrix: Water
Analysis Batch: 455259

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		04/18/19 20:13	1

Lab Sample ID: LCS 280-455259/29
Matrix: Water
Analysis Batch: 455259

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	200		mg/L		100	89 - 109

HPLC/IC

Analysis Batch: 568165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167630-1	EW-1@ATP Port_SPR19	Total/NA	WG	9056A	
680-167630-2	EW-4@ATP Port_SPR19	Total/NA	WG	9056A	
680-167630-3	SHL-10_SPR19	Total/NA	WG	9056A	
680-167630-4	SHL-EB01_SPR19	Total/NA	WQ	9056A	
680-167630-5	SHL-19_SPR19	Total/NA	WG	9056A	
680-167630-6	PZ-12-08_SPR19	Total/NA	WG	9056A	
680-167630-7	SHP-01-36X_SPR19	Total/NA	WG	9056A	
680-167630-8	SHP-01-37X_SPR19	Total/NA	WG	9056A	
680-167630-9	SHP-01-38A_SPR19	Total/NA	WG	9056A	
680-167630-10	EPA-PZ-2012-5A_SPR19	Total/NA	GW	9056A	
680-167630-11	EPA-PZ-2012-5B_SPR19	Total/NA	GW	9056A	
680-167630-12	EPA-PZ-2012-2A_SPR19	Total/NA	GW	9056A	
680-167630-13	EPA-PZ-2012-2B_SPR19	Total/NA	GW	9056A	
MB 680-568165/2	Method Blank	Total/NA	Water	9056A	
LCS 680-568165/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-568165/6	Lab Control Sample Dup	Total/NA	Water	9056A	
680-167630-5 MS	SHL-19_SPR19	Total/NA	WG	9056A	
680-167630-5 MSD	SHL-19_SPR19	Total/NA	WG	9056A	

Analysis Batch: 568179

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167630-14	SHM-93-22B_SPR19	Total/NA	GW	9056A	
MB 680-568179/34	Method Blank	Total/NA	Water	9056A	
LCS 680-568179/35	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-568179/36	Lab Control Sample Dup	Total/NA	Water	9056A	
680-167630-14 MS	SHM-93-22B_SPR19	Total/NA	GW	9056A	
680-167630-14 MSD	SHM-93-22B_SPR19	Total/NA	GW	9056A	

Metals

Prep Batch: 566798

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167630-1	EW-1@ATP Port_SPR19	Dissolved	WG	3005A	
680-167630-2	EW-4@ATP Port_SPR19	Dissolved	WG	3005A	
680-167630-3	SHL-10_SPR19	Dissolved	WG	3005A	
680-167630-5	SHL-19_SPR19	Dissolved	WG	3005A	
680-167630-7	SHP-01-36X_SPR19	Dissolved	WG	3005A	
680-167630-8	SHP-01-37X_SPR19	Dissolved	WG	3005A	
680-167630-9	SHP-01-38A_SPR19	Dissolved	WG	3005A	
680-167630-10	EPA-PZ-2012-5A_SPR19	Dissolved	GW	3005A	
680-167630-11	EPA-PZ-2012-5B_SPR19	Dissolved	GW	3005A	
680-167630-12	EPA-PZ-2012-2A_SPR19	Dissolved	GW	3005A	
680-167630-13	EPA-PZ-2012-2B_SPR19	Dissolved	GW	3005A	
680-167630-14	SHM-93-22B_SPR19	Dissolved	GW	3005A	
MB 680-566798/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-566798/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
680-167630-5 MS	SHL-19_SPR19	Dissolved	WG	3005A	
680-167630-5 MSD	SHL-19_SPR19	Dissolved	WG	3005A	

Metals

Prep Batch: 566799

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167630-1	EW-1@ATP Port_SPR19	Dissolved	WG	3005A	
680-167630-2	EW-4@ATP Port_SPR19	Dissolved	WG	3005A	
680-167630-3	SHL-10_SPR19	Dissolved	WG	3005A	
680-167630-5	SHL-19_SPR19	Dissolved	WG	3005A	
680-167630-7	SHP-01-36X_SPR19	Dissolved	WG	3005A	
680-167630-8	SHP-01-37X_SPR19	Dissolved	WG	3005A	
680-167630-9	SHP-01-38A_SPR19	Dissolved	WG	3005A	
680-167630-10	EPA-PZ-2012-5A_SPR19	Dissolved	GW	3005A	
680-167630-11	EPA-PZ-2012-5B_SPR19	Dissolved	GW	3005A	
680-167630-12	EPA-PZ-2012-2A_SPR19	Dissolved	GW	3005A	
680-167630-13	EPA-PZ-2012-2B_SPR19	Dissolved	GW	3005A	
680-167630-14	SHM-93-22B_SPR19	Dissolved	GW	3005A	
MB 680-566799/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-566799/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
680-167630-5 MS	SHL-19_SPR19	Dissolved	WG	3005A	
680-167630-5 MSD	SHL-19_SPR19	Dissolved	WG	3005A	

Analysis Batch: 567081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167630-1	EW-1@ATP Port_SPR19	Dissolved	WG	6020A	566798
680-167630-2	EW-4@ATP Port_SPR19	Dissolved	WG	6020A	566798
680-167630-3	SHL-10_SPR19	Dissolved	WG	6020A	566798
680-167630-5	SHL-19_SPR19	Dissolved	WG	6020A	566798
680-167630-7	SHP-01-36X_SPR19	Dissolved	WG	6020A	566798
680-167630-8	SHP-01-37X_SPR19	Dissolved	WG	6020A	566798
680-167630-9	SHP-01-38A_SPR19	Dissolved	WG	6020A	566798
680-167630-10	EPA-PZ-2012-5A_SPR19	Dissolved	GW	6020A	566798
680-167630-11	EPA-PZ-2012-5B_SPR19	Dissolved	GW	6020A	566798
680-167630-12	EPA-PZ-2012-2A_SPR19	Dissolved	GW	6020A	566798
680-167630-14	SHM-93-22B_SPR19	Dissolved	GW	6020A	566798
MB 680-566798/1-A	Method Blank	Total Recoverable	Water	6020A	566798
LCS 680-566798/2-A	Lab Control Sample	Total Recoverable	Water	6020A	566798
680-167630-5 MS	SHL-19_SPR19	Dissolved	WG	6020A	566798
680-167630-5 MSD	SHL-19_SPR19	Dissolved	WG	6020A	566798

Analysis Batch: 567186

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167630-1	EW-1@ATP Port_SPR19	Dissolved	WG	6010C	566799
680-167630-2	EW-4@ATP Port_SPR19	Dissolved	WG	6010C	566799
680-167630-3	SHL-10_SPR19	Dissolved	WG	6010C	566799
680-167630-5	SHL-19_SPR19	Dissolved	WG	6010C	566799
680-167630-7	SHP-01-36X_SPR19	Dissolved	WG	6010C	566799
680-167630-8	SHP-01-37X_SPR19	Dissolved	WG	6010C	566799
680-167630-9	SHP-01-38A_SPR19	Dissolved	WG	6010C	566799
680-167630-10	EPA-PZ-2012-5A_SPR19	Dissolved	GW	6010C	566799
680-167630-11	EPA-PZ-2012-5B_SPR19	Dissolved	GW	6010C	566799
680-167630-12	EPA-PZ-2012-2A_SPR19	Dissolved	GW	6010C	566799
680-167630-13	EPA-PZ-2012-2B_SPR19	Dissolved	GW	6010C	566799
680-167630-14	SHM-93-22B_SPR19	Dissolved	GW	6010C	566799
MB 680-566799/1-A	Method Blank	Total Recoverable	Water	6010C	566799
LCS 680-566799/2-A	Lab Control Sample	Total Recoverable	Water	6010C	566799

Metals (Continued)

Analysis Batch: 567186 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167630-5 MS	SHL-19_SPR19	Dissolved	WG	6010C	566799
680-167630-5 MSD	SHL-19_SPR19	Dissolved	WG	6010C	566799

Prep Batch: 567852

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167630-4	SHL-EB01_SPR19	Total/NA	WQ	3010A	
MB 680-567852/1-A	Method Blank	Total/NA	Water	3010A	
LCS 680-567852/2-A	Lab Control Sample	Total/NA	Water	3010A	

Prep Batch: 567855

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167630-4	SHL-EB01_SPR19	Total/NA	WQ	3010A	
MB 680-567855/1-A	Method Blank	Total/NA	Water	3010A	
LCS 680-567855/2-A	Lab Control Sample	Total/NA	Water	3010A	

Analysis Batch: 568096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167630-4	SHL-EB01_SPR19	Total/NA	WQ	6010C	567855
MB 680-567855/1-A	Method Blank	Total/NA	Water	6010C	567855
LCS 680-567855/2-A	Lab Control Sample	Total/NA	Water	6010C	567855

Analysis Batch: 568118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167630-4	SHL-EB01_SPR19	Total/NA	WQ	6020A	567852
MB 680-567852/1-A	Method Blank	Total/NA	Water	6020A	567852
LCS 680-567852/2-A	Lab Control Sample	Total/NA	Water	6020A	567852

Analysis Batch: 568320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167630-13	EPA-PZ-2012-2B_SPR19	Dissolved	GW	6020A	566798

Prep Batch: 569311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167630-6	PZ-12-08_SPR19	Dissolved	WG	3005A	
MB 680-569311/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-569311/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 569312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167630-6	PZ-12-08_SPR19	Dissolved	WG	3005A	
MB 680-569312/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-569312/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 569676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167630-6	PZ-12-08_SPR19	Dissolved	WG	6020A	569311
MB 680-569311/1-A	Method Blank	Total Recoverable	Water	6020A	569311
LCS 680-569311/2-A	Lab Control Sample	Total Recoverable	Water	6020A	569311

Metals

Analysis Batch: 569728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167630-6	PZ-12-08_SPR19	Dissolved	WG	6010C	569312
MB 680-569312/1-A	Method Blank	Total Recoverable	Water	6010C	569312
LCS 680-569312/2-A	Lab Control Sample	Total Recoverable	Water	6010C	569312

General Chemistry

Analysis Batch: 454904

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167630-1	EW-1@ATP Port_SPR19	Total/NA	WG	SM 2320B	
680-167630-2	EW-4@ATP Port_SPR19	Total/NA	WG	SM 2320B	
680-167630-3	SHL-10_SPR19	Total/NA	WG	SM 2320B	
680-167630-4	SHL-EB01_SPR19	Total/NA	WQ	SM 2320B	
680-167630-5	SHL-19_SPR19	Total/NA	WG	SM 2320B	
680-167630-6	PZ-12-08_SPR19	Total/NA	WG	SM 2320B	
680-167630-7	SHP-01-36X_SPR19	Total/NA	WG	SM 2320B	
680-167630-8	SHP-01-37X_SPR19	Total/NA	WG	SM 2320B	
680-167630-9	SHP-01-38A_SPR19	Total/NA	WG	SM 2320B	
680-167630-10	EPA-PZ-2012-5A_SPR19	Total/NA	GW	SM 2320B	
MB 280-454904/57	Method Blank	Total/NA	Water	SM 2320B	
MB 280-454904/83	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-454904/56	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 280-454904/82	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 455211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167630-4	SHL-EB01_SPR19	Total/NA	WQ	9060A	
MB 280-455211/4	Method Blank	Dissolved	Water	9060	
LCS 280-455211/3	Lab Control Sample	Dissolved	Water	9060	

Analysis Batch: 455212

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167630-1	EW-1@ATP Port_SPR19	Dissolved	WG	9060	
680-167630-2	EW-4@ATP Port_SPR19	Dissolved	WG	9060	
680-167630-3	SHL-10_SPR19	Dissolved	WG	9060	
680-167630-5	SHL-19_SPR19	Dissolved	WG	9060	
680-167630-6	PZ-12-08_SPR19	Dissolved	WG	9060	
680-167630-7	SHP-01-36X_SPR19	Dissolved	WG	9060	
680-167630-8	SHP-01-37X_SPR19	Dissolved	WG	9060	
680-167630-9	SHP-01-38A_SPR19	Dissolved	WG	9060	
680-167630-10	EPA-PZ-2012-5A_SPR19	Dissolved	GW	9060	
680-167630-11	EPA-PZ-2012-5B_SPR19	Dissolved	GW	9060	
680-167630-12	EPA-PZ-2012-2A_SPR19	Dissolved	GW	9060	
680-167630-13	EPA-PZ-2012-2B_SPR19	Dissolved	GW	9060	
680-167630-14	SHM-93-22B_SPR19	Dissolved	GW	9060	
MB 280-455212/4	Method Blank	Dissolved	Water	9060	
LCS 280-455212/3	Lab Control Sample	Dissolved	Water	9060	
680-167630-5 MS	SHL-19_SPR19	Dissolved	WG	9060	
680-167630-5 MSD	SHL-19_SPR19	Dissolved	WG	9060	

General Chemistry

Analysis Batch: 455259

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167630-11	EPA-PZ-2012-5B_SPR19	Total/NA	GW	SM 2320B	
680-167630-12	EPA-PZ-2012-2A_SPR19	Total/NA	GW	SM 2320B	
680-167630-13	EPA-PZ-2012-2B_SPR19	Total/NA	GW	SM 2320B	
680-167630-14	SHM-93-22B_SPR19	Total/NA	GW	SM 2320B	
MB 280-455259/30	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-455259/29	Lab Control Sample	Total/NA	Water	SM 2320B	

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-167630-1

Client Sample ID: EW-1@ATP Port_SPR19

Lab Sample ID: 680-167630-1
Date Collected: 04/12/19 07:45
Matrix: WG
Date Received: 04/13/19 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	568165	04/27/19 19:20	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	566799	04/17/19 15:49	AJR	TAL SAV
Dissolved	Analysis	6010C		1			567186	04/19/19 22:47	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	566798	04/17/19 15:49	AJR	TAL SAV
Dissolved	Analysis	6020A		1			567081	04/18/19 23:38	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			455212	04/18/19 15:57	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			454904	04/17/19 04:01	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: EW-4@ATP Port_SPR19

Lab Sample ID: 680-167630-2
Date Collected: 04/12/19 08:00
Matrix: WG
Date Received: 04/13/19 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	568165	04/27/19 19:33	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	566799	04/17/19 15:49	AJR	TAL SAV
Dissolved	Analysis	6010C		1			567186	04/19/19 23:00	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	566798	04/17/19 15:49	AJR	TAL SAV
Dissolved	Analysis	6020A		1			567081	04/18/19 23:49	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			455212	04/18/19 16:15	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			454904	04/17/19 04:05	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHL-10_SPR19

Lab Sample ID: 680-167630-3
Date Collected: 04/12/19 10:00
Matrix: WG
Date Received: 04/13/19 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	568165	04/27/19 19:46	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	566799	04/17/19 15:49	AJR	TAL SAV
Dissolved	Analysis	6010C		1			567186	04/19/19 22:51	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	566798	04/17/19 15:49	AJR	TAL SAV
Dissolved	Analysis	6020A		1			567081	04/18/19 23:41	BWR	TAL SAV
	Instrument ID: ICPMSD									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-167630-1

Client Sample ID: SHL-10_SPR19

Lab Sample ID: 680-167630-3
Matrix: WG
Date Collected: 04/12/19 10:00
Date Received: 04/13/19 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060		1			455212	04/18/19 17:08	LPL	TAL DEN
Total/NA	Analysis	SM 2320B		1			454904	04/17/19 04:11	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHL-EB01_SPR19

Lab Sample ID: 680-167630-4
Matrix: WQ
Date Collected: 04/12/19 10:35
Date Received: 04/13/19 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	568165	04/27/19 20:37	UI	TAL SAV
	Instrument ID: CICK									
Total/NA	Prep	3010A			50 mL	50 mL	567855	04/25/19 10:34	AJR	TAL SAV
Total/NA	Analysis	6010C		1			568096	04/26/19 16:37	BCB	TAL SAV
	Instrument ID: ICPE									
Total/NA	Prep	3010A			50 mL	250 mL	567852	04/25/19 10:34	AJR	TAL SAV
Total/NA	Analysis	6020A		1			568118	04/27/19 00:08	BWR	TAL SAV
	Instrument ID: ICPMSC									
Total/NA	Analysis	9060A		1			455211	04/18/19 17:27	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			454904	04/17/19 04:15	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHL-19_SPR19

Lab Sample ID: 680-167630-5
Matrix: WG
Date Collected: 04/12/19 11:30
Date Received: 04/13/19 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	568165	04/27/19 20:50	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	566799	04/17/19 15:49	AJR	TAL SAV
Dissolved	Analysis	6010C		1			567186	04/19/19 22:09	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	566798	04/17/19 15:49	AJR	TAL SAV
Dissolved	Analysis	6020A		1			567081	04/18/19 22:47	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			455212	04/18/19 14:21	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			454904	04/17/19 04:21	SGB	TAL DEN
	Instrument ID: WC-AT3									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-167630-1

Client Sample ID: PZ-12-08_SPR19

Lab Sample ID: 680-167630-6
Date Collected: 04/12/19 13:15
Matrix: WG
Date Received: 04/13/19 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	568165	04/27/19 21:28	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	569312	05/07/19 11:06	AJR	TAL SAV
Dissolved	Analysis	6010C		1			569728	05/08/19 18:02	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	569311	05/07/19 11:06	AJR	TAL SAV
Dissolved	Analysis	6020A		1			569676	05/08/19 16:54	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			455212	04/18/19 17:44	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			454904	04/17/19 04:26	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHP-01-36X_SPR19

Lab Sample ID: 680-167630-7
Date Collected: 04/12/19 09:20
Matrix: WG
Date Received: 04/13/19 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	568165	04/27/19 21:40	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	566799	04/17/19 15:49	AJR	TAL SAV
Dissolved	Analysis	6010C		1			567186	04/19/19 23:21	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	566798	04/17/19 15:49	AJR	TAL SAV
Dissolved	Analysis	6020A		1			567081	04/19/19 00:29	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			455212	04/18/19 18:00	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			454904	04/17/19 04:31	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHP-01-37X_SPR19

Lab Sample ID: 680-167630-8
Date Collected: 04/12/19 10:35
Matrix: WG
Date Received: 04/13/19 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	568165	04/27/19 21:53	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	566799	04/17/19 15:49	AJR	TAL SAV
Dissolved	Analysis	6010C		1			567186	04/19/19 23:04	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	566798	04/17/19 15:49	AJR	TAL SAV
Dissolved	Analysis	6020A		1			567081	04/18/19 23:53	BWR	TAL SAV
	Instrument ID: ICPMSD									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-167630-1

Client Sample ID: SHP-01-37X_SPR19

Lab Sample ID: 680-167630-8
Matrix: WG
Date Collected: 04/12/19 10:35
Date Received: 04/13/19 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060		1			455212	04/18/19 18:17	LPL	TAL DEN
Total/NA	Analysis	SM 2320B		1			454904	04/17/19 04:36	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHP-01-38A_SPR19

Lab Sample ID: 680-167630-9
Matrix: WG
Date Collected: 04/12/19 12:05
Date Received: 04/13/19 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	568165	04/27/19 22:06	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	566799	04/17/19 15:49	AJR	TAL SAV
Dissolved	Analysis	6010C		1			567186	04/19/19 22:30	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	566798	04/17/19 15:49	AJR	TAL SAV
Dissolved	Analysis	6020A		1			567081	04/18/19 23:30	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			455212	04/18/19 19:34	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			454904	04/17/19 04:41	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: EPA-PZ-2012-5A_SPR19

Lab Sample ID: 680-167630-10
Matrix: GW
Date Collected: 04/12/19 11:12
Date Received: 04/13/19 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	568165	04/27/19 22:18	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	566799	04/17/19 15:49	AJR	TAL SAV
Dissolved	Analysis	6010C		1			567186	04/19/19 23:12	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	566798	04/17/19 15:49	AJR	TAL SAV
Dissolved	Analysis	6020A		1			567081	04/19/19 00:21	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			455212	04/18/19 19:51	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			454904	04/17/19 04:46	SGB	TAL DEN
	Instrument ID: WC-AT3									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-167630-1

Client Sample ID: EPA-PZ-2012-5B_SPR19

Lab Sample ID: 680-167630-11
Date Collected: 04/12/19 12:05
Matrix: GW
Date Received: 04/13/19 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	568165	04/27/19 22:31	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	566799	04/17/19 15:49	AJR	TAL SAV
Dissolved	Analysis	6010C		1			567186	04/19/19 22:35	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	566798	04/17/19 15:49	AJR	TAL SAV
Dissolved	Analysis	6020A		1			567081	04/18/19 23:34	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			455212	04/18/19 20:46	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			455259	04/18/19 21:28	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: EPA-PZ-2012-2A_SPR19

Lab Sample ID: 680-167630-12
Date Collected: 04/12/19 08:46
Matrix: GW
Date Received: 04/13/19 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	568165	04/27/19 22:43	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	566799	04/17/19 15:49	AJR	TAL SAV
Dissolved	Analysis	6010C		1			567186	04/19/19 23:17	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	566798	04/17/19 15:49	AJR	TAL SAV
Dissolved	Analysis	6020A		1			567081	04/19/19 00:25	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			455212	04/18/19 21:05	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			455259	04/18/19 21:21	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: EPA-PZ-2012-2B_SPR19

Lab Sample ID: 680-167630-13
Date Collected: 04/12/19 09:53
Matrix: GW
Date Received: 04/13/19 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	568165	04/27/19 22:56	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	566799	04/17/19 15:49	AJR	TAL SAV
Dissolved	Analysis	6010C		1			567186	04/19/19 23:25	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	566798	04/17/19 15:49	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568320	04/29/19 11:43	BWR	TAL SAV
	Instrument ID: ICPMSD									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-167630-1

Client Sample ID: EPA-PZ-2012-2B_SPR19

Lab Sample ID: 680-167630-13
Matrix: GW
Date Collected: 04/12/19 09:53
Date Received: 04/13/19 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060		1			455212	04/18/19 21:21	LPL	TAL DEN
Total/NA	Analysis	SM 2320B		1			455259	04/18/19 21:43	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHM-93-22B_SPR19

Lab Sample ID: 680-167630-14
Matrix: GW
Date Collected: 04/12/19 13:14
Date Received: 04/13/19 10:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	568179	04/27/19 23:59	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	566799	04/17/19 15:49	AJR	TAL SAV
Dissolved	Analysis	6010C		1			567186	04/19/19 23:08	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	566798	04/17/19 15:49	AJR	TAL SAV
Dissolved	Analysis	6020A		1			567081	04/19/19 00:17	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			455212	04/18/19 21:40	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			455259	04/18/19 21:36	SGB	TAL DEN
	Instrument ID: WC_AT2									

Laboratory References:

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

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 366.7442, add extension lekes@komangs.com

COC # SHL

KGS

Project: Long Term Monitoring
Project Number: DEVNS-LTM
WBS Code: Purchase Order 19-804

Laboratory: TestAmerica Laboratories, Inc. Savannah GA
Point of Contact: Jerry Lanier ((912) 354-7858 jerry.lanier@testamericainc.com
Ship to: 5102 LaRoche Avenue, Savannah, GA 31404

Comments:
SHC

Equipment:
Bladder or Peristaltic pump, ice, T-valve, micron filter for dissolved, YSI, and Turbidity meters for field paramenters.

Dissolved metals = As, Fe, Mn)
Dissolved metals and DOC are field filtered

FF - field filtered using 0.45 micron

EVENT: KOMAN, Long Term Monitoring, SHL (AOC 5) Spring 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: ALkalinity (SM2320A) 1-250 ml poly	Chloride/sulfate (SW9056) 1-125 ml poly	Dissolved metals SW6010/6020 1-250 ml poly HNO3	DOC (SW9060A) 1-250ml amber H2SO4	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom
								FF	FF				
1	EW-1 @ ATP Port_SPR19	WG	4/12/19	0745	BrA	x	x	x	x	EW-1 @ ATP Port	N		
2	EW-4 @ ATP Port_SPR19	WG	4/12/19	0800	BrA	x	x	x	x	EW-4 @ ATP Port	N		
3	SHL-10_SPR19	WG	4/12/19	1000	BrA	x	x	x	x	SHL-10	N		
4	SHL-EB01_SPR19	WQ	4/12/19	1035	BrA	x	x	x	x	Field QC	EB		
5	SHL-19_SPR19	WG	4/12/19	1130	BrA	x	x	x	x	SHL-19	N		
6	SHL-19_SPR19_MS	WG	4/12/19	1130	BrA	x	x	x	x	SHL-19	MS		
7	SHL-19_SPR19_MSD	WG	4/12/19	1130	BrA	x	x	x	x	SHL-19	SD		
8	PZ-12-08-SPR19	WG	4/12/19	1315	BrA	x	x	x	x	PZ-12-08	N		
9													
10													
Cooler:		Turn Around Time:											

680-167630 Chain of Custody

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
	4/12/19	1550		4-12-19	1550

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

4/13/19 1011 3.1 3.1

Page 1 of 1

5/20/2019

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 366.7442, add extension lekes@komangs.com

COC # SHL

KGS

Project: Long Term Monitoring
Project Number: DEVNS-LTM
WBS Code: Purchase Order 19-804

Laboratory: TestAmerica Laboratories, Inc. Savannah GA
Point of Contact: Jerry Lanier ((912) 354-7858 jerry.lanier@testamericainc.com
Ship to: 5102 LaRoche Avenue, Savannah, GA 31404

Comments:

Equipment:
Bladder or Peristaltic pump, ice, T-valve, micron filter for dissolved, YSI, and Turbidity meters for field paramenters.

Dissolved metals = As, Fe, Mn)
Dissolved metals and DOC are field filtered

FF - field filtered using 0.45 micron

EVENT: KOMAN, Long Term Monitoring, SHL (AOC 5) Spring 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: ALkalinity (SM2320A) 1-250 ml poly	Chloride/sulfate (SW9056) 1-125 ml poly	Dissolved metals SW6010/6020 1-250 ml poly HNO3	DOC (SW9060A) 1-250ml amber H2SO4							Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom
								FF	FF										
1	SHP-01-36X_SPR19	WG	04/12/19	0920	CV	X	X	X	X							SHP 01-36X	N1		
2	SHP-01-37X_SPR19	WG	04/12/19	1035	CV	X	X	X	X							SHP 01-37X	N1		
3	SHP-01-38A_SPR19	WG	04/12/19	1205	CV	X	X	X	X							SHP-01-38A	N1		
4																			
5																			
6																			
7																			
8																			
9																			
10																			
Cooler:		Turn Around Time:																	

Relinquished by: *(Signature)*	Date	Time
	04/12/19	1315
	4/12/19	1550
	4-12-19	1815

Received by: *(Signature)*	Date	Time
	4/12/19	1315
	4-12-19	1571

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

4/13/19 1011 3.1

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 366.7442, add extension lekes@komangs.com

COC # SHL

KGS

Project: Long Term Monitoring
Project Number: DEVNS-LTM
WBS Code: Purchase Order 19-804

Laboratory: TestAmerica Laboratories, Inc. Savannah GA
Point of Contact: Jerry Lanier ((912) 354-7858 jerry.lanier@testamericainc.com
Ship to: 5102 LaRoche Avenue, Savannah, GA 31404

Analytical Test Method

Comments:

Equipment:
Bladder or Peristaltic pump, ice, T-valve, micron filter for dissolved, YSI, and Turbidity meters for field paramenters.

Dissolved metals = As, Fe, Mn)
Dissolved metals and DOC are field filtered

FF - field filtered using 0.45 micron

EVENT: KOMAN, Long Term Monitoring, SHL (AOC 5) Spring 2019

	Sample ID	Matrix	Date	Time	Samp Init	Analytical Test Method: ALkalinity (SM2320A) 1-250 ml poly	Chloride/sulfate (SW9056) 1-125 ml poly	Dissolved metals SW6010/6020 1-250 ml poly HNO3	DOC (SW9060A) 1-250ml amber H2SO4							Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom
								FF	FF										
1	~~EPA-PZ-2012-5~~																		
2	EPA-PZ-2012-5A_SPR19	GW	4/12/2019	1112	EAS	1	1	1	1							EPA-PZ-2012-5A	N1		
3	EPA-PZ-2012-5B=SPR19	GW	4/12/2019	1205	EAS	1	1	1	1							EPA-PZ-2012-5B	N1		
4	EPA-PZ-2012-2A_SPR19	GW	4/12/2019	0846	EAS	1	1	1	1							EPA-PZ-2012-2A	N1		
5	EPA-PZ-2012-2B_SPR19	GW	4/12/2019	0953	EAS	1	1	1	1							EPA-PZ-2012-2B	N1		
6	SHM-93-22B_SPR19	GW	4/12/2019	1314	EAS	1	1	1	1							SHM-93-22B	N1		
7																			
8																			
9																			
10																			
Cooler:		Turn Around Time:																	

Relinquished by: *(Signature)*	Date	Time	Received by: ~~*(Signature)*~~	Date	Time
[signature]	4/12/2019	1558	[signature]	4-12-19	1558
[signature]	4/12/19	[illegible]			

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

[signature] 4/18/19 1011 3.1/3.1

Page 1 of 1

5/20/2019

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 366.7442, add extension lekes@komangs.com

COC # SHL

Project: Long Term Monitoring
Project Number: DEVNS-LTM
WBS Code: Purchase Order 19-804

Laboratory: TestAmerica Laboratories, Inc. Savannah GA
Point of Contact: Jerry Lanier ((912) 354-7858 jerry.lanier@testamericainc.com
Ship to: 5102 LaRoche Avenue, Savannah, GA 31404

Comments:
SHC

Equipment:
Bladder or Peristaltic pump, ice, T-valve, micron filter for dissolved, YSI, and Turbidity meters *for field paramenters*.

Dissolved metals = As, Fe, Mn)
Dissolved metals and DOC are field filtered

FF - field filtered using 0.45 micron

EVENT: KOMAN, Long Term Monitoring, SHL (AOC 5) Spring 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: ALkalinity (SM2320A) 1-250 ml poly	Chloride/sulfate (SW9056) 1-125 ml poly	Dissolved metals SW6010/6020 1-250 ml poly HNO3	DOC (SW9060A) 1-250ml amber H2SO4	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom
								FF	FF				
1	EW-1@ATP Port_SPRIG	WG	4/12/19	0745	BrA	X	X	X	X	EW-1@ATP Port	N,		
2	EW-4@ATP Port_SPRIG	WG	4/12/19	0800	BrA	X	X	X	X	EW-4@ATP Port	N,		
3	SHL-10_SPRIG	WG	4/12/19	1000	BrA	X	X	X	X	SHL-10	N,		
4	SHL-EB01_SPRIG	WQ	4/12/19	1035	BrA	X	X	X	X	Field QC	EB		
5	SHL-19_SPRIG	WG	4/12/19	1130	BrA	X	X	X	X	SHL-19	N,		
6	SHL-19_SPRIG_MS	WG	4/12/19	1130	BrA	X	X	X	X	SHL-19	MS		
7	SHL-19_SPRIG_MSD	WG	4/12/19	1130	BrA	X	X	X	X	SHL-15	SD,		
8	PZ-12-08_SPRIG	WG	4/12/19	1315	BrA	X	X	X	X	PZ-12-08	N,		
9													
10													
Cooler:		Turn Around Time:											

680-167630 Chain of Custody

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
	4/12/19	1550		4-12-19	1550

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

Page 1 of 1

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 366.7442, add extension lekes@komangs.com

COC # SHL

360325 Boston

KGS

Project: Long Term Monitoring	**Laboratory:** TestAmerica Laboratories, Inc. Savannah GA
Project Number: DEVNS-LTM	**Point of Contact:** Jerry Lanier ((912) 354-7858 jerry.lanier@testamericainc.com
WBS Code: Purchase Order 19-804	**Ship to:** 5102 LaRoche Avenue, Savannah, GA 31404

Comments:

Equipment:
Bladder or Peristaltic pump, ice, T-valve, micron filter for dissolved, YSI, and Turbidity meters for field paramenters.

Dissolved metals = As, Fe, Mn)
Dissolved metals and DOC are field filtered

FF - field filtered using 0.45 micron

EVENT: KOMAN, Long Term Monitoring, SHL (AOC 5) Spring 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: ALkalinity (SM2320A) 1-250 ml poly	Chloride/sulfate (SW9056) 1-125 ml poly	Dissolved metals SW6010/6020 1-250 ml poly HNO3	DOC (SW9060A) 1-250ml amber H2SO4							Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom
								FF	FF										
1	~~EPA-PZ-2012-5~~																		
2	EPA-PZ-2012-5A_SPR19	GW	4/12/2019	1112	EAS	1	1	1	1							EPA-PZ-2012-5A	N1		
3	EPA-PZ-2012-5B=SPR19	GW	4/12/2019	1205	EAS	1	1	1	1							EPA-PZ-2012-5B	N1		
4	EPA-PZ-2012-2A_SPR19	GW	4/12/2019	0846	EAS	1	1	1	1							EPA-PZ-2012-2A	N1		
5	EPA-PZ-2012-2B_SPR19	GW	4/12/2019	0953	EAS	1	1	1	1							EPA-PZ-2012-2B	N1		
6	SHM-93-22B_SPR19	GW	4/12/2019	1314	EAS	1	1	1	1							SHM-93-22B	N1		
7																			
8																			
9																			
10																			
Cooler:		Turn Around Time:																	

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
	4/12/2019	1550		4-12-19	1551
	4/12/19	1600			

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 366.7442, add extension lekes@komangs.com

COC # SHL

KGS

Project: Long Term Monitoring
Project Number: DEVNS-LTM
WBS Code: Purchase Order 19-804

Laboratory: TestAmerica Laboratories, Inc. Savannah GA
Point of Contact: Jerry Lanier ((912) 354-7858 jerry.lanier@testamericainc.com
Ship to: 5102 LaRoche Avenue, Savannah, GA 31404

Comments:

Equipment:
Bladder or Peristaltic pump, ice, T-valve, micron filter for dissolved, YSI, and Turbidity meters for field paramenters.

Dissolved metals = As, Fe, Mn)
Dissolved metals and DOC are field filtered

FF - field filtered using 0.45 micron

Analytical Test Method

						Analytical Test Method	ALkalinity (SM2320A) 1-250 ml poly	Chloride/sulfate (SW9056) 1-125 ml poly	Dissolved metals SW6010/6020 1-250 ml poly HNO3	DOC (SW9060A) 1-250ml amber H2SO4								
EVENT: KOMAN, Long Term Monitoring, SHL (AOC 5) Spring 2019									FF	FF								
	Sample ID	Matrix	Date	Time	Samp Init.											Location ID	Sample Type	Depth (ft bgs) Top - Bottom
1	SHP-01-36X_SPR19	WG	04/12/19	0920	CV		X	X	X	X						SHP-01-36X	N1	
2	SHP-01-37X_SPR19	WG	04/12/19	1035	CV		X	X	X	X						SHP-01-37X	N1	
3	SHP-01-38A-SPR19	WG	04/12/19	1205	CV		X	X	X	X						SHP-01-38A	N1	
4																		
5																		
6																		
7																		
8																		
9																		
10																		
Cooler:		Turn Around Time:																

Relinquished by: *(Signature)*	Date	Time
	04/12/19	1315
	4/12/19	1550
	4-12-19	1551

Received by: *(Signature)*	Date	Time
	4/12/19	1315
	4-12-19	1551

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

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5/20/2019

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-167630-1

Login Number: 167630
List Number: 1
Creator: Weston, Pamela

List Source: Eurofins TestAmerica, Savannah

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

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-167630-1

Login Number: 167630
List Number: 2
Creator: Gomez, Alyssa I

List Source: Eurofins TestAmerica, Denver
List Creation: 04/16/19 09:57 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-167630-1
Project/Site: LTM, SHL (AOC 5) Spring 2019

Laboratory: Eurofins TestAmerica, Savannah

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

Authority	Program	EPA Region	Identification Number	Expiration Date
	AFCEE		SAVLAB	
Alabama	State Program	4	41450	06-30-19 *
Alaska	State Program	10		06-30-19 *
Alaska (UST)	State Program	10	UST-104	09-22-19
ANAB	DoD		L2463	09-22-19
ANAB	ISO/IEC 17025		L2463.01	09-22-19
Arizona	State Program	9	AZ0808	12-14-19
Arkansas DEQ	State Program	6	88-0692	02-01-20
California	State Program	9	2939	06-30-19 *
Colorado	State Program	8	N/A	12-31-19
Connecticut	State Program	1	PH-0161	03-31-21
Florida	NELAP	4	E87052	06-30-19 *
GA Dept. of Agriculture	State Program	4	N/A	06-12-19
Georgia	State Program	4	N/A	06-30-19 *
Georgia	State Program	4	803	06-30-19 *
Guam	State Program	9	15-005r	04-17-20
Hawaii	State Program	9	N/A	06-30-19
Illinois	NELAP	5	200022	11-30-19
Indiana	State Program	5	N/A	06-30-19 *
Iowa	State Program	7	353	06-30-19 *
Kentucky (DW)	State Program	4	90084	12-31-19
Kentucky (UST)	State Program	4	18	06-30-19
Kentucky (WW)	State Program	4	90084	12-31-19
Louisiana	NELAP	6	30690	06-30-19
Louisiana (DW)	NELAP	6	LA160019	12-31-19
Maine	State Program	1	GA00006	09-25-20
Maryland	State Program	3	250	12-31-19
Massachusetts	State Program	1	M-GA006	06-30-19
Michigan	State Program	5	9925	03-05-19 *
Mississippi	State Program	4	N/A	06-30-19 *
Nebraska	State Program	7	TestAmerica-Savannah	06-30-19
New Jersey	NELAP	2	GA769	06-30-19 *
New Mexico	State Program	6	N/A	06-30-19
New York	NELAP	2	10842	04-01-20
North Carolina (DW)	State Program	4	13701	07-31-19
North Carolina (WW/SW)	State Program	4	269	12-31-19
Oklahoma	State Program	6	9984	08-31-19
Pennsylvania	NELAP	3	68-00474	06-30-19 *
Puerto Rico	State Program	2	GA00006	01-01-20
South Carolina	State Program	4	98001	06-30-19 *
Tennessee	State Program	4	TN02961	06-30-19 *
Texas	NELAP	6	T104704185-16-9	11-30-19
Texas (DW)	State Program	1	T104704185	06-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
Virginia	NELAP	3	460161	06-14-19 *
Washington	State Program	10	C805	06-10-19 *
West Virginia (DW)	State Program	3	9950C	12-31-19
West Virginia DEP	State Program	3	094	06-30-19 *
Wisconsin	State Program	5	999819810	08-31-19
Wyoming	State Program	8	8TMS-L	06-30-16 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-167630-1
Project/Site: LTM, SHL (AOC 5) Spring 2019

Laboratory: Eurofins TestAmerica, Denver

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

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

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

Laboratory Job ID: 680-167850-1
Client Project/Site: LTM, SHL (AOC 5) Spring 2019

For:
KOMAN Government Solutions, LLC
293 Boston Post Road
Suite 100
Marlborough, Massachusetts 01752

Attn: Laurie Ekes

Jerry Lanier

Authorized for release by:
5/15/2019 7:03:58 PM

Jerry Lanier, Project Manager I
(912)250-0281
jerry.lanier@testamericainc.com

LINKS

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Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 680-167850-1

Laboratory: Eurofins TestAmerica, Savannah

Narrative

CASE NARRATIVE

Client: KOMAN Government Solutions, LLC

Project: LTM, SHL (AOC 5) Spring 2019

Report Number: 680-167850-1

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 the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT
The samples were received on 04/18/2019; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt were 2.6º C, 2.6º C, 2.6º C and 2.6º C.

METALS (ICP) - DISSOLVED
Samples EPA-PZ-2012-4A_SPR19 (680-167850-1), SHM-13_04_SPR19 (680-167851-1), SHP-2016-06C_SPR19 (680-167852-1), SHM-05-41C_SPR19 (680-167853-1), EPA-PZ-2012-4B_SPR19 (680-167850-2), SHM-13_06_SPR19 (680-167851-2), SHP-2016-06A_SPR19 (680-167852-2), PZ-12-10_SPR19 (680-167853-2), EPA-PZ-2012-1A_SPR19 (680-167850-3), SHL-DUP06 (680-167851-3), SHP-2016-06B_SPR19 (680-167852-3), PZ-12-09_SPR19 (680-167853-3), EPA-PZ-2012-1B_SPR19 (680-167850-4), SHM-13_07_SPR19 (680-167851-4), PZ-12-07_SPR19 (680-167853-4), EPA-PZ-2012-3A_SPR19 (680-167850-5), SHM-13_03_SPR19 (680-167851-5), SHM-11-02_SPR19 (680-167853-5), EPA-PZ-2012-3B_SPR19 (680-167850-6), SHM-13_08_SPR19 (680-167851-6), PZ-12-06_SPR19 (680-167853-6), SHL-DUP03_SPR19 (680-167850-7), PZ-12-05_SPR19 (680-167853-7) and SHL-4_SPR19 (680-167853-8) were analyzed for Metals (ICP) - Dissolved in accordance with EPA SW-846 Method 6010C. The samples were prepared on 04/24/2019 and 04/26/2019 and analyzed on 04/25/2019, 04/26/2019 and 04/30/2019.

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

METALS (ICP)
Sample SHP-EB01_SPR19 (680-167852-4) was analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 04/30/2019 and analyzed on 05/01/2019.

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

METALS (ICPMS) - DISSOLVED
Samples EPA-PZ-2012-4A_SPR19 (680-167850-1), SHM-13_04_SPR19 (680-167851-1), SHP-2016-06C_SPR19 (680-167852-1), SHM-05-41C_SPR19 (680-167853-1), EPA-PZ-2012-4B_SPR19 (680-167850-2), SHM-13_06_SPR19 (680-167851-2), SHP-2016-06A_SPR19 (680-167852-2), PZ-12-10_SPR19 (680-167853-2), EPA-PZ-2012-1A_SPR19 (680-167850-3), SHL-DUP06 (680-167851-3), SHP-2016-06B_SPR19 (680-167852-3), PZ-12-09_SPR19 (680-167853-3), EPA-PZ-2012-1B_SPR19 (680-167850-4), SHM-13_07_SPR19 (680-167851-4), PZ-12-07_SPR19 (680-167853-4), EPA-PZ-2012-3A_SPR19 (680-167850-5), SHM-13_03_SPR19 (680-167851-5), SHM-11-02_SPR19 (680-167853-5), EPA-PZ-2012-3B_SPR19 (680-167850-6), SHM-13_08_SPR19 (680-167851-6), PZ-12-06_SPR19 (680-167853-6), SHL-DUP03_SPR19 (680-167850-7), PZ-12-05_SPR19 (680-167853-7) and SHL-4_SPR19 (680-167853-8) were analyzed for Metals (ICPMS) - Dissolved in accordance with EPA SW-846 Method 6020A. The samples were prepared on 04/24/2019 and 04/26/2019 and analyzed on 04/25/2019, 04/26/2019 and 04/29/2019.

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

Job ID: 680-167850-1 (Continued)

Laboratory: Eurofins TestAmerica, Savannah (Continued)

METALS

Sample SHP-EB01_SPR19 (680-167852-4) was analyzed for Metals in accordance with EPA SW-846 Method 6020. The samples were prepared on 04/30/2019 and analyzed on 05/02/2019.

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

ALKALINITY

Samples EPA-PZ-2012-4A_SPR19 (680-167850-1), SHM-13_04_SPR19 (680-167851-1), SHP-2016-06C_SPR19 (680-167852-1), SHM-05-41C_SPR19 (680-167853-1), EPA-PZ-2012-4B_SPR19 (680-167850-2), SHM-13_06_SPR19 (680-167851-2), SHP-2016-06A_SPR19 (680-167852-2), PZ-12-10_SPR19 (680-167853-2), EPA-PZ-2012-1A_SPR19 (680-167850-3), SHL-DUP06 (680-167851-3), SHP-2016-06B_SPR19 (680-167852-3), PZ-12-09_SPR19 (680-167853-3), EPA-PZ-2012-1B_SPR19 (680-167850-4), SHM-13_07_SPR19 (680-167851-4), SHP-EB01_SPR19 (680-167852-4), PZ-12-07_SPR19 (680-167853-4), EPA-PZ-2012-3A_SPR19 (680-167850-5), SHM-13_03_SPR19 (680-167851-5), SHM-11-02_SPR19 (680-167853-5), EPA-PZ-2012-3B_SPR19 (680-167850-6), SHM-13_08_SPR19 (680-167851-6), PZ-12-06_SPR19 (680-167853-6), SHL-DUP03_SPR19 (680-167850-7), PZ-12-05_SPR19 (680-167853-7) and SHL-4_SPR19 (680-167853-8) were analyzed for alkalinity in accordance with SM 2320B. The samples were analyzed on 04/24/2019.

Alkalinity was detected in method blank MB 280-455784/109 at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

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

ANIONS BY ION CHROMATOGRAPHY (28 DAY)

Samples EPA-PZ-2012-4A_SPR19 (680-167850-1), SHM-13_04_SPR19 (680-167851-1), SHP-2016-06C_SPR19 (680-167852-1), SHM-05-41C_SPR19 (680-167853-1), EPA-PZ-2012-4B_SPR19 (680-167850-2), SHM-13_06_SPR19 (680-167851-2), SHP-2016-06A_SPR19 (680-167852-2), PZ-12-10_SPR19 (680-167853-2), EPA-PZ-2012-1A_SPR19 (680-167850-3), SHL-DUP06 (680-167851-3), SHP-2016-06B_SPR19 (680-167852-3), PZ-12-09_SPR19 (680-167853-3), EPA-PZ-2012-1B_SPR19 (680-167850-4), SHM-13_07_SPR19 (680-167851-4), PZ-12-07_SPR19 (680-167853-4), EPA-PZ-2012-3A_SPR19 (680-167850-5), SHM-13_03_SPR19 (680-167851-5), SHM-11-02_SPR19 (680-167853-5), EPA-PZ-2012-3B_SPR19 (680-167850-6), SHM-13_08_SPR19 (680-167851-6), PZ-12-06_SPR19 (680-167853-6), SHL-DUP03_SPR19 (680-167850-7), PZ-12-05_SPR19 (680-167853-7) and SHL-4_SPR19 (680-167853-8) were analyzed for Anions by Ion Chromatography (28 Day) in accordance with SW 846 9056A. The samples were analyzed on 05/02/2019, 05/03/2019 and 05/06/2019.

Samples SHM-05-41C_SPR19 (680-167853-1)[10X], SHM-13_04_SPR19 (680-167853-1)[2X], SHM-13_06_SPR19 (680-167853-2)[2X], SHP-2016-06B_SPR19 (680-167853-3)[10X] and SHM-13_03_SPR19 (680-167853-5)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

DISSOLVED ORGANIC CARBON

Samples EPA-PZ-2012-4A_SPR19 (680-167850-1), SHM-13_04_SPR19 (680-167851-1), SHP-2016-06C_SPR19 (680-167852-1), SHM-05-41C_SPR19 (680-167853-1), EPA-PZ-2012-4B_SPR19 (680-167850-2), SHM-13_06_SPR19 (680-167851-2), SHP-2016-06A_SPR19 (680-167852-2), PZ-12-10_SPR19 (680-167853-2), EPA-PZ-2012-1A_SPR19 (680-167850-3), SHL-DUP06 (680-167851-3), SHP-2016-06B_SPR19 (680-167852-3), PZ-12-09_SPR19 (680-167853-3), EPA-PZ-2012-1B_SPR19 (680-167850-4), SHM-13_07_SPR19 (680-167851-4), PZ-12-07_SPR19 (680-167853-4), EPA-PZ-2012-3A_SPR19 (680-167850-5), SHM-13_03_SPR19 (680-167851-5), SHM-11-02_SPR19 (680-167853-5), EPA-PZ-2012-3B_SPR19 (680-167850-6), SHM-13_08_SPR19 (680-167851-6), PZ-12-06_SPR19 (680-167853-6), SHL-DUP03_SPR19 (680-167850-7), PZ-12-05_SPR19 (680-167853-7) and SHL-4_SPR19 (680-167853-8) were analyzed for dissolved organic carbon in accordance with EPA SW-846 Method 9060. The samples were analyzed on 04/22/2019 and 04/23/2019.

Total Organic Carbon - Duplicates was detected in method blank MB 280-455614/35 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. Dissolved Organic Carbon - Duplicate was detected in method blank MB 280-455615/35 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.

Job ID: 680-167850-1 (Continued)

Laboratory: Eurofins TestAmerica, Savannah (Continued)

Dissolved Organic Carbon - Duplicate was detected in method blank MB 280-455615/4 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. Refer to the QC report for details.

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

TOTAL ORGANIC CARBON

Sample SHP-EB01_SPR19 (680-167852-4) was analyzed for total organic carbon in accordance with EPA SW-846 Method 9060A. The samples were analyzed on 04/23/2019.

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

Sample Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-167850-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-167850-1	EPA-PZ-2012-4A_SPR19	GW	04/15/19 09:45	04/18/19 09:21
680-167850-2	EPA-PZ-2012-4B_SPR19	GW	04/15/19 10:50	04/18/19 09:21
680-167850-3	EPA-PZ-2012-1A_SPR19	GW	04/16/19 09:34	04/18/19 09:21
680-167850-4	EPA-PZ-2012-1B_SPR19	GW	04/16/19 10:35	04/18/19 09:21
680-167850-5	EPA-PZ-2012-3A_SPR19	GW	04/16/19 12:15	04/18/19 09:21
680-167850-6	EPA-PZ-2012-3B_SPR19	GW	04/16/19 13:15	04/18/19 09:21
680-167850-7	SHL-DUP03_SPR19	GW	04/16/19 13:20	04/18/19 09:21
680-167851-1	SHM-13_04_SPR19	WG	04/15/19 09:50	04/18/19 09:21
680-167851-2	SHM-13_06_SPR19	WG	04/16/19 08:25	04/18/19 09:21
680-167851-3	SHL-DUP06	WG	04/16/19 08:30	04/18/19 09:21
680-167851-4	SHM-13_07_SPR19	WG	04/16/19 09:50	04/18/19 09:21
680-167851-5	SHM-13_03_SPR19	WG	04/16/19 11:25	04/18/19 09:21
680-167851-6	SHM-13_08_SPR19	WG	04/16/19 13:20	04/18/19 09:21
680-167852-1	SHP-2016-06C_SPR19	Water	04/17/19 10:00	04/18/19 09:21
680-167852-2	SHP-2016-06A_SPR19	Water	04/17/19 11:15	04/18/19 09:21
680-167852-3	SHP-2016-06B_SPR19	Water	04/17/19 12:40	04/18/19 09:21
680-167852-4	SHP-EB01_SPR19	Water	04/17/19 13:45	04/18/19 09:21
680-167853-1	SHM-05-41C_SPR19	WG	04/15/19 11:10	04/18/19 09:21
680-167853-2	PZ-12-10_SPR19	WG	04/16/19 08:05	04/18/19 09:21
680-167853-3	PZ-12-09_SPR19	WG	04/16/19 08:55	04/18/19 09:21
680-167853-4	PZ-12-07_SPR19	WG	04/16/19 10:30	04/18/19 09:21
680-167853-5	SHM-11-02_SPR19	WG	04/16/19 11:25	04/18/19 09:21
680-167853-6	PZ-12-06_SPR19	WG	04/16/19 12:15	04/18/19 09:21
680-167853-7	PZ-12-05_SPR19	WG	04/16/19 13:00	04/18/19 09:21
680-167853-8	SHL-4_SPR19	WG	04/16/19 13:55	04/18/19 09:21

Method Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-167850-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV
6020A	Metals (ICP/MS)	SW846	TAL SAV
9060	Organic Carbon, Dissolved (DOC)	SW846	TAL DEN
9060A	Organic Carbon, Total (TOC)	SW846	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL SAV
3010A	Preparation, Total Metals	SW846	TAL SAV

Protocol References:

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

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

Laboratory References:

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

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D	The reported value is from a dilution.
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Metals

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

General Chemistry

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

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)

Client Sample ID: EPA-PZ-2012-4A_SPR19

Lab Sample ID: 680-167850-1

Date Collected: 04/15/19 09:45

Matrix: GW

Date Received: 04/18/19 09:21

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	29		0.50	0.50	0.20	mg/L		05/02/19 17:27	1
Sulfate	3.4	M	1.0	1.0	0.40	mg/L		05/02/19 17:27	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	4100		50	50	17	ug/L		04/25/19 21:02	1
Manganese	560		10	3.0	1.0	ug/L		04/25/19 21:02	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	2.5	J	3.0	3.0	1.5	ug/L		04/26/19 08:36	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	79		10	10	3.1	mg/L		04/24/19 01:01	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	11		1.0	0.50	0.16	mg/L		04/23/19 00:13	1

Client Sample ID: EPA-PZ-2012-4B_SPR19

Lab Sample ID: 680-167850-2

Date Collected: 04/15/19 10:50

Matrix: GW

Date Received: 04/18/19 09:21

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	22		0.50	0.50	0.20	mg/L		05/02/19 17:39	1
Sulfate	6.8	M	1.0	1.0	0.40	mg/L		05/02/19 17:39	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	72000		50	50	17	ug/L		04/25/19 20:00	1
Manganese	880		10	3.0	1.0	ug/L		04/25/19 20:00	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	2000		3.0	3.0	1.5	ug/L		04/25/19 14:50	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	140		10	10	3.1	mg/L		04/24/19 01:18	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.9		1.0	0.50	0.16	mg/L		04/23/19 00:31	1

Client Sample ID: EPA-PZ-2012-1A_SPR19

Lab Sample ID: 680-167850-3

Date Collected: 04/16/19 09:34

Matrix: GW

Date Received: 04/18/19 09:21

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	3.3		0.50	0.50	0.20	mg/L		05/02/19 18:17	1
Sulfate	3.2	M	1.0	1.0	0.40	mg/L		05/02/19 18:17	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	270		50	50	17	ug/L		04/26/19 20:00	1
Manganese	250		10	3.0	1.0	ug/L		04/26/19 20:00	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		04/26/19 20:53	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	51		10	10	3.1	mg/L		04/24/19 01:12	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.4		1.0	0.50	0.16	mg/L		04/23/19 01:43	1

Client Sample ID: EPA-PZ-2012-1B_SPR19

Lab Sample ID: 680-167850-4

Date Collected: 04/16/19 10:35

Matrix: GW

Date Received: 04/18/19 09:21

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	26		0.50	0.50	0.20	mg/L		05/02/19 18:55	1
Sulfate	3.4	M	1.0	1.0	0.40	mg/L		05/02/19 18:55	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	15000		50	50	17	ug/L		04/26/19 19:51	1
Manganese	13000		10	3.0	1.0	ug/L		04/26/19 19:51	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	160		3.0	3.0	1.5	ug/L		04/26/19 20:38	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	240		10	10	3.1	mg/L		04/24/19 01:24	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.1		1.0	0.50	0.16	mg/L		04/23/19 03:15	1

Client Sample ID: EPA-PZ-2012-3A_SPR19

Lab Sample ID: 680-167850-5

Date Collected: 04/16/19 12:15

Matrix: GW

Date Received: 04/18/19 09:21

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	32		0.50	0.50	0.20	mg/L		05/02/19 19:08	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		05/02/19 19:08	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	16000		50	50	17	ug/L		04/26/19 19:56	1
Manganese	920		10	3.0	1.0	ug/L		04/26/19 19:56	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	15		3.0	3.0	1.5	ug/L		04/26/19 20:42	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	89		10	10	3.1	mg/L		04/24/19 01:29	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	11		1.0	0.50	0.16	mg/L		04/23/19 03:34	1

Client Sample ID: EPA-PZ-2012-3B_SPR19

Lab Sample ID: 680-167850-6

Date Collected: 04/16/19 13:15

Matrix: GW

Date Received: 04/18/19 09:21

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	28		0.50	0.50	0.20	mg/L		05/02/19 19:21	1
Sulfate	12	M	1.0	1.0	0.40	mg/L		05/02/19 19:21	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	45000		50	50	17	ug/L		04/26/19 19:47	1
Manganese	5800		10	3.0	1.0	ug/L		04/26/19 19:47	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	2700		3.0	3.0	1.5	ug/L		04/26/19 20:34	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	180		10	10	3.1	mg/L		04/24/19 01:39	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.9		1.0	0.50	0.16	mg/L		04/23/19 03:51	1

Client Sample ID: SHL-DUP03_SPR19

Lab Sample ID: 680-167850-7

Date Collected: 04/16/19 13:20

Matrix: GW

Date Received: 04/18/19 09:21

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	28		0.50	0.50	0.20	mg/L		05/02/19 19:33	1
Sulfate	11	M	1.0	1.0	0.40	mg/L		05/02/19 19:33	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	45000		50	50	17	ug/L		04/25/19 20:57	1
Manganese	5700		10	3.0	1.0	ug/L		04/25/19 20:57	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3000		3.0	3.0	1.5	ug/L		04/25/19 14:54	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	180		10	10	3.1	mg/L		04/24/19 01:34	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.9		1.0	0.50	0.16	mg/L		04/23/19 04:12	1

Client Sample ID: SHM-13_04_SPR19

Lab Sample ID: 680-167851-1

Date Collected: 04/15/19 09:50

Matrix: WG

Date Received: 04/18/19 09:21

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	75	D	1.0	1.0	0.40	mg/L		05/02/19 20:24	2
Sulfate	9.8	D	2.0	2.0	0.80	mg/L		05/02/19 20:24	2

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	2400		50	50	17	ug/L		04/26/19 21:08	1
Manganese	100		10	3.0	1.0	ug/L		04/26/19 21:08	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	430		3.0	3.0	1.5	ug/L		04/26/19 21:55	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	41		10	10	3.1	mg/L		04/24/19 01:45	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.1		1.0	0.50	0.16	mg/L		04/23/19 04:29	1

Client Sample ID: SHM-13_06_SPR19

Lab Sample ID: 680-167851-2

Date Collected: 04/16/19 08:25

Matrix: WG

Date Received: 04/18/19 09:21

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	70	D	1.0	1.0	0.40	mg/L		05/02/19 20:37	2
Sulfate	6.3	D M	2.0	2.0	0.80	mg/L		05/02/19 20:37	2

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	18000		50	50	17	ug/L		04/26/19 21:00	1
Manganese	1100		10	3.0	1.0	ug/L		04/26/19 21:00	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3100		3.0	3.0	1.5	ug/L		04/26/19 21:48	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	73		10	10	3.1	mg/L		04/24/19 01:51	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.4		1.0	0.50	0.16	mg/L		04/23/19 04:47	1

Client Sample ID: SHL-DUP06

Lab Sample ID: 680-167851-3

Date Collected: 04/16/19 08:30

Matrix: WG

Date Received: 04/18/19 09:21

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	65		0.50	0.50	0.20	mg/L		05/02/19 21:40	1
Sulfate	6.3	M	1.0	1.0	0.40	mg/L		05/02/19 21:40	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	17000		50	50	17	ug/L		04/26/19 21:04	1
Manganese	1000		10	3.0	1.0	ug/L		04/26/19 21:04	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	2900		3.0	3.0	1.5	ug/L		04/26/19 21:51	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	74		10	10	3.1	mg/L		04/24/19 02:07	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.3		1.0	0.50	0.16	mg/L		04/23/19 05:06	1

Client Sample ID: SHM-13_07_SPR19

Lab Sample ID: 680-167851-4

Date Collected: 04/16/19 09:50

Matrix: WG

Date Received: 04/18/19 09:21

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	100		0.50	0.50	0.20	mg/L		05/02/19 21:52	1
Sulfate	5.8	M	1.0	1.0	0.40	mg/L		05/02/19 21:52	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	23000		50	50	17	ug/L		04/26/19 20:52	1
Manganese	3100		10	3.0	1.0	ug/L		04/26/19 20:52	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	470		3.0	3.0	1.5	ug/L		04/26/19 21:40	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	60		10	10	3.1	mg/L		04/24/19 02:13	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.4		1.0	0.50	0.16	mg/L		04/23/19 05:24	1

Client Sample ID: SHM-13_03_SPR19

Lab Sample ID: 680-167851-5

Date Collected: 04/16/19 11:25

Matrix: WG

Date Received: 04/18/19 09:21

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	200	D	1.0	1.0	0.40	mg/L		05/02/19 22:05	2
Sulfate	4.6	D M	2.0	2.0	0.80	mg/L		05/02/19 22:05	2

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	7000		50	50	17	ug/L		04/26/19 20:56	1
Manganese	8400		10	3.0	1.0	ug/L		04/26/19 20:56	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	110		3.0	3.0	1.5	ug/L		04/26/19 21:44	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	200		10	10	3.1	mg/L		04/24/19 02:19	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.5		1.0	0.50	0.16	mg/L		04/23/19 05:43	1

Client Sample ID: SHM-13_08_SPR19

Lab Sample ID: 680-167851-6

Date Collected: 04/16/19 13:20

Matrix: WG

Date Received: 04/18/19 09:21

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	31		0.50	0.50	0.20	mg/L		05/02/19 22:18	1
Sulfate	3.7	M	1.0	1.0	0.40	mg/L		05/02/19 22:18	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	30000		50	50	17	ug/L		04/30/19 02:13	1
Manganese	760		10	3.0	1.0	ug/L		04/30/19 02:13	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	800		3.0	3.0	1.5	ug/L		04/29/19 20:36	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	73		10	10	3.1	mg/L		04/24/19 02:24	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.0		1.0	0.50	0.16	mg/L		04/23/19 06:36	1

Client Sample ID: SHP-2016-06C_SPR19

Lab Sample ID: 680-167852-1

Date Collected: 04/17/19 10:00

Matrix: Water

Date Received: 04/18/19 09:21

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	1.5		0.50	0.50	0.20	mg/L		05/02/19 19:46	1
Sulfate	9.2	M	1.0	1.0	0.40	mg/L		05/02/19 19:46	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	130		50	50	17	ug/L		04/26/19 20:44	1
Manganese	220		10	3.0	1.0	ug/L		04/26/19 20:44	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	250		3.0	3.0	1.5	ug/L		04/26/19 21:26	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	120		10	10	3.1	mg/L		04/24/19 02:29	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.73	J	1.0	0.50	0.16	mg/L		04/23/19 07:29	1

Client Sample ID: SHP-2016-06A_SPR19

Lab Sample ID: 680-167852-2

Date Collected: 04/17/19 11:15

Matrix: Water

Date Received: 04/18/19 09:21

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	16		0.50	0.50	0.20	mg/L		05/02/19 19:59	1
Sulfate	150	M	1.0	1.0	0.40	mg/L		05/02/19 19:59	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	1400		50	50	17	ug/L		04/26/19 20:40	1
Manganese	1900		10	3.0	1.0	ug/L		04/26/19 20:40	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	2800		3.0	3.0	1.5	ug/L		04/26/19 21:22	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	190		10	10	3.1	mg/L		04/24/19 02:34	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	22		1.0	0.50	0.16	mg/L		04/23/19 07:50	1

Client Sample ID: SHP-2016-06B_SPR19

Lab Sample ID: 680-167852-3

Date Collected: 04/17/19 12:40

Matrix: Water

Date Received: 04/18/19 09:21

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	27		0.50	0.50	0.20	mg/L		05/02/19 20:11	1

Method: 9056A - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Sulfate	440	D	10	10	4.0	mg/L		05/03/19 13:50	10

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	990		50	50	17	ug/L		04/26/19 20:48	1
Manganese	1200		10	3.0	1.0	ug/L		04/26/19 20:48	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	1300		3.0	3.0	1.5	ug/L		04/26/19 21:37	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	260		10	10	3.1	mg/L		04/24/19 02:40	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	21		1.0	0.50	0.16	mg/L		04/23/19 08:07	1

Client Sample ID: SHP-EB01_SPR19

Lab Sample ID: 680-167852-4

Date Collected: 04/17/19 13:45

Matrix: Water

Date Received: 04/18/19 09:21

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		05/01/19 18:22	1
Manganese	3.0	U	10	3.0	1.0	ug/L		05/01/19 18:22	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		05/02/19 15:42	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	**0.44**	**J**	1.0	0.50	0.16	mg/L		04/23/19 08:26	1
Alkalinity	**4.0**	**J**	10	10	3.1	mg/L		04/24/19 02:45	1

Client Sample ID: SHM-05-41C_SPR19

Lab Sample ID: 680-167853-1

Date Collected: 04/15/19 11:10

Matrix: WG

Date Received: 04/18/19 09:21

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	**550**	**D**	5.0	5.0	2.0	mg/L		05/03/19 14:03	10
Sulfate	10	U	10	10	4.0	mg/L		05/03/19 14:03	10

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	**10000**		50	50	17	ug/L		04/26/19 20:16	1
Manganese	**3700**		10	3.0	1.0	ug/L		04/26/19 20:16	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	**91**		3.0	3.0	1.5	ug/L		04/26/19 21:07	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	**280**		10	10	3.1	mg/L		04/24/19 02:52	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	**6.0**		1.0	0.50	0.16	mg/L		04/22/19 21:26	1

Client Sample ID: PZ-12-10_SPR19

Lab Sample ID: 680-167853-2

Date Collected: 04/16/19 08:05

Matrix: WG

Date Received: 04/18/19 09:21

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	**0.91**		0.50	0.50	0.20	mg/L		05/06/19 16:37	1
Sulfate	**6.1**		1.0	1.0	0.40	mg/L		05/06/19 16:37	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	**790**		50	50	17	ug/L		04/26/19 20:12	1
Manganese	**8.8**	**J**	10	3.0	1.0	ug/L		04/26/19 20:12	1

Client Sample ID: PZ-12-10_SPR19

Lab Sample ID: 680-167853-2

Date Collected: 04/16/19 08:05

Matrix: WG

Date Received: 04/18/19 09:21

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		04/26/19 21:04	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	44		10	10	3.1	mg/L		04/24/19 02:57	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.75	J	1.0	0.50	0.16	mg/L		04/22/19 21:46	1

Client Sample ID: PZ-12-09_SPR19

Lab Sample ID: 680-167853-3

Date Collected: 04/16/19 08:55

Matrix: WG

Date Received: 04/18/19 09:21

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	1.3		0.50	0.50	0.20	mg/L		05/06/19 17:14	1
Sulfate	13		1.0	1.0	0.40	mg/L		05/06/19 17:14	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		04/26/19 19:19	1
Manganese	37		10	3.0	1.0	ug/L		04/26/19 19:19	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		04/26/19 20:16	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	72		10	10	3.1	mg/L		04/24/19 03:26	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.66	J	1.0	0.50	0.16	mg/L		04/22/19 20:31	1

Client Sample ID: PZ-12-07_SPR19

Lab Sample ID: 680-167853-4

Date Collected: 04/16/19 10:30

Matrix: WG

Date Received: 04/18/19 09:21

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	2.2		0.50	0.50	0.20	mg/L		05/06/19 17:26	1
Sulfate	44		1.0	1.0	0.40	mg/L		05/06/19 17:26	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	4500		50	50	17	ug/L		04/26/19 20:04	1
Manganese	1500		10	3.0	1.0	ug/L		04/26/19 20:04	1

Client Sample ID: PZ-12-07_SPR19

Lab Sample ID: 680-167853-4

Date Collected: 04/16/19 10:30

Matrix: WG

Date Received: 04/18/19 09:21

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	100		3.0	3.0	1.5	ug/L		04/26/19 20:56	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	120		10	10	3.1	mg/L		04/24/19 03:36	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.7		1.0	0.50	0.16	mg/L		04/22/19 22:02	1

Client Sample ID: SHM-11-02_SPR19

Lab Sample ID: 680-167853-5

Date Collected: 04/16/19 11:25

Matrix: WG

Date Received: 04/18/19 09:21

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	44		0.50	0.50	0.20	mg/L		05/06/19 17:39	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		05/06/19 17:39	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	34000		50	50	17	ug/L		04/26/19 20:08	1
Manganese	2300		10	3.0	1.0	ug/L		04/26/19 20:08	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	37		3.0	3.0	1.5	ug/L		04/26/19 21:00	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	280		10	10	3.1	mg/L		04/24/19 03:43	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.6		1.0	0.50	0.16	mg/L		04/22/19 22:21	1

Client Sample ID: PZ-12-06_SPR19

Lab Sample ID: 680-167853-6

Date Collected: 04/16/19 12:15

Matrix: WG

Date Received: 04/18/19 09:21

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	7.6		0.50	0.50	0.20	mg/L		05/06/19 17:51	1
Sulfate	70		1.0	1.0	0.40	mg/L		05/06/19 17:51	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	23000		50	50	17	ug/L		04/26/19 20:36	1
Manganese	6800		10	3.0	1.0	ug/L		04/26/19 20:36	1

Client Sample ID: PZ-12-06_SPR19

Lab Sample ID: 680-167853-6

Date Collected: 04/16/19 12:15

Matrix: WG

Date Received: 04/18/19 09:21

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	31		3.0	3.0	1.5	ug/L		04/26/19 21:18	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	100		10	10	3.1	mg/L		04/24/19 03:48	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.8		1.0	0.50	0.16	mg/L		04/22/19 23:17	1

Client Sample ID: PZ-12-05_SPR19

Lab Sample ID: 680-167853-7

Date Collected: 04/16/19 13:00

Matrix: WG

Date Received: 04/18/19 09:21

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	9.1		0.50	0.50	0.20	mg/L		05/06/19 18:04	1
Sulfate	23		1.0	1.0	0.40	mg/L		05/06/19 18:04	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	56000		50	50	17	ug/L		04/26/19 20:20	1
Manganese	3600		10	3.0	1.0	ug/L		04/26/19 20:20	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	220		3.0	3.0	1.5	ug/L		04/26/19 21:11	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	59		10	10	3.1	mg/L		04/24/19 03:53	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.4		1.0	0.50	0.16	mg/L		04/22/19 23:35	1

Client Sample ID: SHL-4_SPR19

Lab Sample ID: 680-167853-8

Date Collected: 04/16/19 13:55

Matrix: WG

Date Received: 04/18/19 09:21

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.93		0.50	0.50	0.20	mg/L		05/03/19 17:29	1
Sulfate	18		1.0	1.0	0.40	mg/L		05/03/19 17:29	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	14000		50	50	17	ug/L		04/26/19 20:32	1
Manganese	2900		10	3.0	1.0	ug/L		04/26/19 20:32	1

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-167850-1

Client Sample ID: SHL-4_SPR19
Date Collected: 04/16/19 13:55
Date Received: 04/18/19 09:21

Lab Sample ID: 680-167853-8
Matrix: WG

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	98		3.0	3.0	1.5	ug/L		04/26/19 21:15	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	55		10	10	3.1	mg/L		04/24/19 03:58	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.6		1.0	0.50	0.16	mg/L		04/22/19 23:52	1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 680-568842/2
Matrix: Water
Analysis Batch: 568842

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		05/02/19 14:19	1
Sulfate	1.0	U M	1.0	1.0	0.40	mg/L		05/02/19 14:19	1

Lab Sample ID: LCS 680-568842/3
Matrix: Water
Analysis Batch: 568842

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.97		mg/L		100	87 - 111
Sulfate	10.0	10.9		mg/L		109	87 - 112

Lab Sample ID: LCSD 680-568842/4
Matrix: Water
Analysis Batch: 568842

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.95		mg/L		100	87 - 111
Sulfate	10.0	10.7		mg/L		107	87 - 112

Lab Sample ID: 680-167850-3 MS
Matrix: GW
Analysis Batch: 568842

Client Sample ID: EPA-PZ-2012-1A_SPR19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	3.3		10.0	12.8		mg/L		95	87 - 111
Sulfate	3.2	M	10.0	12.6	M	mg/L		94	87 - 112

Lab Sample ID: 680-167850-3 MSD
Matrix: GW
Analysis Batch: 568842

Client Sample ID: EPA-PZ-2012-1A_SPR19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	3.3		10.0	13.3		mg/L		100	87 - 111	3	15
Sulfate	3.2	M	10.0	13.1	M	mg/L		99	87 - 112	4	15

Lab Sample ID: MB 680-568862/33
Matrix: Water
Analysis Batch: 568862

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		05/02/19 21:02	1
Sulfate	1.0	U M	1.0	1.0	0.40	mg/L		05/02/19 21:02	1

Lab Sample ID: LCS 680-568862/34
Matrix: Water
Analysis Batch: 568862

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.99		mg/L		100	87 - 111
Sulfate	10.0	10.2		mg/L		102	87 - 112

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: LCSD 680-568862/35
Matrix: Water
Analysis Batch: 568862

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
Chloride			10.0	10.0		mg/L		100	87 - 111	0	15
Sulfate			10.0	10.3		mg/L		103	87 - 112	1	15

Lab Sample ID: MB 680-568967/2
Matrix: Water
Analysis Batch: 568967

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		05/03/19 12:45	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		05/03/19 12:45	1

Lab Sample ID: LCS 680-568967/3
Matrix: Water
Analysis Batch: 568967

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride			10.0	9.95		mg/L		100	87 - 111
Sulfate			10.0	9.67		mg/L		97	87 - 112

Lab Sample ID: LCSD 680-568967/4
Matrix: Water
Analysis Batch: 568967

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
Chloride			10.0	9.98		mg/L		100	87 - 111	0	15
Sulfate			10.0	9.75		mg/L		98	87 - 112	1	15

Lab Sample ID: 680-167853-3MS
Matrix: WG
Analysis Batch: 568967

Client Sample ID: PZ-12-09-_PR19-MS
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.1	J D	100	102	D	mg/L		100	87 - 111
Sulfate	12	D	100	111	D	mg/L		99	87 - 112

Lab Sample ID: 680-167853-3MSD
Matrix: WG
Analysis Batch: 568967

Client Sample ID: PZ-12-09_SPR19-MSD
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	2.1	J D	100	102	D	mg/L		100	87 - 111	0	15
Sulfate	12	D	100	112	D	mg/L		100	87 - 112	0	15

Lab Sample ID: MB 680-569167/2
Matrix: Water
Analysis Batch: 569167

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		05/06/19 12:11	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		05/06/19 12:11	1

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-167850-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: LCS 680-569167/3
Matrix: Water
Analysis Batch: 569167

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			10.0	9.93		mg/L		99	87 - 111		
Sulfate			10.0	9.48		mg/L		95	87 - 112		

Lab Sample ID: LCSD 680-569167/4
Matrix: Water
Analysis Batch: 569167

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
Chloride			10.0	9.88		mg/L		99	87 - 111	0	15
Sulfate			10.0	9.65		mg/L		96	87 - 112	2	15

Lab Sample ID: 680-167853-2 MS
Matrix: WG
Analysis Batch: 569167

Client Sample ID: PZ-12-10_SPR19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	0.91		10.0	10.7		mg/L		98	87 - 111		
Sulfate	6.1		10.0	16.1		mg/L		99	87 - 112		

Lab Sample ID: 680-167853-2 MSD
Matrix: WG
Analysis Batch: 569167

Client Sample ID: PZ-12-10_SPR19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	0.91		10.0	10.8		mg/L		99	87 - 111	1	15
Sulfate	6.1		10.0	16.2		mg/L		101	87 - 112	1	15

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-568492/1-A
Matrix: Water
Analysis Batch: 568823

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 568492

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		05/01/19 17:39	1
Manganese	3.0	U	10	3.0	1.0	ug/L		05/01/19 17:39	1

Lab Sample ID: LCS 680-568492/2-A
Matrix: Water
Analysis Batch: 568823

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 568492

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Iron			5000	4910		ug/L		98	87 - 115		
Manganese			400	409		ug/L		102	90 - 114		

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

Lab Sample ID: MB 680-567727/1-A
Matrix: Water
Analysis Batch: 568019

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 567727

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		04/25/19 18:59	1
Manganese	3.0	U	10	3.0	1.0	ug/L		04/25/19 18:59	1

Lab Sample ID: LCS 680-567727/2-A
Matrix: Water
Analysis Batch: 568019

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 567727

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5000	5220		ug/L		104	87 - 115
Manganese	400	429		ug/L		107	90 - 114

Lab Sample ID: MB 680-567750/1-A
Matrix: Water
Analysis Batch: 568255

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 567750

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		04/26/19 19:11	1
Manganese	3.0	U	10	3.0	1.0	ug/L		04/26/19 19:11	1

Lab Sample ID: LCS 680-567750/2-A
Matrix: Water
Analysis Batch: 568255

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 567750

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5000	4990		ug/L		100	87 - 115
Manganese	400	417		ug/L		104	90 - 114

Lab Sample ID: MB 680-568062/1-A
Matrix: Water
Analysis Batch: 568511

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 568062

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		04/30/19 01:32	1
Manganese	3.0	U	10	3.0	1.0	ug/L		04/30/19 01:32	1

Lab Sample ID: LCS 680-568062/2-A
Matrix: Water
Analysis Batch: 568511

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 568062

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5000	5140		ug/L		103	87 - 115
Manganese	400	422		ug/L		105	90 - 114

Lab Sample ID: 680-167853-3MS
Matrix: WG
Analysis Batch: 568255

Client Sample ID: PZ-12-09-_PR19-MS
Prep Type: Dissolved
Prep Batch: 567750

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	50	U	5000	5180		ug/L		104	87 - 115
Manganese	37		400	462		ug/L		106	90 - 114

Method: 6010C - Metals (ICP)

Lab Sample ID: 680-167853-3MSD
Matrix: WG
Analysis Batch: 568255

Client Sample ID: PZ-12-09_SPR19-MSD
Prep Type: Dissolved
Prep Batch: 567750

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	50	U	5000	5020		ug/L		100	87 - 115	3	20
Manganese	37		400	463		ug/L		106	90 - 114	0	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 680-568490/1-A
Matrix: Water
Analysis Batch: 568935

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 568490

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		05/02/19 15:31	1

Lab Sample ID: LCS 680-568490/2-A
Matrix: Water
Analysis Batch: 568935

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 568490

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	101		ug/L		101	84 - 116

Lab Sample ID: MB 680-567726/1-A
Matrix: Water
Analysis Batch: 568000

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 567726

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		04/25/19 14:22	1

Lab Sample ID: LCS 680-567726/2-A
Matrix: Water
Analysis Batch: 568000

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 567726

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	108		ug/L		108	84 - 116

Lab Sample ID: MB 680-567746/1-A
Matrix: Water
Analysis Batch: 568118

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 567746

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		04/26/19 20:09	1

Lab Sample ID: LCS 680-567746/2-A
Matrix: Water
Analysis Batch: 568118

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 567746

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	96.0		ug/L		96	84 - 116

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

Lab Sample ID: MB 680-568061/1-A
Matrix: Water
Analysis Batch: 568401

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 568061

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		04/29/19 20:09	1

Lab Sample ID: LCS 680-568061/2-A
Matrix: Water
Analysis Batch: 568401

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 568061

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	105		ug/L		105	84 - 116

Lab Sample ID: 680-167853-3MS
Matrix: WG
Analysis Batch: 568118

Client Sample ID: PZ-12-09-_PR19-MS
Prep Type: Dissolved
Prep Batch: 567746

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	3.0	U	100	105		ug/L		105	84 - 116

Lab Sample ID: 680-167853-3MSD
Matrix: WG
Analysis Batch: 568118

Client Sample ID: PZ-12-09_SPR19-MSD
Prep Type: Dissolved
Prep Batch: 567746

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	3.0	U	100	95.9		ug/L		96	84 - 116	9	20

Method: 9060 - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 280-455615/35
Matrix: Water
Analysis Batch: 455615

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.261	J	1.0	0.50	0.16	mg/L		04/23/19 01:08	1

Lab Sample ID: MB 280-455615/4
Matrix: Water
Analysis Batch: 455615

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.178	J	1.0	0.50	0.16	mg/L		04/22/19 14:38	1

Lab Sample ID: LCS 280-455615/3
Matrix: Water
Analysis Batch: 455615

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon - Duplicate	25.0	25.4		mg/L		102	88 - 112

Method: 9060 - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: LCS 280-455615/34
Matrix: Water
Analysis Batch: 455615

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Dissolved Organic Carbon - Duplicate			25.0	25.6		mg/L		102	88 - 112		

Lab Sample ID: 680-167850-3 MS
Matrix: GW
Analysis Batch: 455615

Client Sample ID: EPA-PZ-2012-1A_SPR19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Dissolved Organic Carbon - Duplicate	2.4		25.0	28.8		mg/L		106	88 - 112		

Lab Sample ID: 680-167850-3 MSD
Matrix: GW
Analysis Batch: 455615

Client Sample ID: EPA-PZ-2012-1A_SPR19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon - Duplicate	2.4		25.0	28.6		mg/L		105	88 - 112	1	15

Lab Sample ID: 680-167851-6 MS
Matrix: WG
Analysis Batch: 455615

Client Sample ID: SHM-13_08_SPR19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Dissolved Organic Carbon - Duplicate	2.0		25.0	28.1		mg/L		104	88 - 112		

Lab Sample ID: 680-167851-6 MSD
Matrix: WG
Analysis Batch: 455615

Client Sample ID: SHM-13_08_SPR19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon - Duplicate	2.0		25.0	28.7		mg/L		107	88 - 112	2	15

Lab Sample ID: 680-167853-3MS
Matrix: WG
Analysis Batch: 455615

Client Sample ID: PZ-12-09-_PR19-MS
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Dissolved Organic Carbon - Duplicate	0.66	J	25.0	26.8		mg/L		105	88 - 112		

Lab Sample ID: 680-167853-3MSD
Matrix: WG
Analysis Batch: 455615

Client Sample ID: PZ-12-09_SPR19-MSD
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon - Duplicate	0.66	J	25.0	26.7		mg/L		104	88 - 112	0	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-455784/109
Matrix: Water
Analysis Batch: 455784

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	4.18	J	10	10	3.1	mg/L		04/24/19 03:20	1

Lab Sample ID: MB 280-455784/83
Matrix: Water
Analysis Batch: 455784

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		04/24/19 00:55	1

Lab Sample ID: LCS 280-455784/108
Matrix: Water
Analysis Batch: 455784

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	199		mg/L		100	89 - 109

Lab Sample ID: LCS 280-455784/82
Matrix: Water
Analysis Batch: 455784

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	194		mg/L		97	89 - 109

Lab Sample ID: 680-167850-1 DU
Matrix: GW
Analysis Batch: 455784

Client Sample ID: EPA-PZ-2012-4A_SPR19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	79		76.2		mg/L		4	10

Lab Sample ID: 680-167853-3 DU
Matrix: WG
Analysis Batch: 455784

Client Sample ID: PZ-12-09_SPR19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	72		74.3		mg/L		3	10

HPLC/IC

Analysis Batch: 568842

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167850-1	EPA-PZ-2012-4A_SPR19	Total/NA	GW	9056A	
680-167850-2	EPA-PZ-2012-4B_SPR19	Total/NA	GW	9056A	
680-167850-3	EPA-PZ-2012-1A_SPR19	Total/NA	GW	9056A	
680-167850-4	EPA-PZ-2012-1B_SPR19	Total/NA	GW	9056A	
680-167850-5	EPA-PZ-2012-3A_SPR19	Total/NA	GW	9056A	
680-167850-6	EPA-PZ-2012-3B_SPR19	Total/NA	GW	9056A	
680-167850-7	SHL-DUP03_SPR19	Total/NA	GW	9056A	
680-167851-1	SHM-13_04_SPR19	Total/NA	WG	9056A	
680-167851-2	SHM-13_06_SPR19	Total/NA	WG	9056A	
680-167852-1	SHP-2016-06C_SPR19	Total/NA	Water	9056A	
680-167852-2	SHP-2016-06A_SPR19	Total/NA	Water	9056A	
680-167852-3	SHP-2016-06B_SPR19	Total/NA	Water	9056A	
MB 680-568842/2	Method Blank	Total/NA	Water	9056A	
LCS 680-568842/3	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-568842/4	Lab Control Sample	Total/NA	Water	9056A	
680-167850-3 MS	EPA-PZ-2012-1A_SPR19	Total/NA	GW	9056A	
680-167850-3 MSD	EPA-PZ-2012-1A_SPR19	Total/NA	GW	9056A	

Analysis Batch: 568862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167851-3	SHL-DUP06	Total/NA	WG	9056A	
680-167851-4	SHM-13_07_SPR19	Total/NA	WG	9056A	
680-167851-5	SHM-13_03_SPR19	Total/NA	WG	9056A	
680-167851-6	SHM-13_08_SPR19	Total/NA	WG	9056A	
MB 680-568862/33	Method Blank	Total/NA	Water	9056A	
LCS 680-568862/34	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-568862/35	Lab Control Sample Dup	Total/NA	Water	9056A	

Analysis Batch: 568967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167852-3 - DL	SHP-2016-06B_SPR19	Total/NA	Water	9056A	
680-167853-1	SHM-05-41C_SPR19	Total/NA	WG	9056A	
680-167853-8	SHL-4_SPR19	Total/NA	WG	9056A	
MB 680-568967/2	Method Blank	Total/NA	Water	9056A	
LCS 680-568967/3	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-568967/4	Lab Control Sample Dup	Total/NA	Water	9056A	
680-167853-3MS	PZ-12-09-_PR19-MS	Total/NA	WG	9056A	
680-167853-3MSD	PZ-12-09_SPR19-MSD	Total/NA	WG	9056A	

Analysis Batch: 569167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167853-2	PZ-12-10_SPR19	Total/NA	WG	9056A	
680-167853-3	PZ-12-09_SPR19	Total/NA	WG	9056A	
680-167853-4	PZ-12-07_SPR19	Total/NA	WG	9056A	
680-167853-5	SHM-11-02_SPR19	Total/NA	WG	9056A	
680-167853-6	PZ-12-06_SPR19	Total/NA	WG	9056A	
680-167853-7	PZ-12-05_SPR19	Total/NA	WG	9056A	
MB 680-569167/2	Method Blank	Total/NA	Water	9056A	
LCS 680-569167/3	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-569167/4	Lab Control Sample Dup	Total/NA	Water	9056A	
680-167853-2 MS	PZ-12-10_SPR19	Total/NA	WG	9056A	

HPLC/IC (Continued)

Analysis Batch: 569167 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167853-2 MSD	PZ-12-10_SPR19	Total/NA	WG	9056A	

Metals

Prep Batch: 567726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167850-1	EPA-PZ-2012-4A_SPR19	Dissolved	GW	3005A	
680-167850-2	EPA-PZ-2012-4B_SPR19	Dissolved	GW	3005A	
680-167850-7	SHL-DUP03_SPR19	Dissolved	GW	3005A	
MB 680-567726/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-567726/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 567727

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167850-1	EPA-PZ-2012-4A_SPR19	Dissolved	GW	3005A	
680-167850-2	EPA-PZ-2012-4B_SPR19	Dissolved	GW	3005A	
680-167850-7	SHL-DUP03_SPR19	Dissolved	GW	3005A	
MB 680-567727/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-567727/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 567746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167850-3	EPA-PZ-2012-1A_SPR19	Dissolved	GW	3005A	
680-167850-4	EPA-PZ-2012-1B_SPR19	Dissolved	GW	3005A	
680-167850-5	EPA-PZ-2012-3A_SPR19	Dissolved	GW	3005A	
680-167850-6	EPA-PZ-2012-3B_SPR19	Dissolved	GW	3005A	
680-167851-1	SHM-13_04_SPR19	Dissolved	WG	3005A	
680-167851-2	SHM-13_06_SPR19	Dissolved	WG	3005A	
680-167851-3	SHL-DUP06	Dissolved	WG	3005A	
680-167851-4	SHM-13_07_SPR19	Dissolved	WG	3005A	
680-167851-5	SHM-13_03_SPR19	Dissolved	WG	3005A	
680-167852-1	SHP-2016-06C_SPR19	Dissolved	Water	3005A	
680-167852-2	SHP-2016-06A_SPR19	Dissolved	Water	3005A	
680-167852-3	SHP-2016-06B_SPR19	Dissolved	Water	3005A	
680-167853-1	SHM-05-41C_SPR19	Dissolved	WG	3005A	
680-167853-2	PZ-12-10_SPR19	Dissolved	WG	3005A	
680-167853-3	PZ-12-09_SPR19	Dissolved	WG	3005A	
680-167853-4	PZ-12-07_SPR19	Dissolved	WG	3005A	
680-167853-5	SHM-11-02_SPR19	Dissolved	WG	3005A	
680-167853-6	PZ-12-06_SPR19	Dissolved	WG	3005A	
680-167853-7	PZ-12-05_SPR19	Dissolved	WG	3005A	
680-167853-8	SHL-4_SPR19	Dissolved	WG	3005A	
MB 680-567746/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-567746/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
680-167853-3MS	PZ-12-09-_PR19-MS	Dissolved	WG	3005A	
680-167853-3MSD	PZ-12-09_SPR19-MSD	Dissolved	WG	3005A	

Prep Batch: 567750

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167850-3	EPA-PZ-2012-1A_SPR19	Dissolved	GW	3005A	
680-167850-4	EPA-PZ-2012-1B_SPR19	Dissolved	GW	3005A	

Metals (Continued)

Prep Batch: 567750 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167850-5	EPA-PZ-2012-3A_SPR19	Dissolved	GW	3005A	
680-167850-6	EPA-PZ-2012-3B_SPR19	Dissolved	GW	3005A	
680-167851-1	SHM-13_04_SPR19	Dissolved	WG	3005A	
680-167851-2	SHM-13_06_SPR19	Dissolved	WG	3005A	
680-167851-3	SHL-DUP06	Dissolved	WG	3005A	
680-167851-4	SHM-13_07_SPR19	Dissolved	WG	3005A	
680-167851-5	SHM-13_03_SPR19	Dissolved	WG	3005A	
680-167852-1	SHP-2016-06C_SPR19	Dissolved	Water	3005A	
680-167852-2	SHP-2016-06A_SPR19	Dissolved	Water	3005A	
680-167852-3	SHP-2016-06B_SPR19	Dissolved	Water	3005A	
680-167853-1	SHM-05-41C_SPR19	Dissolved	WG	3005A	
680-167853-2	PZ-12-10_SPR19	Dissolved	WG	3005A	
680-167853-3	PZ-12-09_SPR19	Dissolved	WG	3005A	
680-167853-4	PZ-12-07_SPR19	Dissolved	WG	3005A	
680-167853-5	SHM-11-02_SPR19	Dissolved	WG	3005A	
680-167853-6	PZ-12-06_SPR19	Dissolved	WG	3005A	
680-167853-7	PZ-12-05_SPR19	Dissolved	WG	3005A	
680-167853-8	SHL-4_SPR19	Dissolved	WG	3005A	
MB 680-567750/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-567750/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
680-167853-3MS	PZ-12-09-_PR19-MS	Dissolved	WG	3005A	
680-167853-3MSD	PZ-12-09_SPR19-MSD	Dissolved	WG	3005A	

Analysis Batch: 568000

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167850-1	EPA-PZ-2012-4A_SPR19	Dissolved	GW	6020A	567726
680-167850-2	EPA-PZ-2012-4B_SPR19	Dissolved	GW	6020A	567726
680-167850-7	SHL-DUP03_SPR19	Dissolved	GW	6020A	567726
MB 680-567726/1-A	Method Blank	Total Recoverable	Water	6020A	567726
LCS 680-567726/2-A	Lab Control Sample	Total Recoverable	Water	6020A	567726

Analysis Batch: 568019

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167850-1	EPA-PZ-2012-4A_SPR19	Dissolved	GW	6010C	567727
680-167850-2	EPA-PZ-2012-4B_SPR19	Dissolved	GW	6010C	567727
680-167850-7	SHL-DUP03_SPR19	Dissolved	GW	6010C	567727
MB 680-567727/1-A	Method Blank	Total Recoverable	Water	6010C	567727
LCS 680-567727/2-A	Lab Control Sample	Total Recoverable	Water	6010C	567727

Prep Batch: 568061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167851-6	SHM-13_08_SPR19	Dissolved	WG	3005A	
MB 680-568061/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-568061/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 568062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167851-6	SHM-13_08_SPR19	Dissolved	WG	3005A	
MB 680-568062/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-568062/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Metals

Analysis Batch: 568118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167850-3	EPA-PZ-2012-1A_SPR19	Dissolved	GW	6020A	567746
680-167850-4	EPA-PZ-2012-1B_SPR19	Dissolved	GW	6020A	567746
680-167850-5	EPA-PZ-2012-3A_SPR19	Dissolved	GW	6020A	567746
680-167850-6	EPA-PZ-2012-3B_SPR19	Dissolved	GW	6020A	567746
680-167851-1	SHM-13_04_SPR19	Dissolved	WG	6020A	567746
680-167851-2	SHM-13_06_SPR19	Dissolved	WG	6020A	567746
680-167851-3	SHL-DUP06	Dissolved	WG	6020A	567746
680-167851-4	SHM-13_07_SPR19	Dissolved	WG	6020A	567746
680-167851-5	SHM-13_03_SPR19	Dissolved	WG	6020A	567746
680-167852-1	SHP-2016-06C_SPR19	Dissolved	Water	6020A	567746
680-167852-2	SHP-2016-06A_SPR19	Dissolved	Water	6020A	567746
680-167852-3	SHP-2016-06B_SPR19	Dissolved	Water	6020A	567746
680-167853-1	SHM-05-41C_SPR19	Dissolved	WG	6020A	567746
680-167853-2	PZ-12-10_SPR19	Dissolved	WG	6020A	567746
680-167853-3	PZ-12-09_SPR19	Dissolved	WG	6020A	567746
680-167853-4	PZ-12-07_SPR19	Dissolved	WG	6020A	567746
680-167853-5	SHM-11-02_SPR19	Dissolved	WG	6020A	567746
680-167853-6	PZ-12-06_SPR19	Dissolved	WG	6020A	567746
680-167853-7	PZ-12-05_SPR19	Dissolved	WG	6020A	567746
680-167853-8	SHL-4_SPR19	Dissolved	WG	6020A	567746
MB 680-567746/1-A	Method Blank	Total Recoverable	Water	6020A	567746
LCS 680-567746/2-A	Lab Control Sample	Total Recoverable	Water	6020A	567746
680-167853-3MS	PZ-12-09-_PR19-MS	Dissolved	WG	6020A	567746
680-167853-3MSD	PZ-12-09_SPR19-MSD	Dissolved	WG	6020A	567746

Analysis Batch: 568255

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167850-3	EPA-PZ-2012-1A_SPR19	Dissolved	GW	6010C	567750
680-167850-4	EPA-PZ-2012-1B_SPR19	Dissolved	GW	6010C	567750
680-167850-5	EPA-PZ-2012-3A_SPR19	Dissolved	GW	6010C	567750
680-167850-6	EPA-PZ-2012-3B_SPR19	Dissolved	GW	6010C	567750
680-167851-1	SHM-13_04_SPR19	Dissolved	WG	6010C	567750
680-167851-2	SHM-13_06_SPR19	Dissolved	WG	6010C	567750
680-167851-3	SHL-DUP06	Dissolved	WG	6010C	567750
680-167851-4	SHM-13_07_SPR19	Dissolved	WG	6010C	567750
680-167851-5	SHM-13_03_SPR19	Dissolved	WG	6010C	567750
680-167852-1	SHP-2016-06C_SPR19	Dissolved	Water	6010C	567750
680-167852-2	SHP-2016-06A_SPR19	Dissolved	Water	6010C	567750
680-167852-3	SHP-2016-06B_SPR19	Dissolved	Water	6010C	567750
680-167853-1	SHM-05-41C_SPR19	Dissolved	WG	6010C	567750
680-167853-2	PZ-12-10_SPR19	Dissolved	WG	6010C	567750
680-167853-3	PZ-12-09_SPR19	Dissolved	WG	6010C	567750
680-167853-4	PZ-12-07_SPR19	Dissolved	WG	6010C	567750
680-167853-5	SHM-11-02_SPR19	Dissolved	WG	6010C	567750
680-167853-6	PZ-12-06_SPR19	Dissolved	WG	6010C	567750
680-167853-7	PZ-12-05_SPR19	Dissolved	WG	6010C	567750
680-167853-8	SHL-4_SPR19	Dissolved	WG	6010C	567750
MB 680-567750/1-A	Method Blank	Total Recoverable	Water	6010C	567750
LCS 680-567750/2-A	Lab Control Sample	Total Recoverable	Water	6010C	567750
680-167853-3MS	PZ-12-09-_PR19-MS	Dissolved	WG	6010C	567750
680-167853-3MSD	PZ-12-09_SPR19-MSD	Dissolved	WG	6010C	567750

Metals

Analysis Batch: 568401

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167851-6	SHM-13_08_SPR19	Dissolved	WG	6020A	568061
MB 680-568061/1-A	Method Blank	Total Recoverable	Water	6020A	568061
LCS 680-568061/2-A	Lab Control Sample	Total Recoverable	Water	6020A	568061

Prep Batch: 568490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167852-4	SHP-EB01_SPR19	Total/NA	Water	3010A	
MB 680-568490/1-A	Method Blank	Total/NA	Water	3010A	
LCS 680-568490/2-A	Lab Control Sample	Total/NA	Water	3010A	

Prep Batch: 568492

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167852-4	SHP-EB01_SPR19	Total/NA	Water	3010A	
MB 680-568492/1-A	Method Blank	Total/NA	Water	3010A	
LCS 680-568492/2-A	Lab Control Sample	Total/NA	Water	3010A	

Analysis Batch: 568511

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167851-6	SHM-13_08_SPR19	Dissolved	WG	6010C	568062
MB 680-568062/1-A	Method Blank	Total Recoverable	Water	6010C	568062
LCS 680-568062/2-A	Lab Control Sample	Total Recoverable	Water	6010C	568062

Analysis Batch: 568823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167852-4	SHP-EB01_SPR19	Total/NA	Water	6010C	568492
MB 680-568492/1-A	Method Blank	Total/NA	Water	6010C	568492
LCS 680-568492/2-A	Lab Control Sample	Total/NA	Water	6010C	568492

Analysis Batch: 568935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167852-4	SHP-EB01_SPR19	Total/NA	Water	6020A	568490
MB 680-568490/1-A	Method Blank	Total/NA	Water	6020A	568490
LCS 680-568490/2-A	Lab Control Sample	Total/NA	Water	6020A	568490

General Chemistry

Analysis Batch: 455614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167852-4	SHP-EB01_SPR19	Total/NA	Water	9060A	
MB 280-455614/35	Method Blank	Dissolved	Water	9060	
LCS 280-455614/34	Lab Control Sample	Dissolved	Water	9060	

Analysis Batch: 455615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167850-1	EPA-PZ-2012-4A_SPR19	Dissolved	GW	9060	
680-167850-2	EPA-PZ-2012-4B_SPR19	Dissolved	GW	9060	
680-167850-3	EPA-PZ-2012-1A_SPR19	Dissolved	GW	9060	
680-167850-4	EPA-PZ-2012-1B_SPR19	Dissolved	GW	9060	
680-167850-5	EPA-PZ-2012-3A_SPR19	Dissolved	GW	9060	
680-167850-6	EPA-PZ-2012-3B_SPR19	Dissolved	GW	9060	
680-167850-7	SHL-DUP03_SPR19	Dissolved	GW	9060	

General Chemistry (Continued)

Analysis Batch: 455615 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167851-1	SHM-13_04_SPR19	Dissolved	WG	9060	
680-167851-2	SHM-13_06_SPR19	Dissolved	WG	9060	
680-167851-3	SHL-DUP06	Dissolved	WG	9060	
680-167851-4	SHM-13_07_SPR19	Dissolved	WG	9060	
680-167851-5	SHM-13_03_SPR19	Dissolved	WG	9060	
680-167851-6	SHM-13_08_SPR19	Dissolved	WG	9060	
680-167852-1	SHP-2016-06C_SPR19	Dissolved	Water	9060	
680-167852-2	SHP-2016-06A_SPR19	Dissolved	Water	9060	
680-167852-3	SHP-2016-06B_SPR19	Dissolved	Water	9060	
680-167853-1	SHM-05-41C_SPR19	Dissolved	WG	9060	
680-167853-2	PZ-12-10_SPR19	Dissolved	WG	9060	
680-167853-3	PZ-12-09_SPR19	Dissolved	WG	9060	
680-167853-4	PZ-12-07_SPR19	Dissolved	WG	9060	
680-167853-5	SHM-11-02_SPR19	Dissolved	WG	9060	
680-167853-6	PZ-12-06_SPR19	Dissolved	WG	9060	
680-167853-7	PZ-12-05_SPR19	Dissolved	WG	9060	
680-167853-8	SHL-4_SPR19	Dissolved	WG	9060	
MB 280-455615/35	Method Blank	Dissolved	Water	9060	
MB 280-455615/4	Method Blank	Dissolved	Water	9060	
LCS 280-455615/3	Lab Control Sample	Dissolved	Water	9060	
LCS 280-455615/34	Lab Control Sample	Dissolved	Water	9060	
680-167850-3 MS	EPA-PZ-2012-1A_SPR19	Dissolved	GW	9060	
680-167850-3 MSD	EPA-PZ-2012-1A_SPR19	Dissolved	GW	9060	
680-167851-6 MS	SHM-13_08_SPR19	Dissolved	WG	9060	
680-167851-6 MSD	SHM-13_08_SPR19	Dissolved	WG	9060	
680-167853-3MS	PZ-12-09-_PR19-MS	Dissolved	WG	9060	
680-167853-3MSD	PZ-12-09_SPR19-MSD	Dissolved	WG	9060	

Analysis Batch: 455784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167850-1	EPA-PZ-2012-4A_SPR19	Total/NA	GW	SM 2320B	
680-167850-2	EPA-PZ-2012-4B_SPR19	Total/NA	GW	SM 2320B	
680-167850-3	EPA-PZ-2012-1A_SPR19	Total/NA	GW	SM 2320B	
680-167850-4	EPA-PZ-2012-1B_SPR19	Total/NA	GW	SM 2320B	
680-167850-5	EPA-PZ-2012-3A_SPR19	Total/NA	GW	SM 2320B	
680-167850-6	EPA-PZ-2012-3B_SPR19	Total/NA	GW	SM 2320B	
680-167850-7	SHL-DUP03_SPR19	Total/NA	GW	SM 2320B	
680-167851-1	SHM-13_04_SPR19	Total/NA	WG	SM 2320B	
680-167851-2	SHM-13_06_SPR19	Total/NA	WG	SM 2320B	
680-167851-3	SHL-DUP06	Total/NA	WG	SM 2320B	
680-167851-4	SHM-13_07_SPR19	Total/NA	WG	SM 2320B	
680-167851-5	SHM-13_03_SPR19	Total/NA	WG	SM 2320B	
680-167851-6	SHM-13_08_SPR19	Total/NA	WG	SM 2320B	
680-167852-1	SHP-2016-06C_SPR19	Total/NA	Water	SM 2320B	
680-167852-2	SHP-2016-06A_SPR19	Total/NA	Water	SM 2320B	
680-167852-3	SHP-2016-06B_SPR19	Total/NA	Water	SM 2320B	
680-167852-4	SHP-EB01_SPR19	Total/NA	Water	SM 2320B	
680-167853-1	SHM-05-41C_SPR19	Total/NA	WG	SM 2320B	
680-167853-2	PZ-12-10_SPR19	Total/NA	WG	SM 2320B	
680-167853-3	PZ-12-09_SPR19	Total/NA	WG	SM 2320B	
680-167853-4	PZ-12-07_SPR19	Total/NA	WG	SM 2320B	

General Chemistry (Continued)

Analysis Batch: 455784 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167853-5	SHM-11-02_SPR19	Total/NA	WG	SM 2320B	
680-167853-6	PZ-12-06_SPR19	Total/NA	WG	SM 2320B	
680-167853-7	PZ-12-05_SPR19	Total/NA	WG	SM 2320B	
680-167853-8	SHL-4_SPR19	Total/NA	WG	SM 2320B	
MB 280-455784/109	Method Blank	Total/NA	Water	SM 2320B	
MB 280-455784/83	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-455784/108	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 280-455784/82	Lab Control Sample	Total/NA	Water	SM 2320B	
680-167850-1 DU	EPA-PZ-2012-4A_SPR19	Total/NA	GW	SM 2320B	
680-167853-3 DU	PZ-12-09_SPR19	Total/NA	WG	SM 2320B	

Client Sample ID: EPA-PZ-2012-4A_SPR19

Lab Sample ID: 680-167850-1

Date Collected: 04/15/19 09:45

Matrix: GW

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	568842	05/02/19 17:27	Y1S	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	567727	04/24/19 14:00	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568019	04/25/19 21:02	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	567726	04/24/19 14:00	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568000	04/26/19 08:36	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			455615	04/23/19 00:13	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			455784	04/24/19 01:01	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: EPA-PZ-2012-4B_SPR19

Lab Sample ID: 680-167850-2

Date Collected: 04/15/19 10:50

Matrix: GW

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	568842	05/02/19 17:39	Y1S	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	567727	04/24/19 14:00	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568019	04/25/19 20:00	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	567726	04/24/19 14:00	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568000	04/25/19 14:50	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			455615	04/23/19 00:31	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			455784	04/24/19 01:18	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: EPA-PZ-2012-1A_SPR19

Lab Sample ID: 680-167850-3

Date Collected: 04/16/19 09:34

Matrix: GW

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	568842	05/02/19 18:17	Y1S	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	567750	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568255	04/26/19 20:00	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	567746	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568118	04/26/19 20:53	BWR	TAL SAV
	Instrument ID: ICPMSC									

Client Sample ID: EPA-PZ-2012-1A_SPR19

Lab Sample ID: 680-167850-3

Date Collected: 04/16/19 09:34

Matrix: GW

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060		1			455615	04/23/19 01:43	LPL	TAL DEN
Total/NA	Analysis	SM 2320B		1			455784	04/24/19 01:12	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: EPA-PZ-2012-1B_SPR19

Lab Sample ID: 680-167850-4

Date Collected: 04/16/19 10:35

Matrix: GW

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	568842	05/02/19 18:55	Y1S	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	567750	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568255	04/26/19 19:51	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	567746	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568118	04/26/19 20:38	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1			455615	04/23/19 03:15	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			455784	04/24/19 01:24	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: EPA-PZ-2012-3A_SPR19

Lab Sample ID: 680-167850-5

Date Collected: 04/16/19 12:15

Matrix: GW

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	568842	05/02/19 19:08	Y1S	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	567750	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568255	04/26/19 19:56	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	567746	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568118	04/26/19 20:42	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1			455615	04/23/19 03:34	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			455784	04/24/19 01:29	SGB	TAL DEN
	Instrument ID: WC-AT3									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-167850-1

Client Sample ID: EPA-PZ-2012-3B_SPR19

Lab Sample ID: 680-167850-6

Date Collected: 04/16/19 13:15

Matrix: GW

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	568842	05/02/19 19:21	Y1S	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	567750	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568255	04/26/19 19:47	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	567746	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568118	04/26/19 20:34	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1			455615	04/23/19 03:51	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			455784	04/24/19 01:39	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHL-DUP03_SPR19

Lab Sample ID: 680-167850-7

Date Collected: 04/16/19 13:20

Matrix: GW

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	568842	05/02/19 19:33	Y1S	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	567727	04/24/19 14:00	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568019	04/25/19 20:57	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	567726	04/24/19 14:00	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568000	04/25/19 14:54	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			455615	04/23/19 04:12	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			455784	04/24/19 01:34	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-13_04_SPR19

Lab Sample ID: 680-167851-1

Date Collected: 04/15/19 09:50

Matrix: WG

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		2	5 mL	5 mL	568842	05/02/19 20:24	Y1S	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	567750	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568255	04/26/19 21:08	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	567746	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568118	04/26/19 21:55	BWR	TAL SAV
	Instrument ID: ICPMSC									

Client Sample ID: SHM-13_04_SPR19

Lab Sample ID: 680-167851-1

Date Collected: 04/15/19 09:50

Matrix: WG

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060		1			455615	04/23/19 04:29	LPL	TAL DEN
Total/NA	Analysis	SM 2320B		1			455784	04/24/19 01:45	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-13_06_SPR19

Lab Sample ID: 680-167851-2

Date Collected: 04/16/19 08:25

Matrix: WG

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		2	5 mL	5 mL	568842	05/02/19 20:37	Y1S	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	567750	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568255	04/26/19 21:00	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	567746	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568118	04/26/19 21:48	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1			455615	04/23/19 04:47	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			455784	04/24/19 01:51	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHL-DUP06

Lab Sample ID: 680-167851-3

Date Collected: 04/16/19 08:30

Matrix: WG

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	568862	05/02/19 21:40	Y1S	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	567750	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568255	04/26/19 21:04	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	567746	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568118	04/26/19 21:51	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1			455615	04/23/19 05:06	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			455784	04/24/19 02:07	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-13_07_SPR19

Lab Sample ID: 680-167851-4

Date Collected: 04/16/19 09:50

Matrix: WG

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	568862	05/02/19 21:52	Y1S	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	567750	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568255	04/26/19 20:52	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	567746	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568118	04/26/19 21:40	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1			455615	04/23/19 05:24	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			455784	04/24/19 02:13	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-13_03_SPR19

Lab Sample ID: 680-167851-5

Date Collected: 04/16/19 11:25

Matrix: WG

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		2	5 mL	5 mL	568862	05/02/19 22:05	Y1S	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	567750	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568255	04/26/19 20:56	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	567746	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568118	04/26/19 21:44	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1			455615	04/23/19 05:43	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			455784	04/24/19 02:19	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-13_08_SPR19

Lab Sample ID: 680-167851-6

Date Collected: 04/16/19 13:20

Matrix: WG

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	568862	05/02/19 22:18	Y1S	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	568062	04/26/19 15:17	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568511	04/30/19 02:13	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568061	04/26/19 15:17	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568401	04/29/19 20:36	BWR	TAL SAV
	Instrument ID: ICPMSD									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-167850-1

Client Sample ID: SHM-13_08_SPR19

Lab Sample ID: 680-167851-6

Date Collected: 04/16/19 13:20

Matrix: WG

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060		1			455615	04/23/19 06:36	LPL	TAL DEN
Total/NA	Analysis	SM 2320B		1			455784	04/24/19 02:24	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHP-2016-06C_SPR19

Lab Sample ID: 680-167852-1

Date Collected: 04/17/19 10:00

Matrix: Water

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	568842	05/02/19 19:46	Y1S	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	567750	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568255	04/26/19 20:44	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	567746	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568118	04/26/19 21:26	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1			455615	04/23/19 07:29	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			455784	04/24/19 02:29	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHP-2016-06A_SPR19

Lab Sample ID: 680-167852-2

Date Collected: 04/17/19 11:15

Matrix: Water

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	568842	05/02/19 19:59	Y1S	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	567750	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568255	04/26/19 20:40	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	567746	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568118	04/26/19 21:22	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1			455615	04/23/19 07:50	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			455784	04/24/19 02:34	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHP-2016-06B_SPR19

Lab Sample ID: 680-167852-3

Date Collected: 04/17/19 12:40

Matrix: Water

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A	DL	10	5 mL	5 mL	568967	05/03/19 13:50	UI	TAL SAV
	Instrument ID: CICH									
Total/NA	Analysis	9056A		1	5 mL	5 mL	568842	05/02/19 20:11	Y1S	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	567750	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568255	04/26/19 20:48	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	567746	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568118	04/26/19 21:37	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1			455615	04/23/19 08:07	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			455784	04/24/19 02:40	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHP-EB01_SPR19

Lab Sample ID: 680-167852-4

Date Collected: 04/17/19 13:45

Matrix: Water

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	568492	04/30/19 13:01	AJR	TAL SAV
Total/NA	Analysis	6010C		1			568823	05/01/19 18:22	BCB	TAL SAV
	Instrument ID: ICPE									
Total/NA	Prep	3010A			50 mL	250 mL	568490	04/30/19 13:01	AJR	TAL SAV
Total/NA	Analysis	6020A		1			568935	05/02/19 15:42	BJB	TAL SAV
	Instrument ID: ICPMSC									
Total/NA	Analysis	9060A		1			455614	04/23/19 08:26	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			455784	04/24/19 02:45	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-05-41C_SPR19

Lab Sample ID: 680-167853-1

Date Collected: 04/15/19 11:10

Matrix: WG

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		10	5 mL	5 mL	568967	05/03/19 14:03	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	567750	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568255	04/26/19 20:16	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	567746	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568118	04/26/19 21:07	BWR	TAL SAV
	Instrument ID: ICPMSC									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-167850-1

Client Sample ID: SHM-05-41C_SPR19

Lab Sample ID: 680-167853-1

Date Collected: 04/15/19 11:10

Matrix: WG

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060		1			455615	04/22/19 21:26	LPL	TAL DEN
Total/NA	Analysis	SM 2320B		1			455784	04/24/19 02:52	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: PZ-12-10_SPR19

Lab Sample ID: 680-167853-2

Date Collected: 04/16/19 08:05

Matrix: WG

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569167	05/06/19 16:37	UI	TAL SAV
	Instrument ID: CICL									
Dissolved	Prep	3005A			50 mL	50 mL	567750	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568255	04/26/19 20:12	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	567746	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568118	04/26/19 21:04	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1			455615	04/22/19 21:46	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			455784	04/24/19 02:57	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: PZ-12-09_SPR19

Lab Sample ID: 680-167853-3

Date Collected: 04/16/19 08:55

Matrix: WG

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569167	05/06/19 17:14	UI	TAL SAV
	Instrument ID: CICL									
Dissolved	Prep	3005A			50 mL	50 mL	567750	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568255	04/26/19 19:19	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	567746	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568118	04/26/19 20:16	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1			455615	04/22/19 20:31	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			455784	04/24/19 03:26	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: PZ-12-07_SPR19

Lab Sample ID: 680-167853-4

Date Collected: 04/16/19 10:30

Matrix: WG

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569167	05/06/19 17:26	UI	TAL SAV
	Instrument ID: CICL									
Dissolved	Prep	3005A			50 mL	50 mL	567750	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568255	04/26/19 20:04	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	567746	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568118	04/26/19 20:56	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1			455615	04/22/19 22:02	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			455784	04/24/19 03:36	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-11-02_SPR19

Lab Sample ID: 680-167853-5

Date Collected: 04/16/19 11:25

Matrix: WG

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569167	05/06/19 17:39	UI	TAL SAV
	Instrument ID: CICL									
Dissolved	Prep	3005A			50 mL	50 mL	567750	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568255	04/26/19 20:08	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	567746	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568118	04/26/19 21:00	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1			455615	04/22/19 22:21	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			455784	04/24/19 03:43	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: PZ-12-06_SPR19

Lab Sample ID: 680-167853-6

Date Collected: 04/16/19 12:15

Matrix: WG

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569167	05/06/19 17:51	UI	TAL SAV
	Instrument ID: CICL									
Dissolved	Prep	3005A			50 mL	50 mL	567750	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568255	04/26/19 20:36	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	567746	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568118	04/26/19 21:18	BWR	TAL SAV
	Instrument ID: ICPMSC									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-167850-1

Client Sample ID: PZ-12-06_SPR19

Lab Sample ID: 680-167853-6

Date Collected: 04/16/19 12:15

Matrix: WG

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060		1			455615	04/22/19 23:17	LPL	TAL DEN
Total/NA	Analysis	SM 2320B		1			455784	04/24/19 03:48	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: PZ-12-05_SPR19

Lab Sample ID: 680-167853-7

Date Collected: 04/16/19 13:00

Matrix: WG

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569167	05/06/19 18:04	UI	TAL SAV
	Instrument ID: CICL									
Dissolved	Prep	3005A			50 mL	50 mL	567750	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568255	04/26/19 20:20	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	567746	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568118	04/26/19 21:11	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1			455615	04/22/19 23:35	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			455784	04/24/19 03:53	SGB	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHL-4_SPR19

Lab Sample ID: 680-167853-8

Date Collected: 04/16/19 13:55

Matrix: WG

Date Received: 04/18/19 09:21

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	568967	05/03/19 17:29	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	567750	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568255	04/26/19 20:32	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	567746	04/24/19 15:41	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568118	04/26/19 21:15	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1			455615	04/22/19 23:52	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			455784	04/24/19 03:58	SGB	TAL DEN
	Instrument ID: WC-AT3									

Laboratory References:

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

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 366.7442, add extension lekes@komangs.com

COC # SHL

KGS

Project: Long Term Monitoring	**Laboratory:** TestAmerica Laboratories, Inc. Savannah GA
Project Number: DEVNS-LTM	**Point of Contact:** Jerry Lanier ((912) 354-7858 jerry.lanier@testamericainc.com
WBS Code: Purchase Order 19-804	**Ship to:** 5102 LaRoche Avenue, Savannah, GA 31404

Comments:

Equipment:
Bladder or Peristaltic pump, ice, T-valve, micron filter for dissolved, YSI, and Turbidity meters for field paramenters.

Dissolved metals = As, Fe, Mn)
Dissolved metals and DOC are field filtered

FF - field filtered using 0.45 micron

EVENT: KOMAN, Long Term Monitoring, SHL (AOC 5) Spring 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: ALkalinity (SM2320A) 1-250 ml poly	Chloride/sulfate (SW9056) 1-125 ml poly	Dissolved metals SW6010/6020 1-250 ml poly HNO3	DOC (SW9060A) 1-250ml amber H2SO4	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom
								FF	FF				
1	EPA-PZ-2012-4A_SPR19	GW	4/15/2019	0945	EAS	1	1	1	1	EPA-PZ-2012-4A	N1		
2	EPA-PZ-2012-4B_SPR19	GW	4/15/2019	1050	EAS	1	1	1	1	EPA-PZ-2012-4B	N1		
3	EPA-PZ-2012-1A_SPR19	GW	4/16/2019	0934	EAS	1	1	1	1	EPA-PZ-2012-1A	N1		
4	EPA-PZ-2012-1B_SPR19	GW	4/16/2019	1035	EAS	1	1	1	1	EPA-PZ-2012-1B	N1		
5	EPA-PZ-2012-3A_SPR19	GW	4/16/2019	1215	EAS	1	1	1	1	EPA-PZ-2012-3A	N1		
6	EPA-PZ-2012-3B_SPR19	GW	4/16/2019	1315	EAS	1	1	1	1	EPA-PZ-2012-3B	N1		
7	SHL-DUP03_SPR19	GW	4/16/2019	1320	EAS	1	1	1	1	EPA-PZ-2012-3B	FD		
8													
9													
10													
Cooler:		Turn Around Time:											

680-167850 Chain of Custody

Relinquished by: *(Signature)*	Date	Time
[signature]	4/16/2019	1515
[signature]	4/16/19	1535
[signature]	4/17/19	0910

Received by: *(Signature)*	Date	Time
[signature]	4/16/19	1515
[signature]	4/17/19	0910

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

[signature] 4/18/19. 924

2-6 | 2-6

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 366.7442, add extension lekes@komangs.com

COC # SHL

KGS

Project: Long Term Monitoring	**Laboratory:** TestAmerica Laboratories, Inc. Savannah GA
Project Number: DEVNS-LTM	**Point of Contact:** Jerry Lanier ((912) 354-7858 jerry.lanier@testamericainc.com
WBS Code: Purchase Order 19-804	**Ship to:** 5102 LaRoche Avenue, Savannah, GA 31404

Comments:

Equipment:
Bladder or Peristaltic pump, ice, T-valve, micron filter for dissolved, YSI, and Turbidity meters for field paramenters.

Dissolved metals = As, Fe, Mn)
Dissolved metals and DOC are field filtered

FF - field filtered using 0.45 micron

Analytical Test Method

EVENT: KOMAN, Long Term Monitoring, SHL (AOC 5) Spring 2019

	Sample ID	Matrix	Date	Time	Samp Init.	ALkalinity (SM2320A) 1-250 ml poly	Chloride/sulfate (SW9056) 1-125 ml poly	Dissolved metals SW6010/6020 1-250 ml poly HNO3	DOC (SW9060A) 1-250ml amber H2SO4	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom
	Analytical Test Method							FF	FF				
1	EPA-PZ-2012-4A_SPR19	GW	4/15/2019	0945	EAS	1	1	1	1	EPA-PZ-2012-4A	N1		
2	EPA-PZ-2012-4B_SPR19	GW	4/15/2019	1050	EAS	1	1	1	1	EPA-PZ-2012-4B	N1		
3	EPA-PZ-2012-1A_SPR19	GW	4/16/2019	0934	EAS	1	1	1	1	EPA-PZ-2012-1A	N1		
4	EPA-PZ-2012-1B_SPR19	GW	4/16/2019	1035	EAS	1	1	1	1	EPA-PZ-2012-1B	N1		
5	EPA-PZ-2012-3A_SPR19	GW	4/16/2019	1215	EAS	1	1	1	1	EPA-PZ-2012-3A	N1		
6	EPA-PZ-2012-3B_SPR19	GW	4/16/2019	1315	EAS	1	1	1	1	EPA-PZ-2012-3B	N1		
7	SHL-DUP03_SPR19	GW	4/16/2019	1320	EAS	1	1	1	1	EPA-PZ-2012-3B	FD		
8													
9													
10													
Cooler:		Turn Around Time:											

680-167850 Chain of Custody

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
	4/16/2019	1515		4/16/19	1515
	~~4/16/19~~	1535		4/17/19	1535
	~~4/17/19~~	1515		4-18-19	0850

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

Page 1 of 1

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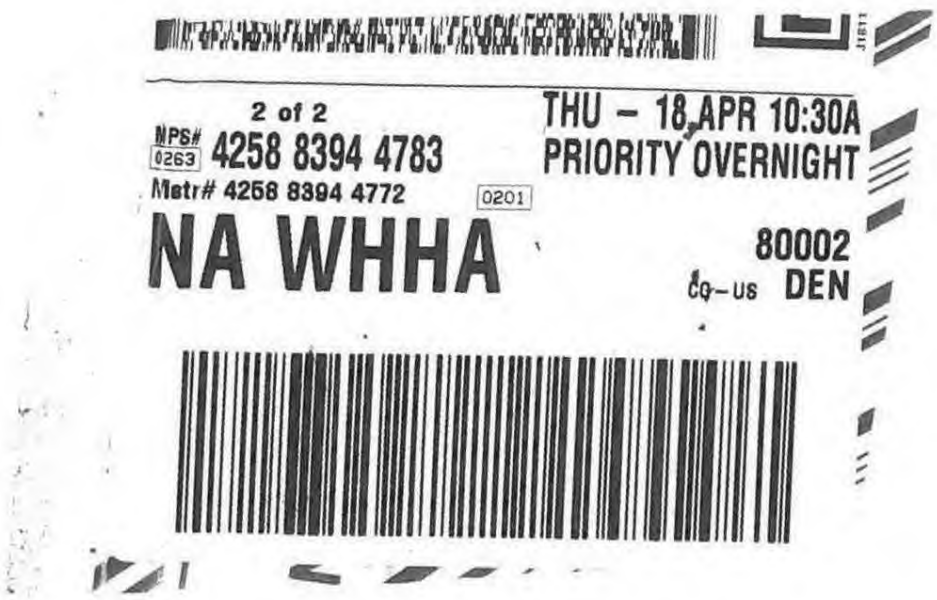
XFERED BY KO 04-19-19

5/15/2019


2 of 2
NPS# 0263 4258 8394 4783
Metr# 4258 8394 4772
0201
THU – 18 APR 10:30A
PRIORITY OVERNIGHT
NA WHHA
80002
CO-US DEN


1 of 2
TRK# 0201 4258 8394 4772
MASTER
THU – 18 APR 10:30A
PRIORITY OVERNIGHT
NA WHHA
80002
CO-US DEN

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 366.7442, add extension lekes@komangs.com

COC # SHL

KGS

Project: Long Term Monitoring	**Laboratory:** TestAmerica Laboratories, Inc. Savannah GA
Project Number: DEVNS-LTM	**Point of Contact:** Jerry Lanier ((912) 354-7858 jerry.lanier@testamericainc.com
WBS Code: Purchase Order 19-804	**Ship to:** 5102 LaRoche Avenue, Savannah, GA 31404

Analytical Test Method

Comments:

Equipment:
Bladder or Peristaltic pump, ice, T-valve, micron filter for dissolved, YSI, and Turbidity meters for field paramenters.

Dissolved metals = As, Fe, Mn)
Dissolved metals and DOC are field filtered

FF - field filtered using 0.45 micron

EVENT: KOMAN, Long Term Monitoring, SHL (AOC 5) Spring 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: ALkalinity (SM2320A) 1-250 ml poly	Chloride/sulfate (SW9056) 1-125 ml poly	Dissolved metals SW6010/6020 1-250 ml poly HNO3	DOC (SW9060A) 1-250ml amber H2SO4	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom
								FF	FF				
1	SHM-13-04_SPR19	WG	4/15/19	0950	CV	X	X	X	X	~~SHM-13-04~~ ~~SHM-13-06~~	N1		
2	SHM-13-06_SPR19	WG	4/16/19	0825	CV	X	X	X	X	SHM-13-06	N1		
3	SHL-DUP06	WG	4/16/19	0830	CV	X	X	X	X	SHM-13-06	FD		
4	SHM-13-07_SPR19	WG	4/16/19	0950	CV	X	X	X	X	SHM-13-07	N1		
5	SHM-13-03_SPR19	WG	4/16/19	1125	CV	X	X	X	X	SHM-13-03	N1		
6	SHM-13-08_SPR19	WG	4/16/19	1320	CV	X	X	X	X	SHM-13-08	N1		
7													
8													
9													
10													
Cooler:		Turn Around Time:											

680-167851 Chain of Custody

Relinquished by: *(Signature)*	Date	Time
	4/16/19	1500
	4/17/19	1535
	4/17/19	1720

Received by: *(Signature)*	Date	Time
	4/16/19	1500
	4/17/19	1535
	4-18-19	0850

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

Page 1 of 1

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XFERED BY KD 04-19-19

5/15/2019

TestAmerica Denver
Condition Upon Receipt Anomaly Report (CUR)

Login No : 680-167851 Date/Time: 4-18-19 0950
Client : KOMAN Initiated by: RDP

CONDITION/ANOMALY/VARIANCE (CHECK ALL THAT APPLY):

☐ **COOLERS**
☐Received, No Chain of Custody (COC)
☐Other:

☐ **CONTAINERS**
☐Leaking ☐Broken
☐Without Labels ☐Extra
☐VOA Vials w/ Headspace or bubbles > 6 mm
☐Perchlorate without 1/3 headspace
☐Other:

☐ **CHAIN OF CUSTODY (COCs)**
☐Not relinquished by Client; No date/time Relinquished.
☐ Incomplete Information ☐Other:

☐ **TEMPERATURE (greater than 6°C)**
☐Cooler Temp

☐ **CUSTODY SEALS (COOLER(S)/CONTAINER(S)**
☐None ☐ Not Intact
☐Other:

☐ **CONTAINER LABELS**
☐ Not the same ID/info as in COC ☐ ID ☐Time ☐Date ☐PRESERVATIVE
☐ Incomplete ☐ Markings/Info smeared or illegible ☐ Torn
☐ Other:

☐ **SAMPLES**
☐ Samples NOT RECEIVED but listed on COC
☐Samples received but NOT LISTED on COC
☐Logged based on Label Information
☐Logged based on info from other samples on COC
☐ Logged according to Work Plan
☐Logged on HOLD UNTIL FURTHER NOTICE

☐ Trip Blank received, not on COC, ____ vials received
☐ Mislabeled as to tests, preservatives, etc.
☐ Holding time expired
☐ Improper container used
☐ Not preserved / Improper preservative used
☐ Improper pH _____ ☐ Lab to preserve sample
☐ Insufficient quantities for analysis

☐Other:

Comments: • SHM-13-07_SPR19: 250mL amber glass w/sulfuric -dis (1 of 1) missing sample time.

~~• SHP-EB01-SPR19: 250 bottle say SHL-EB01-SPR19.~~ KD 04-19-19

Sample Control Review: KDA Date: 04-19-19


2 of 2
MPS# 0263 4258 8394 4783
Mstr# 4258 8394 4772
0201
THU – 18 APR 10:30A
PRIORITY OVERNIGHT
NA WHHA
80002
CO US DEN


1 of 2
TRK# 0201 4258 8394 4772
MASTER
THU – 18 APR 10:30A
PRIORITY OVERNIGHT
NA WHHA
80002
CO JS DEN

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 366.7442, add extension lekes@komangs.com

COC # SHL

KGS

Project: Long Term Monitoring	**Laboratory:** TestAmerica Laboratories, Inc. Savannah GA
Project Number: DEVNS-LTM	**Point of Contact:** Jerry Lanier ((912) 354-7858 jerry.lanier@testamericainc.com
WBS Code: Purchase Order 19-804	**Ship to:** 5102 LaRoche Avenue, Savannah, GA 31404

Analytical Test Method

Comments:

Equipment:
Bladder or Peristaltic pump, ice, T-valve, micron filter for dissolved, YSI, and Turbidity meters for field paramenters.

Dissolved metals = As, Fe, Mn)
Dissolved metals and DOC are field filtered

FF - field filtered using 0.45 micron

EVENT: KOMAN, Long Term Monitoring, SHL (AOC 5) Spring 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: ALkalinity (SM2320A) 1-250 ml poly	Chloride/sulfate (SW9056) 1-125 ml poly	Dissolved metals SW6010/6020 1-250 ml poly HNO3	DOC (SW9060A) 1-250ml amber H2SO4	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom
								FF	FF				
1	SHM-13-04_SPR19	WG	4/15/19	0950	CV	X	X	X	X	~~SHM-13-04~~ ~~SHM-13-06~~	N1		
2	SHM-13-06_SPR19	WG	4/16/19	0825	CV	X	X	X	X	SHM-13-06	N1		
3	SHL-DUP06	WG	4/16/19	0830	CV	X	X	X	X	SHM-13-06	FD		
4	SHM-13-07_SPR19	WG	4/16/19	0950	CV	X	X	X	X	SHM-13-07	N1		
5	SHM-13-03_SPR19	WG	4/16/19	1125	CV	X	X	X	X	SHM-13-03	N1		
6	SHM-13-08_SPR19	WG	4/16/19	1320	CV	X	X	X	X	SHM-13-08	N1		
7													
8													
9													
10													

680-167851 Chain of Custody

Cooler: **Turn Around Time:**

Relinquished by: *(Signature)*	Date	Time
	4/16/19	1500
	4/17/19	1535
	4/17/19	1720

Received by: *(Signature)*	Date	Time
	4/16/19	1500
	4/17/19	1535
	4-18-19	0850

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

Page 1 of 1

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XFERED BY KD 04-19-19

5/15/2019

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 366.7442, add extension lekes@komangs.com

COC # SHL

KGS

Project: Long Term Monitoring
Project Number: DEVNS-LTM
WBS Code: Purchase Order 19-804

Laboratory: TestAmerica Laboratories, Inc. Savannah GA
Point of Contact: Jerry Lanier ((912) 354-7858 jerry.lanier@testamericainc.com
Ship to: 5102 LaRoche Avenue, Savannah, GA 31404

Comments:
N1 = Native
WG = Ground Water
WQ = water quality
on Ice

Equipment:
Bladder or Peristaltic pump, ice, T-valve, micron filter for dissolved, YSI, and Turbidity meters for field paramenters.

Analytical Test Method

Dissolved metals = As, Fe, Mn)
Dissolved metals and DOC are field filtered

FF - field filtered using 0.45 micron

EVENT: KOMAN, Long Term Monitoring, SHL (AOC 5) Spring 2019

	Sample ID	Matrix	Date	Time	Samp Init.	ALkalinity (SM2320A) 1-250 ml poly	Chloride/sulfate (SW9056) 1-125 ml poly	Dissolved metals SW6010/6020 1-250 ml poly HNO3	DOC (SW9060A) 1-250ml amber H2SO4	D. Metals SW6010/6020 1-250, Ml Poly HNO3	DOC (SW 9060A) 1-250 mL amber H2SO4					Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom
1	SHP-2016-06C-SPR19	WG	04/17/19	1000	MM	1	1	1	1							SHP-2016-06C	N1	124.87	134.87
2	SHP-2016-06A-SPR19	WG	04/17/19	1115	MM	1	1	1	1							SHP-2016-06A	N1	82.85	87.85
3	SHP-2016-06B-SPR19	WG	04/17/19	1240	MM	1	1	1	1							SHP-2016-06B	N1	103.84	113.84
4	SHP-EB01_SPR19	WQ	04/17/19	1395	MM	1	1			1	1					Equipment Blank	WQ	NA	NA
5																			
6																			
7																			
8																			
9																			
10																			

680-167852 Chain of Custody

Screen 690R

Cooler: **Turn Around Time:**

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	04/17/19	1735		4/17/19	1535
	4/17/19	1700		4-18-19	0850

Shipping Date / Carrier / Airbill Number

Received by Laboratory: (Signature, Date, Time) & condition

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3.2, 1.4 +0.0 1.29
XFERED BY KO 04-19-19

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 366.7442, add extension lekes@komangs.com

COC # SHL

KGS

Project: Long Term Monitoring	**Laboratory:** TestAmerica Laboratories, Inc. Savannah GA
Project Number: DEVNS-LTM	**Point of Contact:** Jerry Lanier ((912) 354-7858 jerry.lanier@testamericainc.com
WBS Code: Purchase Order 19-804	**Ship to:** 5102 LaRoche Avenue, Savannah, GA 31404

Comments:
SHL
Cool to <4°C, on ice

Equipment:
Bladder or Peristaltic pump, ice, T-valve, micron filter for dissolved, YSI, and Turbidity meters for field paramenters.

Analytical Test Method

Dissolved metals = As, Fe, Mn)
Dissolved metals and DOC are field filtered

FF - field filtered using 0.45 micron

EVENT: KOMAN, Long Term Monitoring, SHL (AOC 5) Spring 2019

	Sample ID	Matrix	Date	Time	Samp Init.	ALkalinity (SM2320A) 1-250 ml poly	Chloride/sulfate (SW9056) 1-125 ml poly	Dissolved metals SW6010/6020 1-250 ml poly HNO3	DOC (SW9060A) 1-250ml amber H2SO4	Location ID	Sample Type	Depth (ft bgs) Top - Bottom
								FF	FF			
1	SHM-05-41C_SPR19	WG	4/15/19	1110	BrA	x	x	x	x	SHM-05-41C	N1	
2	PZ-12-10-SPR19	WG	4/16/19	0805	BrA	x	x	x	x	PZ-12-10	N1	
3	PZ-12-09_SPR19	WG	4/16/19	0855	BrA	x	x	x	x	PZ-12-09	N1	
4	PZ-12-09_SPR19_MS	WG	4/16/19	0855	BrA	x	x	x	x	PZ-12-09	MS	
5	PZ-12-09_SPR19_MSD	WG	4/16/19	0855	BrA	x	x	x	x	PZ-12-09	SD1	
6	PZ-12-07_SPR19	WG	4/16/19	1030	BrA	x	x	x	x	PZ-12-07	N1	
7	SHM-11-02_SPR19	WG	4/16/19	1125	BrA	x	x	x	x	SHM-11-02	N1	
8	PZ-12-06_SPR19	WG	4/16/19	1215	BrA	x	x	x	x	PZ-12-06	N1	
9	PZ-12-05_SPR19	WG	4/16/19	1300	BrA	x	x	x	x	PZ-12-05	N1	
10	SHL-4_SPR19	WG	4/16/19	1355	BrA	x	x	x	x	SHL-4	N1	

680-167853 Chain of Custody

Cooler: **Turn Around Time:**

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[signature]	4/17/19	15:55	[signature]	4/17/19	15:55
[signature]	4/17/19	17:10	[signature]	4-18-19	0850

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

Page 1 of 1

Coolers: 3.2, 1.4, +0.0, IR9, xfer by FDP 4-19-19

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-167850-1

Login Number: 167850

List Source: Eurofins TestAmerica, Savannah

List Number: 1

Creator: Weston, Pamela

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-167850-1

Login Number: 167850
List Number: 2
Creator: Dunlap, Krista M

List Source: Eurofins TestAmerica, Denver
List Creation: 04/19/19 04:58 PM

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

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-167850-1

Login Number: 167851

List Source: Eurofins TestAmerica, Savannah

List Number: 1

Creator: Weston, Pamela

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-167850-1

Login Number: 167851
List Number: 2
Creator: Dunlap, Krista M

List Source: Eurofins TestAmerica, Denver
List Creation: 04/19/19 05:18 PM

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

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-167850-1

Login Number: 167852

List Source: Eurofins TestAmerica, Savannah

List Number: 1

Creator: Weston, Pamela

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-167850-1

Login Number: 167852
List Number: 2
Creator: Dunlap, Krista M

List Source: Eurofins TestAmerica, Denver
List Creation: 04/19/19 05:29 PM

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

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-167850-1

Login Number: 167853

List Source: Eurofins TestAmerica, Savannah

List Number: 1

Creator: Weston, Pamela

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-167850-1

Login Number: 167853
List Number: 2
Creator: Dunlap, Krista M

List Source: Eurofins TestAmerica, Denver
List Creation: 04/19/19 05:37 PM

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

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-167850-1
Project/Site: LTM, SHL (AOC 5) Spring 2019

Laboratory: Eurofins TestAmerica, Savannah

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

Authority	Program	EPA Region	Identification Number	Expiration Date
	AFCEE		SAVLAB	
Alabama	State Program	4	41450	06-30-19 *
Alaska	State Program	10		06-30-19 *
Alaska (UST)	State Program	10	UST-104	09-22-19
ANAB	DoD		L2463	09-22-19
ANAB	ISO/IEC 17025		L2463.01	09-22-19
Arizona	State Program	9	AZ0808	12-14-19
Arkansas DEQ	State Program	6	88-0692	02-01-20
California	State Program	9	2939	06-30-19 *
Colorado	State Program	8	N/A	12-31-19
Connecticut	State Program	1	PH-0161	03-31-21
Florida	NELAP	4	E87052	06-30-19 *
GA Dept. of Agriculture	State Program	4	N/A	06-12-19
Georgia	State Program	4	N/A	06-30-19 *
Georgia	State Program	4	803	06-30-19 *
Guam	State Program	9	15-005r	04-17-20
Hawaii	State Program	9	N/A	06-30-19
Illinois	NELAP	5	200022	11-30-19
Indiana	State Program	5	N/A	06-30-19 *
Iowa	State Program	7	353	06-30-19 *
Kentucky (DW)	State Program	4	90084	12-31-19
Kentucky (UST)	State Program	4	18	06-30-19
Kentucky (WW)	State Program	4	90084	12-31-19
Louisiana	NELAP	6	30690	06-30-19
Louisiana (DW)	NELAP	6	LA160019	12-31-19
Maine	State Program	1	GA00006	09-25-20
Maryland	State Program	3	250	12-31-19
Massachusetts	State Program	1	M-GA006	06-30-19
Michigan	State Program	5	9925	03-05-19 *
Mississippi	State Program	4	N/A	06-30-19 *
Nebraska	State Program	7	TestAmerica-Savannah	06-30-19
New Jersey	NELAP	2	GA769	06-30-19 *
New Mexico	State Program	6	N/A	06-30-19
New York	NELAP	2	10842	04-01-20
North Carolina (DW)	State Program	4	13701	07-31-19
North Carolina (WW/SW)	State Program	4	269	12-31-19
Oklahoma	State Program	6	9984	08-31-19
Pennsylvania	NELAP	3	68-00474	06-30-19 *
Puerto Rico	State Program	2	GA00006	01-01-20
South Carolina	State Program	4	98001	06-30-19 *
Tennessee	State Program	4	TN02961	06-30-19 *
Texas	NELAP	6	T104704185-16-9	11-30-19
Texas (DW)	State Program	1	T104704185	06-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
Virginia	NELAP	3	460161	06-14-19 *
Washington	State Program	10	C805	06-10-19 *
West Virginia (DW)	State Program	3	9950C	12-31-19
West Virginia DEP	State Program	3	094	06-30-19 *
Wisconsin	State Program	5	999819810	08-31-19
Wyoming	State Program	8	8TMS-L	06-30-16 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-167850-1
Project/Site: LTM, SHL (AOC 5) Spring 2019

Laboratory: Eurofins TestAmerica, Denver

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

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

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

Laboratory Job ID: 680-167952-1
Client Project/Site: KOMAN - LTM, SHL (AOC 5) Spring 2019

For:
KOMAN Government Solutions, LLC
293 Boston Post Road
Suite 100
Marlborough, Massachusetts 01752

Attn: Laurie Ekes

Jerry Lanier

Authorized for release by:
5/18/2019 4:08:07 PM

Jerry Lanier, Project Manager I
(912)250-0281
jerry.lanier@testamericainc.com

LINKS

Review your project results through TotalAccess

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Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Certification Summary 47

Job ID: 680-167952-1

Laboratory: Eurofins TestAmerica, Savannah

Narrative

CASE NARRATIVE

Client: KOMAN Government Solutions, LLC

Project: KOMAN - LTM, SHL (AOC 5) Spring 2019

Report Number: 680-167952-1

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 the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 04/20/2019; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.4 C.

METALS (ICP) - DISSOLVED

Samples SHP-2016-07B_SPR19 (680-167952-1), SHL-EB02_SPR19 (680-167952-2), SHM-11-06_SPR19 (680-167952-3), PZ-12-01_SPR19 (680-167952-4), PZ-12-02_SPR19 (680-167952-5), PZ-12-03_SPR19 (680-167952-6), SHL-DUP01 (680-167952-7), PZ-12-04_SPR19 (680-167952-8), SHP-2016-4A_SPR19 (680-167952-9), SHP-2016-4B_SPR19 (680-167952-10), SHP-2016-2A_SPR19 (680-167952-11), SHP-2016-2B_SPR19 (680-167952-12), SHP-DUP04 (680-167952-13), EPA-PZ-2012-7A_SPR19 (680-167952-14), EPA-PZ-2012-7B_SPR19 (680-167952-15), SHM-07-03_SPR19 (680-167952-16), SHM-07-05X_SPR19 (680-167952-17), SHM-05-41B_SPR19 (680-167952-18), SHP-2016-03A_SPR19 (680-167952-19) and SHP-2016-03B-SPR19 (680-167952-20) were analyzed for Metals (ICP) - Dissolved in accordance with EPA SW-846 Method 6010C. The samples were prepared on 04/26/2019 and analyzed on 04/29/2019.

Manganese was detected in method blank MB 680-568033/1-A at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Iron and Manganese failed the recovery criteria low for the MS of sample SHM-07-05X_SPR19MS (680-167952-17) in batch 680-568511.

Refer to the QC report for details.

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

METALS (ICPMS) - DISSOLVED

Samples SHP-2016-07B_SPR19 (680-167952-1), SHL-EB02_SPR19 (680-167952-2), SHM-11-06_SPR19 (680-167952-3), PZ-12-01_SPR19 (680-167952-4), PZ-12-02_SPR19 (680-167952-5), PZ-12-03_SPR19 (680-167952-6), SHL-DUP01 (680-167952-7), PZ-12-04_SPR19 (680-167952-8), SHP-2016-4A_SPR19 (680-167952-9), SHP-2016-4B_SPR19 (680-167952-10), SHP-2016-2A_SPR19 (680-167952-11), SHP-2016-2B_SPR19 (680-167952-12), SHP-DUP04 (680-167952-13), EPA-PZ-2012-7A_SPR19 (680-167952-14), EPA-PZ-2012-7B_SPR19 (680-167952-15), SHM-07-03_SPR19 (680-167952-16), SHM-07-05X_SPR19 (680-167952-17), SHM-05-41B_SPR19 (680-167952-18), SHP-2016-03A_SPR19 (680-167952-19) and SHP-2016-03B-SPR19 (680-167952-20) were analyzed for Metals (ICPMS) - Dissolved in accordance with EPA SW-846 Method 6020A. The samples were prepared on 04/26/2019 and analyzed on 04/29/2019.

Arsenic failed the recovery criteria high for the MS of sample SHM-07-05X_SPR19MS (680-167952-17) in batch 680-568401.

Refer to the QC report for details.

Job ID: 680-167952-1 (Continued)

Laboratory: Eurofins TestAmerica, Savannah (Continued)

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

ALKALINITY

Samples SHP-2016-07B_SPR19 (680-167952-1), SHL-EB02_SPR19 (680-167952-2), SHM-11-06_SPR19 (680-167952-3), PZ-12-01_SPR19 (680-167952-4), PZ-12-02_SPR19 (680-167952-5), PZ-12-03_SPR19 (680-167952-6), SHL-DUP01 (680-167952-7), PZ-12-04_SPR19 (680-167952-8), SHP-2016-4A_SPR19 (680-167952-9), SHP-2016-4B_SPR19 (680-167952-10), SHP-2016-2A_SPR19 (680-167952-11), SHP-2016-2B_SPR19 (680-167952-12), SHP-DUP04 (680-167952-13), EPA-PZ-2012-7A_SPR19 (680-167952-14), EPA-PZ-2012-7B_SPR19 (680-167952-15), SHM-07-03_SPR19 (680-167952-16), SHM-07-05X_SPR19 (680-167952-17), SHM-05-41B_SPR19 (680-167952-18), SHP-2016-03A_SPR19 (680-167952-19) and SHP-2016-03B-SPR19 (680-167952-20) were analyzed for alkalinity in accordance with SM 2320B. The samples were analyzed on 04/26/2019.

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

ANIONS BY ION CHROMATOGRAPHY (28 DAY)

Samples SHP-2016-07B_SPR19 (680-167952-1), SHL-EB02_SPR19 (680-167952-2), SHM-11-06_SPR19 (680-167952-3), PZ-12-01_SPR19 (680-167952-4), PZ-12-02_SPR19 (680-167952-5), SHL-DUP01 (680-167952-7), PZ-12-04_SPR19 (680-167952-8), SHP-2016-4A_SPR19 (680-167952-9), SHP-2016-4B_SPR19 (680-167952-10), SHP-2016-2A_SPR19 (680-167952-11), SHP-2016-2B_SPR19 (680-167952-12), SHP-DUP04 (680-167952-13), EPA-PZ-2012-7A_SPR19 (680-167952-14), EPA-PZ-2012-7B_SPR19 (680-167952-15), SHM-07-03_SPR19 (680-167952-16), SHM-07-05X_SPR19 (680-167952-17), SHM-05-41B_SPR19 (680-167952-18), SHP-2016-03A_SPR19 (680-167952-19) and SHP-2016-03B-SPR19 (680-167952-20) were analyzed for Anions by Ion Chromatography (28 Day) in accordance with SW 846 9056A. The samples were analyzed on 05/03/2019, 05/04/2019 and 05/06/2019.

Chloride failed the recovery criteria low for the MS/MSD of sample SHM-07-03_SPR19 (680-167952-16) in batch 680-569057.

The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Refer to the QC report for details.

Sample SHM-05-41B_SPR19 (680-167952-18)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

DISSOLVED ORGANIC CARBON

Samples SHP-2016-07B_SPR19 (680-167952-1), SHL-EB02_SPR19 (680-167952-2), SHM-11-06_SPR19 (680-167952-3), PZ-12-01_SPR19 (680-167952-4), PZ-12-02_SPR19 (680-167952-5), PZ-12-03_SPR19 (680-167952-6), SHL-DUP01 (680-167952-7), PZ-12-04_SPR19 (680-167952-8), SHP-2016-4A_SPR19 (680-167952-9), SHP-2016-4B_SPR19 (680-167952-10), SHP-2016-2A_SPR19 (680-167952-11), SHP-2016-2B_SPR19 (680-167952-12), SHP-DUP04 (680-167952-13), EPA-PZ-2012-7A_SPR19 (680-167952-14), EPA-PZ-2012-7B_SPR19 (680-167952-15), SHM-07-03_SPR19 (680-167952-16), SHM-07-05X_SPR19 (680-167952-17), SHM-05-41B_SPR19 (680-167952-18), SHP-2016-03A_SPR19 (680-167952-19) and SHP-2016-03B-SPR19 (680-167952-20) were analyzed for dissolved organic carbon in accordance with EPA SW-846 Method 9060. The samples were analyzed on 04/25/2019 and 04/26/2019.

Dissolved Organic Carbon was detected in method blank MB 280-456096/35 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. Dissolved Organic Carbon was detected in method blank MB 280-456096/4 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. Refer to the QC report for details.

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

Job ID: 680-167952-1 (Continued)

Laboratory: Eurofins TestAmerica, Savannah (Continued)

Sample Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-167952-1
Project/Site: KOMAN - LTM, SHL (AOC 5) Spring 2019

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-167952-1	SHP-2016-07B_SPR19	WG	04/19/19 13:30	04/20/19 09:27
680-167952-2	SHL-EB02_SPR19	WG	04/19/19 14:30	04/20/19 09:27
680-167952-3	SHM-11-06_SPR19	WG	04/18/19 08:15	04/20/19 09:27
680-167952-4	PZ-12-01_SPR19	WG	04/18/19 09:20	04/20/19 09:27
680-167952-5	PZ-12-02_SPR19	WG	04/18/19 10:10	04/20/19 09:27
680-167952-6	PZ-12-03_SPR19	WG	04/18/19 11:10	04/20/19 09:27
680-167952-7	SHL-DUP01	WG	04/18/19 11:15	04/20/19 09:27
680-167952-8	PZ-12-04_SPR19	WG	04/18/19 12:30	04/20/19 09:27
680-167952-9	SHP-2016-4A_SPR19	WG	04/19/19 08:35	04/20/19 09:27
680-167952-10	SHP-2016-4B_SPR19	WG	04/19/19 09:40	04/20/19 09:27
680-167952-11	SHP-2016-2A_SPR19	WG	04/19/19 10:55	04/20/19 09:27
680-167952-12	SHP-2016-2B_SPR19	WG	04/19/19 11:50	04/20/19 09:27
680-167952-13	SHP-DUP04	WG	04/19/19 11:55	04/20/19 09:27
680-167952-14	EPA-PZ-2012-7A_SPR19	WG	04/19/19 12:55	04/20/19 09:27
680-167952-15	EPA-PZ-2012-7B_SPR19	WG	04/19/19 13:45	04/20/19 09:27
680-167952-16	SHM-07-03_SPR19	WG	04/18/19 09:15	04/20/19 09:27
680-167952-17	SHM-07-05X_SPR19	WG	04/18/19 10:50	04/20/19 09:27
680-167952-18	SHM-05-41B_SPR19	WG	04/18/19 12:15	04/20/19 09:27
680-167952-19	SHP-2016-03A_SPR19	WG	04/18/19 13:20	04/20/19 09:27
680-167952-20	SHP-2016-03B-SPR19	WG	04/18/19 14:10	04/20/19 09:27

Method Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-167952-1
Project/Site: KOMAN - LTM, SHL (AOC 5) Spring 2019

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV
6020A	Metals (ICP/MS)	SW846	TAL SAV
9060	Organic Carbon, Dissolved (DOC)	SW846	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL SAV

Protocol References:

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

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

Laboratory References:

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

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Qualifiers

HPLC/IC

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

Metals

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

General Chemistry

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

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)

Client: KOMAN Government Solutions, LLC
Job ID: 680-167952-1
Project/Site: KOMAN - LTM, SHL (AOC 5) Spring 2019

Client Sample ID: SHP-2016-07B_SPR19

Lab Sample ID: 680-167952-1
Date Collected: 04/19/19 13:30
Matrix: WG
Date Received: 04/20/19 09:27

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	4.1		0.50	0.50	0.20	mg/L		05/03/19 21:52	1
Sulfate	71	M	1.0	1.0	0.40	mg/L		05/03/19 21:52	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	210		50	50	17	ug/L		04/29/19 20:05	1
Manganese	700		10	3.0	1.0	ug/L		04/29/19 20:05	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	80		3.0	3.0	1.5	ug/L		04/29/19 13:12	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	120		10	10	3.1	mg/L		04/26/19 15:48	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	3.0		1.0	0.50	0.16	mg/L		04/25/19 22:40	1

Client Sample ID: SHL-EB02_SPR19

Lab Sample ID: 680-167952-2
Date Collected: 04/19/19 14:30
Matrix: WG
Date Received: 04/20/19 09:27

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.28	J	0.50	0.50	0.20	mg/L		05/03/19 22:05	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		05/03/19 22:05	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		04/29/19 20:33	1
Manganese	3.0	U	10	3.0	1.0	ug/L		04/29/19 20:33	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		04/29/19 13:40	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		04/26/19 15:55	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.32	J	1.0	0.50	0.16	mg/L		04/25/19 22:57	1

Client Sample ID: SHM-11-06_SPR19

Lab Sample ID: 680-167952-3

Date Collected: 04/18/19 08:15

Matrix: WG

Date Received: 04/20/19 09:27

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	48		0.50	0.50	0.20	mg/L		05/03/19 22:17	1
Sulfate	8.4		1.0	1.0	0.40	mg/L		05/03/19 22:17	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	59000		50	50	17	ug/L		04/29/19 19:53	1
Manganese	1300		10	3.0	1.0	ug/L		04/29/19 19:53	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	680		3.0	3.0	1.5	ug/L		04/29/19 13:01	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	140		10	10	3.1	mg/L		04/26/19 16:02	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.9		1.0	0.50	0.16	mg/L		04/25/19 23:18	1

Client Sample ID: PZ-12-01_SPR19

Lab Sample ID: 680-167952-4

Date Collected: 04/18/19 09:20

Matrix: WG

Date Received: 04/20/19 09:27

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	58		0.50	0.50	0.20	mg/L		05/03/19 22:30	1
Sulfate	11		1.0	1.0	0.40	mg/L		05/03/19 22:30	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	54000		50	50	17	ug/L		04/29/19 19:17	1
Manganese	1700		10	3.0	1.0	ug/L		04/29/19 19:17	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	470		3.0	3.0	1.5	ug/L		04/29/19 12:26	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	170		10	10	3.1	mg/L		04/26/19 16:09	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	3.3		1.0	0.50	0.16	mg/L		04/25/19 23:36	1

Client Sample ID: PZ-12-02_SPR19
Lab Sample ID: 680-167952-5
Date Collected: 04/18/19 10:10
Matrix: WG
Date Received: 04/20/19 09:27

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	47		0.50	0.50	0.20	mg/L		05/03/19 22:43	1
Sulfate	6.0		1.0	1.0	0.40	mg/L		05/03/19 22:43	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	73000		50	50	17	ug/L		04/29/19 20:25	1
Manganese	1300		10	3.0	1.0	ug/L		04/29/19 20:25	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	190		3.0	3.0	1.5	ug/L		04/29/19 13:32	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	240		10	10	3.1	mg/L		04/26/19 16:17	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	5.8		1.0	0.50	0.16	mg/L		04/25/19 23:51	1

Client Sample ID: PZ-12-03_SPR19
Lab Sample ID: 680-167952-6
Date Collected: 04/18/19 11:10
Matrix: WG
Date Received: 04/20/19 09:27

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	39000		50	50	17	ug/L		04/29/19 20:37	1
Manganese	3900		10	3.0	1.0	ug/L		04/29/19 20:37	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	630		3.0	3.0	1.5	ug/L		04/29/19 13:44	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	170		10	10	3.1	mg/L		04/26/19 16:25	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.0	J1	1.0	0.50	0.16	mg/L		04/26/19 01:04	1

Client Sample ID: SHL-DUP01
Lab Sample ID: 680-167952-7
Date Collected: 04/18/19 11:15
Matrix: WG
Date Received: 04/20/19 09:27

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	55		0.50	0.50	0.20	mg/L		05/03/19 22:55	1
Sulfate	3.4	M	1.0	1.0	0.40	mg/L		05/03/19 22:55	1

Client Sample ID: SHL-DUP01
Lab Sample ID: 680-167952-7
Date Collected: 04/18/19 11:15
Matrix: WG
Date Received: 04/20/19 09:27

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	38000		50	50	17	ug/L		04/29/19 19:37	1
Manganese	3800		10	3.0	1.0	ug/L		04/29/19 19:37	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	640		3.0	3.0	1.5	ug/L		04/29/19 12:45	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	170		10	10	3.1	mg/L		04/26/19 17:04	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.0		1.0	0.50	0.16	mg/L		04/26/19 02:39	1

Client Sample ID: PZ-12-04_SPR19
Lab Sample ID: 680-167952-8
Date Collected: 04/18/19 12:30
Matrix: WG
Date Received: 04/20/19 09:27

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	44		0.50	0.50	0.20	mg/L		05/03/19 23:08	1
Sulfate	1.8	M	1.0	1.0	0.40	mg/L		05/03/19 23:08	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	66000		50	50	17	ug/L		04/29/19 19:45	1
Manganese	1700		10	3.0	1.0	ug/L		04/29/19 19:45	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	670		3.0	3.0	1.5	ug/L		04/29/19 12:53	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	150		10	10	3.1	mg/L		04/26/19 17:19	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.2		1.0	0.50	0.16	mg/L		04/26/19 02:58	1

Client Sample ID: SHP-2016-4A_SPR19
Lab Sample ID: 680-167952-9
Date Collected: 04/19/19 08:35
Matrix: WG
Date Received: 04/20/19 09:27

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	6.2		0.50	0.50	0.20	mg/L		05/04/19 15:45	1
Sulfate	6.6		1.0	1.0	0.40	mg/L		05/04/19 15:45	1

Client Sample ID: SHP-2016-4A_SPR19
Lab Sample ID: 680-167952-9

Date Collected: 04/19/19 08:35
Matrix: WG
Date Received: 04/20/19 09:27

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	84		50	50	17	ug/L		04/29/19 20:41	1
Manganese	640		10	3.0	1.0	ug/L		04/29/19 20:41	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		04/29/19 13:48	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	24		10	10	3.1	mg/L		04/26/19 17:25	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.0		1.0	0.50	0.16	mg/L		04/26/19 03:12	1

Client Sample ID: SHP-2016-4B_SPR19
Lab Sample ID: 680-167952-10

Date Collected: 04/19/19 09:40
Matrix: WG
Date Received: 04/20/19 09:27

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	10		0.50	0.50	0.20	mg/L		05/04/19 15:58	1
Sulfate	4.7		1.0	1.0	0.40	mg/L		05/04/19 15:58	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	41000		50	50	17	ug/L		04/29/19 20:01	1
Manganese	1300		10	3.0	1.0	ug/L		04/29/19 20:01	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	1400		3.0	3.0	1.5	ug/L		04/29/19 13:09	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	130		10	10	3.1	mg/L		04/26/19 17:31	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.9		1.0	0.50	0.16	mg/L		04/26/19 03:31	1

Client Sample ID: SHP-2016-2A_SPR19
Lab Sample ID: 680-167952-11

Date Collected: 04/19/19 10:55
Matrix: WG
Date Received: 04/20/19 09:27

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	3.3		0.50	0.50	0.20	mg/L		05/04/19 16:11	1
Sulfate	4.8		1.0	1.0	0.40	mg/L		05/04/19 16:11	1

Client Sample ID: SHP-2016-2A_SPR19
Lab Sample ID: 680-167952-11

Date Collected: 04/19/19 10:55
Matrix: WG
Date Received: 04/20/19 09:27

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	22	J	50	50	17	ug/L		04/29/19 20:13	1
Manganese	450		10	3.0	1.0	ug/L		04/29/19 20:13	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	16		3.0	3.0	1.5	ug/L		04/29/19 13:28	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	64		10	10	3.1	mg/L		04/26/19 17:39	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.0		1.0	0.50	0.16	mg/L		04/26/19 03:48	1

Client Sample ID: SHP-2016-2B_SPR19
Lab Sample ID: 680-167952-12

Date Collected: 04/19/19 11:50
Matrix: WG
Date Received: 04/20/19 09:27

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	9.6		0.50	0.50	0.20	mg/L		05/04/19 16:24	1
Sulfate	4.3		1.0	1.0	0.40	mg/L		05/04/19 16:24	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	43000		50	50	17	ug/L		04/29/19 19:13	1
Manganese	2200		10	3.0	1.0	ug/L		04/29/19 19:13	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	450		3.0	3.0	1.5	ug/L		04/29/19 12:22	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	150		10	10	3.1	mg/L		04/26/19 17:46	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.2		1.0	0.50	0.16	mg/L		04/26/19 04:06	1

Client Sample ID: SHP-DUP04
Lab Sample ID: 680-167952-13

Date Collected: 04/19/19 11:55
Matrix: WG
Date Received: 04/20/19 09:27

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	9.9		0.50	0.50	0.20	mg/L		05/04/19 16:37	1
Sulfate	4.3		1.0	1.0	0.40	mg/L		05/04/19 16:37	1

Client Sample ID: SHP-DUP04
Lab Sample ID: 680-167952-13
Date Collected: 04/19/19 11:55
Matrix: WG
Date Received: 04/20/19 09:27

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	41000		50	50	17	ug/L		04/29/19 19:41	1
Manganese	2100		10	3.0	1.0	ug/L		04/29/19 19:41	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	410		3.0	3.0	1.5	ug/L		04/29/19 12:49	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	150		10	10	3.1	mg/L		04/26/19 17:53	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.1		1.0	0.50	0.16	mg/L		04/26/19 04:26	1

Client Sample ID: EPA-PZ-2012-7A_SPR19
Lab Sample ID: 680-167952-14
Date Collected: 04/19/19 12:55
Matrix: WG
Date Received: 04/20/19 09:27

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	180		0.50	0.50	0.20	mg/L		05/04/19 16:50	1
Sulfate	2.1		1.0	1.0	0.40	mg/L		05/04/19 16:50	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		04/29/19 19:25	1
Manganese	9.5	J	10	3.0	1.0	ug/L		04/29/19 19:25	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		04/29/19 12:41	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	21		10	10	3.1	mg/L		04/26/19 17:58	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.86	J	1.0	0.50	0.16	mg/L		04/26/19 04:42	1

Client Sample ID: EPA-PZ-2012-7B_SPR19
Lab Sample ID: 680-167952-15
Date Collected: 04/19/19 13:45
Matrix: WG
Date Received: 04/20/19 09:27

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	9.6		0.50	0.50	0.20	mg/L		05/04/19 17:03	1
Sulfate	5.0		1.0	1.0	0.40	mg/L		05/04/19 17:03	1

Client Sample ID: EPA-PZ-2012-7B_SPR19

Lab Sample ID: 680-167952-15

Date Collected: 04/19/19 13:45

Matrix: WG

Date Received: 04/20/19 09:27

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	22000		50	50	17	ug/L		04/29/19 19:21	1
Manganese	2700		10	3.0	1.0	ug/L		04/29/19 19:21	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	1500		3.0	3.0	1.5	ug/L		04/29/19 12:29	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	52		10	10	3.1	mg/L		04/26/19 18:04	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.3		1.0	0.50	0.16	mg/L		04/26/19 04:59	1

Client Sample ID: SHM-07-03_SPR19

Lab Sample ID: 680-167952-16

Date Collected: 04/18/19 09:15

Matrix: WG

Date Received: 04/20/19 09:27

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	170	J1	0.50	0.50	0.20	mg/L		05/04/19 17:42	1
Sulfate	10		1.0	1.0	0.40	mg/L		05/04/19 17:42	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	260		50	50	17	ug/L		04/29/19 20:29	1
Manganese	9.7	J	10	3.0	1.0	ug/L		04/29/19 20:29	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		04/29/19 13:36	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	28		10	10	3.1	mg/L		04/26/19 18:26	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.6		1.0	0.50	0.16	mg/L		04/26/19 05:50	1

Client Sample ID: SHM-07-05X_SPR19

Lab Sample ID: 680-167952-17

Date Collected: 04/18/19 10:50

Matrix: WG

Date Received: 04/20/19 09:27

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	130		0.50	0.50	0.20	mg/L		05/04/19 18:20	1
Sulfate	8.0		1.0	1.0	0.40	mg/L		05/04/19 18:20	1

Client Sample ID: SHM-07-05X_SPR19

Lab Sample ID: 680-167952-17

Date Collected: 04/18/19 10:50

Matrix: WG

Date Received: 04/20/19 09:27

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	23000	J1	50	50	17	ug/L		04/29/19 18:53	1
Manganese	1900	J1	10	3.0	1.0	ug/L		04/29/19 18:53	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	950	J1	3.0	3.0	1.5	ug/L		04/29/19 12:02	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	220		10	10	3.1	mg/L		04/26/19 18:34	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.8		1.0	0.50	0.16	mg/L		04/26/19 06:44	1

Client Sample ID: SHM-05-41B_SPR19

Lab Sample ID: 680-167952-18

Date Collected: 04/18/19 12:15

Matrix: WG

Date Received: 04/20/19 09:27

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Sulfate	11		1.0	1.0	0.40	mg/L		05/04/19 18:33	1

Method: 9056A - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	430	D	2.5	2.5	1.0	mg/L		05/06/19 18:16	5

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	23000		50	50	17	ug/L		04/29/19 19:57	1
Manganese	840		10	3.0	1.0	ug/L		04/29/19 19:57	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	360		3.0	3.0	1.5	ug/L		04/29/19 13:05	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	65		10	10	3.1	mg/L		04/26/19 18:40	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.2		1.0	0.50	0.16	mg/L		04/26/19 07:02	1

Client Sample ID: SHP-2016-03A_SPR19

Lab Sample ID: 680-167952-19

Date Collected: 04/18/19 13:20

Matrix: WG

Date Received: 04/20/19 09:27

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	2.5		0.50	0.50	0.20	mg/L		05/04/19 18:46	1

Client: KOMAN Government Solutions, LLC
Job ID: 680-167952-1
Project/Site: KOMAN - LTM, SHL (AOC 5) Spring 2019

Client Sample ID: SHP-2016-03A_SPR19
Lab Sample ID: 680-167952-19
Date Collected: 04/18/19 13:20
Matrix: WG
Date Received: 04/20/19 09:27

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Sulfate	1.4		1.0	1.0	0.40	mg/L		05/04/19 18:46	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	8100		50	50	17	ug/L		04/29/19 19:49	1
Manganese	530		10	3.0	1.0	ug/L		04/29/19 19:49	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	4.0		3.0	3.0	1.5	ug/L		04/29/19 12:57	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	43		10	10	3.1	mg/L		04/26/19 18:46	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.1		1.0	0.50	0.16	mg/L		04/26/19 07:21	1

Client Sample ID: SHP-2016-03B-SPR19
Lab Sample ID: 680-167952-20
Date Collected: 04/18/19 14:10
Matrix: WG
Date Received: 04/20/19 09:27

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	12		0.50	0.50	0.20	mg/L		05/04/19 18:59	1
Sulfate	3.4		1.0	1.0	0.40	mg/L		05/04/19 18:59	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	42000		50	50	17	ug/L		04/29/19 20:09	1
Manganese	3000		10	3.0	1.0	ug/L		04/29/19 20:09	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	230		3.0	3.0	1.5	ug/L		04/29/19 13:16	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	150		10	10	3.1	mg/L		04/26/19 18:53	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.3		1.0	0.50	0.16	mg/L		04/26/19 07:38	1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 680-569057/2
Matrix: Water
Analysis Batch: 569057

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		05/04/19 11:08	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		05/04/19 11:08	1

Lab Sample ID: LCS 680-569057/3
Matrix: Water
Analysis Batch: 569057

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.0		mg/L		100	87 - 111
Sulfate	10.0	9.62		mg/L		96	87 - 112

Lab Sample ID: LCSD 680-569057/4
Matrix: Water
Analysis Batch: 569057

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
Chloride	10.0	9.98		mg/L		100	87 - 111	0	15
Sulfate	10.0	9.71		mg/L		97	87 - 112	1	15

Lab Sample ID: 680-167952-16 MS
Matrix: WG
Analysis Batch: 569057

Client Sample ID: SHM-07-03_SPR19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	170	J1	10.0	177	4	mg/L		86	87 - 111
Sulfate	10		10.0	20.9		mg/L		105	87 - 112

Lab Sample ID: 680-167952-16 MSD
Matrix: WG
Analysis Batch: 569057

Client Sample ID: SHM-07-03_SPR19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	170	J1	10.0	177	4	mg/L		80	87 - 111	0	15
Sulfate	10		10.0	20.9		mg/L		105	87 - 112	0	15

Lab Sample ID: MB 680-569088/33
Matrix: Water
Analysis Batch: 569088

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		05/03/19 20:11	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		05/03/19 20:11	1

Lab Sample ID: LCS 680-569088/34
Matrix: Water
Analysis Batch: 569088

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.1		mg/L		101	87 - 111
Sulfate	10.0	10.6		mg/L		106	87 - 112

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: LCSD 680-569088/35
Matrix: Water
Analysis Batch: 569088

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
Chloride			10.0	10.1		mg/L		101	87 - 111	0	15
Sulfate			10.0	10.8		mg/L		108	87 - 112	2	15

Lab Sample ID: MB 680-569167/2
Matrix: Water
Analysis Batch: 569167

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		05/06/19 12:11	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		05/06/19 12:11	1

Lab Sample ID: LCS 680-569167/3
Matrix: Water
Analysis Batch: 569167

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride			10.0	9.93		mg/L		99	87 - 111
Sulfate			10.0	9.48		mg/L		95	87 - 112

Lab Sample ID: LCSD 680-569167/4
Matrix: Water
Analysis Batch: 569167

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
Chloride			10.0	9.88		mg/L		99	87 - 111	0	15
Sulfate			10.0	9.65		mg/L		96	87 - 112	2	15

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-568033/1-A
Matrix: Water
Analysis Batch: 568511

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 568033

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		04/29/19 18:36	1
Manganese	2.34	J	10	3.0	1.0	ug/L		04/29/19 18:36	1

Lab Sample ID: LCS 680-568033/2-A
Matrix: Water
Analysis Batch: 568511

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 568033

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron			5000	5060		ug/L		101	87 - 115
Manganese			400	415		ug/L		104	90 - 114

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

Lab Sample ID: 680-167952-17 MS
Matrix: WG
Analysis Batch: 568511

Client Sample ID: SHM-07-05X_SPR19
Prep Type: Dissolved
Prep Batch: 568033

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	23000	J1	5000	27600	4	ug/L		86	87 - 115
Manganese	1900	J1	400	2240	4	ug/L		88	90 - 114

Lab Sample ID: 680-167952-17 MSD
Matrix: WG
Analysis Batch: 568511

Client Sample ID: SHM-07-05X_SPR19
Prep Type: Dissolved
Prep Batch: 568033

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	23000	J1	5000	28300	4	ug/L		98	87 - 115	2	20
Manganese	1900	J1	400	2280	4	ug/L		98	90 - 114	2	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 680-568032/1-A
Matrix: Water
Analysis Batch: 568401

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 568032

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		04/29/19 11:54	1

Lab Sample ID: LCS 680-568032/2-A
Matrix: Water
Analysis Batch: 568401

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 568032

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	106		ug/L		106	84 - 116

Lab Sample ID: 680-167952-17 MS
Matrix: WG
Analysis Batch: 568401

Client Sample ID: SHM-07-05X_SPR19
Prep Type: Dissolved
Prep Batch: 568032

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	950	J1	100	1070	4	ug/L		126	84 - 116

Lab Sample ID: 680-167952-17 MSD
Matrix: WG
Analysis Batch: 568401

Client Sample ID: SHM-07-05X_SPR19
Prep Type: Dissolved
Prep Batch: 568032

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	950	J1	100	1060	4	ug/L		113	84 - 116	1	20

Method: 9060 - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 280-456096/35
Matrix: Water
Analysis Batch: 456096

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.283	J	1.0	0.50	0.16	mg/L		04/26/19 00:33	1

Method: 9060 - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: MB 280-456096/4
Matrix: Water
Analysis Batch: 456096

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.217	J	1.0	0.50	0.16	mg/L		04/25/19 14:40	1

Lab Sample ID: LCS 280-456096/3
Matrix: Water
Analysis Batch: 456096

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon - Duplicate	25.0	24.2		mg/L		97	88 - 112

Lab Sample ID: LCS 280-456096/34
Matrix: Water
Analysis Batch: 456096

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon - Duplicate	25.0	24.9		mg/L		100	88 - 112

Lab Sample ID: 680-167952-6 MS
Matrix: WG
Analysis Batch: 456096

Client Sample ID: PZ-12-03_SPR19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon - Duplicate	2.0	J1	25.0	26.7		mg/L		99	88 - 112

Lab Sample ID: 680-167952-6 MSD
Matrix: WG
Analysis Batch: 456096

Client Sample ID: PZ-12-03_SPR19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon - Duplicate	2.0	J1	25.0	27.0		mg/L		100	88 - 112	1	15

Lab Sample ID: 680-167952-16 MS
Matrix: WG
Analysis Batch: 456096

Client Sample ID: SHM-07-03_SPR19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon - Duplicate	1.6		25.0	26.6		mg/L		100	88 - 112

Lab Sample ID: 680-167952-16 MSD
Matrix: WG
Analysis Batch: 456096

Client Sample ID: SHM-07-03_SPR19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon - Duplicate	1.6		25.0	26.7		mg/L		100	88 - 112	0	15

Client: KOMAN Government Solutions, LLC
Project/Site: KOMAN - LTM, SHL (AOC 5) Spring 2019

Job ID: 680-167952-1

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-456292/31
Matrix: Water
Analysis Batch: 456292

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		04/26/19 16:57	1

Lab Sample ID: MB 280-456292/5
Matrix: Water
Analysis Batch: 456292

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		04/26/19 13:31	1

Lab Sample ID: LCS 280-456292/30
Matrix: Water
Analysis Batch: 456292

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity			200	205		mg/L		102	89 - 109		

Lab Sample ID: LCS 280-456292/4
Matrix: Water
Analysis Batch: 456292

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity			200	206		mg/L		103	89 - 109		

Lab Sample ID: 680-167952-7 DU
Matrix: WG
Analysis Batch: 456292

Client Sample ID: SHL-DUP01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity	170			171		mg/L				1	10

HPLC/IC

Analysis Batch: 569057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167952-9	SHP-2016-4A_SPR19	Total/NA	WG	9056A	
680-167952-10	SHP-2016-4B_SPR19	Total/NA	WG	9056A	
680-167952-11	SHP-2016-2A_SPR19	Total/NA	WG	9056A	
680-167952-12	SHP-2016-2B_SPR19	Total/NA	WG	9056A	
680-167952-13	SHP-DUP04	Total/NA	WG	9056A	
680-167952-14	EPA-PZ-2012-7A_SPR19	Total/NA	WG	9056A	
680-167952-15	EPA-PZ-2012-7B_SPR19	Total/NA	WG	9056A	
680-167952-16	SHM-07-03_SPR19	Total/NA	WG	9056A	
680-167952-17	SHM-07-05X_SPR19	Total/NA	WG	9056A	
680-167952-18	SHM-05-41B_SPR19	Total/NA	WG	9056A	
680-167952-19	SHP-2016-03A_SPR19	Total/NA	WG	9056A	
680-167952-20	SHP-2016-03B-SPR19	Total/NA	WG	9056A	
MB 680-569057/2	Method Blank	Total/NA	Water	9056A	
LCS 680-569057/3	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-569057/4	Lab Control Sample Dup	Total/NA	Water	9056A	
680-167952-16 MS	SHM-07-03_SPR19	Total/NA	WG	9056A	
680-167952-16 MSD	SHM-07-03_SPR19	Total/NA	WG	9056A	

Analysis Batch: 569088

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167952-1	SHP-2016-07B_SPR19	Total/NA	WG	9056A	
680-167952-2	SHL-EB02_SPR19	Total/NA	WG	9056A	
680-167952-3	SHM-11-06_SPR19	Total/NA	WG	9056A	
680-167952-4	PZ-12-01_SPR19	Total/NA	WG	9056A	
680-167952-5	PZ-12-02_SPR19	Total/NA	WG	9056A	
680-167952-7	SHL-DUP01	Total/NA	WG	9056A	
680-167952-8	PZ-12-04_SPR19	Total/NA	WG	9056A	
MB 680-569088/33	Method Blank	Total/NA	Water	9056A	
LCS 680-569088/34	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-569088/35	Lab Control Sample Dup	Total/NA	Water	9056A	

Analysis Batch: 569167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167952-18 - DL	SHM-05-41B_SPR19	Total/NA	WG	9056A	
MB 680-569167/2	Method Blank	Total/NA	Water	9056A	
LCS 680-569167/3	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-569167/4	Lab Control Sample Dup	Total/NA	Water	9056A	

Metals

Prep Batch: 568032

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167952-1	SHP-2016-07B_SPR19	Dissolved	WG	3005A	
680-167952-2	SHL-EB02_SPR19	Dissolved	WG	3005A	
680-167952-3	SHM-11-06_SPR19	Dissolved	WG	3005A	
680-167952-4	PZ-12-01_SPR19	Dissolved	WG	3005A	
680-167952-5	PZ-12-02_SPR19	Dissolved	WG	3005A	
680-167952-6	PZ-12-03_SPR19	Dissolved	WG	3005A	
680-167952-7	SHL-DUP01	Dissolved	WG	3005A	
680-167952-8	PZ-12-04_SPR19	Dissolved	WG	3005A	
680-167952-9	SHP-2016-4A_SPR19	Dissolved	WG	3005A	

Metals (Continued)

Prep Batch: 568032 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167952-10	SHP-2016-4B_SPR19	Dissolved	WG	3005A	
680-167952-11	SHP-2016-2A_SPR19	Dissolved	WG	3005A	
680-167952-12	SHP-2016-2B_SPR19	Dissolved	WG	3005A	
680-167952-13	SHP-DUP04	Dissolved	WG	3005A	
680-167952-14	EPA-PZ-2012-7A_SPR19	Dissolved	WG	3005A	
680-167952-15	EPA-PZ-2012-7B_SPR19	Dissolved	WG	3005A	
680-167952-16	SHM-07-03_SPR19	Dissolved	WG	3005A	
680-167952-17	SHM-07-05X_SPR19	Dissolved	WG	3005A	
680-167952-18	SHM-05-41B_SPR19	Dissolved	WG	3005A	
680-167952-19	SHP-2016-03A_SPR19	Dissolved	WG	3005A	
680-167952-20	SHP-2016-03B-SPR19	Dissolved	WG	3005A	
MB 680-568032/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-568032/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
680-167952-17 MS	SHM-07-05X_SPR19	Dissolved	WG	3005A	
680-167952-17 MSD	SHM-07-05X_SPR19	Dissolved	WG	3005A	

Prep Batch: 568033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167952-1	SHP-2016-07B_SPR19	Dissolved	WG	3005A	
680-167952-2	SHL-EB02_SPR19	Dissolved	WG	3005A	
680-167952-3	SHM-11-06_SPR19	Dissolved	WG	3005A	
680-167952-4	PZ-12-01_SPR19	Dissolved	WG	3005A	
680-167952-5	PZ-12-02_SPR19	Dissolved	WG	3005A	
680-167952-6	PZ-12-03_SPR19	Dissolved	WG	3005A	
680-167952-7	SHL-DUP01	Dissolved	WG	3005A	
680-167952-8	PZ-12-04_SPR19	Dissolved	WG	3005A	
680-167952-9	SHP-2016-4A_SPR19	Dissolved	WG	3005A	
680-167952-10	SHP-2016-4B_SPR19	Dissolved	WG	3005A	
680-167952-11	SHP-2016-2A_SPR19	Dissolved	WG	3005A	
680-167952-12	SHP-2016-2B_SPR19	Dissolved	WG	3005A	
680-167952-13	SHP-DUP04	Dissolved	WG	3005A	
680-167952-14	EPA-PZ-2012-7A_SPR19	Dissolved	WG	3005A	
680-167952-15	EPA-PZ-2012-7B_SPR19	Dissolved	WG	3005A	
680-167952-16	SHM-07-03_SPR19	Dissolved	WG	3005A	
680-167952-17	SHM-07-05X_SPR19	Dissolved	WG	3005A	
680-167952-18	SHM-05-41B_SPR19	Dissolved	WG	3005A	
680-167952-19	SHP-2016-03A_SPR19	Dissolved	WG	3005A	
680-167952-20	SHP-2016-03B-SPR19	Dissolved	WG	3005A	
MB 680-568033/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-568033/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
680-167952-17 MS	SHM-07-05X_SPR19	Dissolved	WG	3005A	
680-167952-17 MSD	SHM-07-05X_SPR19	Dissolved	WG	3005A	

Analysis Batch: 568401

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167952-1	SHP-2016-07B_SPR19	Dissolved	WG	6020A	568032
680-167952-2	SHL-EB02_SPR19	Dissolved	WG	6020A	568032
680-167952-3	SHM-11-06_SPR19	Dissolved	WG	6020A	568032
680-167952-4	PZ-12-01_SPR19	Dissolved	WG	6020A	568032
680-167952-5	PZ-12-02_SPR19	Dissolved	WG	6020A	568032
680-167952-6	PZ-12-03_SPR19	Dissolved	WG	6020A	568032

Metals (Continued)

Analysis Batch: 568401 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167952-7	SHL-DUP01	Dissolved	WG	6020A	568032
680-167952-8	PZ-12-04_SPR19	Dissolved	WG	6020A	568032
680-167952-9	SHP-2016-4A_SPR19	Dissolved	WG	6020A	568032
680-167952-10	SHP-2016-4B_SPR19	Dissolved	WG	6020A	568032
680-167952-11	SHP-2016-2A_SPR19	Dissolved	WG	6020A	568032
680-167952-12	SHP-2016-2B_SPR19	Dissolved	WG	6020A	568032
680-167952-13	SHP-DUP04	Dissolved	WG	6020A	568032
680-167952-14	EPA-PZ-2012-7A_SPR19	Dissolved	WG	6020A	568032
680-167952-15	EPA-PZ-2012-7B_SPR19	Dissolved	WG	6020A	568032
680-167952-16	SHM-07-03_SPR19	Dissolved	WG	6020A	568032
680-167952-17	SHM-07-05X_SPR19	Dissolved	WG	6020A	568032
680-167952-18	SHM-05-41B_SPR19	Dissolved	WG	6020A	568032
680-167952-19	SHP-2016-03A_SPR19	Dissolved	WG	6020A	568032
680-167952-20	SHP-2016-03B-SPR19	Dissolved	WG	6020A	568032
MB 680-568032/1-A	Method Blank	Total Recoverable	Water	6020A	568032
LCS 680-568032/2-A	Lab Control Sample	Total Recoverable	Water	6020A	568032
680-167952-17 MS	SHM-07-05X_SPR19	Dissolved	WG	6020A	568032
680-167952-17 MSD	SHM-07-05X_SPR19	Dissolved	WG	6020A	568032

Analysis Batch: 568511

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167952-1	SHP-2016-07B_SPR19	Dissolved	WG	6010C	568033
680-167952-2	SHL-EB02_SPR19	Dissolved	WG	6010C	568033
680-167952-3	SHM-11-06_SPR19	Dissolved	WG	6010C	568033
680-167952-4	PZ-12-01_SPR19	Dissolved	WG	6010C	568033
680-167952-5	PZ-12-02_SPR19	Dissolved	WG	6010C	568033
680-167952-6	PZ-12-03_SPR19	Dissolved	WG	6010C	568033
680-167952-7	SHL-DUP01	Dissolved	WG	6010C	568033
680-167952-8	PZ-12-04_SPR19	Dissolved	WG	6010C	568033
680-167952-9	SHP-2016-4A_SPR19	Dissolved	WG	6010C	568033
680-167952-10	SHP-2016-4B_SPR19	Dissolved	WG	6010C	568033
680-167952-11	SHP-2016-2A_SPR19	Dissolved	WG	6010C	568033
680-167952-12	SHP-2016-2B_SPR19	Dissolved	WG	6010C	568033
680-167952-13	SHP-DUP04	Dissolved	WG	6010C	568033
680-167952-14	EPA-PZ-2012-7A_SPR19	Dissolved	WG	6010C	568033
680-167952-15	EPA-PZ-2012-7B_SPR19	Dissolved	WG	6010C	568033
680-167952-16	SHM-07-03_SPR19	Dissolved	WG	6010C	568033
680-167952-17	SHM-07-05X_SPR19	Dissolved	WG	6010C	568033
680-167952-18	SHM-05-41B_SPR19	Dissolved	WG	6010C	568033
680-167952-19	SHP-2016-03A_SPR19	Dissolved	WG	6010C	568033
680-167952-20	SHP-2016-03B-SPR19	Dissolved	WG	6010C	568033
MB 680-568033/1-A	Method Blank	Total Recoverable	Water	6010C	568033
LCS 680-568033/2-A	Lab Control Sample	Total Recoverable	Water	6010C	568033
680-167952-17 MS	SHM-07-05X_SPR19	Dissolved	WG	6010C	568033
680-167952-17 MSD	SHM-07-05X_SPR19	Dissolved	WG	6010C	568033

General Chemistry

Analysis Batch: 456096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167952-1	SHP-2016-07B_SPR19	Dissolved	WG	9060	

General Chemistry (Continued)

Analysis Batch: 456096 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167952-2	SHL-EB02_SPR19	Dissolved	WG	9060	
680-167952-3	SHM-11-06_SPR19	Dissolved	WG	9060	
680-167952-4	PZ-12-01_SPR19	Dissolved	WG	9060	
680-167952-5	PZ-12-02_SPR19	Dissolved	WG	9060	
680-167952-6	PZ-12-03_SPR19	Dissolved	WG	9060	
680-167952-7	SHL-DUP01	Dissolved	WG	9060	
680-167952-8	PZ-12-04_SPR19	Dissolved	WG	9060	
680-167952-9	SHP-2016-4A_SPR19	Dissolved	WG	9060	
680-167952-10	SHP-2016-4B_SPR19	Dissolved	WG	9060	
680-167952-11	SHP-2016-2A_SPR19	Dissolved	WG	9060	
680-167952-12	SHP-2016-2B_SPR19	Dissolved	WG	9060	
680-167952-13	SHP-DUP04	Dissolved	WG	9060	
680-167952-14	EPA-PZ-2012-7A_SPR19	Dissolved	WG	9060	
680-167952-15	EPA-PZ-2012-7B_SPR19	Dissolved	WG	9060	
680-167952-16	SHM-07-03_SPR19	Dissolved	WG	9060	
680-167952-17	SHM-07-05X_SPR19	Dissolved	WG	9060	
680-167952-18	SHM-05-41B_SPR19	Dissolved	WG	9060	
680-167952-19	SHP-2016-03A_SPR19	Dissolved	WG	9060	
680-167952-20	SHP-2016-03B-SPR19	Dissolved	WG	9060	
MB 280-456096/35	Method Blank	Dissolved	Water	9060	
MB 280-456096/4	Method Blank	Dissolved	Water	9060	
LCS 280-456096/3	Lab Control Sample	Dissolved	Water	9060	
LCS 280-456096/34	Lab Control Sample	Dissolved	Water	9060	
680-167952-6 MS	PZ-12-03_SPR19	Dissolved	WG	9060	
680-167952-6 MSD	PZ-12-03_SPR19	Dissolved	WG	9060	
680-167952-16 MS	SHM-07-03_SPR19	Dissolved	WG	9060	
680-167952-16 MSD	SHM-07-03_SPR19	Dissolved	WG	9060	

Analysis Batch: 456292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-167952-1	SHP-2016-07B_SPR19	Total/NA	WG	SM 2320B	
680-167952-2	SHL-EB02_SPR19	Total/NA	WG	SM 2320B	
680-167952-3	SHM-11-06_SPR19	Total/NA	WG	SM 2320B	
680-167952-4	PZ-12-01_SPR19	Total/NA	WG	SM 2320B	
680-167952-5	PZ-12-02_SPR19	Total/NA	WG	SM 2320B	
680-167952-6	PZ-12-03_SPR19	Total/NA	WG	SM 2320B	
680-167952-7	SHL-DUP01	Total/NA	WG	SM 2320B	
680-167952-8	PZ-12-04_SPR19	Total/NA	WG	SM 2320B	
680-167952-9	SHP-2016-4A_SPR19	Total/NA	WG	SM 2320B	
680-167952-10	SHP-2016-4B_SPR19	Total/NA	WG	SM 2320B	
680-167952-11	SHP-2016-2A_SPR19	Total/NA	WG	SM 2320B	
680-167952-12	SHP-2016-2B_SPR19	Total/NA	WG	SM 2320B	
680-167952-13	SHP-DUP04	Total/NA	WG	SM 2320B	
680-167952-14	EPA-PZ-2012-7A_SPR19	Total/NA	WG	SM 2320B	
680-167952-15	EPA-PZ-2012-7B_SPR19	Total/NA	WG	SM 2320B	
680-167952-16	SHM-07-03_SPR19	Total/NA	WG	SM 2320B	
680-167952-17	SHM-07-05X_SPR19	Total/NA	WG	SM 2320B	
680-167952-18	SHM-05-41B_SPR19	Total/NA	WG	SM 2320B	
680-167952-19	SHP-2016-03A_SPR19	Total/NA	WG	SM 2320B	
680-167952-20	SHP-2016-03B-SPR19	Total/NA	WG	SM 2320B	
MB 280-456292/31	Method Blank	Total/NA	Water	SM 2320B	

General Chemistry (Continued)

Analysis Batch: 456292 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-456292/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-456292/30	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 280-456292/4	Lab Control Sample	Total/NA	Water	SM 2320B	
680-167952-7 DU	SHL-DUP01	Total/NA	WG	SM 2320B	

Client Sample ID: SHP-2016-07B_SPR19
Lab Sample ID: 680-167952-1

Date Collected: 04/19/19 13:30
Matrix: WG
Date Received: 04/20/19 09:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569088	05/03/19 21:52	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	568033	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568511	04/29/19 20:05	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568032	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568401	04/29/19 13:12	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			456096	04/25/19 22:40	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			456292	04/26/19 15:48	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHL-EB02_SPR19
Lab Sample ID: 680-167952-2

Date Collected: 04/19/19 14:30
Matrix: WG
Date Received: 04/20/19 09:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569088	05/03/19 22:05	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	568033	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568511	04/29/19 20:33	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568032	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568401	04/29/19 13:40	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			456096	04/25/19 22:57	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			456292	04/26/19 15:55	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHM-11-06_SPR19
Lab Sample ID: 680-167952-3

Date Collected: 04/18/19 08:15
Matrix: WG
Date Received: 04/20/19 09:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569088	05/03/19 22:17	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	568033	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568511	04/29/19 19:53	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568032	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568401	04/29/19 13:01	BWR	TAL SAV
	Instrument ID: ICPMSD									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Job ID: 680-167952-1
Project/Site: KOMAN - LTM, SHL (AOC 5) Spring 2019

Client Sample ID: SHM-11-06_SPR19
Lab Sample ID: 680-167952-3
Date Collected: 04/18/19 08:15
Matrix: WG
Date Received: 04/20/19 09:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060		1			456096	04/25/19 23:18	LPL	TAL DEN
Total/NA	Analysis	SM 2320B		1			456292	04/26/19 16:02	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: PZ-12-01_SPR19
Lab Sample ID: 680-167952-4
Date Collected: 04/18/19 09:20
Matrix: WG
Date Received: 04/20/19 09:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569088	05/03/19 22:30	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	568033	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568511	04/29/19 19:17	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568032	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568401	04/29/19 12:26	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			456096	04/25/19 23:36	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			456292	04/26/19 16:09	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: PZ-12-02_SPR19
Lab Sample ID: 680-167952-5
Date Collected: 04/18/19 10:10
Matrix: WG
Date Received: 04/20/19 09:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569088	05/03/19 22:43	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	568033	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568511	04/29/19 20:25	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568032	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568401	04/29/19 13:32	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			456096	04/25/19 23:51	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			456292	04/26/19 16:17	SGB	TAL DEN
	Instrument ID: WC_AT2									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Job ID: 680-167952-1
Project/Site: KOMAN - LTM, SHL (AOC 5) Spring 2019

Client Sample ID: PZ-12-03_SPR19
Lab Sample ID: 680-167952-6
Date Collected: 04/18/19 11:10
Matrix: WG
Date Received: 04/20/19 09:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	568033	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568511	04/29/19 20:37	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568032	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568401	04/29/19 13:44	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			456096	04/26/19 01:04	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			456292	04/26/19 16:25	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHL-DUP01
Lab Sample ID: 680-167952-7
Date Collected: 04/18/19 11:15
Matrix: WG
Date Received: 04/20/19 09:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569088	05/03/19 22:55	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	568033	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568511	04/29/19 19:37	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568032	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568401	04/29/19 12:45	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			456096	04/26/19 02:39	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			456292	04/26/19 17:04	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: PZ-12-04_SPR19
Lab Sample ID: 680-167952-8
Date Collected: 04/18/19 12:30
Matrix: WG
Date Received: 04/20/19 09:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569088	05/03/19 23:08	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	568033	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568511	04/29/19 19:45	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568032	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568401	04/29/19 12:53	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			456096	04/26/19 02:58	LPL	TAL DEN
	Instrument ID: WC_SHI2									

Client Sample ID: PZ-12-04_SPR19

Lab Sample ID: 680-167952-8

Date Collected: 04/18/19 12:30

Matrix: WG

Date Received: 04/20/19 09:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2320B		1			456292	04/26/19 17:19	SGB	TAL DEN

Client Sample ID: SHP-2016-4A_SPR19

Lab Sample ID: 680-167952-9

Date Collected: 04/19/19 08:35

Matrix: WG

Date Received: 04/20/19 09:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569057	05/04/19 15:45	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	568033	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568511	04/29/19 20:41	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568032	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568401	04/29/19 13:48	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			456096	04/26/19 03:12	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			456292	04/26/19 17:25	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHP-2016-4B_SPR19

Lab Sample ID: 680-167952-10

Date Collected: 04/19/19 09:40

Matrix: WG

Date Received: 04/20/19 09:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569057	05/04/19 15:58	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	568033	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568511	04/29/19 20:01	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568032	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568401	04/29/19 13:09	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			456096	04/26/19 03:31	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			456292	04/26/19 17:31	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHP-2016-2A_SPR19

Lab Sample ID: 680-167952-11

Date Collected: 04/19/19 10:55

Matrix: WG

Date Received: 04/20/19 09:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569057	05/04/19 16:11	UI	TAL SAV
	Instrument ID: CICH									

Client Sample ID: SHP-2016-2A_SPR19
Lab Sample ID: 680-167952-11

Date Collected: 04/19/19 10:55
Matrix: WG
Date Received: 04/20/19 09:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	568033	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568511	04/29/19 20:13	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568032	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568401	04/29/19 13:28	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			456096	04/26/19 03:48	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			456292	04/26/19 17:39	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHP-2016-2B_SPR19
Lab Sample ID: 680-167952-12

Date Collected: 04/19/19 11:50
Matrix: WG
Date Received: 04/20/19 09:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569057	05/04/19 16:24	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	568033	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568511	04/29/19 19:13	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568032	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568401	04/29/19 12:22	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			456096	04/26/19 04:06	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			456292	04/26/19 17:46	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHP-DUP04
Lab Sample ID: 680-167952-13

Date Collected: 04/19/19 11:55
Matrix: WG
Date Received: 04/20/19 09:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569057	05/04/19 16:37	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	568033	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568511	04/29/19 19:41	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568032	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568401	04/29/19 12:49	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			456096	04/26/19 04:26	LPL	TAL DEN
	Instrument ID: WC_SHI2									

Client Sample ID: SHP-DUP04

Lab Sample ID: 680-167952-13

Date Collected: 04/19/19 11:55

Matrix: WG

Date Received: 04/20/19 09:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2320B		1			456292	04/26/19 17:53	SGB	TAL DEN

Client Sample ID: EPA-PZ-2012-7A_SPR19

Lab Sample ID: 680-167952-14

Date Collected: 04/19/19 12:55

Matrix: WG

Date Received: 04/20/19 09:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569057	05/04/19 16:50	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	568033	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568511	04/29/19 19:25	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568032	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568401	04/29/19 12:41	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			456096	04/26/19 04:42	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			456292	04/26/19 17:58	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: EPA-PZ-2012-7B_SPR19

Lab Sample ID: 680-167952-15

Date Collected: 04/19/19 13:45

Matrix: WG

Date Received: 04/20/19 09:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569057	05/04/19 17:03	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	568033	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568511	04/29/19 19:21	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568032	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568401	04/29/19 12:29	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			456096	04/26/19 04:59	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			456292	04/26/19 18:04	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHM-07-03_SPR19

Lab Sample ID: 680-167952-16

Date Collected: 04/18/19 09:15

Matrix: WG

Date Received: 04/20/19 09:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569057	05/04/19 17:42	UI	TAL SAV
	Instrument ID: CICH									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Job ID: 680-167952-1
Project/Site: KOMAN - LTM, SHL (AOC 5) Spring 2019

Client Sample ID: SHM-07-03_SPR19
Lab Sample ID: 680-167952-16
Date Collected: 04/18/19 09:15
Matrix: WG
Date Received: 04/20/19 09:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	568033	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568511	04/29/19 20:29	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568032	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568401	04/29/19 13:36	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			456096	04/26/19 05:50	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			456292	04/26/19 18:26	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHM-07-05X_SPR19
Lab Sample ID: 680-167952-17
Date Collected: 04/18/19 10:50
Matrix: WG
Date Received: 04/20/19 09:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569057	05/04/19 18:20	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	568033	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568511	04/29/19 18:53	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568032	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568401	04/29/19 12:02	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			456096	04/26/19 06:44	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			456292	04/26/19 18:34	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHM-05-41B_SPR19
Lab Sample ID: 680-167952-18
Date Collected: 04/18/19 12:15
Matrix: WG
Date Received: 04/20/19 09:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569057	05/04/19 18:33	UI	TAL SAV
	Instrument ID: CICH									
Total/NA	Analysis	9056A	DL	5	5 mL	5 mL	569167	05/06/19 18:16	UI	TAL SAV
	Instrument ID: CICL									
Dissolved	Prep	3005A			50 mL	50 mL	568033	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568511	04/29/19 19:57	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568032	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568401	04/29/19 13:05	BWR	TAL SAV
	Instrument ID: ICPMSD									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Job ID: 680-167952-1
Project/Site: KOMAN - LTM, SHL (AOC 5) Spring 2019

Client Sample ID: SHM-05-41B_SPR19
Lab Sample ID: 680-167952-18
Date Collected: 04/18/19 12:15
Matrix: WG
Date Received: 04/20/19 09:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060		1			456096	04/26/19 07:02	LPL	TAL DEN
Total/NA	Analysis	SM 2320B		1			456292	04/26/19 18:40	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHP-2016-03A_SPR19
Lab Sample ID: 680-167952-19
Date Collected: 04/18/19 13:20
Matrix: WG
Date Received: 04/20/19 09:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569057	05/04/19 18:46	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	568033	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568511	04/29/19 19:49	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568032	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568401	04/29/19 12:57	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			456096	04/26/19 07:21	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			456292	04/26/19 18:46	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHP-2016-03B-SPR19
Lab Sample ID: 680-167952-20
Date Collected: 04/18/19 14:10
Matrix: WG
Date Received: 04/20/19 09:27

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569057	05/04/19 18:59	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	568033	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6010C		1			568511	04/29/19 20:09	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568032	04/26/19 12:12	AJR	TAL SAV
Dissolved	Analysis	6020A		1			568401	04/29/19 13:16	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1			456096	04/26/19 07:38	LPL	TAL DEN
	Instrument ID: WC_SHI2									
Total/NA	Analysis	SM 2320B		1			456292	04/26/19 18:53	SGB	TAL DEN
	Instrument ID: WC_AT2									

Laboratory References:

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

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 366.7442, add extension lekes@komangs.com

COC # SHL

Project: Long Term Monitoring
Project Number: DEVNS-LTM
WBS Code: Purchase Order 19-804

Laboratory: TestAmerica Laboratories, Inc. Savannah GA
Point of Contact: Jerry Lanier ((912) 354-7858 jerry.lanier@testamericainc.com
Ship to: 5102 LaRoche Avenue, Savannah, GA 31404

Comments:

Equipment:
Bladder or Peristaltic pump, ice, T-valve, micron filter for dissolved, YSI, and Turbidity meters for field paramenters.

Dissolved metals = As, Fe, Mn)
Dissolved metals and DOC are field filtered

FF - field filtered using 0.45 micron

Analytical Test Method

						Analytical Test Method	ALKalinity (SM2320A) 1-250 ml poly	Chloride/sulfate (SW9056) 1-125 ml poly	Dissolved metals SW6010/6020 1-250 ml poly HNO3	DOC (SW9060A) 1-250ml amber H2SO4								
EVENT: KOMAN, Long Term Monitoring, SHL (AOC 5) Spring 2019									FF	FF								
	Sample ID	Matrix	Date	Time	Samp Init.											Location ID	Sample Type	Depth (ft bgs) Top - Bottom
1	SHP-2016-07B-SPR19	WG	4/15/19	1330	B/A		x	x	x	x						SHP-2016-07B	N	
2	SHL-EBO2-SPR19	WG	4/15/19	1430	B/A		x	x	x	x						Field QC	EB	
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
Cooler:		Turn Around Time:																

680-167952 Chain of Custody

Relinquished by: *(Signature)*	Date	Time
	4/15/19	1445
	4/15/19	1740

Received by: *(Signature)*	Date	Time
	4/19/19	1445
2.3 (-) 2.4°C		

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* & condition
04/20/19 0927

5/18/2019

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 366.7442, add extension lekes@komangs.com

COC # SHL

KGS

Project: Long Term Monitoring	**Laboratory:** TestAmerica Laboratories, Inc. Savannah GA
Project Number: DEVNS-LTM	**Point of Contact:** Jerry Lanier ((912) 354-7858 jerry.lanier@testamericainc.com
WBS Code: Purchase Order 19-804	**Ship to:** 5102 LaRoche Avenue, Savannah, GA 31404

Comments:

Equipment:
Bladder or Peristaltic pump, ice, T-valve, micron filter for dissolved, YSI, and Turbidity meters for field paramenters.

Dissolved metals = As, Fe, Mn)
Dissolved metals and DOC are field filtered

FF - field filtered using 0.45 micron

Analytical Test Method

	Sample ID	Matrix	Date	Time	Samp Init.	ALkalinity (SM2320A) 1-250 ml poly	Chloride/sulfate (SW9056) 1-125 ml poly	Dissolved metals SW6010/6020 1-250 ml poly HNO3	DOC (SW9060A) 1-250ml amber H2SO4							Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom
	EVENT: KOMAN, Long Term Monitoring, SHL (AOC 5) Spring 2019							FF	FF										
1	SHM-11-06_SPR19	WG	4/18/19	0815	CV	X	X	X	X							SHM-11-06	N		
2	PZ-12-01_SPR19	WG		0920	CV	X	X	X	X							PZ-12-01	N		
3	PZ-12-02_SPR19	WG		1010	CV	X	X	X	X							PZ-12-02	N		
4	PZ-12-03_SPR19	WG		1110	CV	X	X	X	X							PZ-12-03	N		FD
5	SHL-DUP01	WG		1115	CV	X	X	X	X							~~PZ-12~~ Field QC	~~SHP~~		
6	PZ-12-04_SPR19	WG		1230	CV	X	X	X	X							PZ-12-04	N		
7																			
8																			
9																			
10																			
Cooler:		**Turn Around Time:**																	

Relinquished by: *(Signature)*	Date	Time
	4/19/19	1450
	4/19/19	1750

Received by: *(Signature)*	Date	Time
	4/19/19	1450
2-3 (C) 2.4°C		

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* & condition
04-2019 0927

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 366.7442, add extension lekes@komangs.com

COC # SHL

KGS

Project: Long Term Monitoring | **Laboratory:** TestAmerica Laboratories, Inc. Savannah GA

Project Number: DEVNS-LTM | **Point of Contact:** Jerry Lanier ((912) 354-7858 jerry.lanier@testamericainc.com

WBS Code: Purchase Order 19-804 | **Ship to:** 5102 LaRoche Avenue, Savannah, GA 31404

Analytical Test Method

Comments:

Equipment:

Bladder or Peristaltic pump, ice, T-valve, micron filter for dissolved, YSI, and Turbidity meters for field paramenters.

Dissolved metals = As, Fe, Mn)
Dissolved metals and DOC are field filtered

FF - field filtered using 0.45 micron

EVENT: KOMAN, Long Term Monitoring, SHL (AOC 5) Spring 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: ALKalinity (SM2320A) 1-250 ml poly	Chloride/sulfate (SW9056) 1-125 ml poly	Dissolved metals SW6010/6020 1-250 ml poly HNO3	DOC (SW9060A) 1-250ml amber H2SO4							Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom
								FF	FF										
1	SHP-2016-4A_SPR19	WG	4/19/19	0835	CV	X	X	X	X							SHP-2016-4A	N1		
2	SHP-2016-4B_SPR19	WG	4/19/19	0940	CV	X	X	X	X							SHP-2016-4B	N1		
3	SHP-2016-2A_SPR19	WG	4/19/19	1055	CV	X	X	X	X							SHP-2016-2A	N1		
4	SHP-2016-2B_SPR19	WG	4/19/19	1150	CV	X	X	X	X							SHP-2016-2B	N1		
5	SHL-DUP04	WG	4/19/19	1155	CV	X	X	X	X							Field QC → ~~SHP-PZ-2012-7A~~	FD		
6	EPA-PZ-2012-7A_SPR19	WG	4/19/19	1255	CV	X	X	X	X							EPA-PZ-2012-7A	N1		
7	EPA-PZ-2012-7B_SPR19	WG	4/19/19	1345	CV	X	X	X	X							EPA-PZ-2012-7B	N1		
8																			
9																			
10																			
Cooler:		Turn Around Time:																	

Relinquished by: *(Signature)*	Date	Time
[signature]	4/19/19	1450
[signature]	4/19/19	1700

Received by: *(Signature)*	Date	Time
[signature]	4/19/19	1452
2.3(CF)2.4°		

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* & condition
[signature] 04-20-19 0927

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 366.7442, add extension lekes@komangs.com

COC # SHL

KGS

Project: Long Term Monitoring	**Laboratory:** TestAmerica Laboratories, Inc. Savannah GA
Project Number: DEVNS-LTM	**Point of Contact:** Jerry Lanier ((912) 354-7858 jerry.lanier@testamericainc.com
WBS Code: Purchase Order 19-804	**Ship to:** 5102 LaRoche Avenue, Savannah, GA 31404

Comments:

N = Native
WG = Ground water
On Ice

Equipment:

Bladder or Peristaltic pump, ice, T-valve, micron filter for dissolved, YSI, and Turbidity meters for field paramenters.

Analytical Test Method

Dissolved metals = As, Fe, Mn)
Dissolved metals and DOC are field filtered

FF - field filtered using 0.45 micron

EVENT: KOMAN, Long Term Monitoring, SHL (AOC 5) Spring 2019

	Sample ID	Matrix	Date	Time	Samp Init	Analytical Test Method: ALkalinity (SM2320A) 1-250 ml poly	Chloride/sulfate (SW9056) 1-125 ml poly	Dissolved metals SW6010/6020 1-250 ml poly HNO3	DOC (SW9060A) 1-250ml amber H2SO4							Location ID	Sample Type	Depth (~~ft bgs~~) Top	Depth (~~ft bgs~~) Bottom
								FF	FF										
1	SHM-07-03-SPR19	WG	04/18/19	0915	MM	1	1	1	1							SHM-07-03	N	24.94	34.94
2	SHM-07-05X-SPR19	WG	04/18/19	1050	MM	1	1	1	1							SHM-07-05X	N	54.83	64.83
3	SHM-05-41B-SPR19	WG	04/18/19	1215	MM	1	1	1	1							SHM-05-41B	N	61.83	63.83
4	SHP-2016-03A-SPR19	WG	04/18/19	1320	MM	1	1	1	1							SHP-2016-03A	N	22.05	27.05
5	SHP-2016-03B-SPR19	WG	04/18/19	1410	MM	1	1	1	1							SHP-2016-03B	N	82.05	87.05
6																			
7																			
8																			
9																			
10																			
Cooler:		Turn Around Time:																	

6 TCR

Relinquished by: *(Signature)*	Date	Time
	04/18/19	1515
	4/19/19	1745
	4/19/19	1720

Received by: *(Signature)*	Date	Time
	4/18/19	1515
	4/19/19	1815
2-3 (CF) 2.4°C		

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* & condition
04-20-19 0927

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 366.7442, add extension lekes@komangs.com

COC # SHL

Project: Long Term Monitoring	**Laboratory:** TestAmerica Laboratories, Inc. Savannah GA
Project Number: DEVNS-LTM	**Point of Contact:** Jerry Lanier ((912) 354-7858 jerry.lanier@testamericainc.com
WBS Code: Purchase Order 19-804	**Ship to:** 5102 LaRoche Avenue, Savannah, GA 31404

Comments:

Equipment:
Bladder or Peristaltic pump, ice, T-valve, micron filter for dissolved, YSI, and Turbidity meters for field paramenters.

Dissolved metals = As, Fe, Mn)
Dissolved metals and DOC are field filtered

FF - field filtered using 0.45 micron

Analytical Test Method

EVENT: KOMAN, Long Term Monitoring, SHL (AOC 5) Spring 2019

	Sample ID	Matrix	Date	Time	Samp Init.	ALkalinity (SM2320A) 1-250 ml poly	Chloride/sulfate (SW9056) 1-125 ml poly	Dissolved metals SW6010/6020 1-250 ml poly HNO3	DOC (SW9060A) 1-250ml amber H2SO4	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom
								FF	FF				
1	SHP-2016-07B-SPR19	WG	4/15/19	1330	BM	X	X	X	X	SHP-2016-07B	N		
2	SHL-EB02-SPR19	WG	4/15/19	1430	BM	X	X	X	X	Field QC	EB		
3													
4													
5													
6													
7													
8													
9													
10													

680-167952 Chain of Custody

Cooler: 4.4 tbw IR9 x fx by RP 4-17-19

Turn Around Time:

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
	4/15/19	1445		4/15/19	1445
	4/15/19	1710		4-20-19	0900

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 366.7442, add extension lekes@komangs.com

COC # SHL

KGS

Project: Long Term Monitoring
Project Number: DEVNS-LTM
WBS Code: Purchase Order 19-804

Laboratory: TestAmerica Laboratories, Inc. Savannah GA
Point of Contact: Jerry Lanier ((912) 354-7858 jerry.lanier@testamericainc.com
Ship to: 5102 LaRoche Avenue, Savannah, GA 31404

Comments:

Equipment:
Bladder or Peristaltic pump, ice, T-valve, micron filter for dissolved, YSI, and Turbidity meters for field paramenters.

Dissolved metals = As, Fe, Mn)
Dissolved metals and DOC are field filtered

FF - field filtered using 0.45 micron

Analytical Test Method

						Analytical Test Method: ALkalinity (SM2320A) 1-250 ml poly	Chloride/sulfate (SW9056) 1-125 ml poly	Dissolved metals SW6010/6020 1-250 ml poly HNO3	DOC (SW9060A) 1-250ml amber H2SO4									
EVENT: KOMAN, Long Term Monitoring, SHL (AOC 5) Spring 2019								FF	FF									
	Sample ID	Matrix	Date	Time	Samp Init.											Location ID	Sample Type	Depth (ft bgs) Top - Bottom
1	SHM-11-06_SPR19	WG	4/18/19	0815	CV	X	X	X	X							SHM-11-06	N1	
2	PZ-12-01_SPR19	WG		0920	CV	X	X	X	X							PZ-12-01	N1	
3	PZ-12-02_SPR19	WG		1010	CV	X	X	X	X							PZ-12-02	N1	
4	PZ-12-03_SPR19	WG		1110	CV	X	X	X	X							PZ-12-03	N1 FD	
5	SHL-DUP01	WG		1115	CV	X	X	X	X							~~PZ-12~~ Field QC	~~FD~~	
6	PZ-12-04_SPR19	WG		1230	CV	X	X	X	X							PZ-12-04	N1	
7																		
8																		
9																		
10																		
Cooler:		Turn Around Time:																

Relinquished by: *(Signature)*	Date	Time
	4/19/19	1450
	4/19/19	1720

Received by: *(Signature)*	Date	Time
	4/19/19	1950
	4-20-19	0900

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

Page 1 of 1

5/18/2019

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 366.7442, add extension lekes@komangs.com

COC # SHL

KGS

Project: Long Term Monitoring	**Laboratory:** TestAmerica Laboratories, Inc. Savannah GA
Project Number: DEVNS-LTM	**Point of Contact:** Jerry Lanier ((912) 354-7858 jerry.lanier@testamericainc.com
WBS Code: Purchase Order 19-804	**Ship to:** 5102 LaRoche Avenue, Savannah, GA 31404

Analytical Test Method

Comments:

Equipment:
Bladder or Peristaltic pump, ice, T-valve, micron filter for dissolved, YSI, and Turbidity meters for field paramenters.

Dissolved metals = As, Fe, Mn)
Dissolved metals and DOC are field filtered

FF - field filtered using 0.45 micron

EVENT: KOMAN, Long Term Monitoring, SHL (AOC 5) Spring 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: ALkalinity (SM2320A) 1-250 ml poly	Chloride/sulfate (SW9056) 1-125 ml poly	Dissolved metals SW6010/6020 1-250 ml poly HNO3	DOC (SW9060A) 1-250ml amber H2SO4							Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom
								FF	FF										
1	SHP-2016-4A_SPR19	WG	4/19/19	0835	CV	X	X	X	X							SHP-2016-4A	N		
2	SHP-2016-4B_SPR19	WG	4/19/19	0940	CV	X	X	X	X							SHP-2016-4B	N		
3	SHP-2016-2A_SPR19	WG	4/19/19	1055	CV	X	X	X	X							SHP-2016-2A	N		
4	SHP-2016-2B_SPR19	WG	4/19/19	1150	CV	X	X	X	X							SHP-2016-2B	N		
5	SHL-DUP04	WG	4/19/19	1155	CV	X	X	X	X							Field QC → [illegible]	FD		
6	EPA-PZ-2012-7A_SPR19	WG	4/19/19	1255	CV	X	X	X	X							EPA-PZ-2012-7A	N		
7	EPA-PZ-2012-7B_SPR19	WG	4/19/19	1345	CV	X	X	X	X							EPA-PZ-2012-7B	N		
8																			
9																			
10																			
Cooler:		Turn Around Time:																	

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[signature]	4/19/19	1450	[signature]	4/19/19	1452
[signature]	4/19/19	1700	[signature]	4-20-19	0940

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
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(508) 366.7442, add extension lekes@komangs.com

COC # SHL

KGS

Project: Long Term Monitoring	**Laboratory:** TestAmerica Laboratories, Inc. Savannah GA
Project Number: DEVNS-LTM	**Point of Contact:** Jlerry Lanier ((912) 354-7858 jerry.lanier@testamericainc.com
WBS Code: Purchase Order 19-804	**Ship to:** 5102 LaRoche Avenue, Savannah, GA 31404

Comments:
N1 = Native
WG = Ground water
On Ice

Equipment:
Bladder or Peristaltic pump, ice, T-valve, micron filter for dissolved, YSI, and Turbidity meters for field paramenters.

Analytical Test Method

Dissolved metals = As, Fe, Mn)
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EVENT: KOMAN, Long Term Monitoring, SHL (AOC 5) Spring 2019

	Sample ID	Matrix	Date	Time	Samp Init.	ALkalinity (SM2320A) 1-250 ml poly	Chloride/sulfate (SW9056) 1-125 ml poly	Dissolved metals SW6010/6020 1-250 ml poly HNO3	DOC (SW9060A) 1-250ml amber H2SO4	Location ID	Sample Type	Depth (~~ft bgs~~) BTOR Top	Bottom
								FF	FF				
1	SHM-07-03-SPR19	WG	04/18/19	0915	MM	1	1	1	1	SHM-07-03	N1	24.94	34.94
2	SHM-07-05X-SPR19	WG	04/18/19	1050	MM	1	1	1	1	SHM-07-05X	N1	54.83	64.83
3	SHM-05-41B-SPR19	WG	04/18/19	1215	MM	1	1	1	1	SHM-05-41B	N1	61.83	63.83
4	SHP-2016-03A-SPR19	WG	04/18/19	1320	MM	1	1	1	1	SHP-2016-03A	N1	22.05	27.05
5	SHP-2016-03B-SPR19	WG	04/18/19	1410	MM	1	1	1	1	SHP-2016-03B	N1	82.05	87.05
6													
7													
8													
9													
10													

Cooler: 4.4, tan, zfg xtr by RDP 4-23-19 **Turn Around Time:**

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[signature]	04/18/19	1515	[signature]	4/18/19	1515
[signature]	4/19/19	1445	[signature]	4/19/19	1515
[signature]	4/19/19	1700	[signature]	4-20-19	0900

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

Page 1 of 1

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-167952-1

Login Number: 167952

List Source: Eurofins TestAmerica, Savannah

List Number: 1

Creator: Banda, Christy S

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

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-167952-1

Login Number: 167952
List Number: 2
Creator: Paul, Ryan D

List Source: Eurofins TestAmerica, Denver
List Creation: 04/23/19 02:33 PM

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

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-167952-1
Project/Site: KOMAN - LTM, SHL (AOC 5) Spring 2019

Laboratory: Eurofins TestAmerica, Savannah

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

Authority	Program	EPA Region	Identification Number	Expiration Date
	AFCEE		SAVLAB	
Alabama	State Program	4	41450	06-30-19 *
Alaska	State Program	10		06-30-19 *
Alaska (UST)	State Program	10	UST-104	09-22-19
ANAB	DoD		L2463	09-22-19
ANAB	ISO/IEC 17025		L2463.01	09-22-19
Arizona	State Program	9	AZ0808	12-14-19
Arkansas DEQ	State Program	6	88-0692	02-01-20
California	State Program	9	2939	06-30-19 *
Colorado	State Program	8	N/A	12-31-19
Connecticut	State Program	1	PH-0161	03-31-21
Florida	NELAP	4	E87052	06-30-19 *
GA Dept. of Agriculture	State Program	4	N/A	06-12-19
Georgia	State Program	4	N/A	06-30-19 *
Georgia	State Program	4	803	06-30-19 *
Guam	State Program	9	15-005r	04-17-20
Hawaii	State Program	9	N/A	06-30-19
Illinois	NELAP	5	200022	11-30-19
Indiana	State Program	5	N/A	06-30-19 *
Iowa	State Program	7	353	06-30-19 *
Kentucky (DW)	State Program	4	90084	12-31-19
Kentucky (UST)	State Program	4	18	06-30-19
Kentucky (WW)	State Program	4	90084	12-31-19
Louisiana	NELAP	6	30690	06-30-19
Louisiana (DW)	NELAP	6	LA160019	12-31-19
Maine	State Program	1	GA00006	09-25-20
Maryland	State Program	3	250	12-31-19
Massachusetts	State Program	1	M-GA006	06-30-19
Michigan	State Program	5	9925	03-05-19 *
Mississippi	State Program	4	N/A	06-30-19 *
Nebraska	State Program	7	TestAmerica-Savannah	06-30-19
New Jersey	NELAP	2	GA769	06-30-19 *
New Mexico	State Program	6	N/A	06-30-19
New York	NELAP	2	10842	04-01-20
North Carolina (DW)	State Program	4	13701	07-31-19
North Carolina (WW/SW)	State Program	4	269	12-31-19
Oklahoma	State Program	6	9984	08-31-19
Pennsylvania	NELAP	3	68-00474	06-30-19 *
Puerto Rico	State Program	2	GA00006	01-01-20
South Carolina	State Program	4	98001	06-30-19 *
Tennessee	State Program	4	TN02961	06-30-19 *
Texas	NELAP	6	T104704185-16-9	11-30-19
Texas (DW)	State Program	1	T104704185	06-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
Virginia	NELAP	3	460161	06-14-19 *
Washington	State Program	10	C805	06-10-19 *
West Virginia (DW)	State Program	3	9950C	12-31-19
West Virginia DEP	State Program	3	094	06-30-19 *
Wisconsin	State Program	5	999819810	08-31-19
Wyoming	State Program	8	8TMS-L	06-30-16 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-167952-1
Project/Site: KOMAN - LTM, SHL (AOC 5) Spring 2019

Laboratory: Eurofins TestAmerica, Denver

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

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

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

Laboratory Job ID: 680-168108-1
Client Project/Site: LTM, SHL (AOC 5) Spring 2019

For:
KOMAN Government Solutions, LLC
293 Boston Post Road
Suite 100
Marlborough, Massachusetts 01752

Attn: Laurie Ekes

Jerry Lanier

Authorized for release by:
5/30/2019 3:02:44 PM

Jerry Lanier, Project Manager I
(912)250-0281
jerry.lanier@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 680-168108-1

Laboratory: Eurofins TestAmerica, Savannah

Narrative

CASE NARRATIVE

Client: KOMAN Government Solutions, LLC

Project: LTM, SHL (AOC 5) Spring 2019

Report Number: 680-168108-1

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 the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 04/25/2019; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.9 C.

METALS (ICP) - DISSOLVED

Samples EPA-PZ-2012-6A_SPR19 (680-168108-1), EPA-PZ-2012-6B_SPR19 (680-168108-2), SHL-11_SPR19 (680-168108-3), SHL-DUP02_SPR19 (680-168108-4), SHP-2016-5A_SPR19 (680-168108-5), SHP-2016-5B_SPR19 (680-168108-6) and SHL-DUP05_SPR19 (680-168108-7) were analyzed for Metals (ICP) - Dissolved in accordance with EPA SW-846 Method 6010C. The samples were prepared on 05/02/2019 and analyzed on 05/04/2019.

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

METALS (ICPMS) - DISSOLVED

Samples EPA-PZ-2012-6A_SPR19 (680-168108-1), EPA-PZ-2012-6B_SPR19 (680-168108-2), SHL-11_SPR19 (680-168108-3), SHL-DUP02_SPR19 (680-168108-4), SHP-2016-5A_SPR19 (680-168108-5), SHP-2016-5B_SPR19 (680-168108-6) and SHL-DUP05_SPR19 (680-168108-7) were analyzed for Metals (ICPMS) - Dissolved in accordance with EPA SW-846 Method 6020A. The samples were prepared on 05/02/2019 and analyzed on 05/03/2019.

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

ALKALINITY

Samples EPA-PZ-2012-6A_SPR19 (680-168108-1), EPA-PZ-2012-6B_SPR19 (680-168108-2), SHL-11_SPR19 (680-168108-3), SHL-DUP02_SPR19 (680-168108-4), SHP-2016-5A_SPR19 (680-168108-5), SHP-2016-5B_SPR19 (680-168108-6) and SHL-DUP05_SPR19 (680-168108-7) were analyzed for alkalinity in accordance with SM 2320B. The samples were analyzed on 05/03/2019.

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

ANIONS BY ION CHROMATOGRAPHY (28 DAY)

Samples EPA-PZ-2012-6A_SPR19 (680-168108-1), EPA-PZ-2012-6B_SPR19 (680-168108-2), SHL-11_SPR19 (680-168108-3), SHL-DUP02_SPR19 (680-168108-4), SHP-2016-5A_SPR19 (680-168108-5), SHP-2016-5B_SPR19 (680-168108-6) and SHL-DUP05_SPR19 (680-168108-7) were analyzed for Anions by Ion Chromatography (28 Day) in accordance with SW 846 9056A. The samples were analyzed on 05/07/2019.

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

DISSOLVED ORGANIC CARBON

Samples EPA-PZ-2012-6A_SPR19 (680-168108-1), EPA-PZ-2012-6B_SPR19 (680-168108-2), SHL-11_SPR19 (680-168108-3), SHL-DUP02_SPR19 (680-168108-4), SHP-2016-5A_SPR19 (680-168108-5), SHP-2016-5B_SPR19 (680-168108-6) and

Job ID: 680-168108-1 (Continued)

Laboratory: Eurofins TestAmerica, Savannah (Continued)

SHL-DUP05_SPR19 (680-168108-7) were analyzed for dissolved organic carbon in accordance with EPA SW-846 Method 9060. The samples were analyzed on 05/02/2019.

A deviation from the Standard Operating Procedure (SOP) occurred. Details are as follows: ICV standard was used for the LCS/CCV standard for 9060

Dissolved Organic Carbon - Duplicate was detected in method blank MB 280-456758/47 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. Refer to the QC report for details.

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

Sample Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-168108-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-168108-1	EPA-PZ-2012-6A_SPR19	Water	04/22/19 12:10	04/25/19 08:56
680-168108-2	EPA-PZ-2012-6B_SPR19	Water	04/22/19 13:15	04/25/19 08:56
680-168108-3	SHL-11_SPR19	Water	04/22/19 14:15	04/25/19 08:56
680-168108-4	SHL-DUP02_SPR19	Water	04/22/19 14:20	04/25/19 08:56
680-168108-5	SHP-2016-5A_SPR19	Water	04/23/19 08:40	04/25/19 08:56
680-168108-6	SHP-2016-5B_SPR19	Water	04/23/19 10:15	04/25/19 08:56
680-168108-7	SHL-DUP05_SPR19	Water	04/23/19 10:20	04/25/19 08:56

Method Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-168108-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV
6020A	Metals (ICP/MS)	SW846	TAL SAV
9060	Organic Carbon, Dissolved (DOC)	SW846	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL SAV

Protocol References:

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

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

Laboratory References:

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

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Qualifiers

HPLC/IC

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

Metals

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

General Chemistry

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

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)

Client Sample ID: EPA-PZ-2012-6A_SPR19

Lab Sample ID: 680-168108-1

Date Collected: 04/22/19 12:10

Matrix: Water

Date Received: 04/25/19 08:56

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	58		0.50	0.50	0.20	mg/L		05/07/19 16:31	1
Sulfate	3.7		1.0	1.0	0.40	mg/L		05/07/19 16:31	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	110		50	50	17	ug/L		05/04/19 05:02	1
Manganese	7.8	J	10	3.0	1.0	ug/L		05/04/19 05:02	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	1.6	J	3.0	3.0	1.5	ug/L		05/03/19 14:40	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	25		10	10	3.1	mg/L		05/03/19 21:38	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.89	J	1.0	0.50	0.16	mg/L		05/02/19 06:41	1

Client Sample ID: EPA-PZ-2012-6B_SPR19

Lab Sample ID: 680-168108-2

Date Collected: 04/22/19 13:15

Matrix: Water

Date Received: 04/25/19 08:56

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	17		0.50	0.50	0.20	mg/L		05/07/19 16:43	1
Sulfate	12		1.0	1.0	0.40	mg/L		05/07/19 16:43	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	19000		50	50	17	ug/L		05/04/19 05:06	1
Manganese	950		10	3.0	1.0	ug/L		05/04/19 05:06	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	350		3.0	3.0	1.5	ug/L		05/03/19 14:44	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	39		10	10	3.1	mg/L		05/03/19 21:43	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.6		1.0	0.50	0.16	mg/L		05/02/19 06:58	1

Client Sample ID: SHL-11_SPR19

Lab Sample ID: 680-168108-3

Date Collected: 04/22/19 14:15

Matrix: Water

Date Received: 04/25/19 08:56

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	65		0.50	0.50	0.20	mg/L		05/07/19 16:56	1
Sulfate	4.7	M	1.0	1.0	0.40	mg/L		05/07/19 16:56	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	58000		50	50	17	ug/L		05/04/19 04:50	1
Manganese	1700		10	3.0	1.0	ug/L		05/04/19 04:50	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	960		3.0	3.0	1.5	ug/L		05/03/19 14:22	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	140		10	10	3.1	mg/L		05/03/19 21:31	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.0		1.0	0.50	0.16	mg/L		05/02/19 07:17	1

Client Sample ID: SHL-DUP02_SPR19

Lab Sample ID: 680-168108-4

Date Collected: 04/22/19 14:20

Matrix: Water

Date Received: 04/25/19 08:56

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	65		0.50	0.50	0.20	mg/L		05/07/19 17:09	1
Sulfate	4.3	M	1.0	1.0	0.40	mg/L		05/07/19 17:09	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	60000		50	50	17	ug/L		05/04/19 04:46	1
Manganese	1700		10	3.0	1.0	ug/L		05/04/19 04:46	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	950		3.0	3.0	1.5	ug/L		05/03/19 14:18	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	140		10	10	3.1	mg/L		05/03/19 21:59	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.1		1.0	0.50	0.16	mg/L		05/02/19 07:34	1

Client Sample ID: SHP-2016-5A_SPR19

Lab Sample ID: 680-168108-5

Date Collected: 04/23/19 08:40

Matrix: Water

Date Received: 04/25/19 08:56

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	25		0.50	0.50	0.20	mg/L		05/07/19 18:25	1
Sulfate	6.7		1.0	1.0	0.40	mg/L		05/07/19 18:25	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	3200		50	50	17	ug/L		05/04/19 04:17	1
Manganese	100	J1	10	3.0	1.0	ug/L		05/04/19 04:17	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.9		3.0	3.0	1.5	ug/L		05/03/19 14:00	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	67		10	10	3.1	mg/L		05/03/19 22:12	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	6.3		1.0	0.50	0.16	mg/L		05/02/19 04:16	1

Client Sample ID: SHP-2016-5B_SPR19

Lab Sample ID: 680-168108-6

Date Collected: 04/23/19 10:15

Matrix: Water

Date Received: 04/25/19 08:56

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	21		0.50	0.50	0.20	mg/L		05/07/19 19:29	1
Sulfate	0.81	J M	1.0	1.0	0.40	mg/L		05/07/19 19:29	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	64000		50	50	17	ug/L		05/04/19 04:54	1
Manganese	5100		10	3.0	1.0	ug/L		05/04/19 04:54	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	610		3.0	3.0	1.5	ug/L		05/03/19 14:26	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	180		10	10	3.1	mg/L		05/03/19 21:52	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.6		1.0	0.50	0.16	mg/L		05/02/19 07:51	1

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-168108-1

Client Sample ID: SHL-DUP05_SPR19

Lab Sample ID: 680-168108-7

Date Collected: 04/23/19 10:20

Matrix: Water

Date Received: 04/25/19 08:56

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	20		0.50	0.50	0.20	mg/L		05/07/19 19:41	1
Sulfate	0.82	J M	1.0	1.0	0.40	mg/L		05/07/19 19:41	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	64000		50	50	17	ug/L		05/04/19 04:58	1
Manganese	5100		10	3.0	1.0	ug/L		05/04/19 04:58	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	620		3.0	3.0	1.5	ug/L		05/03/19 14:37	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	180		10	10	3.1	mg/L		05/03/19 22:06	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.8		1.0	0.50	0.16	mg/L		05/02/19 08:43	1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 680-569389/2
Matrix: Water
Analysis Batch: 569389

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		05/07/19 14:37	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		05/07/19 14:37	1

Lab Sample ID: LCS 680-569389/3
Matrix: Water
Analysis Batch: 569389

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.3		mg/L		103	87 - 111
Sulfate	10.0	10.7		mg/L		107	87 - 112

Lab Sample ID: LCSD 680-569389/4
Matrix: Water
Analysis Batch: 569389

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
Chloride	10.0	10.3		mg/L		103	87 - 111	0	15
Sulfate	10.0	10.7		mg/L		107	87 - 112	0	15

Lab Sample ID: 680-168108-5 MS
Matrix: Water
Analysis Batch: 569389

Client Sample ID: SHP-2016-5A_SPR19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25		10.0	35.6		mg/L		104	87 - 111
Sulfate	6.7		10.0	17.1		mg/L		104	87 - 112

Lab Sample ID: 680-168108-5 MSD
Matrix: Water
Analysis Batch: 569389

Client Sample ID: SHP-2016-5A_SPR19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	25		10.0	35.7		mg/L		105	87 - 111	0	15
Sulfate	6.7		10.0	17.2		mg/L		105	87 - 112	1	15

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-568860/1-A
Matrix: Water
Analysis Batch: 569048

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 568860

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		05/04/19 04:09	1
Manganese	3.0	U	10	3.0	1.0	ug/L		05/04/19 04:09	1

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

Lab Sample ID: LCS 680-568860/2-A
Matrix: Water
Analysis Batch: 569048

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 568860

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Iron			5000	4790		ug/L		96	87 - 115		
Manganese			400	398		ug/L		99	90 - 114		

Lab Sample ID: 680-168108-5 MS
Matrix: Water
Analysis Batch: 569048

Client Sample ID: SHP-2016-5A_SPR19
Prep Type: Dissolved
Prep Batch: 568860

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Iron	3200		5000	7970		ug/L		96	87 - 115		
Manganese	100	J1	400	511		ug/L		102	90 - 114		

Lab Sample ID: 680-168108-5 MSD
Matrix: Water
Analysis Batch: 569048

Client Sample ID: SHP-2016-5A_SPR19
Prep Type: Dissolved
Prep Batch: 568860

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	3200		5000	8050		ug/L		98	87 - 115	1	20
Manganese	100	J1	400	515		ug/L		103	90 - 114	1	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 680-568858/1-A
Matrix: Water
Analysis Batch: 569030

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 568858

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		05/03/19 13:53	1

Lab Sample ID: LCS 680-568858/2-A
Matrix: Water
Analysis Batch: 569030

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 568858

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			100	104		ug/L		104	84 - 116		

Lab Sample ID: 680-168108-5 MS
Matrix: Water
Analysis Batch: 569030

Client Sample ID: SHP-2016-5A_SPR19
Prep Type: Dissolved
Prep Batch: 568858

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic	3.9		100	116		ug/L		112	84 - 116		

Lab Sample ID: 680-168108-5 MSD
Matrix: Water
Analysis Batch: 569030

Client Sample ID: SHP-2016-5A_SPR19
Prep Type: Dissolved
Prep Batch: 568858

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	3.9		100	112		ug/L		108	84 - 116	3	20

Method: 9060 - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 280-456758/47
Matrix: Water
Analysis Batch: 456758

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.256	J	1.0	0.50	0.16	mg/L		05/02/19 03:40	1

Lab Sample ID: LCS 280-456758/46
Matrix: Water
Analysis Batch: 456758

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon - Duplicate	25.0	26.2		mg/L		105	88 - 112

Lab Sample ID: 680-168108-5 MS
Matrix: Water
Analysis Batch: 456758

Client Sample ID: SHP-2016-5A_SPR19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon - Duplicate	6.3		25.0	32.3		mg/L		104	88 - 112

Lab Sample ID: 680-168108-5 MSD
Matrix: Water
Analysis Batch: 456758

Client Sample ID: SHP-2016-5A_SPR19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon - Duplicate	6.3		25.0	32.3		mg/L		104	88 - 112	0	15

Lab Sample ID: 680-168108-7 MS
Matrix: Water
Analysis Batch: 456758

Client Sample ID: SHL-DUP05_SPR19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon - Duplicate	2.8		25.0	28.0		mg/L		101	88 - 112

Lab Sample ID: 680-168108-7 MSD
Matrix: Water
Analysis Batch: 456758

Client Sample ID: SHL-DUP05_SPR19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon - Duplicate	2.8		25.0	30.2		mg/L		110	88 - 112	8	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-457146/32
Matrix: Water
Analysis Batch: 457146

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		05/03/19 21:08	1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCS 280-457146/30
Matrix: Water
Analysis Batch: 457146

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity			200	205		mg/L		102	89 - 109		

Lab Sample ID: LCSD 280-457146/31
Matrix: Water
Analysis Batch: 457146

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
Alkalinity			200	204		mg/L		102	89 - 109	0	10

HPLC/IC

Analysis Batch: 569389

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-168108-1	EPA-PZ-2012-6A_SPR19	Total/NA	Water	9056A	
680-168108-2	EPA-PZ-2012-6B_SPR19	Total/NA	Water	9056A	
680-168108-3	SHL-11_SPR19	Total/NA	Water	9056A	
680-168108-4	SHL-DUP02_SPR19	Total/NA	Water	9056A	
680-168108-5	SHP-2016-5A_SPR19	Total/NA	Water	9056A	
680-168108-6	SHP-2016-5B_SPR19	Total/NA	Water	9056A	
680-168108-7	SHL-DUP05_SPR19	Total/NA	Water	9056A	
MB 680-569389/2	Method Blank	Total/NA	Water	9056A	
LCS 680-569389/3	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-569389/4	Lab Control Sample Dup	Total/NA	Water	9056A	
680-168108-5 MS	SHP-2016-5A_SPR19	Total/NA	Water	9056A	
680-168108-5 MSD	SHP-2016-5A_SPR19	Total/NA	Water	9056A	

Metals

Prep Batch: 568858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-168108-1	EPA-PZ-2012-6A_SPR19	Dissolved	Water	3005A	
680-168108-2	EPA-PZ-2012-6B_SPR19	Dissolved	Water	3005A	
680-168108-3	SHL-11_SPR19	Dissolved	Water	3005A	
680-168108-4	SHL-DUP02_SPR19	Dissolved	Water	3005A	
680-168108-5	SHP-2016-5A_SPR19	Dissolved	Water	3005A	
680-168108-6	SHP-2016-5B_SPR19	Dissolved	Water	3005A	
680-168108-7	SHL-DUP05_SPR19	Dissolved	Water	3005A	
MB 680-568858/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-568858/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
680-168108-5 MS	SHP-2016-5A_SPR19	Dissolved	Water	3005A	
680-168108-5 MSD	SHP-2016-5A_SPR19	Dissolved	Water	3005A	

Prep Batch: 568860

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-168108-1	EPA-PZ-2012-6A_SPR19	Dissolved	Water	3005A	
680-168108-2	EPA-PZ-2012-6B_SPR19	Dissolved	Water	3005A	
680-168108-3	SHL-11_SPR19	Dissolved	Water	3005A	
680-168108-4	SHL-DUP02_SPR19	Dissolved	Water	3005A	
680-168108-5	SHP-2016-5A_SPR19	Dissolved	Water	3005A	
680-168108-6	SHP-2016-5B_SPR19	Dissolved	Water	3005A	
680-168108-7	SHL-DUP05_SPR19	Dissolved	Water	3005A	
MB 680-568860/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-568860/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
680-168108-5 MS	SHP-2016-5A_SPR19	Dissolved	Water	3005A	
680-168108-5 MSD	SHP-2016-5A_SPR19	Dissolved	Water	3005A	

Analysis Batch: 569030

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-168108-1	EPA-PZ-2012-6A_SPR19	Dissolved	Water	6020A	568858
680-168108-2	EPA-PZ-2012-6B_SPR19	Dissolved	Water	6020A	568858
680-168108-3	SHL-11_SPR19	Dissolved	Water	6020A	568858
680-168108-4	SHL-DUP02_SPR19	Dissolved	Water	6020A	568858
680-168108-5	SHP-2016-5A_SPR19	Dissolved	Water	6020A	568858
680-168108-6	SHP-2016-5B_SPR19	Dissolved	Water	6020A	568858

Metals (Continued)

Analysis Batch: 569030 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-168108-7	SHL-DUP05_SPR19	Dissolved	Water	6020A	568858
MB 680-568858/1-A	Method Blank	Total Recoverable	Water	6020A	568858
LCS 680-568858/2-A	Lab Control Sample	Total Recoverable	Water	6020A	568858
680-168108-5 MS	SHP-2016-5A_SPR19	Dissolved	Water	6020A	568858
680-168108-5 MSD	SHP-2016-5A_SPR19	Dissolved	Water	6020A	568858

Analysis Batch: 569048

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-168108-1	EPA-PZ-2012-6A_SPR19	Dissolved	Water	6010C	568860
680-168108-2	EPA-PZ-2012-6B_SPR19	Dissolved	Water	6010C	568860
680-168108-3	SHL-11_SPR19	Dissolved	Water	6010C	568860
680-168108-4	SHL-DUP02_SPR19	Dissolved	Water	6010C	568860
680-168108-5	SHP-2016-5A_SPR19	Dissolved	Water	6010C	568860
680-168108-6	SHP-2016-5B_SPR19	Dissolved	Water	6010C	568860
680-168108-7	SHL-DUP05_SPR19	Dissolved	Water	6010C	568860
MB 680-568860/1-A	Method Blank	Total Recoverable	Water	6010C	568860
LCS 680-568860/2-A	Lab Control Sample	Total Recoverable	Water	6010C	568860
680-168108-5 MS	SHP-2016-5A_SPR19	Dissolved	Water	6010C	568860
680-168108-5 MSD	SHP-2016-5A_SPR19	Dissolved	Water	6010C	568860

General Chemistry

Analysis Batch: 456758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-168108-1	EPA-PZ-2012-6A_SPR19	Dissolved	Water	9060	
680-168108-2	EPA-PZ-2012-6B_SPR19	Dissolved	Water	9060	
680-168108-3	SHL-11_SPR19	Dissolved	Water	9060	
680-168108-4	SHL-DUP02_SPR19	Dissolved	Water	9060	
680-168108-5	SHP-2016-5A_SPR19	Dissolved	Water	9060	
680-168108-6	SHP-2016-5B_SPR19	Dissolved	Water	9060	
680-168108-7	SHL-DUP05_SPR19	Dissolved	Water	9060	
MB 280-456758/47	Method Blank	Dissolved	Water	9060	
LCS 280-456758/46	Lab Control Sample	Dissolved	Water	9060	
680-168108-5 MS	SHP-2016-5A_SPR19	Dissolved	Water	9060	
680-168108-5 MSD	SHP-2016-5A_SPR19	Dissolved	Water	9060	
680-168108-7 MS	SHL-DUP05_SPR19	Dissolved	Water	9060	
680-168108-7 MSD	SHL-DUP05_SPR19	Dissolved	Water	9060	

Analysis Batch: 457146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-168108-1	EPA-PZ-2012-6A_SPR19	Total/NA	Water	SM 2320B	
680-168108-2	EPA-PZ-2012-6B_SPR19	Total/NA	Water	SM 2320B	
680-168108-3	SHL-11_SPR19	Total/NA	Water	SM 2320B	
680-168108-4	SHL-DUP02_SPR19	Total/NA	Water	SM 2320B	
680-168108-5	SHP-2016-5A_SPR19	Total/NA	Water	SM 2320B	
680-168108-6	SHP-2016-5B_SPR19	Total/NA	Water	SM 2320B	
680-168108-7	SHL-DUP05_SPR19	Total/NA	Water	SM 2320B	
MB 280-457146/32	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-457146/30	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 280-457146/31	Lab Control Sample Dup	Total/NA	Water	SM 2320B	

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-168108-1

Client Sample ID: EPA-PZ-2012-6A_SPR19

Lab Sample ID: 680-168108-1

Date Collected: 04/22/19 12:10

Matrix: Water

Date Received: 04/25/19 08:56

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569389	05/07/19 16:31	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	568860	05/02/19 15:17	BJB	TAL SAV
Dissolved	Analysis	6010C		1			569048	05/04/19 05:02	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568858	05/02/19 15:17	BJB	TAL SAV
Dissolved	Analysis	6020A		1			569030	05/03/19 14:40	BJB	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1			456758	05/02/19 06:41	LPL	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			457146	05/03/19 21:38	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: EPA-PZ-2012-6B_SPR19

Lab Sample ID: 680-168108-2

Date Collected: 04/22/19 13:15

Matrix: Water

Date Received: 04/25/19 08:56

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569389	05/07/19 16:43	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	568860	05/02/19 15:17	BJB	TAL SAV
Dissolved	Analysis	6010C		1			569048	05/04/19 05:06	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568858	05/02/19 15:17	BJB	TAL SAV
Dissolved	Analysis	6020A		1			569030	05/03/19 14:44	BJB	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1			456758	05/02/19 06:58	LPL	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			457146	05/03/19 21:43	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHL-11_SPR19

Lab Sample ID: 680-168108-3

Date Collected: 04/22/19 14:15

Matrix: Water

Date Received: 04/25/19 08:56

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569389	05/07/19 16:56	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	568860	05/02/19 15:17	BJB	TAL SAV
Dissolved	Analysis	6010C		1			569048	05/04/19 04:50	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568858	05/02/19 15:17	BJB	TAL SAV
Dissolved	Analysis	6020A		1			569030	05/03/19 14:22	BJB	TAL SAV
	Instrument ID: ICPMSC									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-168108-1

Client Sample ID: SHL-11_SPR19

Lab Sample ID: 680-168108-3

Date Collected: 04/22/19 14:15

Matrix: Water

Date Received: 04/25/19 08:56

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060		1			456758	05/02/19 07:17	LPL	TAL DEN
Total/NA	Analysis	SM 2320B		1			457146	05/03/19 21:31	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHL-DUP02_SPR19

Lab Sample ID: 680-168108-4

Date Collected: 04/22/19 14:20

Matrix: Water

Date Received: 04/25/19 08:56

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569389	05/07/19 17:09	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	568860	05/02/19 15:17	BJB	TAL SAV
Dissolved	Analysis	6010C		1			569048	05/04/19 04:46	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568858	05/02/19 15:17	BJB	TAL SAV
Dissolved	Analysis	6020A		1			569030	05/03/19 14:18	BJB	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1			456758	05/02/19 07:34	LPL	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			457146	05/03/19 21:59	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHP-2016-5A_SPR19

Lab Sample ID: 680-168108-5

Date Collected: 04/23/19 08:40

Matrix: Water

Date Received: 04/25/19 08:56

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569389	05/07/19 18:25	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	568860	05/02/19 15:17	BJB	TAL SAV
Dissolved	Analysis	6010C		1			569048	05/04/19 04:17	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568858	05/02/19 15:17	BJB	TAL SAV
Dissolved	Analysis	6020A		1			569030	05/03/19 14:00	BJB	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1			456758	05/02/19 04:16	LPL	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			457146	05/03/19 22:12	SGB	TAL DEN
	Instrument ID: WC_AT2									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-168108-1

Client Sample ID: SHP-2016-5B_SPR19

Lab Sample ID: 680-168108-6

Date Collected: 04/23/19 10:15

Matrix: Water

Date Received: 04/25/19 08:56

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569389	05/07/19 19:29	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	568860	05/02/19 15:17	BJB	TAL SAV
Dissolved	Analysis	6010C		1			569048	05/04/19 04:54	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568858	05/02/19 15:17	BJB	TAL SAV
Dissolved	Analysis	6020A		1			569030	05/03/19 14:26	BJB	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1			456758	05/02/19 07:51	LPL	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			457146	05/03/19 21:52	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHL-DUP05_SPR19

Lab Sample ID: 680-168108-7

Date Collected: 04/23/19 10:20

Matrix: Water

Date Received: 04/25/19 08:56

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569389	05/07/19 19:41	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	568860	05/02/19 15:17	BJB	TAL SAV
Dissolved	Analysis	6010C		1			569048	05/04/19 04:58	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568858	05/02/19 15:17	BJB	TAL SAV
Dissolved	Analysis	6020A		1			569030	05/03/19 14:37	BJB	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1			456758	05/02/19 08:43	LPL	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			457146	05/03/19 22:06	SGB	TAL DEN
	Instrument ID: WC_AT2									

Laboratory References:

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

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

360325-Boston

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 366.7442, add extension lekes@komangs.com

COC # SHL

360325-Boston

KGS

Project: Long Term Monitoring	**Laboratory:** TestAmerica Laboratories, Inc. Savannah GA
Project Number: DEVNS-LTM	**Point of Contact:** Jerry Lanier ((912) 354-7858 jerry.lanier@testamericainc.com
WBS Code: Purchase Order 19-804	**Ship to:** 5102 LaRoche Avenue, Savannah, GA 31404

Comments:

Equipment:
Bladder or Peristaltic pump, ice, T-valve, micron filter for dissolved, YSI, and Turbidity meters for field paramenters.

Dissolved metals = As, Fe, Mn)
Dissolved metals and DOC are field filtered

FF - field filtered using 0.45 micron

EVENT: KOMAN, Long Term Monitoring, SHL (AOC 5) Spring 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: ALKalinity (SM2320A) 1-250 ml poly	Chloride/sulfate (SW9056) 1-125 ml poly	Dissolved metals SW6010/6020 1-250 ml poly HNO3	DOC (SW9060A) 1-250ml amber H2SO4	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom
								FF	FF				
1	EPA-PZ-2012-6A_SPR19	GW	4/22/19	1210	EAS	1	1	1	1	EPA-PZ-2012-6A	N1		
2	EPA-PZ-2012-6B_SPR19	GW	4/22/19	1315	EAS	1	1	1	1	EPA-PZ-2012-6B	N1		
3	SHL-11_SPR19	GW	4/22/19	1415	EAS	1	1	1	1	SHL-11	N1		
4	SHL-DUP02_SPR19	GW	4/22/19	1420	EAS	1	1	1	1	SHL-11	FD		
5	SHP-2016-5A_SPR19	GW	4/23/19	0840	EAS	1	1	1	1	SHP-2016-5A	N1		
6	SHP-2016-5A_SPR19-MS	GW	4/23/19	0840	EAS	1	1	1	1	SHP-2016-5A	MS		
7	SHP-2016-5A_SPR19-MSD	GW	4/23/19	0840	EAS	1	1	1	1	SHP-2016-5A	MSD		
8	SHP-2016-5B_SPR19	GW	4/23/19	1015	EAS	1	1	1	1	SHP-2016-5B	N1		
9	SHL-DUP05_SPR19	GW	4/23/19	1020	EAS	1	1	1	1	SHP-2016-5B	FD		
10													
Cooler:		Turn Around Time:											

680-168108 Chain of Custody

Relinquished by: *(Signature)*	Date	Time
[signature]	4/24/19	1455
[signature]	4/24/19	1615

Received by: *(Signature)*	Date	Time
[signature]	4/24/19	1455

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

4/25/19 855
2.8 2.9

5/30/2019

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 366.7442, add extension lekes@komangs.com

COC # SHL

360325-Boston

KGS

Project: Long Term Monitoring	**Laboratory:** TestAmerica Laboratories, Inc. Savannah GA
Project Number: DEVNS-LTM	**Point of Contact:** Jerry Lanier ((912) 354-7858 jerry.lanier@testamericainc.com
WBS Code: Purchase Order 19-804	**Ship to:** 5102 LaRoche Avenue, Savannah, GA 31404

Analytical Test Method

Comments:

Equipment:

Bladder or Peristaltic pump, ice, T-valve, micron filter for dissolved, YSI, and Turbidity meters for field paramenters.

Dissolved metals = As, Fe, Mn)
Dissolved metals and DOC are field filtered

FF - field filtered using 0.45 micron

EVENT: KOMAN, Long Term Monitoring, SHL (AOC 5) Spring 2019

	Sample ID	Matrix	Date	Time	Samp Init.	ALkalinity (SM2320A) 1-250 ml poly	Chloride/sulfate (SW9056) 1-125 ml poly	Dissolved metals SW6010/6020 1-250 ml poly HNO3	DOC (SW9060A) 1-250ml amber H2SO4	Location ID	Sample Type	Depth (ft bgs) Top - Bottom
								FF	FF			
1	EPA-PZ-2012-6A_SPR19	GW	4/22/19	1210	EAS	1	1	1	1	EPA-PZ-2012-6A	n1	
2	EPA-PZ-2012-6B_SPR19	GW	4/22/19	1315	EAS	1	1	1	1	EPA-PZ-2012-6B	n1	
3	SHL-11_SPR19	GW	4/22/19	1415	EAS	1	1	1	1	SHL-11	n1	
4	SHL-DUP02_SPR19	GW	4/22/19	1420	EAS	1	1	1	1	SHL-11	FD	
5	SHP-2016-5A_SPR19	GW	4/23/19	0840	EAS	1	1	1	1	SHP-2016-5A	n1	
6	SHP-2016-5A_SPR19-MS	GW	4/23/19	0840	EAS	1	1	1	1	SHP-2016-5A	MS	
7	SHP-2016-5A_SPR19_MSD	GW	4/23/19	0840	EAS	1	1	1	1	SHP-2016-5A	MSD1	
8	SHP-2016-5B_SPR19	GW	4/23/19	1015	EAS	1	1	1	1	SHP-2016-5B	n1	
9	SHL-DUP05_SPR19	GW	4/23/19	1020	EAS	1	1	1	1	SHP-2016-5B	FD	
10												

680-168108 Chain of Custody

Cooler: **Turn Around Time:**

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[signature]	4/24/19	1455	[signature]	4/24/19	1455
[signature]	4/24/19	16:15	[signature]	4-25-19	0840

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

2.5, +0.0, IR4, xfer by RDP 4-25-19

Page 1 of 1

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-168108-1

Login Number: 168108

List Source: Eurofins TestAmerica, Savannah

List Number: 1

Creator: Weston, Pamela

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

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-168108-1

Login Number: 168108
List Number: 2
Creator: Dunlap, Krista M

List Source: Eurofins TestAmerica, Denver
List Creation: 04/25/19 04:26 PM

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

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-168108-1
Project/Site: LTM, SHL (AOC 5) Spring 2019

Laboratory: Eurofins TestAmerica, Savannah

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

Authority	Program	EPA Region	Identification Number	Expiration Date
	AFCEE		SAVLAB	
Alabama	State Program	4	41450	06-30-19 *
Alaska	State Program	10		06-30-19 *
Alaska (UST)	State Program	10	UST-104	09-22-19
ANAB	DoD		L2463	09-22-19
ANAB	ISO/IEC 17025		L2463.01	09-22-19
Arizona	State Program	9	AZ0808	12-14-19
Arkansas DEQ	State Program	6	88-0692	02-01-20
California	State Program	9	2939	06-30-19 *
Colorado	State Program	8	N/A	12-31-19
Connecticut	State Program	1	PH-0161	03-31-21
Florida	NELAP	4	E87052	06-30-19 *
GA Dept. of Agriculture	State Program	4	N/A	06-12-19
Georgia	State Program	4	N/A	06-30-19 *
Georgia	State Program	4	803	06-30-19 *
Guam	State Program	9	15-005r	04-17-20
Hawaii	State Program	9	N/A	06-30-19
Illinois	NELAP	5	200022	11-30-19
Indiana	State Program	5	N/A	06-30-19 *
Iowa	State Program	7	353	06-30-19 *
Kentucky (DW)	State Program	4	90084	12-31-19
Kentucky (UST)	State Program	4	18	06-30-19
Kentucky (WW)	State Program	4	90084	12-31-19
Louisiana	NELAP	6	30690	06-30-19
Louisiana (DW)	NELAP	6	LA160019	12-31-19
Maine	State Program	1	GA00006	09-25-20
Maryland	State Program	3	250	12-31-19
Massachusetts	State Program	1	M-GA006	06-30-19
Michigan	State Program	5	9925	03-05-19 *
Mississippi	State Program	4	N/A	06-30-19 *
Nebraska	State Program	7	TestAmerica-Savannah	06-30-19
New Jersey	NELAP	2	GA769	06-30-19 *
New Mexico	State Program	6	N/A	06-30-19
New York	NELAP	2	10842	04-01-20
North Carolina (DW)	State Program	4	13701	07-31-19
North Carolina (WW/SW)	State Program	4	269	12-31-19
Oklahoma	State Program	6	9984	08-31-19
Pennsylvania	NELAP	3	68-00474	06-30-19 *
Puerto Rico	State Program	2	GA00006	01-01-20
South Carolina	State Program	4	98001	06-30-19 *
Tennessee	State Program	4	TN02961	06-30-19 *
Texas	NELAP	6	T104704185-16-9	11-30-19
Texas (DW)	State Program	1	T104704185	06-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
Virginia	NELAP	3	460161	06-14-19 *
Washington	State Program	10	C805	06-10-19 *
West Virginia (DW)	State Program	3	9950C	12-31-19
West Virginia DEP	State Program	3	094	06-30-19 *
Wisconsin	State Program	5	999819810	08-31-19
Wyoming	State Program	8	8TMS-L	06-30-16 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-168108-1
Project/Site: LTM, SHL (AOC 5) Spring 2019

Laboratory: Eurofins TestAmerica, Denver

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

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

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

Laboratory Job ID: 680-168109-1
Client Project/Site: LTM, SHL (AOC 5) Spring 2019

For:
KOMAN Government Solutions, LLC
293 Boston Post Road
Suite 100
Marlborough, Massachusetts 01752

Attn: Laurie Ekes

Jerry Lanier

Authorized for release by:
5/18/2019 4:27:54 PM

Jerry Lanier, Project Manager I
(912)250-0281
jerry.lanier@testamericainc.com

LINKS

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Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 680-168109-1

Laboratory: Eurofins TestAmerica, Savannah

Narrative

CASE NARRATIVE

Client: KOMAN Government Solutions, LLC

Project: LTM, SHL (AOC 5) Spring 2019

Report Number: 680-168109-1

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 the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT
The samples were received on 04/25/2019; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.9 C.

METALS (ICP) - DISSOLVED
Samples SHM-96-5B_SPR19 (680-168109-1) and SHM-05-40X_SPR19 (680-168109-2) were analyzed for Metals (ICP) - Dissolved in accordance with EPA SW-846 Method 6010C. The samples were prepared on 05/02/2019 and analyzed on 05/04/2019.

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

METALS (ICPMS) - DISSOLVED
Samples SHM-96-5B_SPR19 (680-168109-1) and SHM-05-40X_SPR19 (680-168109-2) were analyzed for Metals (ICPMS) - Dissolved in accordance with EPA SW-846 Method 6020A. The samples were prepared on 05/02/2019 and analyzed on 05/03/2019.

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

ALKALINITY
Samples SHM-96-5B_SPR19 (680-168109-1) and SHM-05-40X_SPR19 (680-168109-2) were analyzed for alkalinity in accordance with SM 2320B. The samples were analyzed on 05/07/2019.

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

ANIONS BY ION CHROMATOGRAPHY (28 DAY)
Samples SHM-96-5B_SPR19 (680-168109-1) and SHM-05-40X_SPR19 (680-168109-2) were analyzed for Anions by Ion Chromatography (28 Day) in accordance with SW 846 9056A. The samples were analyzed on 05/07/2019.

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

DISSOLVED ORGANIC CARBON
Samples SHM-96-5B_SPR19 (680-168109-1) and SHM-05-40X_SPR19 (680-168109-2) were analyzed for dissolved organic carbon in accordance with EPA SW-846 Method 9060. The samples were analyzed on 05/02/2019.

A deviation from the Standard Operating Procedure (SOP) occurred. Details are as follows: ICV standard was used for the LCS/CCV standard for 9060

Dissolved Organic Carbon - Duplicate was detected in method blank MB 280-456758/47 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. Refer to the QC report for details.

Job ID: 680-168109-1 (Continued)

Laboratory: Eurofins TestAmerica, Savannah (Continued)

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

Sample Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-168109-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-168109-1	SHM-96-5B_SPR19	WG	04/23/19 08:15	04/25/19 08:56
680-168109-2	SHM-05-40X_SPR19	WG	04/23/19 09:25	04/25/19 08:56

Method Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-168109-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV
6020A	Metals (ICP/MS)	SW846	TAL SAV
9060	Organic Carbon, Dissolved (DOC)	SW846	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL SAV

Protocol References:

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

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

Laboratory References:

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

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-168109-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Metals

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.

General Chemistry

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

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)

Client Sample ID: SHM-96-5B_SPR19

Lab Sample ID: 680-168109-1

Date Collected: 04/23/19 08:15

Matrix: WG

Date Received: 04/25/19 08:56

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	33		0.50	0.50	0.20	mg/L		05/07/19 19:54	1
Sulfate	14	M	1.0	1.0	0.40	mg/L		05/07/19 19:54	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	14000		50	50	17	ug/L		05/04/19 05:39	1
Manganese	8300		10	3.0	1.0	ug/L		05/04/19 05:39	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	1100		3.0	3.0	1.5	ug/L		05/03/19 15:06	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	220		10	10	3.1	mg/L		05/07/19 12:57	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.8		1.0	0.50	0.16	mg/L		05/02/19 09:35	1

Client Sample ID: SHM-05-40X_SPR19

Lab Sample ID: 680-168109-2

Date Collected: 04/23/19 09:25

Matrix: WG

Date Received: 04/25/19 08:56

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	38		0.50	0.50	0.20	mg/L		05/07/19 20:07	1
Sulfate	3.5	M	1.0	1.0	0.40	mg/L		05/07/19 20:07	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	27000		50	50	17	ug/L		05/04/19 05:35	1
Manganese	690		10	3.0	1.0	ug/L		05/04/19 05:35	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	2100		3.0	3.0	1.5	ug/L		05/03/19 15:02	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	74		10	10	3.1	mg/L		05/07/19 13:03	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.9		1.0	0.50	0.16	mg/L		05/02/19 09:50	1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 680-569389/2
Matrix: Water
Analysis Batch: 569389

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		05/07/19 14:37	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		05/07/19 14:37	1

Lab Sample ID: LCS 680-569389/3
Matrix: Water
Analysis Batch: 569389

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.3		mg/L		103	87 - 111
Sulfate	10.0	10.7		mg/L		107	87 - 112

Lab Sample ID: LCSD 680-569389/4
Matrix: Water
Analysis Batch: 569389

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
Chloride	10.0	10.3		mg/L		103	87 - 111	0	15
Sulfate	10.0	10.7		mg/L		107	87 - 112	0	15

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-568860/1-A
Matrix: Water
Analysis Batch: 569048

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 568860

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		05/04/19 04:09	1
Manganese	3.0	U	10	3.0	1.0	ug/L		05/04/19 04:09	1

Lab Sample ID: LCS 680-568860/2-A
Matrix: Water
Analysis Batch: 569048

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 568860

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5000	4790		ug/L		96	87 - 115
Manganese	400	398		ug/L		99	90 - 114

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 680-568858/1-A
Matrix: Water
Analysis Batch: 569030

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 568858

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		05/03/19 13:53	1

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

Lab Sample ID: LCS 680-568858/2-A
Matrix: Water
Analysis Batch: 569030

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 568858

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	104		ug/L		104	84 - 116

Method: 9060 - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 280-456758/47
Matrix: Water
Analysis Batch: 456758

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.256	J	1.0	0.50	0.16	mg/L		05/02/19 03:40	1

Lab Sample ID: LCS 280-456758/46
Matrix: Water
Analysis Batch: 456758

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon - Duplicate	25.0	26.2		mg/L		105	88 - 112

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-457431/5
Matrix: Water
Analysis Batch: 457431

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		05/07/19 12:26	1

Lab Sample ID: LCS 280-457431/4
Matrix: Water
Analysis Batch: 457431

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	205		mg/L		103	89 - 109

QC Association Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-168109-1

HPLC/IC

Analysis Batch: 569389

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-168109-1	SHM-96-5B_SPR19	Total/NA	WG	9056A	
680-168109-2	SHM-05-40X_SPR19	Total/NA	WG	9056A	
MB 680-569389/2	Method Blank	Total/NA	Water	9056A	
LCS 680-569389/3	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-569389/4	Lab Control Sample Dup	Total/NA	Water	9056A	

Metals

Prep Batch: 568858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-168109-1	SHM-96-5B_SPR19	Dissolved	WG	3005A	
680-168109-2	SHM-05-40X_SPR19	Dissolved	WG	3005A	
MB 680-568858/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-568858/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 568860

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-168109-1	SHM-96-5B_SPR19	Dissolved	WG	3005A	
680-168109-2	SHM-05-40X_SPR19	Dissolved	WG	3005A	
MB 680-568860/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-568860/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 569030

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-168109-1	SHM-96-5B_SPR19	Dissolved	WG	6020A	568858
680-168109-2	SHM-05-40X_SPR19	Dissolved	WG	6020A	568858
MB 680-568858/1-A	Method Blank	Total Recoverable	Water	6020A	568858
LCS 680-568858/2-A	Lab Control Sample	Total Recoverable	Water	6020A	568858

Analysis Batch: 569048

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-168109-1	SHM-96-5B_SPR19	Dissolved	WG	6010C	568860
680-168109-2	SHM-05-40X_SPR19	Dissolved	WG	6010C	568860
MB 680-568860/1-A	Method Blank	Total Recoverable	Water	6010C	568860
LCS 680-568860/2-A	Lab Control Sample	Total Recoverable	Water	6010C	568860

General Chemistry

Analysis Batch: 456758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-168109-1	SHM-96-5B_SPR19	Dissolved	WG	9060	
680-168109-2	SHM-05-40X_SPR19	Dissolved	WG	9060	
MB 280-456758/47	Method Blank	Dissolved	Water	9060	
LCS 280-456758/46	Lab Control Sample	Dissolved	Water	9060	

Analysis Batch: 457431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-168109-1	SHM-96-5B_SPR19	Total/NA	WG	SM 2320B	
680-168109-2	SHM-05-40X_SPR19	Total/NA	WG	SM 2320B	
MB 280-457431/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-457431/4	Lab Control Sample	Total/NA	Water	SM 2320B	

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-168109-1

Client Sample ID: SHM-96-5B_SPR19

Lab Sample ID: 680-168109-1

Date Collected: 04/23/19 08:15

Matrix: WG

Date Received: 04/25/19 08:56

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569389	05/07/19 19:54	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	568860	05/02/19 15:17	BJB	TAL SAV
Dissolved	Analysis	6010C		1			569048	05/04/19 05:39	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568858	05/02/19 15:17	BJB	TAL SAV
Dissolved	Analysis	6020A		1			569030	05/03/19 15:06	BJB	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1			456758	05/02/19 09:35	LPL	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			457431	05/07/19 12:57	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHM-05-40X_SPR19

Lab Sample ID: 680-168109-2

Date Collected: 04/23/19 09:25

Matrix: WG

Date Received: 04/25/19 08:56

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569389	05/07/19 20:07	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	568860	05/02/19 15:17	BJB	TAL SAV
Dissolved	Analysis	6010C		1			569048	05/04/19 05:35	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568858	05/02/19 15:17	BJB	TAL SAV
Dissolved	Analysis	6020A		1			569030	05/03/19 15:02	BJB	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1			456758	05/02/19 09:50	LPL	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			457431	05/07/19 13:03	SGB	TAL DEN
	Instrument ID: WC_AT2									

Laboratory References:

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

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

360325-Boston

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 366.7442, add extension lekes@komangs.com

COC # SHL

360325-Boston

KGS

Project: Long Term Monitoring	**Laboratory:** TestAmerica Laboratories, Inc. Savannah GA
Project Number: DEVNS-LTM	**Point of Contact:** Jerry Lanier ((912) 354-7858 jerry.lanier@testamericainc.com
WBS Code: Purchase Order 19-804	**Ship to:** 5102 LaRoche Avenue, Savannah, GA 31404

Comments:

Equipment:

Bladder or Peristaltic pump, ice, T-valve, micron filter for dissolved, YSI, and Turbidity meters for field paramenters.

Analytical Test Method

Dissolved metals = As, Fe, Mn)
Dissolved metals and DOC are field filtered

FF - field filtered using 0.45 micron

EVENT: KOMAN, Long Term Monitoring, SHL (AOC 5) Spring 2019

	Sample ID	Matrix	Date	Time	Samp Init.	ALkalinity (SM2320A) 1-250 ml poly	Chloride/sulfate (SW9056) 1-125 ml poly	Dissolved metals SW6010/6020 1-250 ml poly HNO3	DOC (SW9060A) 1-250ml amber H2SO4	Location ID	Sample Type	Depth (ft bgs) Top - Bottom
								FF	FF			
1	SHM-96-5B_SPR19	WG	4/23/19	0815	BrA	x	x	x	x	SHM-96-5B	N,	
2	SHM-05-40X_SPR19	WG	4/23/19	0925	BrA	x	x	x	x	SHM-05-40X	N,	
3												
4												
5												
6												
7												
8												
9												
10												

680-168109 Chain of Custody

Cooler: **Turn Around Time:**

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[signature]	4/24/19	1455	[signature]	4/24/19	1455
[signature]	4/24/19	Aug			

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

[signature] 4/25/19 856
2.8/2.9

Page 1 of 1

360325-Boston

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 366.7442, add extension lekes@komangs.com

COC # SHL

KGS

Project: Long Term Monitoring	**Laboratory:** TestAmerica Laboratories, Inc. Savannah GA
Project Number: DEVNS-LTM	**Point of Contact:** Jerry Lanier ((912) 354-7858 jerry.lanier@testamericainc.com
WBS Code: Purchase Order 19-804	**Ship to:** 5102 LaRoche Avenue, Savannah, GA 31404

Comments:

Equipment:

Bladder or Peristaltic pump, ice, T-valve, micron filter for dissolved, YSI, and Turbidity meters for field paramenters.

Analytical Test Method

Dissolved metals = As, Fe, Mn)
Dissolved metals and DOC are field filtered

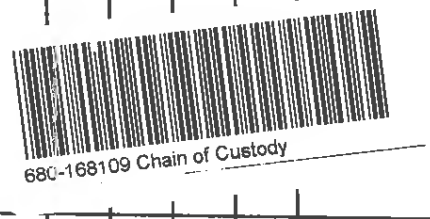
FF - field filtered using 0.45 micron

EVENT: KOMAN, Long Term Monitoring, SHL (AOC 5) Spring 2019

	Sample ID	Matrix	Date	Time	Samp Init.	ALkalinity (SM2320A) 1-250 ml poly	Chloride/sulfate (SW9056) 1-125 ml poly	Dissolved metals SW6010/6020 1-250 ml poly HNO3	DOC (SW9060A) 1-250ml amber H2SO4	Location ID	Sample Type	Depth (ft bgs) Top - Bottom
								FF	FF			
1	SHM-96-5B_SPR19	WG	4/23/19	0815	BrA	x	x	x	x	SHM-96-5B	N1	
2	SHM-05-40X_SPR19	WG	4/23/19	0925	BrA	x	x	x	x	SHM-05-40X	N1	
3												
4												
5												
6												
7												
8												
9												
10												

680-168109 Chain of Custody

Cooler: **Turn Around Time:**



Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[signature]	4/24/19	1955	[signature]	4/24/19	1955
[signature]	4/24/19	Air	[signature]	4-25-19	0840

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

2.5, +0.0, IR9, x Sorby RDP 4-25-19

Page 1 of 1

5/18/2019

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-168109-1

Login Number: 168109

List Source: Eurofins TestAmerica, Savannah

List Number: 1

Creator: Weston, Pamela

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

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-168109-1

Login Number: 168109
List Number: 2
Creator: Sutek, Nick

List Source: Eurofins TestAmerica, Denver
List Creation: 04/25/19 04:22 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-168109-1

Login Number: 168109
List Number: 3
Creator: Sutek, Nick

List Source: Eurofins TestAmerica, Denver
List Creation: 04/25/19 04:23 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-168109-1
Project/Site: LTM, SHL (AOC 5) Spring 2019

Laboratory: Eurofins TestAmerica, Savannah

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

Authority	Program	EPA Region	Identification Number	Expiration Date
	AFCEE		SAVLAB	
Alabama	State Program	4	41450	06-30-19 *
Alaska	State Program	10		06-30-19 *
Alaska (UST)	State Program	10	UST-104	09-22-19
ANAB	DoD		L2463	09-22-19
ANAB	ISO/IEC 17025		L2463.01	09-22-19
Arizona	State Program	9	AZ0808	12-14-19
Arkansas DEQ	State Program	6	88-0692	02-01-20
California	State Program	9	2939	06-30-19 *
Colorado	State Program	8	N/A	12-31-19
Connecticut	State Program	1	PH-0161	03-31-21
Florida	NELAP	4	E87052	06-30-19 *
GA Dept. of Agriculture	State Program	4	N/A	06-12-19
Georgia	State Program	4	N/A	06-30-19 *
Georgia	State Program	4	803	06-30-19 *
Guam	State Program	9	15-005r	04-17-20
Hawaii	State Program	9	N/A	06-30-19
Illinois	NELAP	5	200022	11-30-19
Indiana	State Program	5	N/A	06-30-19 *
Iowa	State Program	7	353	06-30-19 *
Kentucky (DW)	State Program	4	90084	12-31-19
Kentucky (UST)	State Program	4	18	06-30-19
Kentucky (WW)	State Program	4	90084	12-31-19
Louisiana	NELAP	6	30690	06-30-19
Louisiana (DW)	NELAP	6	LA160019	12-31-19
Maine	State Program	1	GA00006	09-25-20
Maryland	State Program	3	250	12-31-19
Massachusetts	State Program	1	M-GA006	06-30-19
Michigan	State Program	5	9925	03-05-19 *
Mississippi	State Program	4	N/A	06-30-19 *
Nebraska	State Program	7	TestAmerica-Savannah	06-30-19
New Jersey	NELAP	2	GA769	06-30-19 *
New Mexico	State Program	6	N/A	06-30-19
New York	NELAP	2	10842	04-01-20
North Carolina (DW)	State Program	4	13701	07-31-19
North Carolina (WW/SW)	State Program	4	269	12-31-19
Oklahoma	State Program	6	9984	08-31-19
Pennsylvania	NELAP	3	68-00474	06-30-19 *
Puerto Rico	State Program	2	GA00006	01-01-20
South Carolina	State Program	4	98001	06-30-19 *
Tennessee	State Program	4	TN02961	06-30-19 *
Texas	NELAP	6	T104704185-16-9	11-30-19
Texas (DW)	State Program	1	T104704185	06-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
Virginia	NELAP	3	460161	06-14-19 *
Washington	State Program	10	C805	06-10-19 *
West Virginia (DW)	State Program	3	9950C	12-31-19
West Virginia DEP	State Program	3	094	06-30-19 *
Wisconsin	State Program	5	999819810	08-31-19
Wyoming	State Program	8	8TMS-L	06-30-16 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-168109-1
Project/Site: LTM, SHL (AOC 5) Spring 2019

Laboratory: Eurofins TestAmerica, Denver

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

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

APPENDIX C.3
SHL LTM Fall Laboratory Reports

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

Laboratory Job ID: 680-168111-1
Client Project/Site: LTM, SHL (AOC 5) Spring 2019

For:
KOMAN Government Solutions, LLC
293 Boston Post Road
Suite 100
Marlborough, Massachusetts 01752

Attn: Laurie Ekes

Jerry Lanier

Authorized for release by:
5/18/2019 4:32:51 PM

Jerry Lanier, Project Manager I
(912)250-0281
jerry.lanier@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Receipt Checklists 18
Certification Summary 19

Job ID: 680-168111-1

Laboratory: Eurofins TestAmerica, Savannah

Narrative

CASE NARRATIVE

Client: KOMAN Government Solutions, LLC

Project: LTM, SHL (AOC 5) Spring 2019

Report Number: 680-168111-1

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 the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT
The samples were received on 04/25/2019; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.9 C.

METALS (ICP) - DISSOLVED
Samples SHP-2016-7A_SPR19 (680-168111-1), SHL-20_SPR19 (680-168111-2), SHP-2016-1A_SPR19 (680-168111-3) and SHP-2016-1B_SPR19 (680-168111-4) were analyzed for Metals (ICP) - Dissolved in accordance with EPA SW-846 Method 6010C. The samples were prepared on 05/02/2019 and analyzed on 05/04/2019.

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

METALS (ICPMS) - DISSOLVED
Samples SHP-2016-7A_SPR19 (680-168111-1), SHL-20_SPR19 (680-168111-2), SHP-2016-1A_SPR19 (680-168111-3) and SHP-2016-1B_SPR19 (680-168111-4) were analyzed for Metals (ICPMS) - Dissolved in accordance with EPA SW-846 Method 6020A. The samples were prepared on 05/02/2019 and analyzed on 05/03/2019.

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

ALKALINITY
Samples SHP-2016-7A_SPR19 (680-168111-1), SHL-20_SPR19 (680-168111-2), SHP-2016-1A_SPR19 (680-168111-3) and SHP-2016-1B_SPR19 (680-168111-4) were analyzed for alkalinity in accordance with SM 2320B. The samples were analyzed on 04/26/2019.

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

ANIONS BY ION CHROMATOGRAPHY (28 DAY)
Samples SHP-2016-7A_SPR19 (680-168111-1), SHL-20_SPR19 (680-168111-2), SHP-2016-1A_SPR19 (680-168111-3) and SHP-2016-1B_SPR19 (680-168111-4) were analyzed for Anions by Ion Chromatography (28 Day) in accordance with SW 846 9056A. The samples were analyzed on 05/07/2019.

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

DISSOLVED ORGANIC CARBON
Samples SHP-2016-7A_SPR19 (680-168111-1), SHL-20_SPR19 (680-168111-2), SHP-2016-1A_SPR19 (680-168111-3) and SHP-2016-1B_SPR19 (680-168111-4) were analyzed for dissolved organic carbon in accordance with EPA SW-846 Method 9060. The samples were analyzed on 05/02/2019.

Job ID: 680-168111-1 (Continued)

Laboratory: Eurofins TestAmerica, Savannah (Continued)

A deviation from the Standard Operating Procedure (SOP) occurred. Details are as follows: ICV standard was used for the LCS/CCV standard for 9060

Dissolved Organic Carbon - Duplicate was detected in method blank MB 280-456758/47 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. Refer to the QC report for details.

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

Sample Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-168111-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-168111-1	SHP-2016-7A_SPR19	WG	04/22/19 09:55	04/25/19 08:56
680-168111-2	SHL-20_SPR19	WG	04/22/19 13:20	04/25/19 08:56
680-168111-3	SHP-2016-1A_SPR19	WG	04/22/19 11:25	04/25/19 08:56
680-168111-4	SHP-2016-1B_SPR19	WG	04/22/19 12:15	04/25/19 08:56

Method Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-168111-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV
6020A	Metals (ICP/MS)	SW846	TAL SAV
9060	Organic Carbon, Dissolved (DOC)	SW846	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL SAV

Protocol References:

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

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

Laboratory References:

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

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Metals

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

General Chemistry

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

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)

Client Sample ID: SHP-2016-7A_SPR19

Lab Sample ID: 680-168111-1

Date Collected: 04/22/19 09:55

Matrix: WG

Date Received: 04/25/19 08:56

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	1.5		0.50	0.50	0.20	mg/L		05/07/19 20:19	1
Sulfate	3.4		1.0	1.0	0.40	mg/L		05/07/19 20:19	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	3400		50	50	17	ug/L		05/04/19 05:10	1
Manganese	3600		10	3.0	1.0	ug/L		05/04/19 05:10	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	19		3.0	3.0	1.5	ug/L		05/03/19 14:48	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	20		10	10	3.1	mg/L		04/26/19 18:58	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.1		1.0	0.50	0.16	mg/L		05/02/19 10:10	1

Client Sample ID: SHL-20_SPR19

Lab Sample ID: 680-168111-2

Date Collected: 04/22/19 13:20

Matrix: WG

Date Received: 04/25/19 08:56

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	61		0.50	0.50	0.20	mg/L		05/07/19 20:57	1
Sulfate	40	M	1.0	1.0	0.40	mg/L		05/07/19 20:57	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	41000		50	50	17	ug/L		05/04/19 05:30	1
Manganese	2200		10	3.0	1.0	ug/L		05/04/19 05:30	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	770		3.0	3.0	1.5	ug/L		05/03/19 14:59	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	80		10	10	3.1	mg/L		04/26/19 19:05	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.7		1.0	0.50	0.16	mg/L		05/02/19 10:29	1

Client Sample ID: SHP-2016-1A_SPR19

Lab Sample ID: 680-168111-3

Date Collected: 04/22/19 11:25

Matrix: WG

Date Received: 04/25/19 08:56

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	1.2		0.50	0.50	0.20	mg/L		05/07/19 21:10	1
Sulfate	3.0		1.0	1.0	0.40	mg/L		05/07/19 21:10	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	19	J	50	50	17	ug/L		05/04/19 05:14	1
Manganese	2.3	J	10	3.0	1.0	ug/L		05/04/19 05:14	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		05/03/19 14:51	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	20		10	10	3.1	mg/L		04/26/19 19:11	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.1		1.0	0.50	0.16	mg/L		05/02/19 10:46	1

Client Sample ID: SHP-2016-1B_SPR19

Lab Sample ID: 680-168111-4

Date Collected: 04/22/19 12:15

Matrix: WG

Date Received: 04/25/19 08:56

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	12		0.50	0.50	0.20	mg/L		05/07/19 21:22	1
Sulfate	2.6		1.0	1.0	0.40	mg/L		05/07/19 21:22	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	18000		50	50	17	ug/L		05/04/19 05:18	1
Manganese	1200		10	3.0	1.0	ug/L		05/04/19 05:18	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	120		3.0	3.0	1.5	ug/L		05/03/19 14:55	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	68		10	10	3.1	mg/L		04/26/19 19:17	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.2		1.0	0.50	0.16	mg/L		05/02/19 11:01	1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 680-569389/2
Matrix: Water
Analysis Batch: 569389

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		05/07/19 14:37	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		05/07/19 14:37	1

Lab Sample ID: LCS 680-569389/3
Matrix: Water
Analysis Batch: 569389

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.3		mg/L		103	87 - 111
Sulfate	10.0	10.7		mg/L		107	87 - 112

Lab Sample ID: LCSD 680-569389/4
Matrix: Water
Analysis Batch: 569389

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
Chloride	10.0	10.3		mg/L		103	87 - 111	0	15
Sulfate	10.0	10.7		mg/L		107	87 - 112	0	15

Lab Sample ID: 680-168111-1 MS
Matrix: WG
Analysis Batch: 569389

Client Sample ID: SHP-2016-7A_SPR19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1.5		10.0	12.0		mg/L		105	87 - 111
Sulfate	3.4		10.0	14.0		mg/L		106	87 - 112

Lab Sample ID: 680-168111-1 MSD
Matrix: WG
Analysis Batch: 569389

Client Sample ID: SHP-2016-7A_SPR19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1.5		10.0	12.1		mg/L		106	87 - 111	0	15
Sulfate	3.4		10.0	14.1		mg/L		107	87 - 112	0	15

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-568860/1-A
Matrix: Water
Analysis Batch: 569048

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 568860

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		05/04/19 04:09	1
Manganese	3.0	U	10	3.0	1.0	ug/L		05/04/19 04:09	1

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

Lab Sample ID: LCS 680-568860/2-A
Matrix: Water
Analysis Batch: 569048

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 568860

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5000	4790		ug/L		96	87 - 115
Manganese	400	398		ug/L		99	90 - 114

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 680-568858/1-A
Matrix: Water
Analysis Batch: 569030

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 568858

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		05/03/19 13:53	1

Lab Sample ID: LCS 680-568858/2-A
Matrix: Water
Analysis Batch: 569030

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 568858

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	104		ug/L		104	84 - 116

Method: 9060 - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 280-456758/47
Matrix: Water
Analysis Batch: 456758

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.256	J	1.0	0.50	0.16	mg/L		05/02/19 03:40	1

Lab Sample ID: LCS 280-456758/46
Matrix: Water
Analysis Batch: 456758

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon - Duplicate	25.0	26.2		mg/L		105	88 - 112

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-456292/31
Matrix: Water
Analysis Batch: 456292

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		04/26/19 16:57	1

Lab Sample ID: LCS 280-456292/30
Matrix: Water
Analysis Batch: 456292

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	205		mg/L		102	89 - 109

QC Association Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-168111-1

HPLC/IC

Analysis Batch: 569389

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-168111-1	SHP-2016-7A_SPR19	Total/NA	WG	9056A	
680-168111-2	SHL-20_SPR19	Total/NA	WG	9056A	
680-168111-3	SHP-2016-1A_SPR19	Total/NA	WG	9056A	
680-168111-4	SHP-2016-1B_SPR19	Total/NA	WG	9056A	
MB 680-569389/2	Method Blank	Total/NA	Water	9056A	
LCS 680-569389/3	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-569389/4	Lab Control Sample Dup	Total/NA	Water	9056A	
680-168111-1 MS	SHP-2016-7A_SPR19	Total/NA	WG	9056A	
680-168111-1 MSD	SHP-2016-7A_SPR19	Total/NA	WG	9056A	

Metals

Prep Batch: 568858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-168111-1	SHP-2016-7A_SPR19	Dissolved	WG	3005A	
680-168111-2	SHL-20_SPR19	Dissolved	WG	3005A	
680-168111-3	SHP-2016-1A_SPR19	Dissolved	WG	3005A	
680-168111-4	SHP-2016-1B_SPR19	Dissolved	WG	3005A	
MB 680-568858/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-568858/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 568860

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-168111-1	SHP-2016-7A_SPR19	Dissolved	WG	3005A	
680-168111-2	SHL-20_SPR19	Dissolved	WG	3005A	
680-168111-3	SHP-2016-1A_SPR19	Dissolved	WG	3005A	
680-168111-4	SHP-2016-1B_SPR19	Dissolved	WG	3005A	
MB 680-568860/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-568860/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 569030

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-168111-1	SHP-2016-7A_SPR19	Dissolved	WG	6020A	568858
680-168111-2	SHL-20_SPR19	Dissolved	WG	6020A	568858
680-168111-3	SHP-2016-1A_SPR19	Dissolved	WG	6020A	568858
680-168111-4	SHP-2016-1B_SPR19	Dissolved	WG	6020A	568858
MB 680-568858/1-A	Method Blank	Total Recoverable	Water	6020A	568858
LCS 680-568858/2-A	Lab Control Sample	Total Recoverable	Water	6020A	568858

Analysis Batch: 569048

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-168111-1	SHP-2016-7A_SPR19	Dissolved	WG	6010C	568860
680-168111-2	SHL-20_SPR19	Dissolved	WG	6010C	568860
680-168111-3	SHP-2016-1A_SPR19	Dissolved	WG	6010C	568860
680-168111-4	SHP-2016-1B_SPR19	Dissolved	WG	6010C	568860
MB 680-568860/1-A	Method Blank	Total Recoverable	Water	6010C	568860
LCS 680-568860/2-A	Lab Control Sample	Total Recoverable	Water	6010C	568860

QC Association Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-168111-1

General Chemistry

Analysis Batch: 456292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-168111-1	SHP-2016-7A_SPR19	Total/NA	WG	SM 2320B	
680-168111-2	SHL-20_SPR19	Total/NA	WG	SM 2320B	
680-168111-3	SHP-2016-1A_SPR19	Total/NA	WG	SM 2320B	
680-168111-4	SHP-2016-1B_SPR19	Total/NA	WG	SM 2320B	
MB 280-456292/31	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-456292/30	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 456758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-168111-1	SHP-2016-7A_SPR19	Dissolved	WG	9060	
680-168111-2	SHL-20_SPR19	Dissolved	WG	9060	
680-168111-3	SHP-2016-1A_SPR19	Dissolved	WG	9060	
680-168111-4	SHP-2016-1B_SPR19	Dissolved	WG	9060	
MB 280-456758/47	Method Blank	Dissolved	Water	9060	
LCS 280-456758/46	Lab Control Sample	Dissolved	Water	9060	

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-168111-1

Client Sample ID: SHP-2016-7A_SPR19

Lab Sample ID: 680-168111-1
Matrix: WG
Date Collected: 04/22/19 09:55
Date Received: 04/25/19 08:56

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569389	05/07/19 20:19	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	568860	05/02/19 15:17	BJB	TAL SAV
Dissolved	Analysis	6010C		1			569048	05/04/19 05:10	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568858	05/02/19 15:17	BJB	TAL SAV
Dissolved	Analysis	6020A		1			569030	05/03/19 14:48	BJB	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1			456758	05/02/19 10:10	LPL	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			456292	04/26/19 18:58	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHL-20_SPR19

Lab Sample ID: 680-168111-2
Matrix: WG
Date Collected: 04/22/19 13:20
Date Received: 04/25/19 08:56

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569389	05/07/19 20:57	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	568860	05/02/19 15:17	BJB	TAL SAV
Dissolved	Analysis	6010C		1			569048	05/04/19 05:30	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568858	05/02/19 15:17	BJB	TAL SAV
Dissolved	Analysis	6020A		1			569030	05/03/19 14:59	BJB	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1			456758	05/02/19 10:29	LPL	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			456292	04/26/19 19:05	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHP-2016-1A_SPR19

Lab Sample ID: 680-168111-3
Matrix: WG
Date Collected: 04/22/19 11:25
Date Received: 04/25/19 08:56

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569389	05/07/19 21:10	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	568860	05/02/19 15:17	BJB	TAL SAV
Dissolved	Analysis	6010C		1			569048	05/04/19 05:14	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568858	05/02/19 15:17	BJB	TAL SAV
Dissolved	Analysis	6020A		1			569030	05/03/19 14:51	BJB	TAL SAV
	Instrument ID: ICPMSC									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM, SHL (AOC 5) Spring 2019

Job ID: 680-168111-1

Client Sample ID: SHP-2016-1A_SPR19

Lab Sample ID: 680-168111-3

Date Collected: 04/22/19 11:25

Matrix: WG

Date Received: 04/25/19 08:56

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060		1			456758	05/02/19 10:46	LPL	TAL DEN
Total/NA	Analysis	SM 2320B		1			456292	04/26/19 19:11	SGB	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHP-2016-1B_SPR19

Lab Sample ID: 680-168111-4

Date Collected: 04/22/19 12:15

Matrix: WG

Date Received: 04/25/19 08:56

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	569389	05/07/19 21:22	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	568860	05/02/19 15:17	BJB	TAL SAV
Dissolved	Analysis	6010C		1			569048	05/04/19 05:18	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	568858	05/02/19 15:17	BJB	TAL SAV
Dissolved	Analysis	6020A		1			569030	05/03/19 14:55	BJB	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1			456758	05/02/19 11:01	LPL	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			456292	04/26/19 19:17	SGB	TAL DEN
	Instrument ID: WC_AT2									

Laboratory References:

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

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 366.7442, add extension lekes@komangs.com

COC # SHL

360325-Boston

KGS

Project: Long Term Monitoring	**Laboratory:** TestAmerica Laboratories, Inc. Savannah GA
Project Number: DEVNS-LTM	**Point of Contact:** Jerry Lanier ((912) 354-7858 jerry.lanier@testamericainc.com
WBS Code: Purchase Order 19-804	**Ship to:** 5102 LaRoche Avenue, Savannah, GA 31404

Analytical Test Method

Comments:

Equipment:
Bladder or Peristaltic pump, ice, T-valve, micron filter for dissolved, YSI, and Turbidity meters for field paramenters.

Dissolved metals = As, Fe, Mn)
Dissolved metals and DOC are field filtered

FF - field filtered using 0.45 micron

EVENT: KOMAN, Long Term Monitoring, SHL (AOC 5) Spring 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: ALkalinity (SM2320A) 1-250 ml poly	Chloride/sulfate (SW9056) 1-125 ml poly	Dissolved metals SW6010/6020 1-250 ml poly HNO3	DOC (SW9060A) 1-250ml amber H2SO4							Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom
								FF	FF										
1	SHP-2016-7A_SPR19 ~~SHP~~	WG	4/22/19	0955	CV	X	X	X	X							SHP-2016-7A	N		
2	SHL-20_SPR19	WG	↓	1320	CV	X	X	X	X							SHL-20	N		
3	SHP-2016-1A_SPR19	WG		1125	CV	X	X	X	X							SHP-2016-1A	N		
4	SHP-2016-1B-SPR19	WG		1215	CV	X	X	X	X							SHP-2016-1B	N		
5																			
6																			
7																			
8																			
9																			
10																			
Cooler:		Turn Around Time:																	

680-168111 Chain of Custody

Relinquished by: *(Signature)*	Date	Time
	4/22/19	1500
	4/24/19	1455
	4/24/19	16:15

Received by: *(Signature)*	Date	Time
	4/22/19	1500
	4/24/19	1455

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

4/25/19 8:57
2.8/29.

Page 1 of 1

5/18/2019

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 366.7442, add extension lekes@komangs.com

COC # SHL

Project: Long Term Monitoring
Project Number: DEVNS-LTM
WBS Code: Purchase Order 19-804

Laboratory: TestAmerica Laboratories, Inc. Savannah GA
Point of Contact: Jerry Lanier ((912) 354-7858 jerry.lanier@testamericainc.com
Ship to: 5102 LaRoche Avenue, Savannah, GA 31404

Comments:

Equipment:
Bladder or Peristaltic pump, ice, T-valve, micron filter for dissolved, YSI, and Turbidity meters for field paramenters.

Dissolved metals = As, Fe, Mn)
Dissolved metals and DOC are field filtered

FF - field filtered using 0.45 micron

EVENT: KOMAN, Long Term Monitoring, SHL (AOC 5) Spring 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: ALkalinity (SM2320A) 1-250 ml poly	Chloride/sulfate (SW9056) 1-125 ml poly	Dissolved metals SW6010/6020 1-250 ml poly HNO3	DOC (SW9060A) 1-250ml amber H2SO4	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom
								FF	FF				
1	SHP-2016-7A_SPR19 ~~SHP~~	WG	4/22/19	0955	CV	X	X	X	X	SHP-2016-7A	NI		
2	SHL-20_SPR19	WG	↓	1320	CV	X	X	X	X	SHL-20	NI		
3	SHP-2016-1A_SPR19	WG		1125	CV	X	X	X	X	SHP-2016-1A	NI		
4	SHP-2016-1B-SPR19	WG		1215	CV	X	X	X	X	SHP-2016-1B	NI		
5													
6													
7													
8													
9													
10													

680-168111 Chain of Custody

Cooler: **Turn Around Time:**

Relinquished by: *(Signature)*	Date	Time
	4/22/19	1500
	4/24/19	1455
	4/24/19	1615

Received by: *(Signature)*	Date	Time
	4/22/19	1500
	4/24/19	1455
	4-25-19	0840

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

Page 1 of 1

2.5, +0.0, IR4, xfer by RDP 4-25-19

5/18/2019

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-168111-1

Login Number: 168111

List Source: Eurofins TestAmerica, Savannah

List Number: 1

Creator: Weston, Pamela

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

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-168111-1
Project/Site: LTM, SHL (AOC 5) Spring 2019

Laboratory: Eurofins TestAmerica, Savannah

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

Authority	Program	EPA Region	Identification Number	Expiration Date
	AFCEE		SAVLAB	
Alabama	State Program	4	41450	06-30-19 *
Alaska	State Program	10		06-30-19 *
Alaska (UST)	State Program	10	UST-104	09-22-19
ANAB	DoD		L2463	09-22-19
ANAB	ISO/IEC 17025		L2463.01	09-22-19
Arizona	State Program	9	AZ0808	12-14-19
Arkansas DEQ	State Program	6	88-0692	02-01-20
California	State Program	9	2939	06-30-19 *
Colorado	State Program	8	N/A	12-31-19
Connecticut	State Program	1	PH-0161	03-31-21
Florida	NELAP	4	E87052	06-30-19 *
GA Dept. of Agriculture	State Program	4	N/A	06-12-19
Georgia	State Program	4	N/A	06-30-19 *
Georgia	State Program	4	803	06-30-19 *
Guam	State Program	9	15-005r	04-17-20
Hawaii	State Program	9	N/A	06-30-19
Illinois	NELAP	5	200022	11-30-19
Indiana	State Program	5	N/A	06-30-19 *
Iowa	State Program	7	353	06-30-19 *
Kentucky (DW)	State Program	4	90084	12-31-19
Kentucky (UST)	State Program	4	18	06-30-19
Kentucky (WW)	State Program	4	90084	12-31-19
Louisiana	NELAP	6	30690	06-30-19
Louisiana (DW)	NELAP	6	LA160019	12-31-19
Maine	State Program	1	GA00006	09-25-20
Maryland	State Program	3	250	12-31-19
Massachusetts	State Program	1	M-GA006	06-30-19
Michigan	State Program	5	9925	03-05-19 *
Mississippi	State Program	4	N/A	06-30-19 *
Nebraska	State Program	7	TestAmerica-Savannah	06-30-19
New Jersey	NELAP	2	GA769	06-30-19 *
New Mexico	State Program	6	N/A	06-30-19
New York	NELAP	2	10842	04-01-20
North Carolina (DW)	State Program	4	13701	07-31-19
North Carolina (WW/SW)	State Program	4	269	12-31-19
Oklahoma	State Program	6	9984	08-31-19
Pennsylvania	NELAP	3	68-00474	06-30-19 *
Puerto Rico	State Program	2	GA00006	01-01-20
South Carolina	State Program	4	98001	06-30-19 *
Tennessee	State Program	4	TN02961	06-30-19 *
Texas	NELAP	6	T104704185-16-9	11-30-19
Texas (DW)	State Program	1	T104704185	06-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
Virginia	NELAP	3	460161	06-14-19 *
Washington	State Program	10	C805	06-10-19 *
West Virginia (DW)	State Program	3	9950C	12-31-19
West Virginia DEP	State Program	3	094	06-30-19 *
Wisconsin	State Program	5	999819810	08-31-19
Wyoming	State Program	8	8TMS-L	06-30-16 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-168111-1
Project/Site: LTM, SHL (AOC 5) Spring 2019

Laboratory: Eurofins TestAmerica, Denver

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

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

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

Laboratory Job ID: 680-176026-1
Client Project/Site: LTM - SHL Fall 2019
Revision: 1

For:
KOMAN Government Solutions, LLC
293 Boston Post Road West
Suite 100
Marlborough, Massachusetts 01752

Attn: Laurie Ekes

Jerry Lanier

Authorized for release by:
11/30/2019 8:00:50 AM

Jerry Lanier, Project Manager I
(912)250-0281
jerry.lanier@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 680-176026-1

Laboratory: Eurofins TestAmerica, Savannah

Narrative

CASE NARRATIVE

Client: KOMAN Government Solutions, LLC

Project: LTM - SHL Fall 2019

Report Number: 680-176026-1

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 the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT
The samples were received on 10/26/2019 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.1º C and 3.2º C.

METALS (ICP) - DISSOLVED
Samples SHL-8S_FAL19 (680-176026-1), SHL-8D_FAL19 (680-176026-2), EPA-PZ-2012-2A_FAL19 (680-176026-3), EPA-PZ-2012-2B_FAL19 (680-176026-4), SHP-2016-2A_FAL19 (680-176026-5), SHP-2016-2B_FAL19 (680-176026-6), EPA-PZ-2012-6A_FAL19 (680-176026-7) and EPA-PZ-2012-6B_FAL19 (680-176026-8) were analyzed for Metals (ICP) - Dissolved in accordance with EPA SW-846 Method 6010C. The samples were prepared on 10/28/2019 and analyzed on 10/30/2019.

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

METALS (ICPMS) - DISSOLVED
Samples SHL-8S_FAL19 (680-176026-1), SHL-8D_FAL19 (680-176026-2), EPA-PZ-2012-2A_FAL19 (680-176026-3), EPA-PZ-2012-2B_FAL19 (680-176026-4), SHP-2016-2A_FAL19 (680-176026-5), SHP-2016-2B_FAL19 (680-176026-6), EPA-PZ-2012-6A_FAL19 (680-176026-7) and EPA-PZ-2012-6B_FAL19 (680-176026-8) were analyzed for Metals (ICPMS) - Dissolved in accordance with EPA SW-846 Method 6020A. The samples were prepared on 10/28/2019 and analyzed on 10/29/2019 and 10/30/2019.

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

ALKALINITY
Samples SHL-8S_FAL19 (680-176026-1), SHL-8D_FAL19 (680-176026-2), EPA-PZ-2012-2A_FAL19 (680-176026-3), EPA-PZ-2012-2B_FAL19 (680-176026-4), SHP-2016-2A_FAL19 (680-176026-5), SHP-2016-2B_FAL19 (680-176026-6), EPA-PZ-2012-6A_FAL19 (680-176026-7) and EPA-PZ-2012-6B_FAL19 (680-176026-8) were analyzed for alkalinity in accordance with SM 2320B. The samples were analyzed on 10/29/2019.

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

ANIONS BY ION CHROMATOGRAPHY (28 DAY)
Samples SHL-8S_FAL19 (680-176026-1), SHL-8D_FAL19 (680-176026-2), EPA-PZ-2012-2A_FAL19 (680-176026-3), EPA-PZ-2012-2B_FAL19 (680-176026-4), SHP-2016-2A_FAL19 (680-176026-5), SHP-2016-2B_FAL19 (680-176026-6), EPA-PZ-2012-6A_FAL19 (680-176026-7) and EPA-PZ-2012-6B_FAL19 (680-176026-8) were analyzed for Anions by Ion Chromatography (28 Day) in accordance with SW 846 9056A. The samples were analyzed on 10/30/2019 and 10/31/2019.

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

TOTAL ORGANIC CARBON
Samples SHL-8S_FAL19 (680-176026-1), SHL-8D_FAL19 (680-176026-2), EPA-PZ-2012-2A_FAL19 (680-176026-3), EPA-PZ-2012-2B_FAL19 (680-176026-4), SHP-2016-2A_FAL19 (680-176026-5), SHP-2016-2B_FAL19 (680-176026-6),

Job ID: 680-176026-1 (Continued)

Laboratory: Eurofins TestAmerica, Savannah (Continued)

EPA-PZ-2012-6A_FAL19 (680-176026-7) and EPA-PZ-2012-6B_FAL19 (680-176026-8) were analyzed for total organic carbon in accordance with EPA SW-846 Method 9060A. The samples were analyzed on 10/30/2019.

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

Sample Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176026-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
680-176026-1	SHL-8S_FAL19	WG	10/24/19 08:33	10/26/19 10:00	
680-176026-2	SHL-8D_FAL19	WG	10/24/19 09:30	10/26/19 10:00	
680-176026-3	EPA-PZ-2012-2A_FAL19	WG	10/24/19 10:32	10/26/19 10:00	
680-176026-4	EPA-PZ-2012-2B_FAL19	WG	10/24/19 12:07	10/26/19 10:00	
680-176026-5	SHP-2016-2A_FAL19	WG	10/24/19 13:38	10/26/19 10:00	
680-176026-6	SHP-2016-2B_FAL19	WG	10/24/19 14:33	10/26/19 10:00	
680-176026-7	EPA-PZ-2012-6A_FAL19	WG	10/25/19 08:30	10/26/19 10:00	
680-176026-8	EPA-PZ-2012-6B_FAL19	WG	10/25/19 09:28	10/26/19 10:00	

Method Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176026-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV
6020A	Metals (ICP/MS)	SW846	TAL SAV
9060A	Organic Carbon, Dissolved (DOC)	SW846	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL SAV

Protocol References:

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

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

Laboratory References:

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

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Definitions/Glossary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176026-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.

Metals

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

General Chemistry

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

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)

Client Sample Results

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176026-1

Client Sample ID: SHL-8S_FAL19

Lab Sample ID: 680-176026-1
Date Collected: 10/24/19 08:33
Matrix: WG
Date Received: 10/26/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	**5.9**		0.50	0.50	0.20	mg/L		10/30/19 21:00	1
Sulfate	**6.7**		1.0	1.0	0.40	mg/L		10/30/19 21:00	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		10/30/19 03:01	1
Manganese	**1.7**	**J**	10	3.0	1.0	ug/L		10/30/19 03:01	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		10/29/19 19:27	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	**26**		10	10	3.1	mg/L		10/29/19 19:16	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	**0.37**	**J**	1.0	1.0	0.35	mg/L		10/31/19 18:23	1

Client Sample ID: SHL-8D_FAL19

Lab Sample ID: 680-176026-2
Date Collected: 10/24/19 09:30
Matrix: WG
Date Received: 10/26/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	**38**		0.50	0.50	0.20	mg/L		10/30/19 22:54	1
Sulfate	**7.4**		1.0	1.0	0.40	mg/L		10/30/19 22:54	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	**22**	**J**	50	50	17	ug/L		10/30/19 02:43	1
Manganese	**11**		10	3.0	1.0	ug/L		10/30/19 02:43	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		10/29/19 19:10	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	**24**		10	10	3.1	mg/L		10/29/19 19:39	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	**0.68**	**J**	1.0	1.0	0.35	mg/L		10/31/19 19:09	1

Client Sample ID: EPA-PZ-2012-2A_FAL19

Lab Sample ID: 680-176026-3

Date Collected: 10/24/19 10:32

Matrix: WG

Date Received: 10/26/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	**4.4**		0.50	0.50	0.20	mg/L		10/30/19 23:07	1
Sulfate	**6.9**		1.0	1.0	0.40	mg/L		10/30/19 23:07	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		10/30/19 02:56	1
Manganese	**1.6**	**J**	10	3.0	1.0	ug/L		10/30/19 02:56	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		10/29/19 19:24	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	**9.4**	**J**	10	10	3.1	mg/L		10/29/19 19:46	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	**0.46**	**J**	1.0	1.0	0.35	mg/L		10/31/19 19:24	1

Client Sample ID: EPA-PZ-2012-2B_FAL19

Lab Sample ID: 680-176026-4

Date Collected: 10/24/19 12:07

Matrix: WG

Date Received: 10/26/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	**35**		0.50	0.50	0.20	mg/L		10/30/19 23:19	1
Sulfate	**10**		1.0	1.0	0.40	mg/L		10/30/19 23:19	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	**250**		50	50	17	ug/L		10/30/19 02:52	1
Manganese	**6200**		10	3.0	1.0	ug/L		10/30/19 02:52	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		10/29/19 19:21	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	**140**		10	10	3.1	mg/L		10/29/19 19:53	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	**1.6**		1.0	1.0	0.35	mg/L		10/31/19 19:38	1

Client Sample ID: SHP-2016-2A_FAL19

Lab Sample ID: 680-176026-5

Date Collected: 10/24/19 13:38

Matrix: WG

Date Received: 10/26/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	2.5		0.50	0.50	0.20	mg/L		10/30/19 23:32	1
Sulfate	5.0		1.0	1.0	0.40	mg/L		10/30/19 23:32	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	25	J	50	50	17	ug/L		10/30/19 02:29	1
Manganese	400		10	3.0	1.0	ug/L		10/30/19 02:29	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	11		3.0	3.0	1.5	ug/L		10/29/19 19:08	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	51		10	10	3.1	mg/L		10/29/19 20:00	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	1.2		1.0	1.0	0.35	mg/L		10/31/19 19:53	1

Client Sample ID: SHP-2016-2B_FAL19

Lab Sample ID: 680-176026-6

Date Collected: 10/24/19 14:33

Matrix: WG

Date Received: 10/26/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	15		0.50	0.50	0.20	mg/L		10/30/19 23:45	1
Sulfate	5.1		1.0	1.0	0.40	mg/L		10/30/19 23:45	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	46000		50	50	17	ug/L		10/30/19 02:24	1
Manganese	2400		10	3.0	1.0	ug/L		10/30/19 02:24	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	560		3.0	3.0	1.5	ug/L		10/29/19 19:05	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	170		10	10	3.1	mg/L		10/29/19 20:07	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	2.2		1.0	1.0	0.35	mg/L		10/31/19 20:37	1

Client Sample ID: EPA-PZ-2012-6A_FAL19

Lab Sample ID: 680-176026-7

Date Collected: 10/25/19 08:30
Matrix: WG
Date Received: 10/26/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	4.7		0.50	0.50	0.20	mg/L		10/30/19 23:57	1
Sulfate	4.0		1.0	1.0	0.40	mg/L		10/30/19 23:57	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		10/30/19 02:47	1
Manganese	3.0	U	10	3.0	1.0	ug/L		10/30/19 02:47	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		10/29/19 19:19	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	32		10	10	3.1	mg/L		10/29/19 20:14	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	0.85	J	1.0	1.0	0.35	mg/L		10/31/19 20:52	1

Client Sample ID: EPA-PZ-2012-6B_FAL19

Lab Sample ID: 680-176026-8

Date Collected: 10/25/19 09:28
Matrix: WG
Date Received: 10/26/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	10		0.50	0.50	0.20	mg/L		10/31/19 00:10	1
Sulfate	9.4		1.0	1.0	0.40	mg/L		10/31/19 00:10	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	17000		50	50	17	ug/L		10/30/19 21:57	1
Manganese	960		10	3.0	1.0	ug/L		10/30/19 21:57	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	370		3.0	3.0	1.5	ug/L		10/30/19 16:17	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	47		10	10	3.1	mg/L		10/29/19 20:20	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	1.3		1.0	1.0	0.35	mg/L		10/31/19 21:07	1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 680-593917/30
Matrix: Water
Analysis Batch: 593917

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		10/30/19 18:28	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		10/30/19 18:28	1

Lab Sample ID: LCS 680-593917/11
Matrix: Water
Analysis Batch: 593917

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.1		mg/L		101	87 - 111
Sulfate	10.0	10.2		mg/L		102	87 - 112

Lab Sample ID: LCSD 680-593917/12
Matrix: Water
Analysis Batch: 593917

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
Chloride	10.0	10.1		mg/L		101	87 - 111	0	15
Sulfate	10.0	10.2		mg/L		102	87 - 112	0	15

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-593330/1-A
Matrix: Water
Analysis Batch: 593839

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 593330

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		10/30/19 21:02	1
Manganese	3.0	U	10	3.0	1.0	ug/L		10/30/19 21:02	1

Lab Sample ID: LCS 680-593330/2-A
Matrix: Water
Analysis Batch: 593839

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 593330

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5010	4750		ug/L		95	87 - 115
Manganese	400	392		ug/L		98	90 - 114

Lab Sample ID: MB 680-593357/1-A
Matrix: Water
Analysis Batch: 593681

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 593357

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		10/30/19 01:16	1
Manganese	3.0	U	10	3.0	1.0	ug/L		10/30/19 01:16	1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 680-593288/1-A
Matrix: Water
Analysis Batch: 593625

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 593288

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		10/29/19 18:46	1

Lab Sample ID: LCS 680-593288/2-A
Matrix: Water
Analysis Batch: 593625

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 593288

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	104		ug/L		104	84 - 116

Lab Sample ID: MB 680-593329/1-A
Matrix: Water
Analysis Batch: 593831

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 593329

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		10/30/19 15:51	1

Lab Sample ID: LCS 680-593329/2-A
Matrix: Water
Analysis Batch: 593831

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 593329

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	94.5		ug/L		94	84 - 116

Method: 9060A - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 280-479130/5
Matrix: Water
Analysis Batch: 479130

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	1.0	U	1.0	1.0	0.35	mg/L		10/31/19 15:42	1

Lab Sample ID: LCS 280-479130/3
Matrix: Water
Analysis Batch: 479130

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	25.0	24.9		mg/L		100	88 - 112

Lab Sample ID: LCSD 280-479130/4
Matrix: Water
Analysis Batch: 479130

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	25.0	24.6		mg/L		98	88 - 112	1	15

Method: 9060A - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: 680-176026-5 MS
Matrix: WG
Analysis Batch: 479130

Client Sample ID: SHP-2016-2A_FAL19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Dissolved Organic Carbon	1.2		25.0	26.5		mg/L		101	88 - 112		

Lab Sample ID: 680-176026-5 MSD
Matrix: WG
Analysis Batch: 479130

Client Sample ID: SHP-2016-2A_FAL19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	1.2		25.0	26.4		mg/L		101	88 - 112	0	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-475854/33
Matrix: Water
Analysis Batch: 475854

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		10/29/19 17:52	1

Lab Sample ID: LCS 280-475854/31
Matrix: Water
Analysis Batch: 475854

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity			200	205		mg/L		103	89 - 109		

Lab Sample ID: LCSD 280-475854/32
Matrix: Water
Analysis Batch: 475854

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
Alkalinity			200	207		mg/L		103	89 - 109	1	10

HPLC/IC

Analysis Batch: 593917

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176026-1	SHL-8S_FAL19	Total/NA	WG	9056A	
680-176026-2	SHL-8D_FAL19	Total/NA	WG	9056A	
680-176026-3	EPA-PZ-2012-2A_FAL19	Total/NA	WG	9056A	
680-176026-4	EPA-PZ-2012-2B_FAL19	Total/NA	WG	9056A	
680-176026-5	SHP-2016-2A_FAL19	Total/NA	WG	9056A	
680-176026-6	SHP-2016-2B_FAL19	Total/NA	WG	9056A	
680-176026-7	EPA-PZ-2012-6A_FAL19	Total/NA	WG	9056A	
680-176026-8	EPA-PZ-2012-6B_FAL19	Total/NA	WG	9056A	
MB 680-593917/30	Method Blank	Total/NA	Water	9056A	
LCS 680-593917/11	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-593917/12	Lab Control Sample Dup	Total/NA	Water	9056A	

Metals

Prep Batch: 593288

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176026-1	SHL-8S_FAL19	Dissolved	WG	3005A	
680-176026-2	SHL-8D_FAL19	Dissolved	WG	3005A	
680-176026-3	EPA-PZ-2012-2A_FAL19	Dissolved	WG	3005A	
680-176026-4	EPA-PZ-2012-2B_FAL19	Dissolved	WG	3005A	
680-176026-5	SHP-2016-2A_FAL19	Dissolved	WG	3005A	
680-176026-6	SHP-2016-2B_FAL19	Dissolved	WG	3005A	
680-176026-7	EPA-PZ-2012-6A_FAL19	Dissolved	WG	3005A	
MB 680-593288/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-593288/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 593329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176026-8	EPA-PZ-2012-6B_FAL19	Dissolved	WG	3005A	
MB 680-593329/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-593329/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 593330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176026-8	EPA-PZ-2012-6B_FAL19	Dissolved	WG	3005A	
MB 680-593330/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-593330/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 593357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176026-1	SHL-8S_FAL19	Dissolved	WG	3005A	
680-176026-2	SHL-8D_FAL19	Dissolved	WG	3005A	
680-176026-3	EPA-PZ-2012-2A_FAL19	Dissolved	WG	3005A	
680-176026-4	EPA-PZ-2012-2B_FAL19	Dissolved	WG	3005A	
680-176026-5	SHP-2016-2A_FAL19	Dissolved	WG	3005A	
680-176026-6	SHP-2016-2B_FAL19	Dissolved	WG	3005A	
680-176026-7	EPA-PZ-2012-6A_FAL19	Dissolved	WG	3005A	
MB 680-593357/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-593357/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

QC Association Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176026-1

Metals

Analysis Batch: 593625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176026-1	SHL-8S_FAL19	Dissolved	WG	6020A	593288
680-176026-2	SHL-8D_FAL19	Dissolved	WG	6020A	593288
680-176026-3	EPA-PZ-2012-2A_FAL19	Dissolved	WG	6020A	593288
680-176026-4	EPA-PZ-2012-2B_FAL19	Dissolved	WG	6020A	593288
680-176026-5	SHP-2016-2A_FAL19	Dissolved	WG	6020A	593288
680-176026-6	SHP-2016-2B_FAL19	Dissolved	WG	6020A	593288
680-176026-7	EPA-PZ-2012-6A_FAL19	Dissolved	WG	6020A	593288
MB 680-593288/1-A	Method Blank	Total Recoverable	Water	6020A	593288
LCS 680-593288/2-A	Lab Control Sample	Total Recoverable	Water	6020A	593288

Analysis Batch: 593681

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176026-1	SHL-8S_FAL19	Dissolved	WG	6010C	593357
680-176026-2	SHL-8D_FAL19	Dissolved	WG	6010C	593357
680-176026-3	EPA-PZ-2012-2A_FAL19	Dissolved	WG	6010C	593357
680-176026-4	EPA-PZ-2012-2B_FAL19	Dissolved	WG	6010C	593357
680-176026-5	SHP-2016-2A_FAL19	Dissolved	WG	6010C	593357
680-176026-6	SHP-2016-2B_FAL19	Dissolved	WG	6010C	593357
680-176026-7	EPA-PZ-2012-6A_FAL19	Dissolved	WG	6010C	593357
MB 680-593357/1-A	Method Blank	Total Recoverable	Water	6010C	593357
LCS 680-593357/2-A	Lab Control Sample	Total Recoverable	Water	6010C	593357

Analysis Batch: 593831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176026-8	EPA-PZ-2012-6B_FAL19	Dissolved	WG	6020A	593329
MB 680-593329/1-A	Method Blank	Total Recoverable	Water	6020A	593329
LCS 680-593329/2-A	Lab Control Sample	Total Recoverable	Water	6020A	593329

Analysis Batch: 593839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176026-8	EPA-PZ-2012-6B_FAL19	Dissolved	WG	6010C	593330
MB 680-593330/1-A	Method Blank	Total Recoverable	Water	6010C	593330
LCS 680-593330/2-A	Lab Control Sample	Total Recoverable	Water	6010C	593330

General Chemistry

Analysis Batch: 475854

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176026-1	SHL-8S_FAL19	Total/NA	WG	SM 2320B	
680-176026-2	SHL-8D_FAL19	Total/NA	WG	SM 2320B	
680-176026-3	EPA-PZ-2012-2A_FAL19	Total/NA	WG	SM 2320B	
680-176026-4	EPA-PZ-2012-2B_FAL19	Total/NA	WG	SM 2320B	
680-176026-5	SHP-2016-2A_FAL19	Total/NA	WG	SM 2320B	
680-176026-6	SHP-2016-2B_FAL19	Total/NA	WG	SM 2320B	
680-176026-7	EPA-PZ-2012-6A_FAL19	Total/NA	WG	SM 2320B	
680-176026-8	EPA-PZ-2012-6B_FAL19	Total/NA	WG	SM 2320B	
MB 280-475854/33	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-475854/31	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 280-475854/32	Lab Control Sample Dup	Total/NA	Water	SM 2320B	

QC Association Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-176026-1
Project/Site: LTM - SHL Fall 2019

General Chemistry

Analysis Batch: 479130

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176026-1	SHL-8S_FAL19	Dissolved	WG	9060A	
680-176026-2	SHL-8D_FAL19	Dissolved	WG	9060A	
680-176026-3	EPA-PZ-2012-2A_FAL19	Dissolved	WG	9060A	
680-176026-4	EPA-PZ-2012-2B_FAL19	Dissolved	WG	9060A	
680-176026-5	SHP-2016-2A_FAL19	Dissolved	WG	9060A	
680-176026-6	SHP-2016-2B_FAL19	Dissolved	WG	9060A	
680-176026-7	EPA-PZ-2012-6A_FAL19	Dissolved	WG	9060A	
680-176026-8	EPA-PZ-2012-6B_FAL19	Dissolved	WG	9060A	
MB 280-479130/5	Method Blank	Dissolved	Water	9060A	
LCS 280-479130/3	Lab Control Sample	Dissolved	Water	9060A	
LCSD 280-479130/4	Lab Control Sample Dup	Dissolved	Water	9060A	
680-176026-5 MS	SHP-2016-2A_FAL19	Dissolved	WG	9060A	
680-176026-5 MSD	SHP-2016-2A_FAL19	Dissolved	WG	9060A	

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176026-1

Client Sample ID: SHL-8S_FAL19

Lab Sample ID: 680-176026-1
Matrix: WG
Date Collected: 10/24/19 08:33
Date Received: 10/26/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	593917	10/30/19 21:00	EKB	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	593357	10/28/19 17:00	PG	TAL SAV
Dissolved	Analysis	6010C		1			593681	10/30/19 03:01	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	593288	10/28/19 12:19	AJR	TAL SAV
Dissolved	Analysis	6020A		1			593625	10/29/19 19:27	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479130	10/31/19 18:23	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			475854	10/29/19 19:16	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHL-8D_FAL19

Lab Sample ID: 680-176026-2
Matrix: WG
Date Collected: 10/24/19 09:30
Date Received: 10/26/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	593917	10/30/19 22:54	EKB	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	593357	10/28/19 17:00	PG	TAL SAV
Dissolved	Analysis	6010C		1			593681	10/30/19 02:43	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	593288	10/28/19 12:19	AJR	TAL SAV
Dissolved	Analysis	6020A		1			593625	10/29/19 19:10	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479130	10/31/19 19:09	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			475854	10/29/19 19:39	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: EPA-PZ-2012-2A_FAL19

Lab Sample ID: 680-176026-3
Matrix: WG
Date Collected: 10/24/19 10:32
Date Received: 10/26/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	593917	10/30/19 23:07	EKB	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	593357	10/28/19 17:00	PG	TAL SAV
Dissolved	Analysis	6010C		1			593681	10/30/19 02:56	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	593288	10/28/19 12:19	AJR	TAL SAV
Dissolved	Analysis	6020A		1			593625	10/29/19 19:24	BJB	TAL SAV
	Instrument ID: ICPMSD									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176026-1

Client Sample ID: EPA-PZ-2012-2A_FAL19

Lab Sample ID: 680-176026-3
Date Collected: 10/24/19 10:32
Matrix: WG
Date Received: 10/26/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060A		1	20 mL	20 mL	479130	10/31/19 19:24	SGB	TAL DEN
Total/NA	Analysis	SM 2320B		1			475854	10/29/19 19:46	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: EPA-PZ-2012-2B_FAL19

Lab Sample ID: 680-176026-4
Date Collected: 10/24/19 12:07
Matrix: WG
Date Received: 10/26/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	593917	10/30/19 23:19	EKB	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	593357	10/28/19 17:00	PG	TAL SAV
Dissolved	Analysis	6010C		1			593681	10/30/19 02:52	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	593288	10/28/19 12:19	AJR	TAL SAV
Dissolved	Analysis	6020A		1			593625	10/29/19 19:21	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479130	10/31/19 19:38	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			475854	10/29/19 19:53	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHP-2016-2A_FAL19

Lab Sample ID: 680-176026-5
Date Collected: 10/24/19 13:38
Matrix: WG
Date Received: 10/26/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	593917	10/30/19 23:32	EKB	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	593357	10/28/19 17:00	PG	TAL SAV
Dissolved	Analysis	6010C		1			593681	10/30/19 02:29	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	593288	10/28/19 12:19	AJR	TAL SAV
Dissolved	Analysis	6020A		1			593625	10/29/19 19:08	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479130	10/31/19 19:53	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			475854	10/29/19 20:00	SPG	TAL DEN
	Instrument ID: WC_AT2									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176026-1

Client Sample ID: SHP-2016-2B_FAL19

Lab Sample ID: 680-176026-6
Date Collected: 10/24/19 14:33
Matrix: WG
Date Received: 10/26/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	593917	10/30/19 23:45	EKB	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	593357	10/28/19 17:00	PG	TAL SAV
Dissolved	Analysis	6010C		1			593681	10/30/19 02:24	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	593288	10/28/19 12:19	AJR	TAL SAV
Dissolved	Analysis	6020A		1			593625	10/29/19 19:05	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479130	10/31/19 20:37	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			475854	10/29/19 20:07	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: EPA-PZ-2012-6A_FAL19

Lab Sample ID: 680-176026-7
Date Collected: 10/25/19 08:30
Matrix: WG
Date Received: 10/26/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	593917	10/30/19 23:57	EKB	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	593357	10/28/19 17:00	PG	TAL SAV
Dissolved	Analysis	6010C		1			593681	10/30/19 02:47	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	593288	10/28/19 12:19	AJR	TAL SAV
Dissolved	Analysis	6020A		1			593625	10/29/19 19:19	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479130	10/31/19 20:52	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			475854	10/29/19 20:14	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: EPA-PZ-2012-6B_FAL19

Lab Sample ID: 680-176026-8
Date Collected: 10/25/19 09:28
Matrix: WG
Date Received: 10/26/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	593917	10/31/19 00:10	EKB	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	593330	10/28/19 14:49	AJR	TAL SAV
Dissolved	Analysis	6010C		1			593839	10/30/19 21:57	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	593329	10/28/19 14:49	AJR	TAL SAV
Dissolved	Analysis	6020A		1			593831	10/30/19 16:17	BJB	TAL SAV
	Instrument ID: ICPMSD									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176026-1

Client Sample ID: EPA-PZ-2012-6B_FAL19

Date Collected: 10/25/19 09:28
Date Received: 10/26/19 10:00

Lab Sample ID: 680-176026-8

Matrix: WG

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060A		1	20 mL	20 mL	479130	10/31/19 21:07	SGB	TAL DEN
Total/NA	Analysis	SM 2320B		1			475854	10/29/19 20:20	SPG	TAL DEN
	Instrument ID: WC_AT2									

Laboratory References:

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

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

360325-Boston

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

360325-Boston

COC # SHL-FAL19-CO

KGS

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2, Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2, Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

680-176026 Chain of Custody

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	SW9060A/FLDFLT (B)	SW9056A (A)	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	A2320B (A)	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
						3	5	9	9	46						
	SHL-8S_FAL19	WG	10/24/19	0833	ES	X	X	X	X	X	SHL-8S	N1	54.14	56.14		1
	SHL-8D_FAL19	WG	10/24/19	0930	ES	X	X	X	X	X	SHL-8D	N1	70.95	72.95		1
	EPA-PZ-2012-2A_FAL19	WG	10/24/19	1032	ES	X	X	X	X	X	EPA-PZ-2012-2A	N1	23.66	28.66		1
	EPA-PZ-2012-2B_FAL19	WG	10/24/19	1207	ES	X	X	X	X	X	EPA-PZ-2012-2B	N1	78.62	83.62		1
1	SHP-2016-2A_FAL19	WG	10/24/19	1338	ES	X	X	X	X	X	SHP-2016-2A	n1	22.20	27.20		1
1	SHP-2016-2B_FAL19	WG	10/24/19	1433	ES	X	X	X	X	X	SHP-2016-2B	n1	82.22	87.22		1
1	EPA-PZ-2012-6A_FAL19	WG	10/25/19	0830	ES	X	X	X	X	X	EPA-PZ-2012-6A	n1	28.54	33.54		1
1	EPA-PZ-2012-6B_FAL19	WG	10/25/19	0928	ES	X	X	X	X	X	EPA-PZ-2012-6B	n1	78.23	83.23		1
1																
1																
1																

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Erik Sil[illegible]	10/25/19	1100	[illegible]	10/25/19	1100
[illegible]	10/25/19	1500	[illegible]	10/25/19	1500
[illegible]	10/25/19	1500			
			3.1 (CF) 3.2°		

Shipping Date / Carrier / Airbill Number

Received by Laboratory: (Signature, Date, Time) **& condition**
[illegible] 10-26-19 1000

Page 1 of 2

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

360325-Boston

COC # SHL-FAL19-CO

KGS

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2, Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2, Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

680-176026 Chain of Custody

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	SW9060A/FLDFLT (B) 3	SW9056A (A) 5	SW6010C/FLDFLT (B) 9	SW6020A/FLDFLT (B) 9	A2320B (A) 46	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
	SHL-8S_FAL19	WG	10/24/19	0833	ES	X	X	X	X	X	SHL-8S	N1	54.14	56.14		1
	SHL-8D_FAL19	WG	10/24/19	0930	ES	X	X	X	X	X	SHL-8D	N1	70.95	72.95		1
	EPA-PZ-2012-2A_FAL19	WG	10/24/19	1032	ES	X	X	X	X	X	EPA-PZ-2012-2A	N1	23.66	28.66		1
	EPA-PZ-2012-2B_FAL19	WG	10/24/19	1207	ES	X	X	X	X	X	EPA-PZ-2012-2B	N1	78.62	83.62		1
1	SHP-2016-2A_FAL19	WG	10/24/19	1338	ES	X	X	X	X	X	SHP-2016-2A	n1	22.20	27.20		1
1	SHP-2016-2B_FAL19	WG	10/24/19	1433	ES	X	X	X	X	X	SHP-2016-2B	n1	82.22	87.22		1
1	EPA-PZ-2012-6A_FAL19	WG	10/25/19	0830	ES	X	X	X	X	X	EPA-PZ-2012-6A	n1	28.54	33.54		1
1	EPA-PZ-2012-6B_FAL19	WG	10/25/19	0928	ES	X	X	X	X	X	EPA-PZ-2012-6B	n1	78.23	83.23		1
1																
1																
1																

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	10/25/19	1100	[signature]	10/25/19	1100
[signature]	10/25/19	1500	[signature]	10/25/19	1500
[signature]	10/25/19	1500	[signature]	10/26/19	0905

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

[signature] ETA-DEN 10/26/19 0905 T=0.1°C +Ø, IR#8

Page 1 of 2

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-176026-1

Login Number: 176026
List Number: 1
Creator: Banda, Christy S

List Source: Eurofins TestAmerica, Savannah

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

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-176026-1

Login Number: 176026

List Source: Eurofins TestAmerica, Denver

List Number: 2

Creator: Awolaja, Oluwademilade A

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

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-176026-1
Project/Site: LTM - SHL Fall 2019

Laboratory: Eurofins TestAmerica, Savannah

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

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-20
Alaska	State	GA00006	06-30-20
Alaska (UST)	State	17-016	09-30-20
ANAB	Dept. of Defense ELAP	L2463	09-22-22
ANAB	ISO/IEC 17025	L2463.01	09-22-22
Arizona	State	AZ0808	12-14-19
Arkansas DEQ	State	19-015-0	02-01-20
California	State	2939	06-30-20
Colorado	State	GA00006	12-31-19
Connecticut	State	PH-0161	03-31-21
Florida	NELAP	E87052	06-30-20
GA Dept. of Agriculture	State Program	N/A	06-12-20
Georgia	State	E87052	06-30-20
Georgia (DW)	State	803	06-30-20
Guam	State	19-007R	04-17-20
Hawaii	State	<cert No.>	06-30-20
Indiana	State	C-GA-02	06-30-20
Iowa	State	353	09-22-20
Kansas	NELAP	E-10322	10-15-20
Kentucky (DW)	State	KY90084	12-31-19
Kentucky (UST)	State	<cert No.>	06-30-20
Kentucky (WW)	State	KY90084	12-31-19
Louisiana	NELAP	02011	06-30-20
Louisiana (DW)	State	LA009	12-31-19
Maine	State	GA00006	09-26-20
Maryland	State	250	12-31-19
Massachusetts	State	M-GA006	06-30-20
Michigan	State	9925	06-30-20
Mississippi	State	<cert No.>	06-30-20
Nebraska	State	NE-OS-7-04	06-30-20
New Hampshire	NELAP	2096	05-29-20
New Jersey	NELAP	GA769	06-30-20
New Mexico	State	GA00006	06-30-20
New York	NELAP	10842	04-01-20
North Carolina (DW)	State	13701	07-31-20
North Carolina (WW/SW)	State	269	12-31-19
Oklahoma	State	9984	08-31-20
Pennsylvania	NELAP	68-00474	06-30-20
Puerto Rico	State	GA00006	01-01-20
South Carolina	State	98001	06-30-20
Tennessee	State	02961	06-30-20
Texas	NELAP	T1047004185-19-14	11-30-19
Texas	TCEQ Water Supply	T104704185	09-23-20
US Fish & Wildlife	US Federal Programs	LE058448-0	07-31-20
USDA	US Federal Programs	P330-18-00313	10-29-21
Virginia	NELAP	10509	06-14-20
Washington	State	C805	06-10-20
West Virginia (DW)	State	9950C	12-31-19
West Virginia DEP	State	094	11-30-19

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-176026-1
Project/Site: LTM - SHL Fall 2019

Laboratory: Eurofins TestAmerica, Savannah (Continued)

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999819810	08-31-20
Wyoming	State	8TMS-L	06-30-20 *

Laboratory: Eurofins TestAmerica, Denver

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

Authority	Program	Identification Number	Expiration Date
A2LA	DoD	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

Laboratory Job ID: 680-176219-1
Client Project/Site: LTM - SHL Fall 2019

For:
KOMAN Government Solutions, LLC
293 Boston Post Road West
Suite 100
Marlborough, Massachusetts 01752

Attn: Laurie Ekes

Sheila Hoffman

Authorized for release by:
11/19/2019 11:24:21 AM
Sheila Hoffman, Project Manager II
(912)250-0279
sheila.hoffman@testamericainc.com

Designee for

Jerry Lanier, Project Manager I
(912)250-0281
jerry.lanier@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 680-176219-1

Laboratory: Eurofins TestAmerica, Savannah

Narrative

CASE NARRATIVE

Client: KOMAN Government Solutions, LLC

Project: LTM - SHL Fall 2019

Report Number: 680-176219-1

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 the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 10/31/2019; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 1.3 C.

METALS (ICP) - DISSOLVED

Samples EPA-PZ-2012-3A_FAL19 (680-176219-1), EPA-PZ-2012-3B_FAL19 (680-176219-2), SHL-3_FAL19 (680-176219-3), SHM-93-10D_FAL19 (680-176219-4), SHL-10_FAL19 (680-176219-5), SHL-9_FAL19 (680-176219-6), SHL-DUP07_FAL19 (680-176219-7), SHP-2016-3A_FAL19 (680-176219-8), SHP-2016-3B_FAL19 (680-176219-9), SHL-19_FAL19 (680-176219-10), SHL-4_FAL19 (680-176219-11), PZ-12-06_FAL19 (680-176219-12), SHL-DUP01_FAL19 (680-176219-13), PZ-12-03_FAL19 (680-176219-14), PZ-12-04_FAL19 (680-176219-15), PZ-12-05_FAL19 (680-176219-16) and SHL-11_FAL19 (680-176219-17) were analyzed for Metals (ICP) - Dissolved in accordance with EPA SW-846 Method 6010C. The samples were prepared on 11/03/2019, 11/04/2019 and 11/05/2019 and analyzed on 11/04/2019, 11/06/2019 and 11/11/2019.

Iron and Manganese failed the recovery criteria low for the MS of sample PZ-12-04_FAL19MS (680-176219-15) in batch 680-595023.

Iron and Manganese failed the recovery criteria low for the MSD of sample PZ-12-04_FAL19MSD (680-176219-15) in batch 680-595023.

Iron and Manganese failed the recovery criteria low for the MS of sample 680-176219-22 in batch 680-595683.

Iron and Manganese failed the recovery criteria high for the MSD of sample 680-176219-22 in batch 680-595683.

Refer to the QC report for details.

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

Iron was detected in method blank MB 680-594345/1-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. Refer to the QC report for details.

METALS (ICPMS) - DISSOLVED

Samples EPA-PZ-2012-3A_FAL19 (680-176219-1), EPA-PZ-2012-3B_FAL19 (680-176219-2), SHL-3_FAL19 (680-176219-3), SHM-93-10D_FAL19 (680-176219-4), SHL-10_FAL19 (680-176219-5), SHL-9_FAL19 (680-176219-6), SHL-DUP07_FAL19 (680-176219-7), SHP-2016-3A_FAL19 (680-176219-8), SHP-2016-3B_FAL19 (680-176219-9), SHL-19_FAL19 (680-176219-10), SHL-4_FAL19 (680-176219-11), PZ-12-06_FAL19 (680-176219-12), SHL-DUP01_FAL19 (680-176219-13), PZ-12-03_FAL19 (680-176219-14), PZ-12-04_FAL19 (680-176219-15), PZ-12-05_FAL19 (680-176219-16) and SHL-11_FAL19 (680-176219-17) were analyzed for Metals (ICPMS) - Dissolved in accordance with EPA SW-846 Method 6020A. The samples were prepared on 11/03/2019, 11/04/2019 and 11/05/2019 and analyzed on 11/04/2019, 11/05/2019 and 11/06/2019.

Job ID: 680-176219-1 (Continued)

Laboratory: Eurofins TestAmerica, Savannah (Continued)

Arsenic failed the recovery criteria low for the MS of sample PZ-12-04_FAL19MS (680-176219-15) in batch 680-594808.

Refer to the QC report for details.

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

ALKALINITY

Samples EPA-PZ-2012-3A_FAL19 (680-176219-1), EPA-PZ-2012-3B_FAL19 (680-176219-2), SHL-3_FAL19 (680-176219-3), SHM-93-10D_FAL19 (680-176219-4), SHL-10_FAL19 (680-176219-5), SHL-9_FAL19 (680-176219-6), SHL-DUP07_FAL19 (680-176219-7), SHP-2016-3A_FAL19 (680-176219-8), SHP-2016-3B_FAL19 (680-176219-9), SHL-19_FAL19 (680-176219-10), SHL-4_FAL19 (680-176219-11), PZ-12-06_FAL19 (680-176219-12), SHL-DUP01_FAL19 (680-176219-13), PZ-12-03_FAL19 (680-176219-14), PZ-12-04_FAL19 (680-176219-15), PZ-12-05_FAL19 (680-176219-16) and SHL-11_FAL19 (680-176219-17) were analyzed for alkalinity in accordance with SM 2320B. The samples were analyzed on 11/07/2019 and 11/08/2019.

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

9056 ANIONS

Samples EPA-PZ-2012-3A_FAL19 (680-176219-1), EPA-PZ-2012-3B_FAL19 (680-176219-2), SHL-3_FAL19 (680-176219-3), SHM-93-10D_FAL19 (680-176219-4), SHL-10_FAL19 (680-176219-5), SHL-9_FAL19 (680-176219-6), SHL-DUP07_FAL19 (680-176219-7), SHP-2016-3A_FAL19 (680-176219-8), SHP-2016-3B_FAL19 (680-176219-9), SHL-19_FAL19 (680-176219-10), SHL-4_FAL19 (680-176219-11), PZ-12-06_FAL19 (680-176219-12), SHL-DUP01_FAL19 (680-176219-13), PZ-12-03_FAL19 (680-176219-14), PZ-12-04_FAL19 (680-176219-15), PZ-12-05_FAL19 (680-176219-16) and SHL-11_FAL19 (680-176219-17) were analyzed for 9056 Anions in accordance with SW 846 9056. The samples were analyzed on 11/11/2019, 11/12/2019 and 11/13/2019.

The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Refer to the QC report for details.

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

DISSOLVED ORGANIC CARBON

Samples EPA-PZ-2012-3A_FAL19 (680-176219-1), EPA-PZ-2012-3B_FAL19 (680-176219-2), SHL-3_FAL19 (680-176219-3), SHM-93-10D_FAL19 (680-176219-4), SHL-10_FAL19 (680-176219-5), SHL-9_FAL19 (680-176219-6), SHL-DUP07_FAL19 (680-176219-7), SHP-2016-3A_FAL19 (680-176219-8), SHP-2016-3B_FAL19 (680-176219-9), SHL-19_FAL19 (680-176219-10), SHL-4_FAL19 (680-176219-11), PZ-12-06_FAL19 (680-176219-12), SHL-DUP01_FAL19 (680-176219-13), PZ-12-03_FAL19 (680-176219-14), PZ-12-04_FAL19 (680-176219-15), PZ-12-05_FAL19 (680-176219-16) and SHL-11_FAL19 (680-176219-17) were analyzed for dissolved organic carbon in accordance with EPA SW-846 Method 9060. The samples were analyzed on 11/15/2019 and 11/16/2019.

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

Sample Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176219-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
680-176219-1	EPA-PZ-2012-3A_FAL19	WG	10/28/19 12:55	10/31/19 09:45	
680-176219-2	EPA-PZ-2012-3B_FAL19	WG	10/28/19 14:00	10/31/19 09:45	
680-176219-3	SHL-3_FAL19	WG	10/29/19 09:05	10/31/19 09:45	
680-176219-4	SHM-93-10D_FAL19	WG	10/29/19 10:40	10/31/19 09:45	
680-176219-5	SHL-10_FAL19	WG	10/29/19 12:40	10/31/19 09:45	
680-176219-6	SHL-9_FAL19	WG	10/30/19 13:40	10/31/19 09:45	
680-176219-7	SHL-DUP07_FAL19	WG	10/30/19 13:45	10/31/19 09:45	
680-176219-8	SHP-2016-3A_FAL19	WG	10/28/19 12:10	10/31/19 09:45	
680-176219-9	SHP-2016-3B_FAL19	WG	10/28/19 13:35	10/31/19 09:45	
680-176219-10	SHL-19_FAL19	WG	10/29/19 11:15	10/31/19 09:45	
680-176219-11	SHL-4_FAL19	WG	10/29/19 12:40	10/31/19 09:45	
680-176219-12	PZ-12-06_FAL19	WG	10/29/19 14:10	10/31/19 09:45	
680-176219-13	SHL-DUP01_FAL19	WG	10/29/19 14:15	10/31/19 09:45	
680-176219-14	PZ-12-03_FAL19	WG	10/30/19 08:40	10/31/19 09:45	
680-176219-15	PZ-12-04_FAL19	WG	10/30/19 10:15	10/31/19 09:45	
680-176219-16	PZ-12-05_FAL19	WG	10/30/19 11:40	10/31/19 09:45	
680-176219-17	SHL-11_FAL19	WG	10/30/19 13:05	10/31/19 09:45	

Method Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176219-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV
6020A	Metals (ICP/MS)	SW846	TAL SAV
9060	Organic Carbon, Dissolved (DOC)	SW846	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL SAV

Protocol References:

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

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

Laboratory References:

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

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Metals

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

General Chemistry

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

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)

Client Sample ID: EPA-PZ-2012-3A_FAL19

Lab Sample ID: 680-176219-1

Date Collected: 10/28/19 12:55

Matrix: WG

Date Received: 10/31/19 09:45

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	34		0.50	0.50	0.20	mg/L		11/11/19 22:33	1
Sulfate	0.94	J	1.0	1.0	0.40	mg/L		11/11/19 22:33	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	17000		50	50	17	ug/L		11/06/19 19:33	1
Manganese	950		10	3.0	1.0	ug/L		11/06/19 19:33	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	16		3.0	3.0	1.5	ug/L		11/05/19 20:24	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	96		10	10	3.1	mg/L		11/07/19 20:03	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	9.7		1.0	1.0	0.35	mg/L		11/15/19 20:49	1

Client Sample ID: EPA-PZ-2012-3B_FAL19

Lab Sample ID: 680-176219-2

Date Collected: 10/28/19 14:00

Matrix: WG

Date Received: 10/31/19 09:45

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	29		0.50	0.50	0.20	mg/L		11/11/19 22:46	1
Sulfate	15		1.0	1.0	0.40	mg/L		11/11/19 22:46	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	49000		50	50	17	ug/L		11/11/19 17:12	1
Manganese	5900		10	3.0	1.0	ug/L		11/11/19 17:12	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3200		3.0	3.0	1.5	ug/L		11/06/19 22:03	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	180		10	10	3.1	mg/L		11/07/19 20:10	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.7		1.0	1.0	0.35	mg/L		11/15/19 21:06	1

Client Sample ID: SHL-3_FAL19

Lab Sample ID: 680-176219-3

Date Collected: 10/29/19 09:05

Matrix: WG

Date Received: 10/31/19 09:45

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	1.3		0.50	0.50	0.20	mg/L		11/11/19 22:59	1
Sulfate	7.3		1.0	1.0	0.40	mg/L		11/11/19 22:59	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/06/19 19:57	1
Manganese	1.3	J	10	3.0	1.0	ug/L		11/06/19 19:57	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/05/19 20:31	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	99		10	10	3.1	mg/L		11/08/19 16:22	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.4		1.0	1.0	0.35	mg/L		11/15/19 21:21	1

Client Sample ID: SHM-93-10D_FAL19

Lab Sample ID: 680-176219-4

Date Collected: 10/29/19 10:40

Matrix: WG

Date Received: 10/31/19 09:45

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	29		0.50	0.50	0.20	mg/L		11/11/19 20:40	1
Sulfate	17		1.0	1.0	0.40	mg/L		11/11/19 20:40	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	73		50	50	17	ug/L		11/11/19 15:52	1
Manganese	2.1	J	10	3.0	1.0	ug/L		11/11/19 15:52	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/06/19 20:43	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	54		10	10	3.1	mg/L		11/08/19 16:31	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.95	J	1.0	1.0	0.35	mg/L		11/16/19 00:51	1

Client Sample ID: SHL-10_FAL19

Lab Sample ID: 680-176219-5

Date Collected: 10/29/19 12:40

Matrix: WG

Date Received: 10/31/19 09:45

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	1.4		0.50	0.50	0.20	mg/L		11/11/19 23:37	1
Sulfate	6.8		1.0	1.0	0.40	mg/L		11/11/19 23:37	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/04/19 12:16	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/04/19 12:16	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/04/19 16:21	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	28		10	10	3.1	mg/L		11/08/19 16:37	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.58	J	1.0	1.0	0.35	mg/L		11/15/19 20:03	1

Client Sample ID: SHL-9_FAL19

Lab Sample ID: 680-176219-6

Date Collected: 10/30/19 13:40

Matrix: WG

Date Received: 10/31/19 09:45

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	20		0.50	0.50	0.20	mg/L		11/12/19 18:20	1
Sulfate	3.8		1.0	1.0	0.40	mg/L		11/12/19 18:20	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	3800		50	50	17	ug/L		11/11/19 15:09	1
Manganese	190		10	3.0	1.0	ug/L		11/11/19 15:09	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	33		3.0	3.0	1.5	ug/L		11/06/19 19:43	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	100		10	10	3.1	mg/L		11/08/19 16:44	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	8.7		1.0	1.0	0.35	mg/L		11/15/19 21:38	1

Client Sample ID: SHL-DUP07_FAL19

Lab Sample ID: 680-176219-7
Matrix: WG
Date Collected: 10/30/19 13:45
Date Received: 10/31/19 09:45

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	20		0.50	0.50	0.20	mg/L		11/12/19 18:33	1
Sulfate	4.1		1.0	1.0	0.40	mg/L		11/12/19 18:33	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	3800		50	50	17	ug/L		11/11/19 16:12	1
Manganese	190		10	3.0	1.0	ug/L		11/11/19 16:12	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	30		3.0	3.0	1.5	ug/L		11/06/19 20:59	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	100		10	10	3.1	mg/L		11/08/19 16:51	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	8.8		1.0	1.0	0.35	mg/L		11/15/19 22:26	1

Client Sample ID: SHP-2016-3A_FAL19

Lab Sample ID: 680-176219-8
Matrix: WG
Date Collected: 10/28/19 12:10
Date Received: 10/31/19 09:45

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	11	M	0.50	0.50	0.20	mg/L		11/12/19 21:05	1
Sulfate	4.5	M	1.0	1.0	0.40	mg/L		11/12/19 21:05	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	36000		50	50	17	ug/L		11/11/19 16:53	1
Manganese	2800		10	3.0	1.0	ug/L		11/11/19 16:53	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	260		3.0	3.0	1.5	ug/L		11/06/19 21:41	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	130		10	10	3.1	mg/L		11/07/19 20:34	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.8		1.0	1.0	0.35	mg/L		11/15/19 22:43	1

Client Sample ID: SHP-2016-3B_FAL19

Lab Sample ID: 680-176219-9
Matrix: WG
Date Collected: 10/28/19 13:35
Date Received: 10/31/19 09:45

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	14		0.50	0.50	0.20	mg/L		11/12/19 18:46	1
Sulfate	2.5		1.0	1.0	0.40	mg/L		11/12/19 18:46	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	11000		50	50	17	ug/L		11/11/19 17:08	1
Manganese	740		10	3.0	1.0	ug/L		11/11/19 17:08	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	4.1		3.0	3.0	1.5	ug/L		11/06/19 22:00	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	49		10	10	3.1	mg/L		11/07/19 20:40	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.1		1.0	1.0	0.35	mg/L		11/15/19 22:58	1

Client Sample ID: SHL-19_FAL19

Lab Sample ID: 680-176219-10
Matrix: WG
Date Collected: 10/29/19 11:15
Date Received: 10/31/19 09:45

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	1.1		0.50	0.50	0.20	mg/L		11/12/19 18:58	1
Sulfate	23		1.0	1.0	0.40	mg/L		11/12/19 18:58	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	100		50	50	17	ug/L		11/06/19 20:01	1
Manganese	56		10	3.0	1.0	ug/L		11/06/19 20:01	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	4.4		3.0	3.0	1.5	ug/L		11/05/19 20:43	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	90		10	10	3.1	mg/L		11/08/19 16:57	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.74	J	1.0	1.0	0.35	mg/L		11/15/19 23:12	1

Client Sample ID: SHL-4_FAL19

Lab Sample ID: 680-176219-11

Date Collected: 10/29/19 12:40

Matrix: WG

Date Received: 10/31/19 09:45

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	1.5		0.50	0.50	0.20	mg/L		11/12/19 19:11	1
Sulfate	17		1.0	1.0	0.40	mg/L		11/12/19 19:11	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	11000		50	50	17	ug/L		11/11/19 17:16	1
Manganese	3900		10	3.0	1.0	ug/L		11/11/19 17:16	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	69		3.0	3.0	1.5	ug/L		11/06/19 22:07	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	90		10	10	3.1	mg/L		11/08/19 17:04	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.5		1.0	1.0	0.35	mg/L		11/15/19 23:29	1

Client Sample ID: PZ-12-06_FAL19

Lab Sample ID: 680-176219-12

Date Collected: 10/29/19 14:10

Matrix: WG

Date Received: 10/31/19 09:45

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	2.0		0.50	0.50	0.20	mg/L		11/12/19 19:23	1
Sulfate	15		1.0	1.0	0.40	mg/L		11/12/19 19:23	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	16000		50	50	17	ug/L		11/11/19 16:57	1
Manganese	2900		10	3.0	1.0	ug/L		11/11/19 16:57	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	40		3.0	3.0	1.5	ug/L		11/06/19 21:44	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	100		10	10	3.1	mg/L		11/08/19 17:44	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.96	J	1.0	1.0	0.35	mg/L		11/16/19 02:07	1

Client Sample ID: SHL-DUP01_FAL19

Lab Sample ID: 680-176219-13
Matrix: WG
Date Collected: 10/29/19 14:15
Date Received: 10/31/19 09:45

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	2.0		0.50	0.50	0.20	mg/L		11/12/19 19:36	1
Sulfate	15		1.0	1.0	0.40	mg/L		11/12/19 19:36	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	17000		50	50	17	ug/L		11/11/19 16:24	1
Manganese	3000		10	3.0	1.0	ug/L		11/11/19 16:24	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	43		3.0	3.0	1.5	ug/L		11/06/19 21:19	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	100		10	10	3.1	mg/L		11/08/19 17:57	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.97	J	1.0	1.0	0.35	mg/L		11/16/19 02:21	1

Client Sample ID: PZ-12-03_FAL19

Lab Sample ID: 680-176219-14
Matrix: WG
Date Collected: 10/30/19 08:40
Date Received: 10/31/19 09:45

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	51		0.50	0.50	0.20	mg/L		11/12/19 19:49	1
Sulfate	20		1.0	1.0	0.40	mg/L		11/12/19 19:49	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	63000		50	50	17	ug/L		11/11/19 16:20	1
Manganese	4600		10	3.0	1.0	ug/L		11/11/19 16:20	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	790		3.0	3.0	1.5	ug/L		11/06/19 21:06	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	190		10	10	3.1	mg/L		11/08/19 18:04	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.9		1.0	1.0	0.35	mg/L		11/16/19 02:38	1

Client Sample Results

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176219-1

Client Sample ID: PZ-12-04_FAL19

Lab Sample ID: 680-176219-15
Matrix: WG
Date Collected: 10/30/19 10:15
Date Received: 10/31/19 09:45

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	62		0.50	0.50	0.20	mg/L		11/12/19 20:01	1
Sulfate	2.4		1.0	1.0	0.40	mg/L		11/12/19 20:01	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	78000	J1	50	50	17	ug/L		11/06/19 19:21	1
Manganese	2000	J1	10	3.0	1.0	ug/L		11/06/19 19:21	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	730	J1	3.0	3.0	1.5	ug/L		11/05/19 20:04	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	180		10	10	3.1	mg/L		11/08/19 18:12	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.2		1.0	1.0	0.35	mg/L		11/16/19 02:55	1

Client Sample ID: PZ-12-05_FAL19

Lab Sample ID: 680-176219-16
Matrix: WG
Date Collected: 10/30/19 11:40
Date Received: 10/31/19 09:45

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	7.7		0.50	0.50	0.20	mg/L		11/12/19 21:43	1
Sulfate	13		1.0	1.0	0.40	mg/L		11/12/19 21:43	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	38000		50	50	17	ug/L		11/11/19 17:30	1
Manganese	2500		10	3.0	1.0	ug/L		11/11/19 17:30	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	210		3.0	3.0	1.5	ug/L		11/06/19 22:10	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	120		10	10	3.1	mg/L		11/08/19 18:19	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.1		1.0	1.0	0.35	mg/L		11/16/19 03:12	1

Client Sample Results

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176219-1

Client Sample ID: SHL-11_FAL19

Date Collected: 10/30/19 13:05
Date Received: 10/31/19 09:45

Lab Sample ID: 680-176219-17

Matrix: WG

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	64	M	0.50	0.50	0.20	mg/L		11/13/19 00:02	1
Sulfate	14	M	1.0	1.0	0.40	mg/L		11/13/19 00:02	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50000		50	50	17	ug/L		11/11/19 15:21	1
Manganese	1900		10	3.0	1.0	ug/L		11/11/19 15:21	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	920		3.0	3.0	1.5	ug/L		11/06/19 19:46	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	140		10	10	3.1	mg/L		11/08/19 18:26	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.7		1.0	1.0	0.35	mg/L		11/16/19 03:28	1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 680-595552/33
Matrix: Water
Analysis Batch: 595552

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U M	0.50	0.50	0.20	mg/L		11/11/19 20:02	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		11/11/19 20:02	1

Lab Sample ID: LCS 680-595552/34
Matrix: Water
Analysis Batch: 595552

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.0		mg/L		100	90 - 110
Sulfate	10.0	9.90		mg/L		99	90 - 110

Lab Sample ID: LCSD 680-595552/35
Matrix: Water
Analysis Batch: 595552

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
Chloride	10.0	9.99		mg/L		100	90 - 110	0	15
Sulfate	10.0	9.94		mg/L		99	90 - 110	0	15

Lab Sample ID: 680-176219-4 MS
Matrix: WG
Analysis Batch: 595552

Client Sample ID: SHM-93-10D_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	29		10.0	39.6		mg/L		102	80 - 120
Sulfate	17		10.0	27.2		mg/L		103	80 - 120

Lab Sample ID: 680-176219-4 MSD
Matrix: WG
Analysis Batch: 595552

Client Sample ID: SHM-93-10D_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	29		10.0	40.1		mg/L		106	80 - 120	1	15
Sulfate	17		10.0	28.1		mg/L		111	80 - 120	3	15

Lab Sample ID: 680-176219-5 MS
Matrix: WG
Analysis Batch: 595552

Client Sample ID: SHL-10_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1.4		10.0	11.9		mg/L		105	80 - 120
Sulfate	6.8		10.0	17.4		mg/L		105	80 - 120

Lab Sample ID: 680-176219-5 MSD
Matrix: WG
Analysis Batch: 595552

Client Sample ID: SHL-10_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1.4		10.0	11.6		mg/L		102	80 - 120	3	15
Sulfate	6.8		10.0	17.0		mg/L		102	80 - 120	2	15

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 680-595730/2
Matrix: Water
Analysis Batch: 595730

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		11/12/19 11:44	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		11/12/19 11:44	1

Lab Sample ID: LCS 680-595730/3
Matrix: Water
Analysis Batch: 595730

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.1		mg/L		101	90 - 110
Sulfate	10.0	10.4		mg/L		104	90 - 110

Lab Sample ID: LCSD 680-595730/4
Matrix: Water
Analysis Batch: 595730

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
Chloride	10.0	10.1		mg/L		101	90 - 110	0	15
Sulfate	10.0	10.4		mg/L		104	90 - 110	0	15

Lab Sample ID: MB 680-595747/33
Matrix: Water
Analysis Batch: 595747

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		11/12/19 20:27	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		11/12/19 20:27	1

Lab Sample ID: LCS 680-595747/34
Matrix: Water
Analysis Batch: 595747

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.1		mg/L		101	90 - 110
Sulfate	10.0	10.3		mg/L		103	90 - 110

Lab Sample ID: LCSD 680-595747/35
Matrix: Water
Analysis Batch: 595747

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
Chloride	10.0	10.1		mg/L		101	90 - 110	0	15
Sulfate	10.0	10.4		mg/L		104	90 - 110	0	15

Lab Sample ID: 680-176219-8 MS
Matrix: WG
Analysis Batch: 595747

Client Sample ID: SHP-2016-3A_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	11	M	10.0	21.3		mg/L		102	80 - 120
Sulfate	4.5	M	10.0	14.5		mg/L		99	80 - 120

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: 680-176219-8 MSD
Matrix: WG
Analysis Batch: 595747

Client Sample ID: SHP-2016-3A_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	11	M	10.0	21.3		mg/L		102	80 - 120	0	15
Sulfate	4.5	M	10.0	14.5		mg/L		100	80 - 120	0	15

Lab Sample ID: 680-176219-17 MS
Matrix: WG
Analysis Batch: 595747

Client Sample ID: SHL-11_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	64	M	10.0	73.7	4	mg/L		97	80 - 120
Sulfate	14	M	10.0	23.3		mg/L		98	80 - 120

Lab Sample ID: 680-176219-17 MSD
Matrix: WG
Analysis Batch: 595747

Client Sample ID: SHL-11_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	64	M	10.0	73.5	4	mg/L		95	80 - 120	0	15
Sulfate	14	M	10.0	23.3		mg/L		98	80 - 120	0	15

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-594287/1-A
Matrix: Water
Analysis Batch: 594476

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 594287

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/04/19 12:07	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/04/19 12:07	1

Lab Sample ID: LCS 680-594287/2-A
Matrix: Water
Analysis Batch: 594476

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 594287

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5010	4890		ug/L		98	87 - 115
Manganese	400	401		ug/L		100	90 - 114

Lab Sample ID: MB 680-594345/1-A
Matrix: Water
Analysis Batch: 595023

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 594345

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	17.9	J	50	50	17	ug/L		11/06/19 19:13	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/06/19 19:13	1

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

Lab Sample ID: LCS 680-594345/2-A
Matrix: Water
Analysis Batch: 595023

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 594345

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5010	5110		ug/L		102	87 - 115
Manganese	400	395		ug/L		99	90 - 114

Lab Sample ID: MB 680-594637/1-A
Matrix: Water
Analysis Batch: 595683

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 594637

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/11/19 15:36	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/11/19 15:36	1

Lab Sample ID: LCS 680-594637/2-A
Matrix: Water
Analysis Batch: 595683

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 594637

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5010	5080		ug/L		101	87 - 115
Manganese	400	395		ug/L		99	90 - 114

Lab Sample ID: MB 680-594658/1-A
Matrix: Water
Analysis Batch: 595683

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 594658

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/11/19 14:33	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/11/19 14:33	1

Lab Sample ID: LCS 680-594658/2-A
Matrix: Water
Analysis Batch: 595683

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 594658

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5010	5090		ug/L		102	87 - 115
Manganese	400	395		ug/L		99	90 - 114

Lab Sample ID: 680-176219-5 MS
Matrix: WG
Analysis Batch: 594476

Client Sample ID: SHL-10_FAL19
Prep Type: Dissolved
Prep Batch: 594287

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	50	U	5010	4880		ug/L		97	87 - 115
Manganese	3.0	U	400	401		ug/L		100	90 - 114

Lab Sample ID: 680-176219-5 MSD
Matrix: WG
Analysis Batch: 594476

Client Sample ID: SHL-10_FAL19
Prep Type: Dissolved
Prep Batch: 594287

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	50	U	5010	4890		ug/L		98	87 - 115	0	20
Manganese	3.0	U	400	402		ug/L		100	90 - 114	0	20

Method: 6010C - Metals (ICP)

Lab Sample ID: 680-176219-15 MS
Matrix: WG
Analysis Batch: 595023

Client Sample ID: PZ-12-04_FAL19
Prep Type: Dissolved
Prep Batch: 594345

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	78000	J1	5010	77500	4	ug/L		-0.9	87 - 115
Manganese	2000	J1	400	2220	4	ug/L		65	90 - 114

Lab Sample ID: 680-176219-15 MSD
Matrix: WG
Analysis Batch: 595023

Client Sample ID: PZ-12-04_FAL19
Prep Type: Dissolved
Prep Batch: 594345

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	78000	J1	5010	79800	4	ug/L		46	87 - 115	3	20
Manganese	2000	J1	400	2280	4	ug/L		81	90 - 114	3	20

Lab Sample ID: 680-176219-4 MS
Matrix: WG
Analysis Batch: 595683

Client Sample ID: SHM-93-10D_FAL19
Prep Type: Dissolved
Prep Batch: 594637

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	73		5010	5110		ug/L		101	87 - 115
Manganese	2.1	J	400	395		ug/L		98	90 - 114

Lab Sample ID: 680-176219-4 MSD
Matrix: WG
Analysis Batch: 595683

Client Sample ID: SHM-93-10D_FAL19
Prep Type: Dissolved
Prep Batch: 594637

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	73		5010	5290		ug/L		104	87 - 115	3	20
Manganese	2.1	J	400	408		ug/L		101	90 - 114	3	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 680-594286/1-A
Matrix: Water
Analysis Batch: 594568

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 594286

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/04/19 16:15	1

Lab Sample ID: LCS 680-594286/2-A
Matrix: Water
Analysis Batch: 594568

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 594286

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	105		ug/L		105	84 - 116

Lab Sample ID: MB 680-594343/1-A
Matrix: Water
Analysis Batch: 594808

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 594343

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/06/19 09:58	1

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

Lab Sample ID: LCS 680-594343/2-A
Matrix: Water
Analysis Batch: 594808

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 594343

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			100	108		ug/L		108	84 - 116		

Lab Sample ID: MB 680-594636/1-A
Matrix: Water
Analysis Batch: 595022

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 594636

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/06/19 20:37	1

Lab Sample ID: LCS 680-594636/2-A
Matrix: Water
Analysis Batch: 595022

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 594636

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			100	105		ug/L		105	84 - 116		

Lab Sample ID: MB 680-594657/1-A
Matrix: Water
Analysis Batch: 595022

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 594657

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/06/19 18:55	1

Lab Sample ID: LCS 680-594657/2-A
Matrix: Water
Analysis Batch: 595022

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 594657

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			100	105		ug/L		105	84 - 116		

Lab Sample ID: 680-176219-5 MS
Matrix: WG
Analysis Batch: 594568

Client Sample ID: SHL-10_FAL19
Prep Type: Dissolved
Prep Batch: 594286

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic	3.0	U	100	107		ug/L		107	84 - 116		

Lab Sample ID: 680-176219-5 MSD
Matrix: WG
Analysis Batch: 594568

Client Sample ID: SHL-10_FAL19
Prep Type: Dissolved
Prep Batch: 594286

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	3.0	U	100	106		ug/L		106	84 - 116	1	20

Lab Sample ID: 680-176219-15 MS
Matrix: WG
Analysis Batch: 594808

Client Sample ID: PZ-12-04_FAL19
Prep Type: Dissolved
Prep Batch: 594343

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic	730	J1	100	787	4	ug/L		53	84 - 116		

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: 680-176219-15 MSD
Matrix: WG
Analysis Batch: 594808

Client Sample ID: PZ-12-04_FAL19
Prep Type: Dissolved
Prep Batch: 594343

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	730	J1	100	822	4	ug/L		88	84 - 116	4	20

Lab Sample ID: 680-176219-4 MS
Matrix: WG
Analysis Batch: 595022

Client Sample ID: SHM-93-10D_FAL19
Prep Type: Dissolved
Prep Batch: 594636

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	3.0	U	100	99.8		ug/L		100	84 - 116

Lab Sample ID: 680-176219-4 MSD
Matrix: WG
Analysis Batch: 595022

Client Sample ID: SHM-93-10D_FAL19
Prep Type: Dissolved
Prep Batch: 594636

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	3.0	U	100	103		ug/L		103	84 - 116	3	20

Method: 9060 - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 280-478078/37
Matrix: Water
Analysis Batch: 478078

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.0	U	1.0	1.0	0.35	mg/L		11/16/19 00:17	1

Lab Sample ID: MB 280-478078/5
Matrix: Water
Analysis Batch: 478078

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.0	U	1.0	1.0	0.35	mg/L		11/15/19 15:33	1

Lab Sample ID: LCS 280-478078/3
Matrix: Water
Analysis Batch: 478078

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon - Duplicate	25.0	24.8		mg/L		99	88 - 112

Lab Sample ID: LCS 280-478078/35
Matrix: Water
Analysis Batch: 478078

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon - Duplicate	25.0	24.3		mg/L		97	88 - 112

Method: 9060 - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: LCSD 280-478078/36
Matrix: Water
Analysis Batch: 478078

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon - Duplicate			25.0	23.9		mg/L		95	88 - 112	2	15

Lab Sample ID: LCSD 280-478078/4
Matrix: Water
Analysis Batch: 478078

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon - Duplicate			25.0	25.0		mg/L		100	88 - 112	1	15

Lab Sample ID: 680-176219-4 MS
Matrix: WG
Analysis Batch: 478078

Client Sample ID: SHM-93-10D_FAL19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon - Duplicate	0.95	J	25.0	24.7		mg/L		95	88 - 112

Lab Sample ID: 680-176219-4 MSD
Matrix: WG
Analysis Batch: 478078

Client Sample ID: SHM-93-10D_FAL19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon - Duplicate	0.95	J	25.0	25.5		mg/L		98	88 - 112	3	15

Lab Sample ID: 680-176219-5 MS
Matrix: WG
Analysis Batch: 478078

Client Sample ID: SHL-10_FAL19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon - Duplicate	0.58	J	25.0	24.5		mg/L		96	88 - 112

Lab Sample ID: 680-176219-5 MSD
Matrix: WG
Analysis Batch: 478078

Client Sample ID: SHL-10_FAL19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon - Duplicate	0.58	J	25.0	25.0		mg/L		98	88 - 112	2	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-476923/31
Matrix: Water
Analysis Batch: 476923

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		11/07/19 19:08	1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCS 280-476923/30
Matrix: Water
Analysis Batch: 476923

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	205		mg/L		103	89 - 109

Lab Sample ID: MB 280-477099/31
Matrix: Water
Analysis Batch: 477099

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		11/08/19 17:38	1

Lab Sample ID: MB 280-477099/5
Matrix: Water
Analysis Batch: 477099

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		11/08/19 14:07	1

Lab Sample ID: LCS 280-477099/30
Matrix: Water
Analysis Batch: 477099

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	204		mg/L		102	89 - 109

Lab Sample ID: LCS 280-477099/4
Matrix: Water
Analysis Batch: 477099

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	204		mg/L		102	89 - 109

Lab Sample ID: 680-176219-12 DU
Matrix: WG
Analysis Batch: 477099

Client Sample ID: PZ-12-06_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	100		103		mg/L		0	10

HPLC/IC

Analysis Batch: 595552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176219-1	EPA-PZ-2012-3A_FAL19	Total/NA	WG	9056A	
680-176219-2	EPA-PZ-2012-3B_FAL19	Total/NA	WG	9056A	
680-176219-3	SHL-3_FAL19	Total/NA	WG	9056A	
680-176219-4	SHM-93-10D_FAL19	Total/NA	WG	9056A	
680-176219-5	SHL-10_FAL19	Total/NA	WG	9056A	
MB 680-595552/33	Method Blank	Total/NA	Water	9056A	
LCS 680-595552/34	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-595552/35	Lab Control Sample Dup	Total/NA	Water	9056A	
680-176219-4 MS	SHM-93-10D_FAL19	Total/NA	WG	9056A	
680-176219-4 MSD	SHM-93-10D_FAL19	Total/NA	WG	9056A	
680-176219-5 MS	SHL-10_FAL19	Total/NA	WG	9056A	
680-176219-5 MSD	SHL-10_FAL19	Total/NA	WG	9056A	

Analysis Batch: 595730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176219-6	SHL-9_FAL19	Total/NA	WG	9056A	
680-176219-7	SHL-DUP07_FAL19	Total/NA	WG	9056A	
680-176219-9	SHP-2016-3B_FAL19	Total/NA	WG	9056A	
680-176219-10	SHL-19_FAL19	Total/NA	WG	9056A	
680-176219-11	SHL-4_FAL19	Total/NA	WG	9056A	
680-176219-12	PZ-12-06_FAL19	Total/NA	WG	9056A	
680-176219-13	SHL-DUP01_FAL19	Total/NA	WG	9056A	
680-176219-14	PZ-12-03_FAL19	Total/NA	WG	9056A	
680-176219-15	PZ-12-04_FAL19	Total/NA	WG	9056A	
MB 680-595730/2	Method Blank	Total/NA	Water	9056A	
LCS 680-595730/3	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-595730/4	Lab Control Sample Dup	Total/NA	Water	9056A	

Analysis Batch: 595747

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176219-8	SHP-2016-3A_FAL19	Total/NA	WG	9056A	
680-176219-16	PZ-12-05_FAL19	Total/NA	WG	9056A	
680-176219-17	SHL-11_FAL19	Total/NA	WG	9056A	
MB 680-595747/33	Method Blank	Total/NA	Water	9056A	
LCS 680-595747/34	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-595747/35	Lab Control Sample Dup	Total/NA	Water	9056A	
680-176219-8 MS	SHP-2016-3A_FAL19	Total/NA	WG	9056A	
680-176219-8 MSD	SHP-2016-3A_FAL19	Total/NA	WG	9056A	
680-176219-17 MS	SHL-11_FAL19	Total/NA	WG	9056A	
680-176219-17 MSD	SHL-11_FAL19	Total/NA	WG	9056A	

Metals

Prep Batch: 594286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176219-5	SHL-10_FAL19	Dissolved	WG	3005A	
MB 680-594286/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-594286/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
680-176219-5 MS	SHL-10_FAL19	Dissolved	WG	3005A	
680-176219-5 MSD	SHL-10_FAL19	Dissolved	WG	3005A	

Metals

Prep Batch: 594287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176219-5	SHL-10_FAL19	Dissolved	WG	3005A	
MB 680-594287/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-594287/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
680-176219-5 MS	SHL-10_FAL19	Dissolved	WG	3005A	
680-176219-5 MSD	SHL-10_FAL19	Dissolved	WG	3005A	

Prep Batch: 594343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176219-1	EPA-PZ-2012-3A_FAL19	Dissolved	WG	3005A	
680-176219-3	SHL-3_FAL19	Dissolved	WG	3005A	
680-176219-10	SHL-19_FAL19	Dissolved	WG	3005A	
680-176219-15	PZ-12-04_FAL19	Dissolved	WG	3005A	
MB 680-594343/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-594343/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
680-176219-15 MS	PZ-12-04_FAL19	Dissolved	WG	3005A	
680-176219-15 MSD	PZ-12-04_FAL19	Dissolved	WG	3005A	

Prep Batch: 594345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176219-1	EPA-PZ-2012-3A_FAL19	Dissolved	WG	3005A	
680-176219-3	SHL-3_FAL19	Dissolved	WG	3005A	
680-176219-10	SHL-19_FAL19	Dissolved	WG	3005A	
680-176219-15	PZ-12-04_FAL19	Dissolved	WG	3005A	
MB 680-594345/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-594345/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
680-176219-15 MS	PZ-12-04_FAL19	Dissolved	WG	3005A	
680-176219-15 MSD	PZ-12-04_FAL19	Dissolved	WG	3005A	

Analysis Batch: 594476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176219-5	SHL-10_FAL19	Dissolved	WG	6010C	594287
MB 680-594287/1-A	Method Blank	Total Recoverable	Water	6010C	594287
LCS 680-594287/2-A	Lab Control Sample	Total Recoverable	Water	6010C	594287
680-176219-5 MS	SHL-10_FAL19	Dissolved	WG	6010C	594287
680-176219-5 MSD	SHL-10_FAL19	Dissolved	WG	6010C	594287

Analysis Batch: 594568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176219-5	SHL-10_FAL19	Dissolved	WG	6020A	594286
MB 680-594286/1-A	Method Blank	Total Recoverable	Water	6020A	594286
LCS 680-594286/2-A	Lab Control Sample	Total Recoverable	Water	6020A	594286
680-176219-5 MS	SHL-10_FAL19	Dissolved	WG	6020A	594286
680-176219-5 MSD	SHL-10_FAL19	Dissolved	WG	6020A	594286

Prep Batch: 594636

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176219-2	EPA-PZ-2012-3B_FAL19	Dissolved	WG	3005A	
680-176219-4	SHM-93-10D_FAL19	Dissolved	WG	3005A	
680-176219-7	SHL-DUP07_FAL19	Dissolved	WG	3005A	
680-176219-8	SHP-2016-3A_FAL19	Dissolved	WG	3005A	
680-176219-9	SHP-2016-3B_FAL19	Dissolved	WG	3005A	

Metals (Continued)

Prep Batch: 594636 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176219-11	SHL-4_FAL19	Dissolved	WG	3005A	
680-176219-12	PZ-12-06_FAL19	Dissolved	WG	3005A	
680-176219-13	SHL-DUP01_FAL19	Dissolved	WG	3005A	
680-176219-14	PZ-12-03_FAL19	Dissolved	WG	3005A	
680-176219-16	PZ-12-05_FAL19	Dissolved	WG	3005A	
MB 680-594636/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-594636/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
680-176219-4 MS	SHM-93-10D_FAL19	Dissolved	WG	3005A	
680-176219-4 MSD	SHM-93-10D_FAL19	Dissolved	WG	3005A	

Prep Batch: 594637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176219-2	EPA-PZ-2012-3B_FAL19	Dissolved	WG	3005A	
680-176219-4	SHM-93-10D_FAL19	Dissolved	WG	3005A	
680-176219-7	SHL-DUP07_FAL19	Dissolved	WG	3005A	
680-176219-8	SHP-2016-3A_FAL19	Dissolved	WG	3005A	
680-176219-9	SHP-2016-3B_FAL19	Dissolved	WG	3005A	
680-176219-11	SHL-4_FAL19	Dissolved	WG	3005A	
680-176219-12	PZ-12-06_FAL19	Dissolved	WG	3005A	
680-176219-13	SHL-DUP01_FAL19	Dissolved	WG	3005A	
680-176219-14	PZ-12-03_FAL19	Dissolved	WG	3005A	
680-176219-16	PZ-12-05_FAL19	Dissolved	WG	3005A	
MB 680-594637/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-594637/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
680-176219-4 MS	SHM-93-10D_FAL19	Dissolved	WG	3005A	
680-176219-4 MSD	SHM-93-10D_FAL19	Dissolved	WG	3005A	

Prep Batch: 594657

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176219-6	SHL-9_FAL19	Dissolved	WG	3005A	
680-176219-17	SHL-11_FAL19	Dissolved	WG	3005A	
MB 680-594657/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-594657/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 594658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176219-6	SHL-9_FAL19	Dissolved	WG	3005A	
680-176219-17	SHL-11_FAL19	Dissolved	WG	3005A	
MB 680-594658/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-594658/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 594808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176219-1	EPA-PZ-2012-3A_FAL19	Dissolved	WG	6020A	594343
680-176219-3	SHL-3_FAL19	Dissolved	WG	6020A	594343
680-176219-10	SHL-19_FAL19	Dissolved	WG	6020A	594343
680-176219-15	PZ-12-04_FAL19	Dissolved	WG	6020A	594343
MB 680-594343/1-A	Method Blank	Total Recoverable	Water	6020A	594343
LCS 680-594343/2-A	Lab Control Sample	Total Recoverable	Water	6020A	594343
680-176219-15 MS	PZ-12-04_FAL19	Dissolved	WG	6020A	594343
680-176219-15 MSD	PZ-12-04_FAL19	Dissolved	WG	6020A	594343

Metals

Analysis Batch: 595022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176219-2	EPA-PZ-2012-3B_FAL19	Dissolved	WG	6020A	594636
680-176219-4	SHM-93-10D_FAL19	Dissolved	WG	6020A	594636
680-176219-6	SHL-9_FAL19	Dissolved	WG	6020A	594657
680-176219-7	SHL-DUP07_FAL19	Dissolved	WG	6020A	594636
680-176219-8	SHP-2016-3A_FAL19	Dissolved	WG	6020A	594636
680-176219-9	SHP-2016-3B_FAL19	Dissolved	WG	6020A	594636
680-176219-11	SHL-4_FAL19	Dissolved	WG	6020A	594636
680-176219-12	PZ-12-06_FAL19	Dissolved	WG	6020A	594636
680-176219-13	SHL-DUP01_FAL19	Dissolved	WG	6020A	594636
680-176219-14	PZ-12-03_FAL19	Dissolved	WG	6020A	594636
680-176219-16	PZ-12-05_FAL19	Dissolved	WG	6020A	594636
680-176219-17	SHL-11_FAL19	Dissolved	WG	6020A	594657
MB 680-594636/1-A	Method Blank	Total Recoverable	Water	6020A	594636
MB 680-594657/1-A	Method Blank	Total Recoverable	Water	6020A	594657
LCS 680-594636/2-A	Lab Control Sample	Total Recoverable	Water	6020A	594636
LCS 680-594657/2-A	Lab Control Sample	Total Recoverable	Water	6020A	594657
680-176219-4 MS	SHM-93-10D_FAL19	Dissolved	WG	6020A	594636
680-176219-4 MSD	SHM-93-10D_FAL19	Dissolved	WG	6020A	594636

Analysis Batch: 595023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176219-1	EPA-PZ-2012-3A_FAL19	Dissolved	WG	6010C	594345
680-176219-3	SHL-3_FAL19	Dissolved	WG	6010C	594345
680-176219-10	SHL-19_FAL19	Dissolved	WG	6010C	594345
680-176219-15	PZ-12-04_FAL19	Dissolved	WG	6010C	594345
MB 680-594345/1-A	Method Blank	Total Recoverable	Water	6010C	594345
LCS 680-594345/2-A	Lab Control Sample	Total Recoverable	Water	6010C	594345
680-176219-15 MS	PZ-12-04_FAL19	Dissolved	WG	6010C	594345
680-176219-15 MSD	PZ-12-04_FAL19	Dissolved	WG	6010C	594345

Analysis Batch: 595683

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176219-2	EPA-PZ-2012-3B_FAL19	Dissolved	WG	6010C	594637
680-176219-4	SHM-93-10D_FAL19	Dissolved	WG	6010C	594637
680-176219-6	SHL-9_FAL19	Dissolved	WG	6010C	594658
680-176219-7	SHL-DUP07_FAL19	Dissolved	WG	6010C	594637
680-176219-8	SHP-2016-3A_FAL19	Dissolved	WG	6010C	594637
680-176219-9	SHP-2016-3B_FAL19	Dissolved	WG	6010C	594637
680-176219-11	SHL-4_FAL19	Dissolved	WG	6010C	594637
680-176219-12	PZ-12-06_FAL19	Dissolved	WG	6010C	594637
680-176219-13	SHL-DUP01_FAL19	Dissolved	WG	6010C	594637
680-176219-14	PZ-12-03_FAL19	Dissolved	WG	6010C	594637
680-176219-16	PZ-12-05_FAL19	Dissolved	WG	6010C	594637
680-176219-17	SHL-11_FAL19	Dissolved	WG	6010C	594658
MB 680-594637/1-A	Method Blank	Total Recoverable	Water	6010C	594637
MB 680-594658/1-A	Method Blank	Total Recoverable	Water	6010C	594658
LCS 680-594637/2-A	Lab Control Sample	Total Recoverable	Water	6010C	594637
LCS 680-594658/2-A	Lab Control Sample	Total Recoverable	Water	6010C	594658
680-176219-4 MS	SHM-93-10D_FAL19	Dissolved	WG	6010C	594637
680-176219-4 MSD	SHM-93-10D_FAL19	Dissolved	WG	6010C	594637

General Chemistry

Analysis Batch: 476923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176219-1	EPA-PZ-2012-3A_FAL19	Total/NA	WG	SM 2320B	
680-176219-2	EPA-PZ-2012-3B_FAL19	Total/NA	WG	SM 2320B	
680-176219-8	SHP-2016-3A_FAL19	Total/NA	WG	SM 2320B	
680-176219-9	SHP-2016-3B_FAL19	Total/NA	WG	SM 2320B	
MB 280-476923/31	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-476923/30	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 477099

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176219-3	SHL-3_FAL19	Total/NA	WG	SM 2320B	
680-176219-4	SHM-93-10D_FAL19	Total/NA	WG	SM 2320B	
680-176219-5	SHL-10_FAL19	Total/NA	WG	SM 2320B	
680-176219-6	SHL-9_FAL19	Total/NA	WG	SM 2320B	
680-176219-7	SHL-DUP07_FAL19	Total/NA	WG	SM 2320B	
680-176219-10	SHL-19_FAL19	Total/NA	WG	SM 2320B	
680-176219-11	SHL-4_FAL19	Total/NA	WG	SM 2320B	
680-176219-12	PZ-12-06_FAL19	Total/NA	WG	SM 2320B	
680-176219-13	SHL-DUP01_FAL19	Total/NA	WG	SM 2320B	
680-176219-14	PZ-12-03_FAL19	Total/NA	WG	SM 2320B	
680-176219-15	PZ-12-04_FAL19	Total/NA	WG	SM 2320B	
680-176219-16	PZ-12-05_FAL19	Total/NA	WG	SM 2320B	
680-176219-17	SHL-11_FAL19	Total/NA	WG	SM 2320B	
MB 280-477099/31	Method Blank	Total/NA	Water	SM 2320B	
MB 280-477099/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-477099/30	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 280-477099/4	Lab Control Sample	Total/NA	Water	SM 2320B	
680-176219-12 DU	PZ-12-06_FAL19	Total/NA	WG	SM 2320B	

Analysis Batch: 478078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176219-1	EPA-PZ-2012-3A_FAL19	Dissolved	WG	9060	
680-176219-2	EPA-PZ-2012-3B_FAL19	Dissolved	WG	9060	
680-176219-3	SHL-3_FAL19	Dissolved	WG	9060	
680-176219-4	SHM-93-10D_FAL19	Dissolved	WG	9060	
680-176219-5	SHL-10_FAL19	Dissolved	WG	9060	
680-176219-6	SHL-9_FAL19	Dissolved	WG	9060	
680-176219-7	SHL-DUP07_FAL19	Dissolved	WG	9060	
680-176219-8	SHP-2016-3A_FAL19	Dissolved	WG	9060	
680-176219-9	SHP-2016-3B_FAL19	Dissolved	WG	9060	
680-176219-10	SHL-19_FAL19	Dissolved	WG	9060	
680-176219-11	SHL-4_FAL19	Dissolved	WG	9060	
680-176219-12	PZ-12-06_FAL19	Dissolved	WG	9060	
680-176219-13	SHL-DUP01_FAL19	Dissolved	WG	9060	
680-176219-14	PZ-12-03_FAL19	Dissolved	WG	9060	
680-176219-15	PZ-12-04_FAL19	Dissolved	WG	9060	
680-176219-16	PZ-12-05_FAL19	Dissolved	WG	9060	
680-176219-17	SHL-11_FAL19	Dissolved	WG	9060	
MB 280-478078/37	Method Blank	Dissolved	Water	9060	
MB 280-478078/5	Method Blank	Dissolved	Water	9060	
LCS 280-478078/3	Lab Control Sample	Dissolved	Water	9060	
LCS 280-478078/35	Lab Control Sample	Dissolved	Water	9060	

General Chemistry (Continued)

Analysis Batch: 478078 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 280-478078/36	Lab Control Sample Dup	Dissolved	Water	9060	
LCSD 280-478078/4	Lab Control Sample Dup	Dissolved	Water	9060	
680-176219-4 MS	SHM-93-10D_FAL19	Dissolved	WG	9060	
680-176219-4 MSD	SHM-93-10D_FAL19	Dissolved	WG	9060	
680-176219-5 MS	SHL-10_FAL19	Dissolved	WG	9060	
680-176219-5 MSD	SHL-10_FAL19	Dissolved	WG	9060	

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176219-1

Client Sample ID: EPA-PZ-2012-3A_FAL19

Lab Sample ID: 680-176219-1
Date Collected: 10/28/19 12:55
Matrix: WG
Date Received: 10/31/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	595552	11/11/19 22:33	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594345	11/04/19 10:11	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595023	11/06/19 19:33	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594343	11/04/19 10:11	AJR	TAL SAV
Dissolved	Analysis	6020A		1			594808	11/05/19 20:24	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1	20 mL	20 mL	478078	11/15/19 20:49	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			476923	11/07/19 20:03	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: EPA-PZ-2012-3B_FAL19

Lab Sample ID: 680-176219-2
Date Collected: 10/28/19 14:00
Matrix: WG
Date Received: 10/31/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	595552	11/11/19 22:46	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594637	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595683	11/11/19 17:12	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594636	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6020A		1			595022	11/06/19 22:03	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1	20 mL	20 mL	478078	11/15/19 21:06	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			476923	11/07/19 20:10	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHL-3_FAL19

Lab Sample ID: 680-176219-3
Date Collected: 10/29/19 09:05
Matrix: WG
Date Received: 10/31/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	595552	11/11/19 22:59	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594345	11/04/19 10:11	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595023	11/06/19 19:57	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594343	11/04/19 10:11	AJR	TAL SAV
Dissolved	Analysis	6020A		1			594808	11/05/19 20:31	BWR	TAL SAV
	Instrument ID: ICPMSC									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176219-1

Client Sample ID: SHL-3_FAL19

Lab Sample ID: 680-176219-3
Date Collected: 10/29/19 09:05
Matrix: WG
Date Received: 10/31/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060		1	20 mL	20 mL	478078	11/15/19 21:21	SGB	TAL DEN
Total/NA	Analysis	SM 2320B		1			477099	11/08/19 16:22	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHM-93-10D_FAL19

Lab Sample ID: 680-176219-4
Date Collected: 10/29/19 10:40
Matrix: WG
Date Received: 10/31/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	595552	11/11/19 20:40	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594637	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595683	11/11/19 15:52	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594636	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6020A		1			595022	11/06/19 20:43	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1	20 mL	20 mL	478078	11/16/19 00:51	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477099	11/08/19 16:31	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHL-10_FAL19

Lab Sample ID: 680-176219-5
Date Collected: 10/29/19 12:40
Matrix: WG
Date Received: 10/31/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	595552	11/11/19 23:37	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594287	11/03/19 16:58	PG	TAL SAV
Dissolved	Analysis	6010C		1			594476	11/04/19 12:16	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594286	11/03/19 16:54	PG	TAL SAV
Dissolved	Analysis	6020A		1			594568	11/04/19 16:21	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1	20 mL	20 mL	478078	11/15/19 20:03	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477099	11/08/19 16:37	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHL-9_FAL19

Lab Sample ID: 680-176219-6

Date Collected: 10/30/19 13:40

Matrix: WG

Date Received: 10/31/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	595730	11/12/19 18:20	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594658	11/05/19 14:02	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595683	11/11/19 15:09	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594657	11/05/19 14:02	AJR	TAL SAV
Dissolved	Analysis	6020A		1			595022	11/06/19 19:43	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1	20 mL	20 mL	478078	11/15/19 21:38	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477099	11/08/19 16:44	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHL-DUP07_FAL19

Lab Sample ID: 680-176219-7

Date Collected: 10/30/19 13:45

Matrix: WG

Date Received: 10/31/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	595730	11/12/19 18:33	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594637	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595683	11/11/19 16:12	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594636	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6020A		1			595022	11/06/19 20:59	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1	20 mL	20 mL	478078	11/15/19 22:26	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477099	11/08/19 16:51	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHP-2016-3A_FAL19

Lab Sample ID: 680-176219-8

Date Collected: 10/28/19 12:10

Matrix: WG

Date Received: 10/31/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	595747	11/12/19 21:05	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594637	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595683	11/11/19 16:53	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594636	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6020A		1			595022	11/06/19 21:41	BWR	TAL SAV
	Instrument ID: ICPMSD									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176219-1

Client Sample ID: SHP-2016-3A_FAL19

Lab Sample ID: 680-176219-8

Date Collected: 10/28/19 12:10

Matrix: WG

Date Received: 10/31/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060		1	20 mL	20 mL	478078	11/15/19 22:43	SGB	TAL DEN
Total/NA	Analysis	SM 2320B		1			476923	11/07/19 20:34	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHP-2016-3B_FAL19

Lab Sample ID: 680-176219-9

Date Collected: 10/28/19 13:35

Matrix: WG

Date Received: 10/31/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	595730	11/12/19 18:46	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594637	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595683	11/11/19 17:08	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594636	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6020A		1			595022	11/06/19 22:00	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1	20 mL	20 mL	478078	11/15/19 22:58	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			476923	11/07/19 20:40	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHL-19_FAL19

Lab Sample ID: 680-176219-10

Date Collected: 10/29/19 11:15

Matrix: WG

Date Received: 10/31/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	595730	11/12/19 18:58	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594345	11/04/19 10:11	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595023	11/06/19 20:01	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594343	11/04/19 10:11	AJR	TAL SAV
Dissolved	Analysis	6020A		1			594808	11/05/19 20:43	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1	20 mL	20 mL	478078	11/15/19 23:12	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477099	11/08/19 16:57	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHL-4_FAL19

Lab Sample ID: 680-176219-11

Date Collected: 10/29/19 12:40

Matrix: WG

Date Received: 10/31/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	595730	11/12/19 19:11	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594637	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595683	11/11/19 17:16	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594636	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6020A		1			595022	11/06/19 22:07	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1	20 mL	20 mL	478078	11/15/19 23:29	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477099	11/08/19 17:04	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: PZ-12-06_FAL19

Lab Sample ID: 680-176219-12

Date Collected: 10/29/19 14:10

Matrix: WG

Date Received: 10/31/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	595730	11/12/19 19:23	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594637	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595683	11/11/19 16:57	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594636	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6020A		1			595022	11/06/19 21:44	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1	20 mL	20 mL	478078	11/16/19 02:07	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477099	11/08/19 17:44	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHL-DUP01_FAL19

Lab Sample ID: 680-176219-13

Date Collected: 10/29/19 14:15

Matrix: WG

Date Received: 10/31/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	595730	11/12/19 19:36	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594637	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595683	11/11/19 16:24	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594636	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6020A		1			595022	11/06/19 21:19	BWR	TAL SAV
	Instrument ID: ICPMSD									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176219-1

Client Sample ID: SHL-DUP01_FAL19

Lab Sample ID: 680-176219-13
Matrix: WG
Date Collected: 10/29/19 14:15
Date Received: 10/31/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060		1	20 mL	20 mL	478078	11/16/19 02:21	SGB	TAL DEN
Total/NA	Analysis	SM 2320B		1			477099	11/08/19 17:57	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: PZ-12-03_FAL19

Lab Sample ID: 680-176219-14
Matrix: WG
Date Collected: 10/30/19 08:40
Date Received: 10/31/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	595730	11/12/19 19:49	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594637	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595683	11/11/19 16:20	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594636	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6020A		1			595022	11/06/19 21:06	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1	20 mL	20 mL	478078	11/16/19 02:38	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477099	11/08/19 18:04	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: PZ-12-04_FAL19

Lab Sample ID: 680-176219-15
Matrix: WG
Date Collected: 10/30/19 10:15
Date Received: 10/31/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	595730	11/12/19 20:01	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594345	11/04/19 10:11	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595023	11/06/19 19:21	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594343	11/04/19 10:11	AJR	TAL SAV
Dissolved	Analysis	6020A		1			594808	11/05/19 20:04	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1	20 mL	20 mL	478078	11/16/19 02:55	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477099	11/08/19 18:12	SPG	TAL DEN
	Instrument ID: WC_AT2									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176219-1

Client Sample ID: PZ-12-05_FAL19

Lab Sample ID: 680-176219-16

Date Collected: 10/30/19 11:40

Matrix: WG

Date Received: 10/31/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	595747	11/12/19 21:43	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594637	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595683	11/11/19 17:30	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594636	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6020A		1			595022	11/06/19 22:10	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1	20 mL	20 mL	478078	11/16/19 03:12	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477099	11/08/19 18:19	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHL-11_FAL19

Lab Sample ID: 680-176219-17

Date Collected: 10/30/19 13:05

Matrix: WG

Date Received: 10/31/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	595747	11/13/19 00:02	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594658	11/05/19 14:02	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595683	11/11/19 15:21	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594657	11/05/19 14:02	AJR	TAL SAV
Dissolved	Analysis	6020A		1			595022	11/06/19 19:46	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1	20 mL	20 mL	478078	11/16/19 03:28	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477099	11/08/19 18:26	SPG	TAL DEN
	Instrument ID: WC_AT2									

Laboratory References:

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

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

360325-Boston

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2, Cool < 6°C
5	1 x 125mL, plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2, Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

680-176219 Chain of Custody

						Analytical Test Method	SW9060A/FLDFLT (B)	SW9056A (A)	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	A2320B (A)						
	Event: KOMAN, Long Term Monitoring, SHL Fall 2019						3	5	9	9	46						
	Sample ID	Matrix	Date	Time	Samp Init.							Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
	EPA-PZ-2012-3A_FAL19	WG	10/28/19	1255	B/A		X	X	X	X	X	EPA-PZ-2012-3A	N1				1
	EPA-PZ-2012-3B_FAL19	WG	10/28/19	1400	B/A		X	X	X	X	X	EPA-PZ-2012-3B	N1				1
	SHL-3_FAL19	WG	10/29/19	0905	B/A		X	X	X	X	X	SHL-3	N1				1
	SHM-93-100_FAL19	WG	10/29/19	1040	B/A		X	X	X	X	X	SHM-93-100	N1			MS/MSD	1
1	SHL-10_FAL19	WG	10/29/19	1240	B/A		X	X	X	X	X	SHL-10	N1			MS/MSD	
1	SHL-9_FAL19	WG	10/30/19	1340	B/A		X	X	X	X	X	SHL-9	N1				
1	SHL-DUP07_FAL19	WG	10/30/19	1345	B/A		X	X	X	X	X	SH-9	FD			Field Duplicate	
1																	
1																	
1																	
1																	

Relinquished by: *(Signature)*	Date	Time
Brett Cox	10/30/19	1500
[illegible]	10/30/19	[illegible]

Received by: *(Signature)*	Date	Time
[illegible]	10/30/19	15
1.2(CF) 1.3°C		

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* & condition
B Banda 10-31-19 0945

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

360325-Boston

COC # SHL-FAL19-CO

360325-Boston

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2, Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2, Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

						Analytical Test Method	SW9060A/FLDFLT (B)	SW9056A (A)	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	A2320B (A)					
							3	**5**	**9**	**9**	**46**			Depth (ft bgs)			
	Sample ID	Matrix	Date	Time	Samp Init.							Location ID	Sample Type	Top	Bottom	Comments	Cooler
	SHP-2016-3A_FAL19	WG	10/28/19	12:10	AC		X	X	X	X	X	SHP-PZ-16-03A	N1	22.05	27.05		1
	SHP-2016-3B_FAL19	WG	10/28/19	13:35	AC		X	X	X	X	X	SHP-PZ-16-03B	N1	32.05	37.05		1
	SHL-19_FAL19	WG	10/29/19	11:15	AC		X	X	X	X	X	SHL-19	N1	21.91	31.91		1
	SHL-4_FAL19	WG	10/29/19	12:40	AC		X	X	X	X	X	SHL-4	N1	4.4	14.4		1
1	PZ-12-06_FAL19	WG	10/29/19	14:10	AC		X	X	X	X	X	PZ-12-06	N1	28.76	38.76		
1	SHL-DUP01-FAL19	WG	10/29/19	14:15	AC		X	X	X	X	X	PZ-12-06	FD	28.76	38.76		
1	PZ-12-03_FAL19	WG	10/30/19	08:40	AC		X	X	X	X	X	PZ-12-03	N1	27.55	37.55		
1	PZ-12-04_FAL19	WG	10/30/19	10:15	AC		X	X	X	X	X	PZ-12-04	N1	27.15	37.15		
1	PZ-12-05_FAL19	WG	10/30/19	11:40	AC		X	X	X	X	X	PZ-12-05	N1	28.65	38.65		
1	SHL-11_FAL19	WG	10/30/19	13:05	AC		X	X	X	X	X	SHL-11	N1	13.52	28.52		
1																	

Relinquished by: *(Signature)*	Date	Time
Abigail Cartwright	10/30/19	1500
	10-30-19	1512

Received by: *(Signature)*	Date	Time
	10-30-19	1500
1.2(CF)7.3°C		

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

Banda 10-31-19 0945

360325-Boston 360325-Boston 360325-Boston

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100 Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

KGS

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2, Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2, Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

680-176219 Chain of Custody

						Analytical Test Method	SW9060A/FLDFLT (B)	SW9056A (A)	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	A2320B (A)					
	Event: KOMAN, Long Term Monitoring, SHL Fall 2019						3	5	9	9	46					
	Sample ID	Matrix	Date	Time	Samp Init.							Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
	EPA-PZ-2012-3A_FAL19	WG	10/28/19	1255	BrA		X	X	X	X	X	EPA-PZ-2012-3A	N1				1
	EPA-PZ-2012-3B_FAL19	WG	10/28/19	1400	BrA		X	X	X	X	X	EPA-PZ-2012-3B	N1				1
	SHL-3_FAL19	WG	10/29/19	0905	BrA		X	X	X	X	X	SHL-3	N1				1
	SHM-93-100_FAL19	WG	10/29/19	1040	BrA		X	X	X	X	X	SHM-93-100	N1			MS/MSD	1
1	SHL-10_FAL19	WG	10/29/19	1240	BrA		X	X	X	X	X	SHL-10	N1			MS/MSD	
1	SHL-9_FAL19	WG	10/30/19	1340	BrA		X	X	X	X	X	SHL-9	N1				
1	SHL-DUP07_FAL19	WG	10/30/19	1345	BrA		X	X	X	X	X	SHL-9	FD			Field Duplicate	
1																	
1																	
1																	
1																	

Relinquished by: *(Signature)*	Date	Time
[signature]	10/30/19	1500
[signature]	10/30/19	1700

Received by: *(Signature)*	Date	Time
[signature]	10-30-19	1700
[signature]	10-31-19	0930

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

2.3, 1.2°C + 0 IR 8 JL 10-31-19

360325-Boston

360325-Boston

CHAIN-OF USTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Ma[illegible]gh, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

KGS

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = [illegible]
SW6020A/FLDFLT (B) = [illegible]
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2, Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2, Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	SW9060A/FLDFLT (B)	SW9056A (A)	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	A2320B (A)	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
						3	5	9	9	46						
	SHP-20[illegible]3A_FAL19	WG	10/28/19	12:10	AC	X	X	X	X	X	SHP-[redacted] PZ-16-03A	N1	22.05	27.05		1
	SHP-2[illegible]16-3B_FAL19	WG	10/28/19	13:35	AC	X	X	X	X	X	SHP-PZ-16-03B	N1	82.05	87.05		1
	SHL-1[illegible]_FAL19	WG	10/29/19	11:15	AC	X	X	X	X	X	SHL-19	N1	21.91	31.91		1
	SHL-4_FAL19	WG	10/29/19	12:40	AC	X	X	X	X	X	SHL-4	N1	4.4	14.4		1
1	PZ-12-06_FAL19	WG	10/29/19	14:10	AC	X	X	X	X	X	PZ-12-06	N1	28.76	38.76		
1	SHL-[illegible]01-FAL19	WG	10/29/19	14:15	AC	X	X	X	X	X	PZ-12-06	FD	28.76	38.76		
1	PZ-12-03_FAL19	WG	10/30/19	08:40	AC	X	X	X	X	X	PZ-12-03	N1	27.55	37.55		
1	PZ-12-04_FAL19	WG	10/30/19	10:15	AC	X	X	X	X	X	PZ-12-04	N1	27.15	37.15		
1	PZ-12-05_FAL19	WG	10/30/19	11:40	AC	X	X	X	X	X	PZ-12-05	N1	28.65	38.65		
1	SHL-11_FAL19	WG	10/30/19	13:05	AC	X	X	X	X	X	SHL-11	N1	13.52	28.52		
1																

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Abigail Cartwright	10/30/19	1500	[signature]	10-30-19	1500
[signature]	10-30-19	[illegible]	Julius [illegible]	10-31-19	0930

Shipping Date / Carrier / Airbill Number

Received by Laboratory: (Signature, Date, Time) & condition

Page 1 of

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 300, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # AOC50LTM

Project Name: Long Term Monitoring	Laboratory: TestAmerica Laboratories, Inc., Savannah, GA
Project Number: EVNS-LTM	POC: Jerry Lanier 912.[illegible]4.7858 jerry.lanier@testamericainc.com
WBS Code: Purchase Order 19-804	Ship to: 5102 LaRoche Avenue, Savannah, GA 31404

Comments:

NOTE: Metals samples are field filtered.
SW6010/6020 can be combined in 1-250ml HNO3 preserved poly bottles.
A trip blank sample must be submitted with the VOCs.

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
5	1 x 125mL plastic, Cool < 6°C
7	2 x 250mL plastic, ZnAc/NaOH Cool < 6°C
8	3 x 40mL glass VOA Vials, HCl, pH < 2; Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
10	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
39	3 x 40mL glass VOA Vials, HCl, pH < 2; Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C
47	1 x 500mL, amber glass, H2SO4, Cool < 6°C

Event: KOMAN, Long Term Monitoring, AOC 50 Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: SW9056A - SO4 (5)	SW9034 - Sulfide (7)	RSK175 - Dissolved Gases (8)	SW6010C/FLDFLT - Fe Mn (9)	SW6020A/FLDFLT - As (10)	SW9060A - TOC (39)	SW8260B - VOCs (29)	A2320B - Alkalinity (46)	E353.2 - Nitrite Nitrate as N (47)	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom
1	GbM-97-[illegible].FAL19	WG	10/28/19	0735	B/A				X	X					GbM-97-25X	N1		
2	GbM-02-[illegible].FAL19	WG	10/28/19	0915	B/A				X	X		X			GbM-02-04X	N1		
3	AOC50 EB-[illegible]2119	WQ	10/29/19	0700	B/A				X	X		X			Equipment Blank	EB		
4	GbM-13-02X-FAL19	WG	10/30/19	0815	B/A	X	X	X	X	X	X	X	X	X	GbM-13-02X	N1		
5	MW-7-FAL19	WG	10/30/19	1040	B/A				X	X		X			MW-7	N1		
6	KSA-12-95X-FAL19	WG	10/30/19	1215	B/A				X	X		X			KSA-12-95X	N1		
7	TripBlank-103019	WQ	10/30/19									X			Trip Blank	TB		
8																		
9																		
10																		
		Turnaround Time: 21 Days																

Relinquished by: (Signature)	Date	Time
[signature]	10/30/19	1500
[signature]	10/30/19	1800

Received by: (Signature)	Date	Time
[signature]	10/30/19	1500
[signature]	10-31-19	0930

Shipping Date / Carrier / Airbill Number

Received by Laboratory (Signature, Date, Time) & condition

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-176219-1

Login Number: 176219
List Number: 1
Creator: Banda, Christy S

List Source: Eurofins TestAmerica, Savannah

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

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-176219-1

Login Number: 176219
List Number: 2
Creator: Lubin, Julius C

List Source: Eurofins TestAmerica, Denver

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

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-176219-1
Project/Site: LTM - SHL Fall 2019

Laboratory: Eurofins TestAmerica, Savannah

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

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-20
Alaska	State	GA00006	06-30-20
Alaska (UST)	State	17-016	09-30-20
ANAB	Dept. of Defense ELAP	L2463	09-22-22
ANAB	ISO/IEC 17025	L2463.01	09-22-22
Arizona	State	AZ0808	12-14-19
Arkansas DEQ	State	19-015-0	02-01-20
California	State	2939	06-30-20
Colorado	State	GA00006	12-31-19
Connecticut	State	PH-0161	03-31-21
Florida	NELAP	E87052	06-30-20
GA Dept. of Agriculture	State Program	N/A	06-12-20
Georgia	State	E87052	06-30-20
Georgia (DW)	State	803	06-30-20
Guam	State	19-007R	04-17-20
Hawaii	State	<cert No.>	06-30-20
Indiana	State	C-GA-02	06-30-20
Iowa	State	353	09-22-20
Kansas	NELAP	E-10322	10-15-20
Kentucky (DW)	State	KY90084	12-31-19
Kentucky (UST)	State	<cert No.>	06-30-20
Kentucky (WW)	State	KY90084	12-31-19
Louisiana	NELAP	02011	06-30-20
Louisiana (DW)	State	LA009	12-31-19
Maine	State	GA00006	09-26-20
Maryland	State	250	12-31-19
Massachusetts	State	M-GA006	06-30-20
Michigan	State	9925	06-30-20
Mississippi	State	<cert No.>	06-30-20
Nebraska	State	NE-OS-7-04	06-30-20
New Hampshire	NELAP	2096	05-29-20
New Jersey	NELAP	GA769	06-30-20
New Mexico	State	GA00006	06-30-20
New York	NELAP	10842	04-01-20
North Carolina (DW)	State	13701	07-31-20
North Carolina (WW/SW)	State	269	12-31-19
Oklahoma	State	9984	08-31-20
Pennsylvania	NELAP	68-00474	06-30-20
Puerto Rico	State	GA00006	01-01-20
South Carolina	State	98001	06-30-20
Tennessee	State	02961	06-30-20
Texas	NELAP	T1047004185-19-3	11-30-19
Texas	TCEQ Water Supply	T104704185	09-23-20
US Fish & Wildlife	US Federal Programs	LE058448-0	07-31-20
USDA	US Federal Programs	P330-18-00313	10-29-21
Virginia	NELAP	10509	06-14-20
Washington	State	C805	06-10-20
West Virginia (DW)	State	9950C	12-31-19
West Virginia DEP	State	094	11-30-19

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-176219-1
Project/Site: LTM - SHL Fall 2019

Laboratory: Eurofins TestAmerica, Savannah (Continued)

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999819810	08-31-20
Wyoming	State	8TMS-L	06-30-20 *

Laboratory: Eurofins TestAmerica, Denver

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

Authority	Program	Identification Number	Expiration Date
A2LA	DoD	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

Laboratory Job ID: 680-176309-1
Client Project/Site: LTM - SHL Fall 2019

For:
KOMAN Government Solutions, LLC
293 Boston Post Road West
Suite 100
Marlborough, Massachusetts 01752

Attn: Laurie Ekes

Authorized for release by:
11/19/2019 11:52:52 AM
Sheila Hoffman, Project Manager II
(912)250-0279
sheila.hoffman@testamericainc.com

Designee for

Jerry Lanier, Project Manager I
(912)250-0281
jerry.lanier@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Table of Contents 2
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Client Sample Results 9
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Certification Summary 47

Job ID: 680-176309-1

Laboratory: Eurofins TestAmerica, Savannah

Narrative

CASE NARRATIVE

Client: KOMAN Government Solutions, LLC

Project: LTM - SHL Fall 2019

Report Number: 680-176309-1

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 the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT
The samples were received on 11/02/2019; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 3.3 C.

METALS (ICP) - DISSOLVED
Samples EPA-PZ-2012-4B_FAL19 (680-176309-6), EPA-PZ-2012-4A_FAL19 (680-176309-7), EPA-PZ-2012-7A_FAL19 (680-176309-8), SHM-11-06_FAL19 (680-176309-9), SHL-DUP06_FAL19 (680-176309-10), SHL-DUP03_FAL19 (680-176309-11), PZ-12-01_FAL19 (680-176309-12), PZ-12-02_FAL19 (680-176309-13), SHL-20_FAL19 (680-176309-14), SHL-DUP02_FAL19 (680-176309-15), PZ-12-10_FAL19 (680-176309-16), PZ-12-09_FAL19 (680-176309-17), PZ-12-08_FAL19 (680-176309-18), PZ-12-07_FAL19 (680-176309-19), SHL-15_FAL19 (680-176309-20), SHL-DUP11_FAL19 (680-176309-21) and SHM-10-06_FAL19 (680-176309-22) were analyzed for Metals (ICP) - Dissolved in accordance with EPA SW-846 Method 6010C. The samples were prepared on 11/03/2019, 11/04/2019 and 11/05/2019 and analyzed on 11/04/2019, 11/06/2019 and 11/11/2019.

Manganese failed the recovery criteria low for the MS of sample 400-178756-1 in batch 680-594594.

Manganese failed the recovery criteria low for the MSD of sample 400-178756-1 in batch 680-594594.

Iron and Manganese failed the recovery criteria low for the MS of sample 680-176219-15 in batch 680-595023.

Iron and Manganese failed the recovery criteria low for the MSD of sample 680-176219-15 in batch 680-595023.

Iron and Manganese failed the recovery criteria low for the MS of sample 680-176219-22 in batch 680-595683.

Iron and Manganese failed the recovery criteria high for the MSD of sample 680-176219-22 in batch 680-595683.

Refer to the QC report for details.

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

Iron was detected in method blank MB 680-594345/1-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. Refer to the QC report for details.

METALS (ICPMS) - DISSOLVED
Samples EPA-PZ-2012-4B_FAL19 (680-176309-6), EPA-PZ-2012-4A_FAL19 (680-176309-7), EPA-PZ-2012-7A_FAL19 (680-176309-8), SHM-11-06_FAL19 (680-176309-9), SHL-DUP06_FAL19 (680-176309-10), SHL-DUP03_FAL19 (680-176309-11), PZ-12-01_FAL19 (680-176309-12), PZ-12-02_FAL19 (680-176309-13), SHL-20_FAL19 (680-176309-14), SHL-DUP02_FAL19 (680-176309-15),

Job ID: 680-176309-1 (Continued)

Laboratory: Eurofins TestAmerica, Savannah (Continued)

PZ-12-10_FAL19 (680-176309-16), PZ-12-09_FAL19 (680-176309-17), PZ-12-08_FAL19 (680-176309-18), PZ-12-07_FAL19 (680-176309-19), SHL-15_FAL19 (680-176309-20), SHL-DUP11_FAL19 (680-176309-21) and SHM-10-06_FAL19 (680-176309-22) were analyzed for Metals (ICPMS) - Dissolved in accordance with EPA SW-846 Method 6020A. The samples were prepared on 11/03/2019, 11/04/2019 and 11/05/2019 and analyzed on 11/04/2019, 11/05/2019 and 11/06/2019.

Arsenic failed the recovery criteria low for the MS of sample 400-178756-1 in batch 680-594786.

Arsenic failed the recovery criteria low for the MS of sample 680-176219-15 in batch 680-594808.

The interference check standard solution (ICSA) associated with the following samples showed results for cobalt at a level greater than 2 times the limit of detection (LOD). It is believed that the solution contains trace impurities of this element / these elements and the results are not due to matrix interference. These results are consistent with those found by the manufacturer of the ICSA solution. (ICSA 680-594786/12) and (ICSA 680-594786/151)

Refer to the QC report for details.

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

ALKALINITY

Samples EPA-PZ-2012-4B_FAL19 (680-176309-6), EPA-PZ-2012-4A_FAL19 (680-176309-7), EPA-PZ-2012-7A_FAL19 (680-176309-8), SHM-11-06_FAL19 (680-176309-9), SHL-DUP06_FAL19 (680-176309-10), SHL-DUP03_FAL19 (680-176309-11), PZ-12-01_FAL19 (680-176309-12), PZ-12-02_FAL19 (680-176309-13), SHL-20_FAL19 (680-176309-14), SHL-DUP02_FAL19 (680-176309-15), PZ-12-10_FAL19 (680-176309-16), PZ-12-09_FAL19 (680-176309-17), PZ-12-08_FAL19 (680-176309-18), PZ-12-07_FAL19 (680-176309-19), SHL-15_FAL19 (680-176309-20), SHL-DUP11_FAL19 (680-176309-21) and SHM-10-06_FAL19 (680-176309-22) were analyzed for alkalinity in accordance with SM 2320B. The samples were analyzed on 11/11/2019 and 11/12/2019.

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

ANIONS BY ION CHROMATOGRAPHY (28 DAY)

Samples EPA-PZ-2012-4B_FAL19 (680-176309-6), EPA-PZ-2012-4A_FAL19 (680-176309-7), EPA-PZ-2012-7A_FAL19 (680-176309-8), SHM-11-06_FAL19 (680-176309-9), SHL-DUP06_FAL19 (680-176309-10), SHL-DUP03_FAL19 (680-176309-11), PZ-12-01_FAL19 (680-176309-12), PZ-12-02_FAL19 (680-176309-13), SHL-20_FAL19 (680-176309-14), SHL-DUP02_FAL19 (680-176309-15), PZ-12-10_FAL19 (680-176309-16), PZ-12-09_FAL19 (680-176309-17), PZ-12-08_FAL19 (680-176309-18), PZ-12-07_FAL19 (680-176309-19), SHL-15_FAL19 (680-176309-20), SHL-DUP11_FAL19 (680-176309-21) and SHM-10-06_FAL19 (680-176309-22) were analyzed for Anions by Ion Chromatography (28 Day) in accordance with SW 846 9056A. The samples were analyzed on 11/14/2019 and 11/15/2019.

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 680-596459 were outside control limits for sulfate. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits:
Sulfate failed the recovery criteria low for the MS of sample 660-98646-11 in batch 680-596198.
Sulfate failed the recovery criteria low for the MSD of sample 660-98646-11 in batch 680-596198.

The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Refer to the QC report for details.

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

DISSOLVED ORGANIC CARBON

Samples EPA-PZ-2012-4B_FAL19 (680-176309-6), EPA-PZ-2012-4A_FAL19 (680-176309-7), EPA-PZ-2012-7A_FAL19 (680-176309-8), SHM-11-06_FAL19 (680-176309-9), SHL-DUP06_FAL19 (680-176309-10), SHL-DUP03_FAL19 (680-176309-11), PZ-12-01_FAL19 (680-176309-12), PZ-12-02_FAL19 (680-176309-13), SHL-20_FAL19 (680-176309-14), SHL-DUP02_FAL19 (680-176309-15), PZ-12-10_FAL19 (680-176309-16), PZ-12-09_FAL19 (680-176309-17), PZ-12-08_FAL19 (680-176309-18), PZ-12-07_FAL19

Job ID: 680-176309-1 (Continued)

Laboratory: Eurofins TestAmerica, Savannah (Continued)

(680-176309-19), SHL-15_FAL19 (680-176309-20), SHL-DUP11_FAL19 (680-176309-21) and SHM-10-06_FAL19 (680-176309-22) were analyzed for dissolved organic carbon in accordance with EPA SW-846 Method 9060. The samples were analyzed on 11/17/2019 and 11/18/2019.

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

Sample Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176309-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
680-176309-6	EPA-PZ-2012-4B_FAL19	WG	10/31/19 09:10	11/02/19 07:53	
680-176309-7	EPA-PZ-2012-4A_FAL19	WG	10/31/19 10:15	11/02/19 07:53	
680-176309-8	EPA-PZ-2012-7A_FAL19	WG	10/31/19 11:30	11/02/19 07:53	
680-176309-9	SHM-11-06_FAL19	WG	11/01/19 09:25	11/02/19 07:53	
680-176309-10	SHL-DUP06_FAL19	WG	10/31/19 09:15	11/02/19 07:53	
680-176309-11	SHL-DUP03_FAL19	WG	11/01/19 09:30	11/02/19 07:53	
680-176309-12	PZ-12-01_FAL19	WG	11/01/19 10:50	11/02/19 07:53	
680-176309-13	PZ-12-02_FAL19	WG	11/01/19 12:20	11/02/19 07:53	
680-176309-14	SHL-20_FAL19	WG	11/01/19 13:45	11/02/19 07:53	
680-176309-15	SHL-DUP02_FAL19	WG	11/01/19 13:50	11/02/19 07:53	
680-176309-16	PZ-12-10_FAL19	WG	10/31/19 08:55	11/02/19 07:53	
680-176309-17	PZ-12-09_FAL19	WG	10/31/19 09:55	11/02/19 07:53	
680-176309-18	PZ-12-08_FAL19	WG	10/31/19 11:10	11/02/19 07:53	
680-176309-19	PZ-12-07_FAL19	WG	11/01/19 11:00	11/02/19 07:53	
680-176309-20	SHL-15_FAL19	WG	11/01/19 12:10	11/02/19 07:53	
680-176309-21	SHL-DUP11_FAL19	WG	11/01/19 12:15	11/02/19 07:53	
680-176309-22	SHM-10-06_FAL19	WG	11/01/19 13:45	11/02/19 07:53	

Method Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176309-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV
6020A	Metals (ICP/MS)	SW846	TAL SAV
9060	Organic Carbon, Dissolved (DOC)	SW846	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL SAV

Protocol References:

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

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

Laboratory References:

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

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Metals

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

General Chemistry

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

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)

Client Sample ID: EPA-PZ-2012-4B_FAL19

Lab Sample ID: 680-176309-6

Date Collected: 10/31/19 09:10
Matrix: WG
Date Received: 11/02/19 07:53

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	26	M	0.50	0.50	0.20	mg/L		11/14/19 19:15	1
Sulfate	17	M	1.0	1.0	0.40	mg/L		11/14/19 19:15	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	62000		50	50	17	ug/L		11/06/19 20:21	1
Manganese	690		10	3.0	1.0	ug/L		11/06/19 20:21	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	2100		3.0	3.0	1.5	ug/L		11/05/19 21:03	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	130		10	10	3.1	mg/L		11/12/19 13:29	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.1		1.0	1.0	0.35	mg/L		11/17/19 19:55	1

Client Sample ID: EPA-PZ-2012-4A_FAL19

Lab Sample ID: 680-176309-7

Date Collected: 10/31/19 10:15
Matrix: WG
Date Received: 11/02/19 07:53

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	55		0.50	0.50	0.20	mg/L		11/14/19 19:28	1
Sulfate	2.7		1.0	1.0	0.40	mg/L		11/14/19 19:28	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	7000		50	50	17	ug/L		11/11/19 16:49	1
Manganese	920		10	3.0	1.0	ug/L		11/11/19 16:49	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	4.5		3.0	3.0	1.5	ug/L		11/06/19 21:31	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	79		10	10	3.1	mg/L		11/12/19 13:43	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	8.9		1.0	1.0	0.35	mg/L		11/17/19 20:12	1

Client Sample ID: EPA-PZ-2012-7A_FAL19

Lab Sample ID: 680-176309-8

Date Collected: 10/31/19 11:30

Matrix: WG

Date Received: 11/02/19 07:53

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	120	M	0.50	0.50	0.20	mg/L		11/14/19 19:40	1
Sulfate	5.0	M	1.0	1.0	0.40	mg/L		11/14/19 19:40	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/06/19 20:45	1
Manganese	47		10	3.0	1.0	ug/L		11/06/19 20:45	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	2.3	J	3.0	3.0	1.5	ug/L		11/05/19 21:18	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	22		10	10	3.1	mg/L		11/12/19 13:49	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.67	J	1.0	1.0	0.35	mg/L		11/17/19 20:29	1

Client Sample ID: SHM-11-06_FAL19

Lab Sample ID: 680-176309-9

Date Collected: 11/01/19 09:25

Matrix: WG

Date Received: 11/02/19 07:53

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	46	M	0.50	0.50	0.20	mg/L		11/14/19 19:53	1
Sulfate	8.6	M	1.0	1.0	0.40	mg/L		11/14/19 19:53	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	69000		50	50	17	ug/L		11/06/19 20:41	1
Manganese	1700		10	3.0	1.0	ug/L		11/06/19 20:41	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	780		3.0	3.0	1.5	ug/L		11/05/19 21:14	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	190		10	10	3.1	mg/L		11/12/19 13:56	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.1		1.0	1.0	0.35	mg/L		11/17/19 20:46	1

Client Sample ID: SHL-DUP06_FAL19

Lab Sample ID: 680-176309-10

Date Collected: 10/31/19 09:15

Matrix: WG

Date Received: 11/02/19 07:53

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	26	M	0.50	0.50	0.20	mg/L		11/14/19 20:06	1
Sulfate	17	M	1.0	1.0	0.40	mg/L		11/14/19 20:06	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	74000		50	50	17	ug/L		11/04/19 12:48	1
Manganese	740		10	3.0	1.0	ug/L		11/04/19 12:48	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	2000		3.0	3.0	1.5	ug/L		11/04/19 18:03	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	130		10	10	3.1	mg/L		11/12/19 14:03	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.0		1.0	1.0	0.35	mg/L		11/17/19 21:34	1

Client Sample ID: SHL-DUP03_FAL19

Lab Sample ID: 680-176309-11

Date Collected: 11/01/19 09:30

Matrix: WG

Date Received: 11/02/19 07:53

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	46	M	0.50	0.50	0.20	mg/L		11/14/19 21:34	1
Sulfate	8.1	M	1.0	1.0	0.40	mg/L		11/14/19 21:34	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	68000		50	50	17	ug/L		11/06/19 20:05	1
Manganese	1600		10	3.0	1.0	ug/L		11/06/19 20:05	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	810		3.0	3.0	1.5	ug/L		11/05/19 20:47	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	190		10	10	3.1	mg/L		11/12/19 14:10	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.9		1.0	1.0	0.35	mg/L		11/17/19 21:51	1

Client Sample ID: PZ-12-01_FAL19

Lab Sample ID: 680-176309-12

Date Collected: 11/01/19 10:50

Matrix: WG

Date Received: 11/02/19 07:53

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	62		0.50	0.50	0.20	mg/L		11/15/19 03:16	1
Sulfate	14		1.0	1.0	0.40	mg/L		11/15/19 03:16	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	52000		50	50	17	ug/L		11/06/19 20:17	1
Manganese	1800		10	3.0	1.0	ug/L		11/06/19 20:17	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	560		3.0	3.0	1.5	ug/L		11/05/19 20:59	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	140		10	10	3.1	mg/L		11/12/19 14:17	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.0		1.0	1.0	0.35	mg/L		11/17/19 22:08	1

Client Sample ID: PZ-12-02_FAL19

Lab Sample ID: 680-176309-13

Date Collected: 11/01/19 12:20

Matrix: WG

Date Received: 11/02/19 07:53

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	68	M	0.50	0.50	0.20	mg/L		11/14/19 21:47	1
Sulfate	2.8	M	1.0	1.0	0.40	mg/L		11/14/19 21:47	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	74000		50	50	17	ug/L		11/11/19 16:16	1
Manganese	1200		10	3.0	1.0	ug/L		11/11/19 16:16	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	270		3.0	3.0	1.5	ug/L		11/06/19 21:02	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	220		10	10	3.1	mg/L		11/12/19 14:25	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	3.9		1.0	1.0	0.35	mg/L		11/17/19 22:24	1

Client Sample ID: SHL-20_FAL19

Lab Sample ID: 680-176309-14

Date Collected: 11/01/19 13:45

Matrix: WG

Date Received: 11/02/19 07:53

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	62	M	0.50	0.50	0.20	mg/L		11/14/19 22:00	1
Sulfate	29	M	1.0	1.0	0.40	mg/L		11/14/19 22:00	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	45000		50	50	17	ug/L		11/06/19 20:37	1
Manganese	1900		10	3.0	1.0	ug/L		11/06/19 20:37	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	830		3.0	3.0	1.5	ug/L		11/05/19 21:10	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	99		10	10	3.1	mg/L		11/12/19 14:32	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.3		1.0	1.0	0.35	mg/L		11/17/19 22:41	1

Client Sample ID: SHL-DUP02_FAL19

Lab Sample ID: 680-176309-15

Date Collected: 11/01/19 13:50

Matrix: WG

Date Received: 11/02/19 07:53

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	61	M	0.50	0.50	0.20	mg/L		11/14/19 22:12	1
Sulfate	29	M	1.0	1.0	0.40	mg/L		11/14/19 22:12	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	46000		50	50	17	ug/L		11/11/19 16:41	1
Manganese	1900		10	3.0	1.0	ug/L		11/11/19 16:41	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	810		3.0	3.0	1.5	ug/L		11/06/19 21:25	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	98		10	10	3.1	mg/L		11/12/19 14:55	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.4		1.0	1.0	0.35	mg/L		11/17/19 23:59	1

Client Sample ID: PZ-12-10_FAL19

Lab Sample ID: 680-176309-16
Matrix: WG
Date Collected: 10/31/19 08:55
Date Received: 11/02/19 07:53

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.86		0.50	0.50	0.20	mg/L		11/14/19 22:25	1
Sulfate	11		1.0	1.0	0.40	mg/L		11/14/19 22:25	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/11/19 15:29	1
Manganese	1.2	J	10	3.0	1.0	ug/L		11/11/19 15:29	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/06/19 19:52	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	36		10	10	3.1	mg/L		11/12/19 15:00	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.69	J	1.0	1.0	0.35	mg/L		11/18/19 01:17	1

Client Sample ID: PZ-12-09_FAL19

Lab Sample ID: 680-176309-17
Matrix: WG
Date Collected: 10/31/19 09:55
Date Received: 11/02/19 07:53

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	1.4		0.50	0.50	0.20	mg/L		11/14/19 22:38	1
Sulfate	20		1.0	1.0	0.40	mg/L		11/14/19 22:38	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/06/19 20:33	1
Manganese	12		10	3.0	1.0	ug/L		11/06/19 20:33	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.1		3.0	3.0	1.5	ug/L		11/05/19 21:06	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	69		10	10	3.1	mg/L		11/12/19 15:07	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.64	J	1.0	1.0	0.35	mg/L		11/18/19 01:31	1

Client Sample ID: PZ-12-08_FAL19

Lab Sample ID: 680-176309-18

Date Collected: 10/31/19 11:10

Matrix: WG

Date Received: 11/02/19 07:53

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	5.6		0.50	0.50	0.20	mg/L		11/14/19 22:50	1
Sulfate	13		1.0	1.0	0.40	mg/L		11/14/19 22:50	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	14000		50	50	17	ug/L		11/11/19 16:28	1
Manganese	2600		10	3.0	1.0	ug/L		11/11/19 16:28	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	17		3.0	3.0	1.5	ug/L		11/06/19 21:22	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	88		10	10	3.1	mg/L		11/11/19 15:02	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.2		1.0	1.0	0.35	mg/L		11/18/19 01:48	1

Client Sample ID: PZ-12-07_FAL19

Lab Sample ID: 680-176309-19

Date Collected: 11/01/19 11:00

Matrix: WG

Date Received: 11/02/19 07:53

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	4.2	M	0.50	0.50	0.20	mg/L		11/14/19 23:03	1
Sulfate	99	M	1.0	1.0	0.40	mg/L		11/14/19 23:03	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	5100		50	50	17	ug/L		11/06/19 19:53	1
Manganese	1400		10	3.0	1.0	ug/L		11/06/19 19:53	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	94		3.0	3.0	1.5	ug/L		11/05/19 20:28	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	94		10	10	3.1	mg/L		11/11/19 15:11	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.2		1.0	1.0	0.35	mg/L		11/18/19 02:05	1

Client Sample ID: SHL-15_FAL19

Lab Sample ID: 680-176309-20

Date Collected: 11/01/19 12:10

Matrix: WG

Date Received: 11/02/19 07:53

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	7.0		0.50	0.50	0.20	mg/L		11/14/19 23:15	1
Sulfate	29		1.0	1.0	0.40	mg/L		11/14/19 23:15	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	1500		50	50	17	ug/L		11/04/19 22:04	1
Manganese	540		10	3.0	1.0	ug/L		11/04/19 22:04	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	110		3.0	3.0	1.5	ug/L		11/05/19 20:21	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	100		10	10	3.1	mg/L		11/11/19 15:16	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.6		1.0	1.0	0.35	mg/L		11/18/19 02:22	1

Client Sample ID: SHL-DUP11_FAL19

Lab Sample ID: 680-176309-21

Date Collected: 11/01/19 12:15

Matrix: WG

Date Received: 11/02/19 07:53

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	7.3		0.50	0.50	0.20	mg/L		11/15/19 00:57	1
Sulfate	29		1.0	1.0	0.40	mg/L		11/15/19 00:57	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	1700		50	50	17	ug/L		11/11/19 15:33	1
Manganese	530		10	3.0	1.0	ug/L		11/11/19 15:33	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	110		3.0	3.0	1.5	ug/L		11/06/19 19:55	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	100		10	10	3.1	mg/L		11/11/19 15:21	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.6		1.0	1.0	0.35	mg/L		11/18/19 02:38	1

Client Sample ID: SHM-10-06_FAL19

Date Collected: 11/01/19 13:45
Date Received: 11/02/19 07:53

Lab Sample ID: 680-176309-22

Matrix: WG

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	29	M	0.50	0.50	0.20	mg/L		11/15/19 01:09	1
Sulfate	11	M	1.0	1.0	0.40	mg/L		11/15/19 01:09	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	81000		50	50	17	ug/L		11/11/19 16:45	1
Manganese	2400		10	3.0	1.0	ug/L		11/11/19 16:45	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	1300		3.0	3.0	1.5	ug/L		11/06/19 21:28	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	150		10	10	3.1	mg/L		11/11/19 15:25	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.2		1.0	1.0	0.35	mg/L		11/18/19 02:55	1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 680-596198/2
Matrix: Water
Analysis Batch: 596198

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		11/14/19 09:38	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		11/14/19 09:38	1

Lab Sample ID: LCS 680-596198/3
Matrix: Water
Analysis Batch: 596198

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.2		mg/L		102	87 - 111
Sulfate	10.0	10.8		mg/L		108	87 - 112

Lab Sample ID: LCSD 680-596198/4
Matrix: Water
Analysis Batch: 596198

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
Chloride	10.0	10.1		mg/L		101	87 - 111	0	15
Sulfate	10.0	10.7		mg/L		107	87 - 112	0	15

Lab Sample ID: MB 680-596323/33
Matrix: Water
Analysis Batch: 596323

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		11/14/19 23:41	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		11/14/19 23:41	1

Lab Sample ID: LCS 680-596323/34
Matrix: Water
Analysis Batch: 596323

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.2		mg/L		102	87 - 111
Sulfate	10.0	10.2		mg/L		102	87 - 112

Lab Sample ID: LCSD 680-596323/35
Matrix: Water
Analysis Batch: 596323

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
Chloride	10.0	10.2		mg/L		102	87 - 111	0	15
Sulfate	10.0	10.2		mg/L		102	87 - 112	1	15

Lab Sample ID: 680-176309-12 MS
Matrix: WG
Analysis Batch: 596323

Client Sample ID: PZ-12-01_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	62		10.0	72.0	4	mg/L		97	87 - 111
Sulfate	14		10.0	24.0		mg/L		96	87 - 112

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: 680-176309-12 MSD
Matrix: WG
Analysis Batch: 596323

Client Sample ID: PZ-12-01_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	62		10.0	72.1	4	mg/L		98	87 - 111	0	15
Sulfate	14		10.0	24.2		mg/L		98	87 - 112	1	15

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-594287/1-A
Matrix: Water
Analysis Batch: 594476

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 594287

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/04/19 12:07	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/04/19 12:07	1

Lab Sample ID: LCS 680-594287/2-A
Matrix: Water
Analysis Batch: 594476

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 594287

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5010	4890		ug/L		98	87 - 115
Manganese	400	401		ug/L		100	90 - 114

Lab Sample ID: MB 680-594289/1-A
Matrix: Water
Analysis Batch: 594594

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 594289

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/04/19 21:18	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/04/19 21:18	1

Lab Sample ID: LCS 680-594289/2-A
Matrix: Water
Analysis Batch: 594594

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 594289

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5010	5000		ug/L		100	87 - 115
Manganese	400	413		ug/L		103	90 - 114

Lab Sample ID: MB 680-594345/1-A
Matrix: Water
Analysis Batch: 595023

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 594345

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	17.9	J	50	50	17	ug/L		11/06/19 19:13	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/06/19 19:13	1

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

Lab Sample ID: LCS 680-594345/2-A
Matrix: Water
Analysis Batch: 595023

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 594345

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5010	5110		ug/L		102	87 - 115
Manganese	400	395		ug/L		99	90 - 114

Lab Sample ID: MB 680-594637/1-A
Matrix: Water
Analysis Batch: 595683

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 594637

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/11/19 15:36	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/11/19 15:36	1

Lab Sample ID: LCS 680-594637/2-A
Matrix: Water
Analysis Batch: 595683

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 594637

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5010	5080		ug/L		101	87 - 115
Manganese	400	395		ug/L		99	90 - 114

Lab Sample ID: MB 680-594658/1-A
Matrix: Water
Analysis Batch: 595683

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 594658

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/11/19 14:33	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/11/19 14:33	1

Lab Sample ID: LCS 680-594658/2-A
Matrix: Water
Analysis Batch: 595683

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 594658

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5010	5090		ug/L		102	87 - 115
Manganese	400	395		ug/L		99	90 - 114

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 680-594286/1-A
Matrix: Water
Analysis Batch: 594568

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 594286

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/04/19 16:15	1

Lab Sample ID: LCS 680-594286/2-A
Matrix: Water
Analysis Batch: 594568

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 594286

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	105		ug/L		105	84 - 116

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

Lab Sample ID: MB 680-594288/1-A
Matrix: Water
Analysis Batch: 594786

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 594288

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/05/19 19:14	1

Lab Sample ID: LCS 680-594288/2-A
Matrix: Water
Analysis Batch: 594786

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 594288

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	101		ug/L		101	84 - 116

Lab Sample ID: MB 680-594343/1-A
Matrix: Water
Analysis Batch: 594808

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 594343

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/06/19 09:58	1

Lab Sample ID: LCS 680-594343/2-A
Matrix: Water
Analysis Batch: 594808

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 594343

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	108		ug/L		108	84 - 116

Lab Sample ID: MB 680-594636/1-A
Matrix: Water
Analysis Batch: 595022

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 594636

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/06/19 20:37	1

Lab Sample ID: LCS 680-594636/2-A
Matrix: Water
Analysis Batch: 595022

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 594636

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	105		ug/L		105	84 - 116

Lab Sample ID: MB 680-594657/1-A
Matrix: Water
Analysis Batch: 595022

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 594657

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/06/19 18:55	1

Lab Sample ID: LCS 680-594657/2-A
Matrix: Water
Analysis Batch: 595022

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 594657

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	105		ug/L		105	84 - 116

Method: 9060 - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 280-478000/37
Matrix: Water
Analysis Batch: 478000

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.0	U	1.0	1.0	0.35	mg/L		11/17/19 23:27	1

Lab Sample ID: MB 280-478000/5
Matrix: Water
Analysis Batch: 478000

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.0	U	1.0	1.0	0.35	mg/L		11/17/19 14:12	1

Lab Sample ID: LCS 280-478000/3
Matrix: Water
Analysis Batch: 478000

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon - Duplicate	25.0	22.9		mg/L		92	88 - 112

Lab Sample ID: LCS 280-478000/35
Matrix: Water
Analysis Batch: 478000

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon - Duplicate	25.0	24.1		mg/L		97	88 - 112

Lab Sample ID: LCSD 280-478000/36
Matrix: Water
Analysis Batch: 478000

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon - Duplicate	25.0	24.1		mg/L		96	88 - 112	0	15

Lab Sample ID: LCSD 280-478000/4
Matrix: Water
Analysis Batch: 478000

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon - Duplicate	25.0	24.2		mg/L		97	88 - 112	6	15

Lab Sample ID: 680-176309-15 MS
Matrix: WG
Analysis Batch: 478000

Client Sample ID: SHL-DUP02_FAL19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon - Duplicate	1.4		25.0	25.2		mg/L		95	88 - 112

Method: 9060 - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: 680-176309-15 MSD
Matrix: WG
Analysis Batch: 478000

Client Sample ID: SHL-DUP02_FAL19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon - Duplicate	1.4		25.0	26.6		mg/L		101	88 - 112	5	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-477242/5
Matrix: Water
Analysis Batch: 477242

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		11/11/19 14:58	1

Lab Sample ID: LCS 280-477242/4
Matrix: Water
Analysis Batch: 477242

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	202		mg/L		101	89 - 109

Lab Sample ID: 680-176309-18 DU
Matrix: WG
Analysis Batch: 477242

Client Sample ID: PZ-12-08_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	88		88.6		mg/L		0.5	10

Lab Sample ID: MB 280-477399/5
Matrix: Water
Analysis Batch: 477399

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		11/12/19 13:22	1

Lab Sample ID: LCS 280-477399/4
Matrix: Water
Analysis Batch: 477399

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	205		mg/L		102	89 - 109

Lab Sample ID: 680-176309-6 DU
Matrix: WG
Analysis Batch: 477399

Client Sample ID: EPA-PZ-2012-4B_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	130		129		mg/L		0.5	10

HPLC/IC

Analysis Batch: 596198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176309-6	EPA-PZ-2012-4B_FAL19	Total/NA	WG	9056A	
680-176309-7	EPA-PZ-2012-4A_FAL19	Total/NA	WG	9056A	
680-176309-8	EPA-PZ-2012-7A_FAL19	Total/NA	WG	9056A	
680-176309-9	SHM-11-06_FAL19	Total/NA	WG	9056A	
680-176309-10	SHL-DUP06_FAL19	Total/NA	WG	9056A	
680-176309-11	SHL-DUP03_FAL19	Total/NA	WG	9056A	
680-176309-13	PZ-12-02_FAL19	Total/NA	WG	9056A	
680-176309-14	SHL-20_FAL19	Total/NA	WG	9056A	
680-176309-15	SHL-DUP02_FAL19	Total/NA	WG	9056A	
680-176309-16	PZ-12-10_FAL19	Total/NA	WG	9056A	
680-176309-17	PZ-12-09_FAL19	Total/NA	WG	9056A	
680-176309-18	PZ-12-08_FAL19	Total/NA	WG	9056A	
680-176309-19	PZ-12-07_FAL19	Total/NA	WG	9056A	
680-176309-20	SHL-15_FAL19	Total/NA	WG	9056A	
MB 680-596198/2	Method Blank	Total/NA	Water	9056A	
LCS 680-596198/3	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-596198/4	Lab Control Sample Dup	Total/NA	Water	9056A	

Analysis Batch: 596323

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176309-12	PZ-12-01_FAL19	Total/NA	WG	9056A	
680-176309-21	SHL-DUP11_FAL19	Total/NA	WG	9056A	
680-176309-22	SHM-10-06_FAL19	Total/NA	WG	9056A	
MB 680-596323/33	Method Blank	Total/NA	Water	9056A	
LCS 680-596323/34	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-596323/35	Lab Control Sample Dup	Total/NA	Water	9056A	
680-176309-12 MS	PZ-12-01_FAL19	Total/NA	WG	9056A	
680-176309-12 MSD	PZ-12-01_FAL19	Total/NA	WG	9056A	

Metals

Prep Batch: 594286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176309-10	SHL-DUP06_FAL19	Dissolved	WG	3005A	
MB 680-594286/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-594286/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 594287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176309-10	SHL-DUP06_FAL19	Dissolved	WG	3005A	
MB 680-594287/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-594287/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 594288

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176309-20	SHL-15_FAL19	Dissolved	WG	3005A	
MB 680-594288/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-594288/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Metals

Prep Batch: 594289

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176309-20	SHL-15_FAL19	Dissolved	WG	3005A	
MB 680-594289/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-594289/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 594343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176309-6	EPA-PZ-2012-4B_FAL19	Dissolved	WG	3005A	
680-176309-8	EPA-PZ-2012-7A_FAL19	Dissolved	WG	3005A	
680-176309-9	SHM-11-06_FAL19	Dissolved	WG	3005A	
680-176309-11	SHL-DUP03_FAL19	Dissolved	WG	3005A	
680-176309-12	PZ-12-01_FAL19	Dissolved	WG	3005A	
680-176309-14	SHL-20_FAL19	Dissolved	WG	3005A	
680-176309-17	PZ-12-09_FAL19	Dissolved	WG	3005A	
680-176309-19	PZ-12-07_FAL19	Dissolved	WG	3005A	
MB 680-594343/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-594343/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 594345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176309-6	EPA-PZ-2012-4B_FAL19	Dissolved	WG	3005A	
680-176309-8	EPA-PZ-2012-7A_FAL19	Dissolved	WG	3005A	
680-176309-9	SHM-11-06_FAL19	Dissolved	WG	3005A	
680-176309-11	SHL-DUP03_FAL19	Dissolved	WG	3005A	
680-176309-12	PZ-12-01_FAL19	Dissolved	WG	3005A	
680-176309-14	SHL-20_FAL19	Dissolved	WG	3005A	
680-176309-17	PZ-12-09_FAL19	Dissolved	WG	3005A	
680-176309-19	PZ-12-07_FAL19	Dissolved	WG	3005A	
MB 680-594345/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-594345/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 594476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176309-10	SHL-DUP06_FAL19	Dissolved	WG	6010C	594287
MB 680-594287/1-A	Method Blank	Total Recoverable	Water	6010C	594287
LCS 680-594287/2-A	Lab Control Sample	Total Recoverable	Water	6010C	594287

Analysis Batch: 594568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176309-10	SHL-DUP06_FAL19	Dissolved	WG	6020A	594286
MB 680-594286/1-A	Method Blank	Total Recoverable	Water	6020A	594286
LCS 680-594286/2-A	Lab Control Sample	Total Recoverable	Water	6020A	594286

Analysis Batch: 594594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176309-20	SHL-15_FAL19	Dissolved	WG	6010C	594289
MB 680-594289/1-A	Method Blank	Total Recoverable	Water	6010C	594289
LCS 680-594289/2-A	Lab Control Sample	Total Recoverable	Water	6010C	594289

Prep Batch: 594636

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176309-7	EPA-PZ-2012-4A_FAL19	Dissolved	WG	3005A	

Metals (Continued)

Prep Batch: 594636 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176309-13	PZ-12-02_FAL19	Dissolved	WG	3005A	
680-176309-15	SHL-DUP02_FAL19	Dissolved	WG	3005A	
680-176309-18	PZ-12-08_FAL19	Dissolved	WG	3005A	
680-176309-22	SHM-10-06_FAL19	Dissolved	WG	3005A	
MB 680-594636/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-594636/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 594637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176309-7	EPA-PZ-2012-4A_FAL19	Dissolved	WG	3005A	
680-176309-13	PZ-12-02_FAL19	Dissolved	WG	3005A	
680-176309-15	SHL-DUP02_FAL19	Dissolved	WG	3005A	
680-176309-18	PZ-12-08_FAL19	Dissolved	WG	3005A	
680-176309-22	SHM-10-06_FAL19	Dissolved	WG	3005A	
MB 680-594637/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-594637/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 594657

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176309-16	PZ-12-10_FAL19	Dissolved	WG	3005A	
680-176309-21	SHL-DUP11_FAL19	Dissolved	WG	3005A	
MB 680-594657/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-594657/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 594658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176309-16	PZ-12-10_FAL19	Dissolved	WG	3005A	
680-176309-21	SHL-DUP11_FAL19	Dissolved	WG	3005A	
MB 680-594658/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-594658/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 594786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176309-20	SHL-15_FAL19	Dissolved	WG	6020A	594288
MB 680-594288/1-A	Method Blank	Total Recoverable	Water	6020A	594288
LCS 680-594288/2-A	Lab Control Sample	Total Recoverable	Water	6020A	594288

Analysis Batch: 594808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176309-6	EPA-PZ-2012-4B_FAL19	Dissolved	WG	6020A	594343
680-176309-8	EPA-PZ-2012-7A_FAL19	Dissolved	WG	6020A	594343
680-176309-9	SHM-11-06_FAL19	Dissolved	WG	6020A	594343
680-176309-11	SHL-DUP03_FAL19	Dissolved	WG	6020A	594343
680-176309-12	PZ-12-01_FAL19	Dissolved	WG	6020A	594343
680-176309-14	SHL-20_FAL19	Dissolved	WG	6020A	594343
680-176309-17	PZ-12-09_FAL19	Dissolved	WG	6020A	594343
680-176309-19	PZ-12-07_FAL19	Dissolved	WG	6020A	594343
MB 680-594343/1-A	Method Blank	Total Recoverable	Water	6020A	594343
LCS 680-594343/2-A	Lab Control Sample	Total Recoverable	Water	6020A	594343

Metals

Analysis Batch: 595022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176309-7	EPA-PZ-2012-4A_FAL19	Dissolved	WG	6020A	594636
680-176309-13	PZ-12-02_FAL19	Dissolved	WG	6020A	594636
680-176309-15	SHL-DUP02_FAL19	Dissolved	WG	6020A	594636
680-176309-16	PZ-12-10_FAL19	Dissolved	WG	6020A	594657
680-176309-18	PZ-12-08_FAL19	Dissolved	WG	6020A	594636
680-176309-21	SHL-DUP11_FAL19	Dissolved	WG	6020A	594657
680-176309-22	SHM-10-06_FAL19	Dissolved	WG	6020A	594636
MB 680-594636/1-A	Method Blank	Total Recoverable	Water	6020A	594636
MB 680-594657/1-A	Method Blank	Total Recoverable	Water	6020A	594657
LCS 680-594636/2-A	Lab Control Sample	Total Recoverable	Water	6020A	594636
LCS 680-594657/2-A	Lab Control Sample	Total Recoverable	Water	6020A	594657

Analysis Batch: 595023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176309-6	EPA-PZ-2012-4B_FAL19	Dissolved	WG	6010C	594345
680-176309-8	EPA-PZ-2012-7A_FAL19	Dissolved	WG	6010C	594345
680-176309-9	SHM-11-06_FAL19	Dissolved	WG	6010C	594345
680-176309-11	SHL-DUP03_FAL19	Dissolved	WG	6010C	594345
680-176309-12	PZ-12-01_FAL19	Dissolved	WG	6010C	594345
680-176309-14	SHL-20_FAL19	Dissolved	WG	6010C	594345
680-176309-17	PZ-12-09_FAL19	Dissolved	WG	6010C	594345
680-176309-19	PZ-12-07_FAL19	Dissolved	WG	6010C	594345
MB 680-594345/1-A	Method Blank	Total Recoverable	Water	6010C	594345
LCS 680-594345/2-A	Lab Control Sample	Total Recoverable	Water	6010C	594345

Analysis Batch: 595683

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176309-7	EPA-PZ-2012-4A_FAL19	Dissolved	WG	6010C	594637
680-176309-13	PZ-12-02_FAL19	Dissolved	WG	6010C	594637
680-176309-15	SHL-DUP02_FAL19	Dissolved	WG	6010C	594637
680-176309-16	PZ-12-10_FAL19	Dissolved	WG	6010C	594658
680-176309-18	PZ-12-08_FAL19	Dissolved	WG	6010C	594637
680-176309-21	SHL-DUP11_FAL19	Dissolved	WG	6010C	594658
680-176309-22	SHM-10-06_FAL19	Dissolved	WG	6010C	594637
MB 680-594637/1-A	Method Blank	Total Recoverable	Water	6010C	594637
MB 680-594658/1-A	Method Blank	Total Recoverable	Water	6010C	594658
LCS 680-594637/2-A	Lab Control Sample	Total Recoverable	Water	6010C	594637
LCS 680-594658/2-A	Lab Control Sample	Total Recoverable	Water	6010C	594658

General Chemistry

Analysis Batch: 477242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176309-18	PZ-12-08_FAL19	Total/NA	WG	SM 2320B	
680-176309-19	PZ-12-07_FAL19	Total/NA	WG	SM 2320B	
680-176309-20	SHL-15_FAL19	Total/NA	WG	SM 2320B	
680-176309-21	SHL-DUP11_FAL19	Total/NA	WG	SM 2320B	
680-176309-22	SHM-10-06_FAL19	Total/NA	WG	SM 2320B	
MB 280-477242/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-477242/4	Lab Control Sample	Total/NA	Water	SM 2320B	
680-176309-18 DU	PZ-12-08_FAL19	Total/NA	WG	SM 2320B	

General Chemistry

Analysis Batch: 477399

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176309-6	EPA-PZ-2012-4B_FAL19	Total/NA	WG	SM 2320B	
680-176309-7	EPA-PZ-2012-4A_FAL19	Total/NA	WG	SM 2320B	
680-176309-8	EPA-PZ-2012-7A_FAL19	Total/NA	WG	SM 2320B	
680-176309-9	SHM-11-06_FAL19	Total/NA	WG	SM 2320B	
680-176309-10	SHL-DUP06_FAL19	Total/NA	WG	SM 2320B	
680-176309-11	SHL-DUP03_FAL19	Total/NA	WG	SM 2320B	
680-176309-12	PZ-12-01_FAL19	Total/NA	WG	SM 2320B	
680-176309-13	PZ-12-02_FAL19	Total/NA	WG	SM 2320B	
680-176309-14	SHL-20_FAL19	Total/NA	WG	SM 2320B	
680-176309-15	SHL-DUP02_FAL19	Total/NA	WG	SM 2320B	
680-176309-16	PZ-12-10_FAL19	Total/NA	WG	SM 2320B	
680-176309-17	PZ-12-09_FAL19	Total/NA	WG	SM 2320B	
MB 280-477399/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-477399/4	Lab Control Sample	Total/NA	Water	SM 2320B	
680-176309-6 DU	EPA-PZ-2012-4B_FAL19	Total/NA	WG	SM 2320B	

Analysis Batch: 478000

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176309-6	EPA-PZ-2012-4B_FAL19	Dissolved	WG	9060	
680-176309-7	EPA-PZ-2012-4A_FAL19	Dissolved	WG	9060	
680-176309-8	EPA-PZ-2012-7A_FAL19	Dissolved	WG	9060	
680-176309-9	SHM-11-06_FAL19	Dissolved	WG	9060	
680-176309-10	SHL-DUP06_FAL19	Dissolved	WG	9060	
680-176309-11	SHL-DUP03_FAL19	Dissolved	WG	9060	
680-176309-12	PZ-12-01_FAL19	Dissolved	WG	9060	
680-176309-13	PZ-12-02_FAL19	Dissolved	WG	9060	
680-176309-14	SHL-20_FAL19	Dissolved	WG	9060	
680-176309-15	SHL-DUP02_FAL19	Dissolved	WG	9060	
680-176309-16	PZ-12-10_FAL19	Dissolved	WG	9060	
680-176309-17	PZ-12-09_FAL19	Dissolved	WG	9060	
680-176309-18	PZ-12-08_FAL19	Dissolved	WG	9060	
680-176309-19	PZ-12-07_FAL19	Dissolved	WG	9060	
680-176309-20	SHL-15_FAL19	Dissolved	WG	9060	
680-176309-21	SHL-DUP11_FAL19	Dissolved	WG	9060	
680-176309-22	SHM-10-06_FAL19	Dissolved	WG	9060	
MB 280-478000/37	Method Blank	Dissolved	Water	9060	
MB 280-478000/5	Method Blank	Dissolved	Water	9060	
LCS 280-478000/3	Lab Control Sample	Dissolved	Water	9060	
LCS 280-478000/35	Lab Control Sample	Dissolved	Water	9060	
LCSD 280-478000/36	Lab Control Sample Dup	Dissolved	Water	9060	
LCSD 280-478000/4	Lab Control Sample Dup	Dissolved	Water	9060	
680-176309-15 MS	SHL-DUP02_FAL19	Dissolved	WG	9060	
680-176309-15 MSD	SHL-DUP02_FAL19	Dissolved	WG	9060	

Client Sample ID: EPA-PZ-2012-4B_FAL19

Lab Sample ID: 680-176309-6

Date Collected: 10/31/19 09:10

Matrix: WG

Date Received: 11/02/19 07:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	596198	11/14/19 19:15	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594345	11/04/19 10:11	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595023	11/06/19 20:21	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594343	11/04/19 10:11	AJR	TAL SAV
Dissolved	Analysis	6020A		1			594808	11/05/19 21:03	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1	20 mL	20 mL	478000	11/17/19 19:55	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477399	11/12/19 13:29	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: EPA-PZ-2012-4A_FAL19

Lab Sample ID: 680-176309-7

Date Collected: 10/31/19 10:15

Matrix: WG

Date Received: 11/02/19 07:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	596198	11/14/19 19:28	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594637	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595683	11/11/19 16:49	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594636	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6020A		1			595022	11/06/19 21:31	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1	20 mL	20 mL	478000	11/17/19 20:12	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477399	11/12/19 13:43	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: EPA-PZ-2012-7A_FAL19

Lab Sample ID: 680-176309-8

Date Collected: 10/31/19 11:30

Matrix: WG

Date Received: 11/02/19 07:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	596198	11/14/19 19:40	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594345	11/04/19 10:11	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595023	11/06/19 20:45	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594343	11/04/19 10:11	AJR	TAL SAV
Dissolved	Analysis	6020A		1			594808	11/05/19 21:18	BWR	TAL SAV
	Instrument ID: ICPMSC									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176309-1

Client Sample ID: EPA-PZ-2012-7A_FAL19

Lab Sample ID: 680-176309-8
Date Collected: 10/31/19 11:30
Matrix: WG
Date Received: 11/02/19 07:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060		1	20 mL	20 mL	478000	11/17/19 20:29	SGB	TAL DEN
Total/NA	Analysis	SM 2320B		1			477399	11/12/19 13:49	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHM-11-06_FAL19

Lab Sample ID: 680-176309-9
Date Collected: 11/01/19 09:25
Matrix: WG
Date Received: 11/02/19 07:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	596198	11/14/19 19:53	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594345	11/04/19 10:11	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595023	11/06/19 20:41	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594343	11/04/19 10:11	AJR	TAL SAV
Dissolved	Analysis	6020A		1			594808	11/05/19 21:14	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1	20 mL	20 mL	478000	11/17/19 20:46	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477399	11/12/19 13:56	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHL-DUP06_FAL19

Lab Sample ID: 680-176309-10
Date Collected: 10/31/19 09:15
Matrix: WG
Date Received: 11/02/19 07:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	596198	11/14/19 20:06	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594287	11/03/19 16:58	PG	TAL SAV
Dissolved	Analysis	6010C		1			594476	11/04/19 12:48	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594286	11/03/19 16:54	PG	TAL SAV
Dissolved	Analysis	6020A		1			594568	11/04/19 18:03	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1	20 mL	20 mL	478000	11/17/19 21:34	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477399	11/12/19 14:03	SPG	TAL DEN
	Instrument ID: WC_AT2									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176309-1

Client Sample ID: SHL-DUP03_FAL19

Lab Sample ID: 680-176309-11
Matrix: WG
Date Collected: 11/01/19 09:30
Date Received: 11/02/19 07:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	596198	11/14/19 21:34	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594345	11/04/19 10:11	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595023	11/06/19 20:05	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594343	11/04/19 10:11	AJR	TAL SAV
Dissolved	Analysis	6020A		1			594808	11/05/19 20:47	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1	20 mL	20 mL	478000	11/17/19 21:51	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477399	11/12/19 14:10	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: PZ-12-01_FAL19

Lab Sample ID: 680-176309-12
Matrix: WG
Date Collected: 11/01/19 10:50
Date Received: 11/02/19 07:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	596323	11/15/19 03:16	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594345	11/04/19 10:11	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595023	11/06/19 20:17	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594343	11/04/19 10:11	AJR	TAL SAV
Dissolved	Analysis	6020A		1			594808	11/05/19 20:59	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1	20 mL	20 mL	478000	11/17/19 22:08	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477399	11/12/19 14:17	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: PZ-12-02_FAL19

Lab Sample ID: 680-176309-13
Matrix: WG
Date Collected: 11/01/19 12:20
Date Received: 11/02/19 07:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	596198	11/14/19 21:47	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594637	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595683	11/11/19 16:16	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594636	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6020A		1			595022	11/06/19 21:02	BWR	TAL SAV
	Instrument ID: ICPMSD									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176309-1

Client Sample ID: PZ-12-02_FAL19

Lab Sample ID: 680-176309-13
Matrix: WG
Date Collected: 11/01/19 12:20
Date Received: 11/02/19 07:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060		1	20 mL	20 mL	478000	11/17/19 22:24	SGB	TAL DEN
Total/NA	Analysis	SM 2320B		1			477399	11/12/19 14:25	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHL-20_FAL19

Lab Sample ID: 680-176309-14
Matrix: WG
Date Collected: 11/01/19 13:45
Date Received: 11/02/19 07:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	596198	11/14/19 22:00	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594345	11/04/19 10:11	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595023	11/06/19 20:37	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594343	11/04/19 10:11	AJR	TAL SAV
Dissolved	Analysis	6020A		1			594808	11/05/19 21:10	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1	20 mL	20 mL	478000	11/17/19 22:41	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477399	11/12/19 14:32	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHL-DUP02_FAL19

Lab Sample ID: 680-176309-15
Matrix: WG
Date Collected: 11/01/19 13:50
Date Received: 11/02/19 07:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	596198	11/14/19 22:12	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594637	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595683	11/11/19 16:41	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594636	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6020A		1			595022	11/06/19 21:25	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1	20 mL	20 mL	478000	11/17/19 23:59	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477399	11/12/19 14:55	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: PZ-12-10_FAL19

Lab Sample ID: 680-176309-16

Date Collected: 10/31/19 08:55

Matrix: WG

Date Received: 11/02/19 07:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	596198	11/14/19 22:25	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594658	11/05/19 14:02	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595683	11/11/19 15:29	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594657	11/05/19 14:02	AJR	TAL SAV
Dissolved	Analysis	6020A		1			595022	11/06/19 19:52	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1	20 mL	20 mL	478000	11/18/19 01:17	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477399	11/12/19 15:00	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: PZ-12-09_FAL19

Lab Sample ID: 680-176309-17

Date Collected: 10/31/19 09:55

Matrix: WG

Date Received: 11/02/19 07:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	596198	11/14/19 22:38	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594345	11/04/19 10:11	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595023	11/06/19 20:33	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594343	11/04/19 10:11	AJR	TAL SAV
Dissolved	Analysis	6020A		1			594808	11/05/19 21:06	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1	20 mL	20 mL	478000	11/18/19 01:31	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477399	11/12/19 15:07	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: PZ-12-08_FAL19

Lab Sample ID: 680-176309-18

Date Collected: 10/31/19 11:10

Matrix: WG

Date Received: 11/02/19 07:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	596198	11/14/19 22:50	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594637	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595683	11/11/19 16:28	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594636	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6020A		1			595022	11/06/19 21:22	BWR	TAL SAV
	Instrument ID: ICPMSD									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176309-1

Client Sample ID: PZ-12-08_FAL19

Lab Sample ID: 680-176309-18
Matrix: WG
Date Collected: 10/31/19 11:10
Date Received: 11/02/19 07:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060		1	20 mL	20 mL	478000	11/18/19 01:48	SGB	TAL DEN
Total/NA	Analysis	SM 2320B		1			477242	11/11/19 15:02	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: PZ-12-07_FAL19

Lab Sample ID: 680-176309-19
Matrix: WG
Date Collected: 11/01/19 11:00
Date Received: 11/02/19 07:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	596198	11/14/19 23:03	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594345	11/04/19 10:11	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595023	11/06/19 19:53	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594343	11/04/19 10:11	AJR	TAL SAV
Dissolved	Analysis	6020A		1			594808	11/05/19 20:28	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1	20 mL	20 mL	478000	11/18/19 02:05	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477242	11/11/19 15:11	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHL-15_FAL19

Lab Sample ID: 680-176309-20
Matrix: WG
Date Collected: 11/01/19 12:10
Date Received: 11/02/19 07:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	596198	11/14/19 23:15	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594289	11/03/19 17:02	PG	TAL SAV
Dissolved	Analysis	6010C		1			594594	11/04/19 22:04	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594288	11/03/19 16:59	PG	TAL SAV
Dissolved	Analysis	6020A		1			594786	11/05/19 20:21	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1	20 mL	20 mL	478000	11/18/19 02:22	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477242	11/11/19 15:16	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHL-DUP11_FAL19

Lab Sample ID: 680-176309-21

Date Collected: 11/01/19 12:15

Matrix: WG

Date Received: 11/02/19 07:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	596323	11/15/19 00:57	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594658	11/05/19 14:02	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595683	11/11/19 15:33	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594657	11/05/19 14:02	AJR	TAL SAV
Dissolved	Analysis	6020A		1			595022	11/06/19 19:55	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1	20 mL	20 mL	478000	11/18/19 02:38	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477242	11/11/19 15:21	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-10-06_FAL19

Lab Sample ID: 680-176309-22

Date Collected: 11/01/19 13:45

Matrix: WG

Date Received: 11/02/19 07:53

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	596323	11/15/19 01:09	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	594637	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6010C		1			595683	11/11/19 16:45	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	594636	11/05/19 13:21	AJR	TAL SAV
Dissolved	Analysis	6020A		1			595022	11/06/19 21:28	BWR	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1	20 mL	20 mL	478000	11/18/19 02:55	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477242	11/11/19 15:25	SPG	TAL DEN
	Instrument ID: WC-AT3									

Laboratory References:

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

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2; Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: SW9060A/FLDFLT (B)	SW9056A (A)	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	A2320B (A)	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler
						3	5	9	9	46					
	EPA-PZ-2012-4B_FAL19	WG	10/31/19	0910	AC	X	X	X	X	X	EPA-PZ-2012-4B	N1	72.88	77.88	1
	EPA-PZ-2012-4A_FAL19	WG	10/31/19	1015	AC	X	X	X	X	X	EPA-PZ-2012-4A	N1	23.3	28.3	1
	EPA-PZ-2012-7A_FAL19	WG	10/31/19	1130	AC	X	X	X	X	X	EPA-PZ-2012-7A	N1	24.74	29.74	1
	SHM-11-06_FAL19	WG	11/01/19	0925	AC	X	X	X	X	X	SHM-11-06	N1	27.84	32.84	1
1	SHL-DUP06_FAL19	WG	10/31/19	0915	AC	X	X	X	X	X	EPA-PZ-2012-4B	FD	72.88	77.88	
1	[redacted]														
1	SHL-DUP03_FAL19	WG	11/01/19	0930	AC	X	X	X	X	X	SHM-11-06	FD	27.84	32.84	
1	PZ-12-01_FAL19	WG	11/01/19	1050	AC	X	X	X	X	X	PZ-12-01	N1	27.7	32.7	
1	PZ-12-02_FAL19	WG	11/01/19	1220	AC	X	X	X	X	X	PZ-12-02	N1	28.04	38.04	
1	SHL-20_FAL19	WG	11/01/19	1345	AC	X	X	X	X	X	SHL-20	N1	40.23	50.23	
1	SHL-DUP02_FAL19	WG	11/01/19	1350	AC	X	X	X	X	X	SHL-20	FD	40.23	50.23	

680-176309 Chain of Custody

AC

Relinquished by: *(Signature)*	Date	Time
Abigail Cartwright	11/01/19	1500
[signature]	11/1/19	1600

Received by: *(Signature)*	Date	Time
[signature]	11/1/19	1600
[signature]	11/2/19	950

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**
[signature] 11/2/19 950
3.2/3.2

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

360325-Boston

COC # SHL-FAL19-CO

360325-Boston KGS

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2; Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	SW9060A/FLDFLT (B) 3	SW9056A (A) 5	SW6010C/FLDFLT (B) 9	SW6020A/FLDFLT (B) 9	A2320B (A) 46	VOC's	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
	PZ-12-10-FAL19	WG	10/31/19	0855	BrA	X	X	X	X	X		PZ-12-10	N1	23.30	33.30		1
	PZ-12-09_FAL19	WG	10/31/19	0955	BrA	X	X	X	X	X		PZ-12-09	N1	23.50	33.50		1
	PZ-12-08_FAL19	WG	10/31/19	1110	BrA	X	X	X	X	X		PZ-12-08	N1	21.09	35.09		1
	PZ-12-07.FAL19	WG	11/1/19	1100	BrA	X	X	X	X	X	X	PZ-12-07	N1				1
1	SHL-15_FAL19	WG	11/1/19	1210	BrA	X	X	X	X	X	X	SHL-15	N1				
1	SHL-DUP11_FAL19	WG	11/1/19	1215	BrA	X	X	X	X	X	X	Field Dup	FD				
1	SHM-10-06_FAL19	WG	11/1/19	1345	BrA	X	X	X	X	X	X	SHM-10-06	N1				
1	TripBlank2_110119	WG	11/1/19								X	Trip Blank	TB				
1																	
1																	
1																	

Relinquished by: *(Signature)*	Date	Time
	11/1/19	1500
	11/1/19	1800

Received by: *(Signature)*	Date	Time
	11-1-19	1500

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**
11/3/19 950

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

360325-Boston

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2; Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

Event KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: SW9060A/FLDFLT (B)	SW9056A (A)	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	A2320B (A)	VOCs	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
	~~[redacted]~~	WG	~~[redacted]~~	0925	AC	X	X	X	X	X	X	SHM-11-06	N1	27.84	37.84	~~[redacted]~~	~~1~~ AC
	PZ-12-01_FAL19	WG	11/01/19	1050	AC	X	X	X	X	X	X	PZ-12-01	N1	27.7	37.7		1
	PZ-12-02_FAL19	WG	11/01/19	1220	AC	X	X	X	X	X	X	PZ-12-02	N1	28.04	38.04		1
	SHL-20_FAL19	WG	11/01/19	1345	AC	X	X	X	X	X	X	SHL-20	N1	40.23	50.23		1
1	SHL-DUP02_FAL19	WG	11/01/19	1350	AC						X	SHL-20	FD	40.23	50.23		
1	TripBlank_110119	WQ	11/01/19								X	Trip Blank	TB				
1																	
1																	
1																	
1																	
1																	

Relinquished by: *(Signature)*	Date	Time
Abigail Cartright	11/01/19	1500
	11/1/19	1550

Received by: *(Signature)*	Date	Time
	11-2-19	1550

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

11/2/19 950

Page 1 of 2

11/19/2019

680-176309 Waybill

EVIDENT TAPE

TO SAMPLE RECEIVING
TESTAMERICA DENVER
4955 YARROW ST
ARVADA CO 80002
(303) 736-0100
REF:
INV:
PO:
DEPT:

FedEx

SATURDAY 12:00P
PRIORITY OVERNIGHT
TRK# 4258 8395 2851
0201

XO WHHA
80002
CO-US DEN

ORIGIN ID:BXCA (781) 466-6900
PAUL HOBART
TESTAMERICA
240 BEAR HILL ROAD
SUITE 104
WALTHAM, MA 02451
UNITED STATES US

SHIP DATE: 01NOV19
ACTWGT: 47.60 LB
CAD: 590687/CAFE3211

BILL RECIPIENT

SS1C3/2A3C/104C

Page 39 of 48 11/19/2019

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

KGS

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2; Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

680-176309 Chain of Custody

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	SW9060A/FLDFLT (B) 3	SW9056A (A) 5	SW6010C/FLDFLT (B) 9	SW6020A/FLDFLT (B) 9	A2320B (A) 46	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
	EPA-PZ-2012-4B_FAL19	WG	10/31/19	0910	AC	X	X	X	X	X	EPA-PZ-2012-4B	N1	72.88	77.88		1
	EPA-PZ-2012-4A_FAL19	WG	10/31/19	1015	AC	X	X	X	X	X	EPA-PZ-2012-4A	N1	23.3	28.3		1
	EPA-PZ-2012-7A_FAL19	WG	10/31/19	1130	AC	X	X	X	X	X	EPA-PZ-2012-7A	N1	24.74	29.74		1
	SHM-11-06_FAL19	WG	11/01/19	0925	AC	X	X	X	X	X	SHM-11-06	N1	27.84	37.84		1
1	SHL-DUP06_FAL19	WG	10/31/19	0915	AC	X	X	X	X	X	EPA-PZ-2012-4B	FD	72.88	77.88		
[redacted]																AC
1	SHL-DUP03_FAL19	WG	11/01/19	0930	AC	X	X	X	X	X	SHM-11-06	FD	27.84	37.84		
1	PZ-12-01_FAL19	WG	11/01/19	1050	AC	X	X	X	X	X	PZ-12-01	N1	27.7	37.7		
1	PZ-12-02_FAL19	WG	11/01/19	1220	AC	X	X	X	X	X	PZ-12-02	N1	28.04	38.04		
1	SHL-20_FAL19	WG	11/01/19	1345	AC	X	X	X	X	X	SHL-20	N1	40.23	50.23		
1	SHL-DUP02_FAL19	WG	11/01/19	1350	AC	X	X	X	X	X	SHL-20	FD	40.23	50.23		

Relinquished by: *(Signature)*	Date	Time
Abigail Cartwright	11/1/19	1500
	11-1-19	1846

Received by *(Signature)*	Date	Time
	11-1-19	1500
	11/2/19	0905

1.7, 10, 18, 58, 11/4/19

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

Page 1 of 2

11/19/2019

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FALL 19-CO

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-[illegible]	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2; Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	SW9060A/FLDFLT (B)	SW9056A (A)	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	A2320B (A)	VOC's	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
						3	5	9	9	46							
	PZ-12-10-FALL9	WG	10/31/19	0855	BrA	X	X	X	X	X		PZ-12-10	N1	23.30	33.30		1
	PZ-12-09_FALL9	WG	10/31/19	0955	BrA	X	X	X	X	X		PZ-12-09	N1	23.50	33.50		1
	PZ-12-08-FALL9	WG	10/31/19	1110	BrA	X	X	X	X	X		PZ-12-08	N1	21.09	35.09		1
	PZ-12-07-FALL9	WG	11/1/19	1100	BrA	X	X	X	X	X	X	PZ-12-07	N1				1
1	SHL-15_FALL9	WG	11/1/19	1210	BrA	X	X	X	X	X	X	SHL-15	N1				
1	SHL-DUP11_FALL9	WG	11/1/19	1215	BrA	X	X	X	X	X	X	Field Dup	FD				
1	SHM-10-06_FALL9	WG	11/1/19	1345	BrA	X	X	X	X	X	X	SHM-10-06	N1				
1	TripBlank2_110119	WG	11/1/19							X	X	Trip Blank	TB				
1																	
1																	
1																	

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[signature]	11/1/19	1500	[signature]	11/2/19	1500
[signature]	11/1/19	1811	[signature]	11/2/19	0905

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* & condition

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2, Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2, Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: SW9060A/FLDFLT (B) 3	SW9056A (A) 5	SW6010C/FLDFLT (B) 9	SW6020A/FLDFLT (B) 9	A2320B (A) 46	VOCs	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
	~~[redacted]~~	WG	~~[redacted]~~	0925	AC	X	X	X	X	X	X	SHM-11-06	N1	27.84	37.84		1
	PZ-12-01_FAL19	WG	11/01/19	1050	AC	X	X	X	X	X	X	PZ-12-01	N1	27.7	37.7		1
	PZ-12-02_FAL19	WG	11/01/19	1220	AC	X	X	X	X	X	X	PZ-12-02	N1	28.04	38.04		1
	SHL-20_FAL19	WG	11/01/19	1345	AC	X	X	X	X	X	X	SHL-20	N1	40.23	50.23		1
1	SHL-DUP02_FAL19	WG	11/01/19	1350	AC						X	SHL-20	FD	40.23	50.23		
1	TripBlank_110119	WQ	11/01/19								X	Trip Blank	TB				
1																	
1																	
1																	
1																	
1																	

AC

Relinquished by: *(Signature)*	Date	Time
Abigail Cartright	11/01/19	1500
	11-1-19	1650

Received by: *(Signature)*	Date	Time
	11-1-19	1550
	11/2/19	0905

Shipping Date / Carrier / Airbill Number

Received by Laboratory *(Signature, Date, Time)* **& condition**

11/19/2019

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

KGS

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2; Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

680-176309 Chain of Custody

Analytical Test Method

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	SW9060A/FLDFLT (B) 3	SW9056A (A) 5	SW6010C/FLDFLT (B) 9	SW6020A/FLDFLT (B) 9	A2320B (A) 46	Location ID	Sample Type	Depth (ft bgs) Top	Bottom	Comments	Cooler
	EPA-PZ-2012-4B_FAL19	WG	10/31/19	0910	AC	X	X	X	X	X	EPA-PZ-2012-4B	N1	72.88	77.88		1
	EPA-PZ-2012-4A_FAL19	WG	10/31/19	1015	AC	X	X	X	X	X	EPA-PZ-2012-4A	N1	23.3	28.3		1
	EPA-PZ-2012-7A_FAL19	WG	10/31/19	1130	AC	X	X	X	X	X	EPA-PZ-2012-7A	N1	24.74	29.74		1
	SHM-11-06_FAL19	WG	11/01/19	0925	AC	X	X	X	X	X	SHM-11-06	N1	27.84	37.84		1
1	SHL-DUP06_FAL19	WG	10/31/19	0915	AC	X	X	X	X	X	EPA-PZ-2012-4B	FD	72.88	77.88		
~~1~~	~~[illegible]~~		~~[illegible]~~													AC
1	SHL-DUP03_FAL19	WG	11/01/19	0930	AC	X	X	X	X	X	SHM-11-06	FD	27.84	37.84		
1	PZ-12-01_FAL19	WG	11/01/19	1050	AC	X	X	X	X	X	PZ-12-01	N1	27.7	37.7		
1	PZ-12-02_FAL19	WG	11/01/19	1220	AC	X	X	X	X	X	PZ-12-02	N1	28.04	38.04		
1	SHL-20_FAL19	WG	11/01/19	1345	AC	X	X	X	X	X	SHL-20	N1	40.23	50.23		
1	SHL-DUP02_FAL19	WG	11/01/19	1350	AC	X	X	X	X	X	SHL-20	FD	40.23	50.23		

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
Migail Cartwright	11/03/19	1500	[signature]	11-19	1500
[signature]	11-19	1800	[signature]	11/2/19	0905

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

1.7, +0, 1R8, SB, 11/4/19

Page 1 of 2

11/19/2019

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FALL19-CO

KGS

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-[illegible]	Ship to: 510 LaRoche Avenue, Savannah GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2, Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2, Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: SW9060A/FLDFLT (B)	SW9056A (A)	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	A2320B (A)	VOC's	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
						3	5	9	9	46							
	PZ-12-10-FALL9	WG	10/31/19	0855	BrA	X	X	X	X	X		PZ-12-10	N1	23.30	33.30		1
	PZ-12-09_FALL9	WG	10/31/19	0955	BrA	X	X	X	X	X		PZ-12-09	N1	23.50	33.50		1
	PZ-12-08-FALL9	WG	10/31/19	1110	BrA	X	X	X	X	X		PZ-12-08	N1	21.09	35.09		1
	PZ-12-07_FALL9	WG	11/1/19	1100	BrA	X	X	X	X	X	X	PZ-12-07	N1				1
1	SHL-15_FALL9	WG	11/1/19	1210	BrA	X	X	X	X	X	X	SHL-15	N1				
1	SHL-DUP11_FALL9	WG	11/1/19	1215	BrA	X	X	X	X	X	X	Field Dup	FD				
1	SHM-10-06-FALL9	WG	11/1/19	1345	BrA	X	X	X	X	X	X	SHM-10-06	N1				
1	TripBlank2-110119	WG	11/1/19							X	X	Trip Blank	TB				
1																	
1																	
1																	

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[signature]	11/1/19	1500	[signature]	11/2/19	1500
[signature]	11/1/19	1811	[signature]	11/2/19	0905

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* & condition

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2; Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: SW9060A/FLDFLT (B) 3	SW9056A (A) 5	SW6010C/FLDFLT (B) 9	SW6020A/FLDFLT (B) 9	A2320B (A) 46	VOCs	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
	~~SHM-11-06_FAL19~~	~~WG~~	~~11/01/19~~	~~0925~~	AC	X	X	X	X	X	X	~~SHM-11-06~~	~~N1~~	~~27.84~~	~~37.84~~		~~1~~ AC
	PZ-12-01_FAL19	WG	11/01/19	1050	AC	X	X	X	X	X	X	PZ-12-01	N1	27.7	37.7		1
	PZ-12-02_FAL19	WG	11/01/19	1220	AC	X	X	X	X	X	X	PZ-12-02	N1	28.04	38.04		1
	SHL-20_FAL19	WG	11/01/19	1345	AC	X	X	X	X	X	X	SHL-20	N1	40.23	50.23		1
1	SHL-DUP02_FAL19	WG	11/01/19	1350	AC						X	SHL-20	FD	40.23	50.23		
1	TripBlank_110119	WQ	11/01/19								X	Trip Blank	TB				
1																	
1																	
1																	
1																	
1																	

Relinquished by: *(Signature)*	Date	Time
Abigail Cartright	11/01/19	1500
	11/1/19	1850

Received by: *(Signature)*	Date	Time
	11/1/19	1550
	11/2/19	0905

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

11/19/2019

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-176309-1

Login Number: 176309
List Number: 1
Creator: Weston, Pamela

List Source: Eurofins TestAmerica, Savannah

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-176309-1
Project/Site: LTM - SHL Fall 2019

Laboratory: Eurofins TestAmerica, Savannah

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

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-20
Alaska	State	GA00006	06-30-20
Alaska (UST)	State	17-016	09-30-20
ANAB	Dept. of Defense ELAP	L2463	09-22-22
ANAB	ISO/IEC 17025	L2463.01	09-22-22
Arizona	State	AZ0808	12-14-19
Arkansas DEQ	State	19-015-0	02-01-20
California	State	2939	06-30-20
Colorado	State	GA00006	12-31-19
Connecticut	State	PH-0161	03-31-21
Florida	NELAP	E87052	06-30-20
GA Dept. of Agriculture	State Program	N/A	06-12-20
Georgia	State	E87052	06-30-20
Georgia (DW)	State	803	06-30-20
Guam	State	19-007R	04-17-20
Hawaii	State	<cert No.>	06-30-20
Indiana	State	C-GA-02	06-30-20
Iowa	State	353	09-22-20
Kansas	NELAP	E-10322	10-15-20
Kentucky (DW)	State	KY90084	12-31-19
Kentucky (UST)	State	<cert No.>	06-30-20
Kentucky (WW)	State	KY90084	12-31-19
Louisiana	NELAP	02011	06-30-20
Louisiana (DW)	State	LA009	12-31-19
Maine	State	GA00006	09-26-20
Maryland	State	250	12-31-19
Massachusetts	State	M-GA006	06-30-20
Michigan	State	9925	06-30-20
Mississippi	State	<cert No.>	06-30-20
Nebraska	State	NE-OS-7-04	06-30-20
New Hampshire	NELAP	2096	05-29-20
New Jersey	NELAP	GA769	06-30-20
New Mexico	State	GA00006	06-30-20
New York	NELAP	10842	04-01-20
North Carolina (DW)	State	13701	07-31-20
North Carolina (WW/SW)	State	269	12-31-19
Oklahoma	State	9984	08-31-20
Pennsylvania	NELAP	68-00474	06-30-20
Puerto Rico	State	GA00006	01-01-20
South Carolina	State	98001	06-30-20
Tennessee	State	02961	06-30-20
Texas	NELAP	T1047004185-19-3	11-30-19
Texas	TCEQ Water Supply	T104704185	09-23-20
US Fish & Wildlife	US Federal Programs	LE058448-0	07-31-20
USDA	US Federal Programs	P330-18-00313	10-29-21
Virginia	NELAP	10509	06-14-20
Washington	State	C805	06-10-20
West Virginia (DW)	State	9950C	12-31-19
West Virginia DEP	State	094	11-30-19

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-176309-1
Project/Site: LTM - SHL Fall 2019

Laboratory: Eurofins TestAmerica, Savannah (Continued)

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999819810	08-31-20
Wyoming	State	8TMS-L	06-30-20 *

Laboratory: Eurofins TestAmerica, Denver

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

Authority	Program	Identification Number	Expiration Date
A2LA	DoD	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

Laboratory Job ID: 680-176611-1
Client Project/Site: LTM - SHL Fall 2019

For:
KOMAN Government Solutions, LLC
293 Boston Post Road West
Suite 100
Marlborough, Massachusetts 01752

Attn: Laurie Ekes

Jerry Lanier

Authorized for release by:
12/4/2019 10:06:30 AM

Jerry Lanier, Project Manager I
(912)250-0281
jerry.lanier@testamericainc.com

LINKS

Review your project results through TotalAccess

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 680-176611-1

Laboratory: Eurofins TestAmerica, Savannah

Narrative

CASE NARRATIVE

Client: KOMAN Government Solutions, LLC

Project: LTM - SHL Fall 2019

Report Number: 680-176611-1

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 the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 11/8/2019 9:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 0.9º C, 1.3º C, 2.1º C and 4.2º C.

METALS (ICP) - DISSOLVED

Samples SHM-93-22B_FAL19 (680-176611-1), SHL-22_FAL19 (680-176611-2), SHM-93-22C_FAL19 (680-176611-3), SHP-2016-05A_FAL19 (680-176611-4), SHP-2016-05B_FAL19 (680-176611-5), SHP-2016-04A_FAL19 (680-176611-6), SHP-2016-04B_FAL19 (680-176611-7), SHM-10-14_FAL19 (680-176611-8), SHL-DUP09_FAL19 (680-176611-9), SHM-10-13_FAL19 (680-176611-10), N5-P1_FAL19 (680-176611-11), SHM-10-07_FAL19 (680-176611-12), SHP-01-38A_FAL19 (680-176611-13), SHP-01-37X_FAL19 (680-176611-14), SHP-01-36X_FAL19 (680-176611-15), SHL-DUP04_FAL19 (680-176611-16), EPA-PZ-2012-5A_FAL19 (680-176611-17), EPA-PZ-2012-5B_FAL19 (680-176611-18), SHM-05-42A_FAL19 (680-176611-19), SHM-05-42B_FAL19 (680-176611-20), EPA-PZ-2012-7B_FAL19 (680-176611-21), SHP-99-29X_FAL19 (680-176611-22), EW-1_FAL19 (680-176611-23), EW-4_FAL19 (680-176611-24), SHP-2016-06A_FAL19 (680-176611-25), SHP-2016-06B_FAL19 (680-176611-26), SHP-2016-06C_FAL19 (680-176611-27), SHL-EB-110519 (680-176611-28) and SHP-2016-07B_FAL19 (680-176611-29) were analyzed for Metals (ICP) - Dissolved in accordance with EPA SW-846 Method 6010C. The samples were prepared on 11/10/2019, 11/11/2019 and 11/12/2019 and analyzed on 11/12/2019, 11/13/2019, 11/14/2019, 11/15/2019 and 11/22/2019.

Iron was detected in method blank MB 680-595456/1-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. Refer to the QC report for details.

Iron and Manganese failed the recovery criteria low for the MS of sample SHM-10-14_FAL19MS (680-176611-8) in batch 680-596380.

Refer to the QC report for details.

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

METALS (ICPMS) - DISSOLVED

Samples SHM-93-22B_FAL19 (680-176611-1), SHL-22_FAL19 (680-176611-2), SHM-93-22C_FAL19 (680-176611-3), SHP-2016-05A_FAL19 (680-176611-4), SHP-2016-05B_FAL19 (680-176611-5), SHP-2016-04A_FAL19 (680-176611-6), SHP-2016-04B_FAL19 (680-176611-7), SHM-10-14_FAL19 (680-176611-8), SHL-DUP09_FAL19 (680-176611-9), SHM-10-13_FAL19 (680-176611-10), N5-P1_FAL19 (680-176611-11), SHM-10-07_FAL19 (680-176611-12), SHP-01-38A_FAL19 (680-176611-13), SHP-01-37X_FAL19 (680-176611-14), SHP-01-36X_FAL19 (680-176611-15), SHL-DUP04_FAL19 (680-176611-16), EPA-PZ-2012-5A_FAL19 (680-176611-17), EPA-PZ-2012-5B_FAL19 (680-176611-18), SHM-05-42A_FAL19 (680-176611-19), SHM-05-42B_FAL19 (680-176611-20), EPA-PZ-2012-7B_FAL19 (680-176611-21), SHP-99-29X_FAL19 (680-176611-22), EW-1_FAL19 (680-176611-23), EW-4_FAL19 (680-176611-24), SHP-2016-06A_FAL19 (680-176611-25), SHP-2016-06B_FAL19 (680-176611-26), SHP-2016-06C_FAL19 (680-176611-27), SHL-EB-110519 (680-176611-28) and SHP-2016-07B_FAL19 (680-176611-29) were analyzed

Job ID: 680-176611-1 (Continued)

Laboratory: Eurofins TestAmerica, Savannah (Continued)

for Metals (ICPMS) - Dissolved in accordance with EPA SW-846 Method 6020A. The samples were prepared on 11/10/2019, 11/11/2019 and 11/12/2019 and analyzed on 11/13/2019 and 11/14/2019.

Arsenic failed the recovery criteria low for the MSD of sample SHM-10-14_FAL19MSD (680-176611-8) in batch 680-596160.

Refer to the QC report for details.

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

ALKALINITY

Samples SHM-93-22B_FAL19 (680-176611-1), SHL-22_FAL19 (680-176611-2), SHM-93-22C_FAL19 (680-176611-3), SHP-2016-05A_FAL19 (680-176611-4), SHP-2016-05B_FAL19 (680-176611-5), SHP-2016-04A_FAL19 (680-176611-6), SHP-2016-04B_FAL19 (680-176611-7), SHM-10-14_FAL19 (680-176611-8), SHL-DUP09_FAL19 (680-176611-9), SHM-10-13_FAL19 (680-176611-10), N5-P1_FAL19 (680-176611-11), SHM-10-07_FAL19 (680-176611-12), SHP-01-38A_FAL19 (680-176611-13), SHP-01-37X_FAL19 (680-176611-14), SHP-01-36X_FAL19 (680-176611-15), SHL-DUP04_FAL19 (680-176611-16), EPA-PZ-2012-5A_FAL19 (680-176611-17), EPA-PZ-2012-5B_FAL19 (680-176611-18), SHM-05-42A_FAL19 (680-176611-19), SHM-05-42B_FAL19 (680-176611-20), EPA-PZ-2012-7B_FAL19 (680-176611-21), SHP-99-29X_FAL19 (680-176611-22), EW-1_FAL19 (680-176611-23), EW-4_FAL19 (680-176611-24), SHP-2016-06A_FAL19 (680-176611-25), SHP-2016-06B_FAL19 (680-176611-26), SHP-2016-06C_FAL19 (680-176611-27), SHL-EB-110519 (680-176611-28) and SHP-2016-07B_FAL19 (680-176611-29) were analyzed for alkalinity in accordance with SM 2320B. The samples were analyzed on 11/13/2019 and 11/14/2019.

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

ANIONS BY ION CHROMATOGRAPHY (28 DAY)

Samples SHM-93-22B_FAL19 (680-176611-1), SHL-22_FAL19 (680-176611-2), SHM-93-22C_FAL19 (680-176611-3), SHP-2016-05A_FAL19 (680-176611-4), SHP-2016-05B_FAL19 (680-176611-5), SHP-2016-04A_FAL19 (680-176611-6), SHP-2016-04B_FAL19 (680-176611-7), SHM-10-14_FAL19 (680-176611-8), SHL-DUP09_FAL19 (680-176611-9), SHM-10-13_FAL19 (680-176611-10), N5-P1_FAL19 (680-176611-11), SHM-10-07_FAL19 (680-176611-12), SHP-01-38A_FAL19 (680-176611-13), SHP-01-37X_FAL19 (680-176611-14), SHP-01-36X_FAL19 (680-176611-15), SHL-DUP04_FAL19 (680-176611-16), EPA-PZ-2012-5A_FAL19 (680-176611-17), EPA-PZ-2012-5B_FAL19 (680-176611-18), SHM-05-42A_FAL19 (680-176611-19), SHM-05-42B_FAL19 (680-176611-20), EPA-PZ-2012-7B_FAL19 (680-176611-21), SHP-99-29X_FAL19 (680-176611-22), EW-1_FAL19 (680-176611-23), EW-4_FAL19 (680-176611-24), SHP-2016-06A_FAL19 (680-176611-25), SHP-2016-06B_FAL19 (680-176611-26), SHP-2016-06C_FAL19 (680-176611-27), SHL-EB-110519 (680-176611-28) and SHP-2016-07B_FAL19 (680-176611-29) were analyzed for Anions by Ion Chromatography (28 Day) in accordance with SW 846 9056A. The samples were analyzed on 11/20/2019, 11/21/2019 and 11/26/2019.

Sulfate failed the recovery criteria low for the MS of sample SHP-2016-06A_FAL19MS (680-176611-25) in batch 680-597187.

The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Refer to the QC report for details.

Sample SHP-2016-06B_FAL19 (680-176611-26)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

DISSOLVED ORGANIC CARBON

Samples SHM-93-22B_FAL19 (680-176611-1), SHL-22_FAL19 (680-176611-2), SHM-93-22C_FAL19 (680-176611-3), SHP-2016-05A_FAL19 (680-176611-4), SHP-2016-05B_FAL19 (680-176611-5), SHP-2016-04A_FAL19 (680-176611-6), SHP-2016-04B_FAL19 (680-176611-7), SHM-10-14_FAL19 (680-176611-8), SHL-DUP09_FAL19 (680-176611-9), SHM-10-13_FAL19 (680-176611-10), N5-P1_FAL19 (680-176611-11), SHM-10-07_FAL19 (680-176611-12), SHP-01-38A_FAL19 (680-176611-13), SHP-01-37X_FAL19 (680-176611-14), SHP-01-36X_FAL19 (680-176611-15), SHL-DUP04_FAL19 (680-176611-16), EPA-PZ-2012-5A_FAL19 (680-176611-17), EPA-PZ-2012-5B_FAL19 (680-176611-18), SHM-05-42A_FAL19 (680-176611-19),

Job ID: 680-176611-1 (Continued)

Laboratory: Eurofins TestAmerica, Savannah (Continued)

SHM-05-42B_FAL19 (680-176611-20), EPA-PZ-2012-7B_FAL19 (680-176611-21), SHP-99-29X_FAL19 (680-176611-22), EW-1_FAL19 (680-176611-23), EW-4_FAL19 (680-176611-24), SHP-2016-06A_FAL19 (680-176611-25), SHP-2016-06B_FAL19 (680-176611-26), SHP-2016-06C_FAL19 (680-176611-27), SHL-EB-110519 (680-176611-28) and SHP-2016-07B_FAL19 (680-176611-29) were analyzed for dissolved organic carbon in accordance with EPA SW-846 Method 9060. The samples were analyzed on 11/26/2019, 11/27/2019 and 12/03/2019.

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

Sample Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176611-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
680-176611-1	SHM-93-22B_FAL19	WG	11/04/19 09:20	11/08/19 09:10	
680-176611-2	SHL-22_FAL19	WG	11/04/19 11:30	11/08/19 09:10	
680-176611-3	SHM-93-22C_FAL19	WG	11/04/19 13:25	11/08/19 09:10	
680-176611-4	SHP-2016-05A_FAL19	WG	11/05/19 09:00	11/08/19 09:10	
680-176611-5	SHP-2016-05B_FAL19	WG	11/05/19 10:30	11/11/19 08:55	
680-176611-6	SHP-2016-04A_FAL19	WG	11/05/19 12:00	11/08/19 09:10	
680-176611-7	SHP-2016-04B_FAL19	WG	11/05/19 13:25	11/08/19 09:10	
680-176611-8	SHM-10-14_FAL19	WG	11/06/19 09:00	11/08/19 09:10	
680-176611-9	SHL-DUP09_FAL19	WG	11/06/19 09:05	11/08/19 09:10	
680-176611-10	SHM-10-13_FAL19	WG	11/06/19 10:45	11/08/19 09:10	
680-176611-11	N5-P1_FAL19	WG	11/06/19 12:40	11/08/19 09:10	
680-176611-12	SHM-10-07_FAL19	WG	11/06/19 12:35	11/11/19 08:55	
680-176611-13	SHP-01-38A_FAL19	WG	11/04/19 08:55	11/08/19 09:10	
680-176611-14	SHP-01-37X_FAL19	WG	11/04/19 11:10	11/08/19 09:10	
680-176611-15	SHP-01-36X_FAL19	WG	11/04/19 12:25	11/08/19 09:10	
680-176611-16	SHL-DUP04_FAL19	WG	11/04/19 09:00	11/08/19 09:10	
680-176611-17	EPA-PZ-2012-5A_FAL19	WG	11/05/19 09:20	11/08/19 09:10	
680-176611-18	EPA-PZ-2012-5B_FAL19	WG	11/05/19 10:25	11/08/19 09:10	
680-176611-19	SHM-05-42A_FAL19	WG	11/05/19 12:35	11/11/19 08:55	
680-176611-20	SHM-05-42B_FAL19	WG	11/05/19 13:30	11/08/19 09:10	
680-176611-21	EPA-PZ-2012-7B_FAL19	WG	11/05/19 15:00	11/08/19 09:10	
680-176611-22	SHP-99-29X_FAL19	WG	11/06/19 09:00	11/11/19 08:55	
680-176611-23	EW-1_FAL19	WG	11/05/19 08:00	11/08/19 09:10	
680-176611-24	EW-4_FAL19	WG	11/05/19 08:10	11/08/19 09:10	
680-176611-25	SHP-2016-06A_FAL19	WG	11/05/19 10:00	11/11/19 08:55	
680-176611-26	SHP-2016-06B_FAL19	WG	11/05/19 12:10	11/11/19 08:55	
680-176611-27	SHP-2016-06C_FAL19	WG	11/05/19 13:50	11/11/19 08:55	
680-176611-28	SHL-EB-110519	WQ	11/05/19 14:50	11/11/19 08:55	
680-176611-29	SHP-2016-07B_FAL19	WG	11/06/19 13:00	11/11/19 08:55	

Method Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176611-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV
6020A	Metals (ICP/MS)	SW846	TAL SAV
9060	Organic Carbon, Dissolved (DOC)	SW846	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL SAV

Protocol References:

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

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

Laboratory References:

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

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
D	The reported value is from a dilution.
J1	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Metals

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

General Chemistry

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

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)

Client Sample Results

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176611-1

Client Sample ID: SHM-93-22B_FAL19

Lab Sample ID: 680-176611-1
Date Collected: 11/04/19 09:20
Matrix: WG
Date Received: 11/08/19 09:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	35	M	0.50	0.50	0.20	mg/L		11/20/19 20:01	1
Sulfate	10	M	1.0	1.0	0.40	mg/L		11/20/19 20:01	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	11000		50	50	17	ug/L		11/13/19 01:56	1
Manganese	10000		10	3.0	1.0	ug/L		11/13/19 01:56	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	370		3.0	3.0	1.5	ug/L		11/14/19 02:03	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	250		10	10	3.1	mg/L		11/13/19 15:20	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.6		1.0	1.0	0.35	mg/L		11/26/19 06:37	1

Client Sample ID: SHL-22_FAL19

Lab Sample ID: 680-176611-2
Date Collected: 11/04/19 11:30
Matrix: WG
Date Received: 11/08/19 09:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	26	M	0.50	0.50	0.20	mg/L		11/20/19 20:14	1
Sulfate	10	M	1.0	1.0	0.40	mg/L		11/20/19 20:14	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	74		50	50	17	ug/L		11/13/19 01:42	1
Manganese	8900		10	3.0	1.0	ug/L		11/13/19 01:42	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	6.2		3.0	3.0	1.5	ug/L		11/14/19 01:51	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	320		10	10	3.1	mg/L		11/13/19 15:29	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.5		1.0	1.0	0.35	mg/L		11/26/19 06:53	1

Client Sample ID: SHM-93-22C_FAL19

Lab Sample ID: 680-176611-3
Matrix: WG
Date Collected: 11/04/19 13:25
Date Received: 11/08/19 09:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	22		0.50	0.50	0.20	mg/L		11/20/19 20:26	1
Sulfate	7.6		1.0	1.0	0.40	mg/L		11/20/19 20:26	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/12/19 07:31	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/12/19 07:31	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	4.3		3.0	3.0	1.5	ug/L		11/13/19 17:58	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	120		10	10	3.1	mg/L		11/13/19 15:37	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	3.2		1.0	1.0	0.35	mg/L		11/26/19 07:10	1

Client Sample ID: SHP-2016-05A_FAL19

Lab Sample ID: 680-176611-4
Matrix: WG
Date Collected: 11/05/19 09:00
Date Received: 11/08/19 09:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	67	M	0.50	0.50	0.20	mg/L		11/20/19 20:39	1
Sulfate	4.8	M	1.0	1.0	0.40	mg/L		11/20/19 20:39	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	4400		50	50	17	ug/L		11/14/19 16:30	1
Manganese	190		10	3.0	1.0	ug/L		11/14/19 16:30	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.2		3.0	3.0	1.5	ug/L		11/13/19 20:31	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	65		10	10	3.1	mg/L		11/13/19 15:43	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	4.1		1.0	1.0	0.35	mg/L		11/26/19 07:25	1

Client Sample ID: SHP-2016-05B_FAL19

Lab Sample ID: 680-176611-5
Date Collected: 11/05/19 10:30
Matrix: WG
Date Received: 11/11/19 08:55

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	20	M	0.50	0.50	0.20	mg/L		11/20/19 20:52	1
Sulfate	5.2	M	1.0	1.0	0.40	mg/L		11/20/19 20:52	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	66000		50	50	17	ug/L		11/15/19 06:43	1
Manganese	3500		10	3.0	1.0	ug/L		11/15/19 06:43	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	720		3.0	3.0	1.5	ug/L		11/14/19 03:20	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	210		10	10	3.1	mg/L		11/13/19 15:50	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.5		1.0	1.0	0.35	mg/L		11/26/19 07:42	1

Client Sample ID: SHP-2016-04A_FAL19

Lab Sample ID: 680-176611-6
Date Collected: 11/05/19 12:00
Matrix: WG
Date Received: 11/08/19 09:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	8.9		0.50	0.50	0.20	mg/L		11/20/19 22:08	1
Sulfate	7.8		1.0	1.0	0.40	mg/L		11/20/19 22:08	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	24	J	50	50	17	ug/L		11/14/19 16:25	1
Manganese	580		10	3.0	1.0	ug/L		11/14/19 16:25	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/13/19 20:27	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	16		10	10	3.1	mg/L		11/13/19 16:31	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.63	J	1.0	1.0	0.35	mg/L		11/26/19 08:26	1

Client Sample ID: SHP-2016-04B_FAL19

Lab Sample ID: 680-176611-7
Matrix: WG
Date Collected: 11/05/19 13:25
Date Received: 11/08/19 09:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	17	M	0.50	0.50	0.20	mg/L		11/20/19 21:30	1
Sulfate	5.4	M	1.0	1.0	0.40	mg/L		11/20/19 21:30	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50000		50	50	17	ug/L		11/13/19 01:07	1
Manganese	2000		10	3.0	1.0	ug/L		11/13/19 01:07	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	1500		3.0	3.0	1.5	ug/L		11/14/19 01:20	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	170		10	10	3.1	mg/L		11/13/19 16:45	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.8		1.0	1.0	0.35	mg/L		11/26/19 08:43	1

Client Sample ID: SHM-10-14_FAL19

Lab Sample ID: 680-176611-8
Matrix: WG
Date Collected: 11/06/19 09:00
Date Received: 11/08/19 09:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	4.0	M	0.50	0.50	0.20	mg/L		11/20/19 22:20	1
Sulfate	2.4	M	1.0	1.0	0.40	mg/L		11/20/19 22:20	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	78000	J1	50	50	17	ug/L		11/14/19 15:59	1
Manganese	2400	J1	10	3.0	1.0	ug/L		11/14/19 15:59	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	4500	J1	3.0	3.0	1.5	ug/L		11/13/19 20:04	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	200		10	10	3.1	mg/L		11/13/19 16:52	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	3.4		1.0	1.0	0.35	mg/L		11/26/19 09:00	1

Client Sample ID: SHL-DUP09_FAL19

Lab Sample ID: 680-176611-9
Date Collected: 11/06/19 09:05
Matrix: WG
Date Received: 11/08/19 09:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	4.0	M	0.50	0.50	0.20	mg/L		11/20/19 22:33	1
Sulfate	2.3	M	1.0	1.0	0.40	mg/L		11/20/19 22:33	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	80000	B	50	50	17	ug/L		11/12/19 07:40	1
Manganese	2400		10	3.0	1.0	ug/L		11/12/19 07:40	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	4500		3.0	3.0	1.5	ug/L		11/13/19 18:18	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	210		10	10	3.1	mg/L		11/13/19 17:00	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	3.4		1.0	1.0	0.35	mg/L		12/03/19 07:22	1

Client Sample ID: SHM-10-13_FAL19

Lab Sample ID: 680-176611-10
Date Collected: 11/06/19 10:45
Matrix: WG
Date Received: 11/08/19 09:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	30	M	0.50	0.50	0.20	mg/L		11/20/19 22:46	1
Sulfate	2.5	M	1.0	1.0	0.40	mg/L		11/20/19 22:46	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	69000		50	50	17	ug/L		11/13/19 01:12	1
Manganese	960		10	3.0	1.0	ug/L		11/13/19 01:12	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	460		3.0	3.0	1.5	ug/L		11/14/19 01:24	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	260		10	10	3.1	mg/L		11/13/19 17:09	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	4.1		1.0	1.0	0.35	mg/L		12/03/19 08:08	1

Client Sample ID: N5-P1_FAL19

Lab Sample ID: 680-176611-11
Matrix: WG
Date Collected: 11/06/19 12:40
Date Received: 11/08/19 09:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	21	M	0.50	0.50	0.20	mg/L		11/20/19 22:58	1
Sulfate	12	M	1.0	1.0	0.40	mg/L		11/20/19 22:58	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	43000		50	50	17	ug/L		11/13/19 01:47	1
Manganese	6200		10	3.0	1.0	ug/L		11/13/19 01:47	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	4400		3.0	3.0	1.5	ug/L		11/14/19 01:55	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	240		10	10	3.1	mg/L		11/13/19 17:16	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.6		1.0	1.0	0.35	mg/L		12/03/19 08:25	1

Client Sample ID: SHM-10-07_FAL19

Lab Sample ID: 680-176611-12
Matrix: WG
Date Collected: 11/06/19 12:35
Date Received: 11/11/19 08:55

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	64	M	0.50	0.50	0.20	mg/L		11/20/19 23:11	1
Sulfate	7.7	M	1.0	1.0	0.40	mg/L		11/20/19 23:11	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	52000		50	50	17	ug/L		11/12/19 19:33	1
Manganese	2000		10	3.0	1.0	ug/L		11/12/19 19:33	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	1000		3.0	3.0	1.5	ug/L		11/13/19 19:48	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	150		10	10	3.1	mg/L		11/13/19 17:23	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.9		1.0	1.0	0.35	mg/L		12/03/19 09:16	1

Client Sample ID: SHP-01-38A_FAL19

Lab Sample ID: 680-176611-13
Matrix: WG
Date Collected: 11/04/19 08:55
Date Received: 11/08/19 09:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	8.5		0.50	0.50	0.20	mg/L		11/20/19 23:24	1
Sulfate	13		1.0	1.0	0.40	mg/L		11/20/19 23:24	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	25000		50	50	17	ug/L		11/13/19 01:51	1
Manganese	2000		10	3.0	1.0	ug/L		11/13/19 01:51	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	130		3.0	3.0	1.5	ug/L		11/14/19 01:59	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	94		10	10	3.1	mg/L		11/13/19 17:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.3		1.0	1.0	0.35	mg/L		11/27/19 18:02	1

Client Sample ID: SHP-01-37X_FAL19

Lab Sample ID: 680-176611-14
Matrix: WG
Date Collected: 11/04/19 11:10
Date Received: 11/08/19 09:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	69	M	0.50	0.50	0.20	mg/L		11/20/19 23:36	1
Sulfate	7.8	M	1.0	1.0	0.40	mg/L		11/20/19 23:36	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	4500		50	50	17	ug/L		11/13/19 01:38	1
Manganese	210		10	3.0	1.0	ug/L		11/13/19 01:38	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	13		3.0	3.0	1.5	ug/L		11/14/19 01:47	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	28		10	10	3.1	mg/L		11/13/19 17:36	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	3.9		1.0	1.0	0.35	mg/L		11/27/19 16:16	1

Client Sample ID: SHP-01-36X_FAL19

Lab Sample ID: 680-176611-15
Matrix: WG
Date Collected: 11/04/19 12:25
Date Received: 11/08/19 09:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	67	M	0.50	0.50	0.20	mg/L		11/20/19 23:49	1
Sulfate	6.0	M	1.0	1.0	0.40	mg/L		11/20/19 23:49	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	1500	B	50	50	17	ug/L		11/12/19 07:57	1
Manganese	78		10	3.0	1.0	ug/L		11/12/19 07:57	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	11		3.0	3.0	1.5	ug/L		11/13/19 18:33	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	27		10	10	3.1	mg/L		11/13/19 17:59	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	3.5		1.0	1.0	0.35	mg/L		11/27/19 16:33	1

Client Sample ID: SHL-DUP04_FAL19

Lab Sample ID: 680-176611-16
Matrix: WG
Date Collected: 11/04/19 09:00
Date Received: 11/08/19 09:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	8.6		0.50	0.50	0.20	mg/L		11/21/19 01:30	1
Sulfate	13		1.0	1.0	0.40	mg/L		11/21/19 01:30	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	25000		50	50	17	ug/L		11/14/19 16:21	1
Manganese	2000		10	3.0	1.0	ug/L		11/14/19 16:21	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	140		3.0	3.0	1.5	ug/L		11/13/19 20:23	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	95		10	10	3.1	mg/L		11/13/19 18:05	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.4		1.0	1.0	0.35	mg/L		11/27/19 16:50	1

Client Sample ID: EPA-PZ-2012-5A_FAL19

Lab Sample ID: 680-176611-17

Date Collected: 11/05/19 09:20

Matrix: WG

Date Received: 11/08/19 09:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	16	M	0.50	0.50	0.20	mg/L		11/21/19 01:43	1
Sulfate	5.1	M	1.0	1.0	0.40	mg/L		11/21/19 01:43	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	6800		50	50	17	ug/L		11/13/19 01:20	1
Manganese	96		10	3.0	1.0	ug/L		11/13/19 01:20	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	2.2	J	3.0	3.0	1.5	ug/L		11/14/19 01:32	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	24		10	10	3.1	mg/L		11/13/19 18:11	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	6.3		1.0	1.0	0.35	mg/L		11/27/19 17:06	1

Client Sample ID: EPA-PZ-2012-5B_FAL19

Lab Sample ID: 680-176611-18

Date Collected: 11/05/19 10:25

Matrix: WG

Date Received: 11/08/19 09:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	40	M	0.50	0.50	0.20	mg/L		11/21/19 01:55	1
Sulfate	12	M	1.0	1.0	0.40	mg/L		11/21/19 01:55	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	940		50	50	17	ug/L		11/14/19 16:43	1
Manganese	9800		10	3.0	1.0	ug/L		11/14/19 16:43	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	14		3.0	3.0	1.5	ug/L		11/13/19 20:42	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	190		10	10	3.1	mg/L		11/13/19 18:18	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.3		1.0	1.0	0.35	mg/L		11/27/19 17:23	1

Client Sample Results

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176611-1

Client Sample ID: SHM-05-42A_FAL19

Lab Sample ID: 680-176611-19

Date Collected: 11/05/19 12:35
Matrix: WG
Date Received: 11/11/19 08:55

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	8.3		0.50	0.50	0.20	mg/L		11/21/19 02:08	1
Sulfate	5.8		1.0	1.0	0.40	mg/L		11/21/19 02:08	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/12/19 19:38	1
Manganese	50		10	3.0	1.0	ug/L		11/12/19 19:38	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/13/19 19:51	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	26		10	10	3.1	mg/L		11/13/19 18:24	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.78	J	1.0	1.0	0.35	mg/L		11/27/19 17:40	1

Client Sample ID: SHM-05-42B_FAL19

Lab Sample ID: 680-176611-20

Date Collected: 11/05/19 13:30
Matrix: WG
Date Received: 11/08/19 09:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	34	M	0.50	0.50	0.20	mg/L		11/21/19 02:21	1
Sulfate	9.7	M	1.0	1.0	0.40	mg/L		11/21/19 02:21	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	29000	B	50	50	17	ug/L		11/22/19 20:06	1
Manganese	6300		10	3.0	1.0	ug/L		11/22/19 20:06	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	170		3.0	3.0	1.5	ug/L		11/13/19 18:01	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	170		10	10	3.1	mg/L		11/13/19 18:32	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.6		1.0	1.0	0.35	mg/L		11/27/19 18:48	1

Client Sample ID: EPA-PZ-2012-7B_FAL19

Lab Sample ID: 680-176611-21

Date Collected: 11/05/19 15:00

Matrix: WG

Date Received: 11/08/19 09:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	1.3		0.50	0.50	0.20	mg/L		11/21/19 02:33	1
Sulfate	4.7		1.0	1.0	0.40	mg/L		11/21/19 02:33	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	23000		50	50	17	ug/L		11/13/19 01:25	1
Manganese	1900		10	3.0	1.0	ug/L		11/13/19 01:25	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	1300		3.0	3.0	1.5	ug/L		11/14/19 01:43	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	50		10	10	3.1	mg/L		11/13/19 18:37	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.3		1.0	1.0	0.35	mg/L		11/27/19 19:05	1

Client Sample ID: SHP-99-29X_FAL19

Lab Sample ID: 680-176611-22

Date Collected: 11/06/19 09:00

Matrix: WG

Date Received: 11/11/19 08:55

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	5.5	M	0.50	0.50	0.20	mg/L		11/21/19 02:46	1
Sulfate	5.1	M	1.0	1.0	0.40	mg/L		11/21/19 02:46	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	42000		50	50	17	ug/L		11/15/19 06:39	1
Manganese	3900		10	3.0	1.0	ug/L		11/15/19 06:39	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	1600		3.0	3.0	1.5	ug/L		11/14/19 03:16	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	110		10	10	3.1	mg/L		11/13/19 18:44	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.8		1.0	1.0	0.35	mg/L		12/03/19 09:32	1

Client Sample ID: EW-1_FAL19

Lab Sample ID: 680-176611-23

Date Collected: 11/05/19 08:00

Matrix: WG

Date Received: 11/08/19 09:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	18	M	0.50	0.50	0.20	mg/L		11/21/19 02:59	1
Sulfate	6.6	M	1.0	1.0	0.40	mg/L		11/21/19 02:59	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	65000		50	50	17	ug/L		11/13/19 01:16	1
Manganese	2100		10	3.0	1.0	ug/L		11/13/19 01:16	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	1600		3.0	3.0	1.5	ug/L		11/14/19 01:28	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	210		10	10	3.1	mg/L		11/13/19 18:51	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	4.2		1.0	1.0	0.35	mg/L		11/27/19 19:23	1

Client Sample ID: EW-4_FAL19

Lab Sample ID: 680-176611-24

Date Collected: 11/05/19 08:10

Matrix: WG

Date Received: 11/08/19 09:10

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	6.8	M	0.50	0.50	0.20	mg/L		11/21/19 00:52	1
Sulfate	6.4	M	1.0	1.0	0.40	mg/L		11/21/19 00:52	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	38000	B	50	50	17	ug/L		11/12/19 08:02	1
Manganese	2100		10	3.0	1.0	ug/L		11/12/19 08:02	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3200		3.0	3.0	1.5	ug/L		11/13/19 18:59	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	110		10	10	3.1	mg/L		11/14/19 20:43	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.7		1.0	1.0	0.35	mg/L		11/27/19 19:40	1

Client Sample ID: SHP-2016-06A_FAL19

Lab Sample ID: 680-176611-25

Date Collected: 11/05/19 10:00

Matrix: WG

Date Received: 11/11/19 08:55

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	15		0.50	0.50	0.20	mg/L		11/21/19 03:49	1
Sulfate	180	J1	1.0	1.0	0.40	mg/L		11/21/19 03:49	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	400		50	50	17	ug/L		11/12/19 19:51	1
Manganese	2300		10	3.0	1.0	ug/L		11/12/19 19:51	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	860		3.0	3.0	1.5	ug/L		11/13/19 20:11	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	230		10	10	3.1	mg/L		11/14/19 20:48	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	18		1.0	1.0	0.35	mg/L		11/27/19 20:24	1

Client Sample ID: SHP-2016-06B_FAL19

Lab Sample ID: 680-176611-26

Date Collected: 11/05/19 12:10

Matrix: WG

Date Received: 11/11/19 08:55

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	17	M	0.50	0.50	0.20	mg/L		11/21/19 03:11	1
Sulfate	380	D	5.0	5.0	2.0	mg/L		11/26/19 04:06	5

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	1100		50	50	17	ug/L		11/12/19 19:47	1
Manganese	1200		10	3.0	1.0	ug/L		11/12/19 19:47	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	1200		3.0	3.0	1.5	ug/L		11/13/19 20:08	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	310		10	10	3.1	mg/L		11/14/19 20:54	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	36		1.0	1.0	0.35	mg/L		11/27/19 20:39	1

Client Sample ID: SHP-2016-06C_FAL19

Lab Sample ID: 680-176611-27
Matrix: WG
Date Collected: 11/05/19 13:50
Date Received: 11/11/19 08:55

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	1.8		0.50	0.50	0.20	mg/L		11/21/19 04:27	1
Sulfate	12		1.0	1.0	0.40	mg/L		11/21/19 04:27	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	110		50	50	17	ug/L		11/15/19 06:47	1
Manganese	170		10	3.0	1.0	ug/L		11/15/19 06:47	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	270		3.0	3.0	1.5	ug/L		11/14/19 03:24	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	120		10	10	3.1	mg/L		11/14/19 21:10	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	0.40	J	1.0	1.0	0.35	mg/L		11/27/19 20:56	1

Client Sample ID: SHL-EB-110519

Lab Sample ID: 680-176611-28
Matrix: WQ
Date Collected: 11/05/19 14:50
Date Received: 11/11/19 08:55

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		11/21/19 04:40	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		11/21/19 04:40	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/15/19 06:30	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/15/19 06:30	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/14/19 03:08	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		11/14/19 21:14	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.0	U	1.0	1.0	0.35	mg/L		11/27/19 21:11	1

Client Sample ID: SHP-2016-07B_FAL19

Date Collected: 11/06/19 13:00
Date Received: 11/11/19 08:55

Lab Sample ID: 680-176611-29

Matrix: WG

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	2.9		0.50	0.50	0.20	mg/L		11/21/19 04:52	1
Sulfate	36		1.0	1.0	0.40	mg/L		11/21/19 04:52	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	84		50	50	17	ug/L		11/12/19 19:20	1
Manganese	350		10	3.0	1.0	ug/L		11/12/19 19:20	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	35		3.0	3.0	1.5	ug/L		11/13/19 19:30	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	110		10	10	3.1	mg/L		11/14/19 21:19	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.5		1.0	1.0	0.35	mg/L		11/27/19 21:57	1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 680-597109/2
Matrix: Water
Analysis Batch: 597109

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		11/20/19 13:17	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		11/20/19 13:17	1

Lab Sample ID: LCS 680-597109/3
Matrix: Water
Analysis Batch: 597109

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.2		mg/L		102	87 - 111
Sulfate	10.0	10.9		mg/L		109	87 - 112

Lab Sample ID: LCSD 680-597109/4
Matrix: Water
Analysis Batch: 597109

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
Chloride	10.0	10.2		mg/L		102	87 - 111	0	15
Sulfate	10.0	10.7		mg/L		107	87 - 112	1	15

Lab Sample ID: 680-176611-7 MS
Matrix: WG
Analysis Batch: 597109

Client Sample ID: SHP-2016-04B_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	17	M	10.0	27.0		mg/L		102	87 - 111
Sulfate	5.4	M	10.0	15.8		mg/L		104	87 - 112

Lab Sample ID: 680-176611-7 MSD
Matrix: WG
Analysis Batch: 597109

Client Sample ID: SHP-2016-04B_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	17	M	10.0	27.1		mg/L		103	87 - 111	0	15
Sulfate	5.4	M	10.0	15.9		mg/L		105	87 - 112	0	15

Lab Sample ID: MB 680-597187/33
Matrix: Water
Analysis Batch: 597187

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		11/21/19 00:14	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		11/21/19 00:14	1

Lab Sample ID: LCS 680-597187/34
Matrix: Water
Analysis Batch: 597187

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.2		mg/L		102	87 - 111
Sulfate	10.0	10.6		mg/L		106	87 - 112

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: LCSD 680-597187/35
Matrix: Water
Analysis Batch: 597187

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
Chloride			10.0	10.1		mg/L		101	87 - 111	0	15
Sulfate			10.0	10.7		mg/L		107	87 - 112	1	15

Lab Sample ID: 680-176611-24 MS
Matrix: WG
Analysis Batch: 597187

Client Sample ID: EW-4_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	6.8	M	10.0	16.9		mg/L		102	87 - 111
Sulfate	6.4	M	10.0	16.5		mg/L		101	87 - 112

Lab Sample ID: 680-176611-24 MSD
Matrix: WG
Analysis Batch: 597187

Client Sample ID: EW-4_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	6.8	M	10.0	17.1		mg/L		103	87 - 111	1	15
Sulfate	6.4	M	10.0	16.7		mg/L		103	87 - 112	1	15

Lab Sample ID: 680-176611-25 MS
Matrix: WG
Analysis Batch: 597187

Client Sample ID: SHP-2016-06A_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	15		10.0	25.7		mg/L		102	87 - 111
Sulfate	180	J1	10.0	188	4	mg/L		83	87 - 112

Lab Sample ID: 680-176611-25 MSD
Matrix: WG
Analysis Batch: 597187

Client Sample ID: SHP-2016-06A_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	15		10.0	25.8		mg/L		103	87 - 111	1	15
Sulfate	180	J1	10.0	189	4	mg/L		92	87 - 112	0	15

Lab Sample ID: MB 680-597975/33
Matrix: Water
Analysis Batch: 597975

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		11/25/19 23:40	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		11/25/19 23:40	1

Lab Sample ID: LCS 680-597975/34
Matrix: Water
Analysis Batch: 597975

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride			10.0	10.2		mg/L		102	87 - 111
Sulfate			10.0	9.67		mg/L		97	87 - 112

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: LCSD 680-597975/35
Matrix: Water
Analysis Batch: 597975

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
Chloride	10.0	10.2		mg/L		102	87 - 111	0	15
Sulfate	10.0	9.68		mg/L		97	87 - 112	0	15

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-595454/1-A
Matrix: Water
Analysis Batch: 596156

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 595454

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/13/19 00:28	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/13/19 00:28	1

Lab Sample ID: LCS 680-595454/2-A
Matrix: Water
Analysis Batch: 596156

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 595454

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5010	4970		ug/L		99	87 - 115
Manganese	400	384		ug/L		96	90 - 114

Lab Sample ID: MB 680-595456/1-A
Matrix: Water
Analysis Batch: 595683

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 595456

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	33.5	J	50	50	17	ug/L		11/12/19 06:53	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/12/19 06:53	1

Lab Sample ID: LCS 680-595456/2-A
Matrix: Water
Analysis Batch: 595683

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 595456

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5010	5020		ug/L		100	87 - 115
Manganese	400	385		ug/L		96	90 - 114

Lab Sample ID: MB 680-595458/1-A
Matrix: Water
Analysis Batch: 596380

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 595458

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/14/19 15:50	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/14/19 15:50	1

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

Lab Sample ID: LCS 680-595458/2-A
Matrix: Water
Analysis Batch: 596380

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 595458

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5010	5260		ug/L		105	87 - 115
Manganese	400	411		ug/L		103	90 - 114

Lab Sample ID: MB 680-595609/1-A
Matrix: Water
Analysis Batch: 596156

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 595609

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/12/19 18:50	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/12/19 18:50	1

Lab Sample ID: LCS 680-595609/2-A
Matrix: Water
Analysis Batch: 596156

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 595609

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5010	5060		ug/L		101	87 - 115
Manganese	400	396		ug/L		99	90 - 114

Lab Sample ID: MB 680-595802/1-A
Matrix: Water
Analysis Batch: 596380

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 595802

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/15/19 05:10	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/15/19 05:10	1

Lab Sample ID: LCS 680-595802/2-A
Matrix: Water
Analysis Batch: 596380

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 595802

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5010	4970		ug/L		99	87 - 115
Manganese	400	375		ug/L		94	90 - 114

Lab Sample ID: 680-176611-8 MS
Matrix: WG
Analysis Batch: 596380

Client Sample ID: SHM-10-14_FAL19
Prep Type: Dissolved
Prep Batch: 595458

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	78000	J1	5010	80500	4	ug/L		49	87 - 115
Manganese	2400	J1	400	2760	4	ug/L		79	90 - 114

Lab Sample ID: 680-176611-8 MSD
Matrix: WG
Analysis Batch: 596380

Client Sample ID: SHM-10-14_FAL19
Prep Type: Dissolved
Prep Batch: 595458

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	78000	J1	5010	83500	4	ug/L		109	87 - 115	4	20
Manganese	2400	J1	400	2850	4	ug/L		101	90 - 114	3	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 680-595453/1-A
Matrix: Water
Analysis Batch: 596160

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 595453

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/14/19 00:11	1

Lab Sample ID: LCS 680-595453/2-A
Matrix: Water
Analysis Batch: 596160

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 595453

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	101		ug/L		101	84 - 116

Lab Sample ID: MB 680-595455/1-A
Matrix: Water
Analysis Batch: 596185

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 595455

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/13/19 17:35	1

Lab Sample ID: LCS 680-595455/2-A
Matrix: Water
Analysis Batch: 596185

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 595455

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	105		ug/L		105	84 - 116

Lab Sample ID: MB 680-595457/1-A
Matrix: Water
Analysis Batch: 596160

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 595457

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/13/19 19:56	1

Lab Sample ID: LCS 680-595457/2-A
Matrix: Water
Analysis Batch: 596160

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 595457

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	112		ug/L		112	84 - 116

Lab Sample ID: MB 680-595608/1-A
Matrix: Water
Analysis Batch: 596185

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 595608

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/13/19 19:10	1

Lab Sample ID: LCS 680-595608/2-A
Matrix: Water
Analysis Batch: 596185

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 595608

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	105		ug/L		105	84 - 116

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 680-595800/1-A
Matrix: Water
Analysis Batch: 596160

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 595800

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/14/19 02:18	1

Lab Sample ID: LCS 680-595800/2-A
Matrix: Water
Analysis Batch: 596160

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 595800

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	103		ug/L		103	84 - 116

Lab Sample ID: 680-176611-8 MS
Matrix: WG
Analysis Batch: 596160

Client Sample ID: SHM-10-14_FAL19
Prep Type: Dissolved
Prep Batch: 595457

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	4500	J1	100	4610	4	ug/L		91	84 - 116

Lab Sample ID: 680-176611-8 MSD
Matrix: WG
Analysis Batch: 596160

Client Sample ID: SHM-10-14_FAL19
Prep Type: Dissolved
Prep Batch: 595457

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	4500	J1	100	4480	4	ug/L		-32	84 - 116	3	20

Method: 9060 - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 280-478873/37
Matrix: Water
Analysis Batch: 478873

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.0	U	1.0	1.0	0.35	mg/L		11/26/19 00:56	1

Lab Sample ID: LCS 280-478873/35
Matrix: Water
Analysis Batch: 478873

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon - Duplicate	25.0	24.7		mg/L		99	88 - 112

Lab Sample ID: LCSD 280-478873/36
Matrix: Water
Analysis Batch: 478873

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon - Duplicate	25.0	24.6		mg/L		98	88 - 112	0	15

Method: 9060 - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: MB 280-479067/5
Matrix: Water
Analysis Batch: 479067

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.0	U	1.0	1.0	0.35	mg/L		11/27/19 13:14	1

Lab Sample ID: LCS 280-479067/3
Matrix: Water
Analysis Batch: 479067

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon - Duplicate	25.0	24.7		mg/L		99	88 - 112

Lab Sample ID: LCSD 280-479067/4
Matrix: Water
Analysis Batch: 479067

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon - Duplicate	25.0	25.2		mg/L		101	88 - 112	2	15

Lab Sample ID: 680-176611-13 MS
Matrix: WG
Analysis Batch: 479067

Client Sample ID: SHP-01-38A_FAL19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon - Duplicate	1.3		25.0	24.2		mg/L		91	88 - 112

Lab Sample ID: 680-176611-13 MSD
Matrix: WG
Analysis Batch: 479067

Client Sample ID: SHP-01-38A_FAL19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon - Duplicate	1.3		25.0	25.9		mg/L		98	88 - 112	7	15

Lab Sample ID: 680-176611-24 MS
Matrix: WG
Analysis Batch: 479067

Client Sample ID: EW-4_FAL19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon - Duplicate	1.7		25.0	26.7		mg/L		100	88 - 112

Lab Sample ID: 680-176611-24 MSD
Matrix: WG
Analysis Batch: 479067

Client Sample ID: EW-4_FAL19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon - Duplicate	1.7		25.0	26.4		mg/L		99	88 - 112	1	15

Method: 9060 - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: MB 280-479440/58
Matrix: Water
Analysis Batch: 479440

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.0	U	1.0	1.0	0.35	mg/L		12/03/19 03:37	1

Lab Sample ID: LCS 280-479440/56
Matrix: Water
Analysis Batch: 479440

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon - Duplicate	25.0	24.6		mg/L		98	88 - 112

Lab Sample ID: LCSD 280-479440/57
Matrix: Water
Analysis Batch: 479440

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon - Duplicate	25.0	24.2		mg/L		97	88 - 112	2	15

Lab Sample ID: 680-176611-11 MS
Matrix: WG
Analysis Batch: 479440

Client Sample ID: N5-P1_FAL19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon - Duplicate	2.6		25.0	28.1		mg/L		102	88 - 112

Lab Sample ID: 680-176611-11 MSD
Matrix: WG
Analysis Batch: 479440

Client Sample ID: N5-P1_FAL19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon - Duplicate	2.6		25.0	28.1		mg/L		102	88 - 112	0	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-477560/31
Matrix: Water
Analysis Batch: 477560

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		11/13/19 16:25	1

Lab Sample ID: MB 280-477560/5
Matrix: Water
Analysis Batch: 477560

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		11/13/19 12:38	1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCS 280-477560/30
Matrix: Water
Analysis Batch: 477560

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	204		mg/L		102	89 - 109

Lab Sample ID: LCS 280-477560/4
Matrix: Water
Analysis Batch: 477560

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	205		mg/L		102	89 - 109

Lab Sample ID: 680-176611-6 DU
Matrix: WG
Analysis Batch: 477560

Client Sample ID: SHP-2016-04A_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	16		15.3		mg/L		4	10

Lab Sample ID: MB 280-477721/31
Matrix: Water
Analysis Batch: 477721

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		11/14/19 20:01	1

Lab Sample ID: LCS 280-477721/30
Matrix: Water
Analysis Batch: 477721

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	204		mg/L		102	89 - 109

HPLC/IC

Analysis Batch: 597109

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176611-1	SHM-93-22B_FAL19	Total/NA	WG	9056A	
680-176611-2	SHL-22_FAL19	Total/NA	WG	9056A	
680-176611-3	SHM-93-22C_FAL19	Total/NA	WG	9056A	
680-176611-4	SHP-2016-05A_FAL19	Total/NA	WG	9056A	
680-176611-5	SHP-2016-05B_FAL19	Total/NA	WG	9056A	
680-176611-6	SHP-2016-04A_FAL19	Total/NA	WG	9056A	
680-176611-7	SHP-2016-04B_FAL19	Total/NA	WG	9056A	
680-176611-8	SHM-10-14_FAL19	Total/NA	WG	9056A	
680-176611-9	SHL-DUP09_FAL19	Total/NA	WG	9056A	
680-176611-10	SHM-10-13_FAL19	Total/NA	WG	9056A	
680-176611-11	N5-P1_FAL19	Total/NA	WG	9056A	
680-176611-12	SHM-10-07_FAL19	Total/NA	WG	9056A	
680-176611-13	SHP-01-38A_FAL19	Total/NA	WG	9056A	
680-176611-14	SHP-01-37X_FAL19	Total/NA	WG	9056A	
680-176611-15	SHP-01-36X_FAL19	Total/NA	WG	9056A	
MB 680-597109/2	Method Blank	Total/NA	Water	9056A	
LCS 680-597109/3	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-597109/4	Lab Control Sample Dup	Total/NA	Water	9056A	
680-176611-7 MS	SHP-2016-04B_FAL19	Total/NA	WG	9056A	
680-176611-7 MSD	SHP-2016-04B_FAL19	Total/NA	WG	9056A	

Analysis Batch: 597187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176611-16	SHL-DUP04_FAL19	Total/NA	WG	9056A	
680-176611-17	EPA-PZ-2012-5A_FAL19	Total/NA	WG	9056A	
680-176611-18	EPA-PZ-2012-5B_FAL19	Total/NA	WG	9056A	
680-176611-19	SHM-05-42A_FAL19	Total/NA	WG	9056A	
680-176611-20	SHM-05-42B_FAL19	Total/NA	WG	9056A	
680-176611-21	EPA-PZ-2012-7B_FAL19	Total/NA	WG	9056A	
680-176611-22	SHP-99-29X_FAL19	Total/NA	WG	9056A	
680-176611-23	EW-1_FAL19	Total/NA	WG	9056A	
680-176611-24	EW-4_FAL19	Total/NA	WG	9056A	
680-176611-25	SHP-2016-06A_FAL19	Total/NA	WG	9056A	
680-176611-26	SHP-2016-06B_FAL19	Total/NA	WG	9056A	
680-176611-27	SHP-2016-06C_FAL19	Total/NA	WG	9056A	
680-176611-28	SHL-EB-110519	Total/NA	WQ	9056A	
680-176611-29	SHP-2016-07B_FAL19	Total/NA	WG	9056A	
MB 680-597187/33	Method Blank	Total/NA	Water	9056A	
LCS 680-597187/34	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-597187/35	Lab Control Sample Dup	Total/NA	Water	9056A	
680-176611-24 MS	EW-4_FAL19	Total/NA	WG	9056A	
680-176611-24 MSD	EW-4_FAL19	Total/NA	WG	9056A	
680-176611-25 MS	SHP-2016-06A_FAL19	Total/NA	WG	9056A	
680-176611-25 MSD	SHP-2016-06A_FAL19	Total/NA	WG	9056A	

Analysis Batch: 597975

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176611-26	SHP-2016-06B_FAL19	Total/NA	WG	9056A	
MB 680-597975/33	Method Blank	Total/NA	Water	9056A	
LCS 680-597975/34	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-597975/35	Lab Control Sample Dup	Total/NA	Water	9056A	

Metals

Prep Batch: 595453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176611-1	SHM-93-22B_FAL19	Dissolved	WG	3005A	
680-176611-2	SHL-22_FAL19	Dissolved	WG	3005A	
680-176611-7	SHP-2016-04B_FAL19	Dissolved	WG	3005A	
680-176611-10	SHM-10-13_FAL19	Dissolved	WG	3005A	
680-176611-11	N5-P1_FAL19	Dissolved	WG	3005A	
680-176611-13	SHP-01-38A_FAL19	Dissolved	WG	3005A	
680-176611-14	SHP-01-37X_FAL19	Dissolved	WG	3005A	
680-176611-17	EPA-PZ-2012-5A_FAL19	Dissolved	WG	3005A	
680-176611-21	EPA-PZ-2012-7B_FAL19	Dissolved	WG	3005A	
680-176611-23	EW-1_FAL19	Dissolved	WG	3005A	
MB 680-595453/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-595453/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 595454

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176611-1	SHM-93-22B_FAL19	Dissolved	WG	3005A	
680-176611-2	SHL-22_FAL19	Dissolved	WG	3005A	
680-176611-7	SHP-2016-04B_FAL19	Dissolved	WG	3005A	
680-176611-10	SHM-10-13_FAL19	Dissolved	WG	3005A	
680-176611-11	N5-P1_FAL19	Dissolved	WG	3005A	
680-176611-13	SHP-01-38A_FAL19	Dissolved	WG	3005A	
680-176611-14	SHP-01-37X_FAL19	Dissolved	WG	3005A	
680-176611-17	EPA-PZ-2012-5A_FAL19	Dissolved	WG	3005A	
680-176611-21	EPA-PZ-2012-7B_FAL19	Dissolved	WG	3005A	
680-176611-23	EW-1_FAL19	Dissolved	WG	3005A	
MB 680-595454/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-595454/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 595455

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176611-3	SHM-93-22C_FAL19	Dissolved	WG	3005A	
680-176611-9	SHL-DUP09_FAL19	Dissolved	WG	3005A	
680-176611-15	SHP-01-36X_FAL19	Dissolved	WG	3005A	
680-176611-20	SHM-05-42B_FAL19	Dissolved	WG	3005A	
680-176611-24	EW-4_FAL19	Dissolved	WG	3005A	
MB 680-595455/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-595455/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 595456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176611-3	SHM-93-22C_FAL19	Dissolved	WG	3005A	
680-176611-9	SHL-DUP09_FAL19	Dissolved	WG	3005A	
680-176611-15	SHP-01-36X_FAL19	Dissolved	WG	3005A	
680-176611-20	SHM-05-42B_FAL19	Dissolved	WG	3005A	
680-176611-24	EW-4_FAL19	Dissolved	WG	3005A	
MB 680-595456/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-595456/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 595457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176611-4	SHP-2016-05A_FAL19	Dissolved	WG	3005A	

Metals (Continued)

Prep Batch: 595457 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176611-6	SHP-2016-04A_FAL19	Dissolved	WG	3005A	
680-176611-8	SHM-10-14_FAL19	Dissolved	WG	3005A	
680-176611-16	SHL-DUP04_FAL19	Dissolved	WG	3005A	
680-176611-18	EPA-PZ-2012-5B_FAL19	Dissolved	WG	3005A	
MB 680-595457/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-595457/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
680-176611-8 MS	SHM-10-14_FAL19	Dissolved	WG	3005A	
680-176611-8 MSD	SHM-10-14_FAL19	Dissolved	WG	3005A	

Prep Batch: 595458

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176611-4	SHP-2016-05A_FAL19	Dissolved	WG	3005A	
680-176611-6	SHP-2016-04A_FAL19	Dissolved	WG	3005A	
680-176611-8	SHM-10-14_FAL19	Dissolved	WG	3005A	
680-176611-16	SHL-DUP04_FAL19	Dissolved	WG	3005A	
680-176611-18	EPA-PZ-2012-5B_FAL19	Dissolved	WG	3005A	
MB 680-595458/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-595458/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
680-176611-8 MS	SHM-10-14_FAL19	Dissolved	WG	3005A	
680-176611-8 MSD	SHM-10-14_FAL19	Dissolved	WG	3005A	

Prep Batch: 595608

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176611-12	SHM-10-07_FAL19	Dissolved	WG	3005A	
680-176611-19	SHM-05-42A_FAL19	Dissolved	WG	3005A	
680-176611-25	SHP-2016-06A_FAL19	Dissolved	WG	3005A	
680-176611-26	SHP-2016-06B_FAL19	Dissolved	WG	3005A	
680-176611-29	SHP-2016-07B_FAL19	Dissolved	WG	3005A	
MB 680-595608/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-595608/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 595609

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176611-12	SHM-10-07_FAL19	Dissolved	WG	3005A	
680-176611-19	SHM-05-42A_FAL19	Dissolved	WG	3005A	
680-176611-25	SHP-2016-06A_FAL19	Dissolved	WG	3005A	
680-176611-26	SHP-2016-06B_FAL19	Dissolved	WG	3005A	
680-176611-29	SHP-2016-07B_FAL19	Dissolved	WG	3005A	
MB 680-595609/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-595609/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 595683

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176611-3	SHM-93-22C_FAL19	Dissolved	WG	6010C	595456
680-176611-9	SHL-DUP09_FAL19	Dissolved	WG	6010C	595456
680-176611-15	SHP-01-36X_FAL19	Dissolved	WG	6010C	595456
680-176611-24	EW-4_FAL19	Dissolved	WG	6010C	595456
MB 680-595456/1-A	Method Blank	Total Recoverable	Water	6010C	595456
LCS 680-595456/2-A	Lab Control Sample	Total Recoverable	Water	6010C	595456

Metals

Prep Batch: 595800

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176611-5	SHP-2016-05B_FAL19	Dissolved	WG	3005A	
680-176611-22	SHP-99-29X_FAL19	Dissolved	WG	3005A	
680-176611-27	SHP-2016-06C_FAL19	Dissolved	WG	3005A	
680-176611-28	SHL-EB-110519	Dissolved	WQ	3005A	
MB 680-595800/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-595800/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 595802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176611-5	SHP-2016-05B_FAL19	Dissolved	WG	3005A	
680-176611-22	SHP-99-29X_FAL19	Dissolved	WG	3005A	
680-176611-27	SHP-2016-06C_FAL19	Dissolved	WG	3005A	
680-176611-28	SHL-EB-110519	Dissolved	WQ	3005A	
MB 680-595802/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-595802/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 596156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176611-1	SHM-93-22B_FAL19	Dissolved	WG	6010C	595454
680-176611-2	SHL-22_FAL19	Dissolved	WG	6010C	595454
680-176611-7	SHP-2016-04B_FAL19	Dissolved	WG	6010C	595454
680-176611-10	SHM-10-13_FAL19	Dissolved	WG	6010C	595454
680-176611-11	N5-P1_FAL19	Dissolved	WG	6010C	595454
680-176611-12	SHM-10-07_FAL19	Dissolved	WG	6010C	595609
680-176611-13	SHP-01-38A_FAL19	Dissolved	WG	6010C	595454
680-176611-14	SHP-01-37X_FAL19	Dissolved	WG	6010C	595454
680-176611-17	EPA-PZ-2012-5A_FAL19	Dissolved	WG	6010C	595454
680-176611-19	SHM-05-42A_FAL19	Dissolved	WG	6010C	595609
680-176611-21	EPA-PZ-2012-7B_FAL19	Dissolved	WG	6010C	595454
680-176611-23	EW-1_FAL19	Dissolved	WG	6010C	595454
680-176611-25	SHP-2016-06A_FAL19	Dissolved	WG	6010C	595609
680-176611-26	SHP-2016-06B_FAL19	Dissolved	WG	6010C	595609
680-176611-29	SHP-2016-07B_FAL19	Dissolved	WG	6010C	595609
MB 680-595454/1-A	Method Blank	Total Recoverable	Water	6010C	595454
MB 680-595609/1-A	Method Blank	Total Recoverable	Water	6010C	595609
LCS 680-595454/2-A	Lab Control Sample	Total Recoverable	Water	6010C	595454
LCS 680-595609/2-A	Lab Control Sample	Total Recoverable	Water	6010C	595609

Analysis Batch: 596160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176611-1	SHM-93-22B_FAL19	Dissolved	WG	6020A	595453
680-176611-2	SHL-22_FAL19	Dissolved	WG	6020A	595453
680-176611-4	SHP-2016-05A_FAL19	Dissolved	WG	6020A	595457
680-176611-5	SHP-2016-05B_FAL19	Dissolved	WG	6020A	595800
680-176611-6	SHP-2016-04A_FAL19	Dissolved	WG	6020A	595457
680-176611-7	SHP-2016-04B_FAL19	Dissolved	WG	6020A	595453
680-176611-8	SHM-10-14_FAL19	Dissolved	WG	6020A	595457
680-176611-10	SHM-10-13_FAL19	Dissolved	WG	6020A	595453
680-176611-11	N5-P1_FAL19	Dissolved	WG	6020A	595453
680-176611-13	SHP-01-38A_FAL19	Dissolved	WG	6020A	595453
680-176611-14	SHP-01-37X_FAL19	Dissolved	WG	6020A	595453

Metals (Continued)

Analysis Batch: 596160 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176611-16	SHL-DUP04_FAL19	Dissolved	WG	6020A	595457
680-176611-17	EPA-PZ-2012-5A_FAL19	Dissolved	WG	6020A	595453
680-176611-18	EPA-PZ-2012-5B_FAL19	Dissolved	WG	6020A	595457
680-176611-21	EPA-PZ-2012-7B_FAL19	Dissolved	WG	6020A	595453
680-176611-22	SHP-99-29X_FAL19	Dissolved	WG	6020A	595800
680-176611-23	EW-1_FAL19	Dissolved	WG	6020A	595453
680-176611-27	SHP-2016-06C_FAL19	Dissolved	WG	6020A	595800
680-176611-28	SHL-EB-110519	Dissolved	WQ	6020A	595800
MB 680-595453/1-A	Method Blank	Total Recoverable	Water	6020A	595453
MB 680-595457/1-A	Method Blank	Total Recoverable	Water	6020A	595457
MB 680-595800/1-A	Method Blank	Total Recoverable	Water	6020A	595800
LCS 680-595453/2-A	Lab Control Sample	Total Recoverable	Water	6020A	595453
LCS 680-595457/2-A	Lab Control Sample	Total Recoverable	Water	6020A	595457
LCS 680-595800/2-A	Lab Control Sample	Total Recoverable	Water	6020A	595800
680-176611-8 MS	SHM-10-14_FAL19	Dissolved	WG	6020A	595457
680-176611-8 MSD	SHM-10-14_FAL19	Dissolved	WG	6020A	595457

Analysis Batch: 596185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176611-3	SHM-93-22C_FAL19	Dissolved	WG	6020A	595455
680-176611-9	SHL-DUP09_FAL19	Dissolved	WG	6020A	595455
680-176611-12	SHM-10-07_FAL19	Dissolved	WG	6020A	595608
680-176611-15	SHP-01-36X_FAL19	Dissolved	WG	6020A	595455
680-176611-19	SHM-05-42A_FAL19	Dissolved	WG	6020A	595608
680-176611-20	SHM-05-42B_FAL19	Dissolved	WG	6020A	595455
680-176611-24	EW-4_FAL19	Dissolved	WG	6020A	595455
680-176611-25	SHP-2016-06A_FAL19	Dissolved	WG	6020A	595608
680-176611-26	SHP-2016-06B_FAL19	Dissolved	WG	6020A	595608
680-176611-29	SHP-2016-07B_FAL19	Dissolved	WG	6020A	595608
MB 680-595455/1-A	Method Blank	Total Recoverable	Water	6020A	595455
MB 680-595608/1-A	Method Blank	Total Recoverable	Water	6020A	595608
LCS 680-595455/2-A	Lab Control Sample	Total Recoverable	Water	6020A	595455
LCS 680-595608/2-A	Lab Control Sample	Total Recoverable	Water	6020A	595608

Analysis Batch: 596380

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176611-4	SHP-2016-05A_FAL19	Dissolved	WG	6010C	595458
680-176611-5	SHP-2016-05B_FAL19	Dissolved	WG	6010C	595802
680-176611-6	SHP-2016-04A_FAL19	Dissolved	WG	6010C	595458
680-176611-8	SHM-10-14_FAL19	Dissolved	WG	6010C	595458
680-176611-16	SHL-DUP04_FAL19	Dissolved	WG	6010C	595458
680-176611-18	EPA-PZ-2012-5B_FAL19	Dissolved	WG	6010C	595458
680-176611-22	SHP-99-29X_FAL19	Dissolved	WG	6010C	595802
680-176611-27	SHP-2016-06C_FAL19	Dissolved	WG	6010C	595802
680-176611-28	SHL-EB-110519	Dissolved	WQ	6010C	595802
MB 680-595458/1-A	Method Blank	Total Recoverable	Water	6010C	595458
MB 680-595802/1-A	Method Blank	Total Recoverable	Water	6010C	595802
LCS 680-595458/2-A	Lab Control Sample	Total Recoverable	Water	6010C	595458
LCS 680-595802/2-A	Lab Control Sample	Total Recoverable	Water	6010C	595802
680-176611-8 MS	SHM-10-14_FAL19	Dissolved	WG	6010C	595458
680-176611-8 MSD	SHM-10-14_FAL19	Dissolved	WG	6010C	595458

Metals

Analysis Batch: 597765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176611-20	SHM-05-42B_FAL19	Dissolved	WG	6010C	595456

General Chemistry

Analysis Batch: 477560

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176611-1	SHM-93-22B_FAL19	Total/NA	WG	SM 2320B	
680-176611-2	SHL-22_FAL19	Total/NA	WG	SM 2320B	
680-176611-3	SHM-93-22C_FAL19	Total/NA	WG	SM 2320B	
680-176611-4	SHP-2016-05A_FAL19	Total/NA	WG	SM 2320B	
680-176611-5	SHP-2016-05B_FAL19	Total/NA	WG	SM 2320B	
680-176611-6	SHP-2016-04A_FAL19	Total/NA	WG	SM 2320B	
680-176611-7	SHP-2016-04B_FAL19	Total/NA	WG	SM 2320B	
680-176611-8	SHM-10-14_FAL19	Total/NA	WG	SM 2320B	
680-176611-9	SHL-DUP09_FAL19	Total/NA	WG	SM 2320B	
680-176611-10	SHM-10-13_FAL19	Total/NA	WG	SM 2320B	
680-176611-11	N5-P1_FAL19	Total/NA	WG	SM 2320B	
680-176611-12	SHM-10-07_FAL19	Total/NA	WG	SM 2320B	
680-176611-13	SHP-01-38A_FAL19	Total/NA	WG	SM 2320B	
680-176611-14	SHP-01-37X_FAL19	Total/NA	WG	SM 2320B	
680-176611-15	SHP-01-36X_FAL19	Total/NA	WG	SM 2320B	
680-176611-16	SHL-DUP04_FAL19	Total/NA	WG	SM 2320B	
680-176611-17	EPA-PZ-2012-5A_FAL19	Total/NA	WG	SM 2320B	
680-176611-18	EPA-PZ-2012-5B_FAL19	Total/NA	WG	SM 2320B	
680-176611-19	SHM-05-42A_FAL19	Total/NA	WG	SM 2320B	
680-176611-20	SHM-05-42B_FAL19	Total/NA	WG	SM 2320B	
680-176611-21	EPA-PZ-2012-7B_FAL19	Total/NA	WG	SM 2320B	
680-176611-22	SHP-99-29X_FAL19	Total/NA	WG	SM 2320B	
680-176611-23	EW-1_FAL19	Total/NA	WG	SM 2320B	
MB 280-477560/31	Method Blank	Total/NA	Water	SM 2320B	
MB 280-477560/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-477560/30	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 280-477560/4	Lab Control Sample	Total/NA	Water	SM 2320B	
680-176611-6 DU	SHP-2016-04A_FAL19	Total/NA	WG	SM 2320B	

Analysis Batch: 477721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176611-24	EW-4_FAL19	Total/NA	WG	SM 2320B	
680-176611-25	SHP-2016-06A_FAL19	Total/NA	WG	SM 2320B	
680-176611-26	SHP-2016-06B_FAL19	Total/NA	WG	SM 2320B	
680-176611-27	SHP-2016-06C_FAL19	Total/NA	WG	SM 2320B	
680-176611-28	SHL-EB-110519	Total/NA	WQ	SM 2320B	
680-176611-29	SHP-2016-07B_FAL19	Total/NA	WG	SM 2320B	
MB 280-477721/31	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-477721/30	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 478873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176611-1	SHM-93-22B_FAL19	Dissolved	WG	9060	
680-176611-2	SHL-22_FAL19	Dissolved	WG	9060	
680-176611-3	SHM-93-22C_FAL19	Dissolved	WG	9060	

General Chemistry (Continued)

Analysis Batch: 478873 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176611-4	SHP-2016-05A_FAL19	Dissolved	WG	9060	
680-176611-5	SHP-2016-05B_FAL19	Dissolved	WG	9060	
680-176611-6	SHP-2016-04A_FAL19	Dissolved	WG	9060	
680-176611-7	SHP-2016-04B_FAL19	Dissolved	WG	9060	
680-176611-8	SHM-10-14_FAL19	Dissolved	WG	9060	
MB 280-478873/37	Method Blank	Dissolved	Water	9060	
LCS 280-478873/35	Lab Control Sample	Dissolved	Water	9060	
LCSD 280-478873/36	Lab Control Sample Dup	Dissolved	Water	9060	

Analysis Batch: 479067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176611-13	SHP-01-38A_FAL19	Dissolved	WG	9060	
680-176611-14	SHP-01-37X_FAL19	Dissolved	WG	9060	
680-176611-15	SHP-01-36X_FAL19	Dissolved	WG	9060	
680-176611-16	SHL-DUP04_FAL19	Dissolved	WG	9060	
680-176611-17	EPA-PZ-2012-5A_FAL19	Dissolved	WG	9060	
680-176611-18	EPA-PZ-2012-5B_FAL19	Dissolved	WG	9060	
680-176611-19	SHM-05-42A_FAL19	Dissolved	WG	9060	
680-176611-20	SHM-05-42B_FAL19	Dissolved	WG	9060	
680-176611-21	EPA-PZ-2012-7B_FAL19	Dissolved	WG	9060	
680-176611-23	EW-1_FAL19	Dissolved	WG	9060	
680-176611-24	EW-4_FAL19	Dissolved	WG	9060	
680-176611-25	SHP-2016-06A_FAL19	Dissolved	WG	9060	
680-176611-26	SHP-2016-06B_FAL19	Dissolved	WG	9060	
680-176611-27	SHP-2016-06C_FAL19	Dissolved	WG	9060	
680-176611-28	SHL-EB-110519	Dissolved	WQ	9060	
680-176611-29	SHP-2016-07B_FAL19	Dissolved	WG	9060	
MB 280-479067/5	Method Blank	Dissolved	Water	9060	
LCS 280-479067/3	Lab Control Sample	Dissolved	Water	9060	
LCSD 280-479067/4	Lab Control Sample Dup	Dissolved	Water	9060	
680-176611-13 MS	SHP-01-38A_FAL19	Dissolved	WG	9060	
680-176611-13 MSD	SHP-01-38A_FAL19	Dissolved	WG	9060	
680-176611-24 MS	EW-4_FAL19	Dissolved	WG	9060	
680-176611-24 MSD	EW-4_FAL19	Dissolved	WG	9060	

Analysis Batch: 479440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176611-9	SHL-DUP09_FAL19	Dissolved	WG	9060	
680-176611-10	SHM-10-13_FAL19	Dissolved	WG	9060	
680-176611-11	N5-P1_FAL19	Dissolved	WG	9060	
680-176611-12	SHM-10-07_FAL19	Dissolved	WG	9060	
680-176611-22	SHP-99-29X_FAL19	Dissolved	WG	9060	
MB 280-479440/58	Method Blank	Dissolved	Water	9060	
LCS 280-479440/56	Lab Control Sample	Dissolved	Water	9060	
LCSD 280-479440/57	Lab Control Sample Dup	Dissolved	Water	9060	
680-176611-11 MS	N5-P1_FAL19	Dissolved	WG	9060	
680-176611-11 MSD	N5-P1_FAL19	Dissolved	WG	9060	

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176611-1

Client Sample ID: SHM-93-22B_FAL19

Lab Sample ID: 680-176611-1
Date Collected: 11/04/19 09:20
Matrix: WG
Date Received: 11/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597109	11/20/19 20:01	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595454	11/10/19 18:38	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/13/19 01:56	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595453	11/10/19 18:36	PG	TAL SAV
Dissolved	Analysis	6020A		1			596160	11/14/19 02:03	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1	20 mL	20 mL	478873	11/26/19 06:37	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477560	11/13/19 15:20	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHL-22_FAL19

Lab Sample ID: 680-176611-2
Date Collected: 11/04/19 11:30
Matrix: WG
Date Received: 11/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597109	11/20/19 20:14	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595454	11/10/19 18:38	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/13/19 01:42	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595453	11/10/19 18:36	PG	TAL SAV
Dissolved	Analysis	6020A		1			596160	11/14/19 01:51	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1	20 mL	20 mL	478873	11/26/19 06:53	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477560	11/13/19 15:29	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHM-93-22C_FAL19

Lab Sample ID: 680-176611-3
Date Collected: 11/04/19 13:25
Matrix: WG
Date Received: 11/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597109	11/20/19 20:26	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595456	11/10/19 18:43	PG	TAL SAV
Dissolved	Analysis	6010C		1			595683	11/12/19 07:31	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595455	11/10/19 18:39	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 17:58	BJB	TAL SAV
	Instrument ID: ICPMSD									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176611-1

Client Sample ID: SHM-93-22C_FAL19

Lab Sample ID: 680-176611-3
Matrix: WG
Date Collected: 11/04/19 13:25
Date Received: 11/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060		1	20 mL	20 mL	478873	11/26/19 07:10	SGB	TAL DEN
Total/NA	Analysis	SM 2320B		1			477560	11/13/19 15:37	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHP-2016-05A_FAL19

Lab Sample ID: 680-176611-4
Matrix: WG
Date Collected: 11/05/19 09:00
Date Received: 11/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597109	11/20/19 20:39	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595458	11/10/19 18:48	PG	TAL SAV
Dissolved	Analysis	6010C		1			596380	11/14/19 16:30	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595457	11/10/19 18:45	PG	TAL SAV
Dissolved	Analysis	6020A		1			596160	11/13/19 20:31	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1	20 mL	20 mL	478873	11/26/19 07:25	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477560	11/13/19 15:43	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHP-2016-05B_FAL19

Lab Sample ID: 680-176611-5
Matrix: WG
Date Collected: 11/05/19 10:30
Date Received: 11/11/19 08:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597109	11/20/19 20:52	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595802	11/12/19 16:09	PG	TAL SAV
Dissolved	Analysis	6010C		1			596380	11/15/19 06:43	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595800	11/12/19 16:07	PG	TAL SAV
Dissolved	Analysis	6020A		1			596160	11/14/19 03:20	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1	20 mL	20 mL	478873	11/26/19 07:42	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477560	11/13/19 15:50	SPG	TAL DEN
	Instrument ID: WC_AT2									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176611-1

Client Sample ID: SHP-2016-04A_FAL19

Lab Sample ID: 680-176611-6
Matrix: WG
Date Collected: 11/05/19 12:00
Date Received: 11/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597109	11/20/19 22:08	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595458	11/10/19 18:48	PG	TAL SAV
Dissolved	Analysis	6010C		1			596380	11/14/19 16:25	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595457	11/10/19 18:45	PG	TAL SAV
Dissolved	Analysis	6020A		1			596160	11/13/19 20:27	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1	20 mL	20 mL	478873	11/26/19 08:26	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477560	11/13/19 16:31	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHP-2016-04B_FAL19

Lab Sample ID: 680-176611-7
Matrix: WG
Date Collected: 11/05/19 13:25
Date Received: 11/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597109	11/20/19 21:30	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595454	11/10/19 18:38	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/13/19 01:07	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595453	11/10/19 18:36	PG	TAL SAV
Dissolved	Analysis	6020A		1			596160	11/14/19 01:20	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1	20 mL	20 mL	478873	11/26/19 08:43	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477560	11/13/19 16:45	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHM-10-14_FAL19

Lab Sample ID: 680-176611-8
Matrix: WG
Date Collected: 11/06/19 09:00
Date Received: 11/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597109	11/20/19 22:20	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595458	11/10/19 18:48	PG	TAL SAV
Dissolved	Analysis	6010C		1			596380	11/14/19 15:59	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595457	11/10/19 18:45	PG	TAL SAV
Dissolved	Analysis	6020A		1			596160	11/13/19 20:04	BWR	TAL SAV
	Instrument ID: ICPMSC									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176611-1

Client Sample ID: SHM-10-14_FAL19

Lab Sample ID: 680-176611-8
Date Collected: 11/06/19 09:00
Matrix: WG
Date Received: 11/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060		1	20 mL	20 mL	478873	11/26/19 09:00	SGB	TAL DEN
Total/NA	Analysis	SM 2320B		1			477560	11/13/19 16:52	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHL-DUP09_FAL19

Lab Sample ID: 680-176611-9
Date Collected: 11/06/19 09:05
Matrix: WG
Date Received: 11/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597109	11/20/19 22:33	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595456	11/10/19 18:43	PG	TAL SAV
Dissolved	Analysis	6010C		1			595683	11/12/19 07:40	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595455	11/10/19 18:39	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 18:18	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1	20 mL	20 mL	479440	12/03/19 07:22	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477560	11/13/19 17:00	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHM-10-13_FAL19

Lab Sample ID: 680-176611-10
Date Collected: 11/06/19 10:45
Matrix: WG
Date Received: 11/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597109	11/20/19 22:46	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595454	11/10/19 18:38	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/13/19 01:12	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595453	11/10/19 18:36	PG	TAL SAV
Dissolved	Analysis	6020A		1			596160	11/14/19 01:24	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1	20 mL	20 mL	479440	12/03/19 08:08	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477560	11/13/19 17:09	SPG	TAL DEN
	Instrument ID: WC_AT2									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176611-1

Client Sample ID: N5-P1_FAL19

Lab Sample ID: 680-176611-11
Date Collected: 11/06/19 12:40
Matrix: WG
Date Received: 11/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597109	11/20/19 22:58	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595454	11/10/19 18:38	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/13/19 01:47	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595453	11/10/19 18:36	PG	TAL SAV
Dissolved	Analysis	6020A		1			596160	11/14/19 01:55	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1	20 mL	20 mL	479440	12/03/19 08:25	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477560	11/13/19 17:16	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHM-10-07_FAL19

Lab Sample ID: 680-176611-12
Date Collected: 11/06/19 12:35
Matrix: WG
Date Received: 11/11/19 08:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597109	11/20/19 23:11	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595609	11/11/19 17:21	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/12/19 19:33	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595608	11/11/19 17:19	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 19:48	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1	20 mL	20 mL	479440	12/03/19 09:16	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477560	11/13/19 17:23	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHP-01-38A_FAL19

Lab Sample ID: 680-176611-13
Date Collected: 11/04/19 08:55
Matrix: WG
Date Received: 11/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597109	11/20/19 23:24	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595454	11/10/19 18:38	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/13/19 01:51	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595453	11/10/19 18:36	PG	TAL SAV
Dissolved	Analysis	6020A		1			596160	11/14/19 01:59	BWR	TAL SAV
	Instrument ID: ICPMSC									

Client Sample ID: SHP-01-38A_FAL19

Lab Sample ID: 680-176611-13

Date Collected: 11/04/19 08:55

Matrix: WG

Date Received: 11/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060		1	20 mL	20 mL	479067	11/27/19 18:02	SGB	TAL DEN
Total/NA	Analysis	SM 2320B		1			477560	11/13/19 17:30	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHP-01-37X_FAL19

Lab Sample ID: 680-176611-14

Date Collected: 11/04/19 11:10

Matrix: WG

Date Received: 11/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597109	11/20/19 23:36	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595454	11/10/19 18:38	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/13/19 01:38	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595453	11/10/19 18:36	PG	TAL SAV
Dissolved	Analysis	6020A		1			596160	11/14/19 01:47	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1	20 mL	20 mL	479067	11/27/19 16:16	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477560	11/13/19 17:36	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHP-01-36X_FAL19

Lab Sample ID: 680-176611-15

Date Collected: 11/04/19 12:25

Matrix: WG

Date Received: 11/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597109	11/20/19 23:49	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595456	11/10/19 18:43	PG	TAL SAV
Dissolved	Analysis	6010C		1			595683	11/12/19 07:57	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595455	11/10/19 18:39	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 18:33	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1	20 mL	20 mL	479067	11/27/19 16:33	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477560	11/13/19 17:59	SPG	TAL DEN
	Instrument ID: WC_AT2									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176611-1

Client Sample ID: SHL-DUP04_FAL19

Lab Sample ID: 680-176611-16
Date Collected: 11/04/19 09:00
Matrix: WG
Date Received: 11/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597187	11/21/19 01:30	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595458	11/10/19 18:48	PG	TAL SAV
Dissolved	Analysis	6010C		1			596380	11/14/19 16:21	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595457	11/10/19 18:45	PG	TAL SAV
Dissolved	Analysis	6020A		1			596160	11/13/19 20:23	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1	20 mL	20 mL	479067	11/27/19 16:50	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477560	11/13/19 18:05	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: EPA-PZ-2012-5A_FAL19

Lab Sample ID: 680-176611-17
Date Collected: 11/05/19 09:20
Matrix: WG
Date Received: 11/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597187	11/21/19 01:43	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595454	11/10/19 18:38	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/13/19 01:20	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595453	11/10/19 18:36	PG	TAL SAV
Dissolved	Analysis	6020A		1			596160	11/14/19 01:32	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1	20 mL	20 mL	479067	11/27/19 17:06	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477560	11/13/19 18:11	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: EPA-PZ-2012-5B_FAL19

Lab Sample ID: 680-176611-18
Date Collected: 11/05/19 10:25
Matrix: WG
Date Received: 11/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597187	11/21/19 01:55	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595458	11/10/19 18:48	PG	TAL SAV
Dissolved	Analysis	6010C		1			596380	11/14/19 16:43	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595457	11/10/19 18:45	PG	TAL SAV
Dissolved	Analysis	6020A		1			596160	11/13/19 20:42	BWR	TAL SAV
	Instrument ID: ICPMSC									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176611-1

Client Sample ID: EPA-PZ-2012-5B_FAL19

Lab Sample ID: 680-176611-18

Date Collected: 11/05/19 10:25
Date Received: 11/08/19 09:10

Matrix: WG

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060		1	20 mL	20 mL	479067	11/27/19 17:23	SGB	TAL DEN
Total/NA	Analysis	SM 2320B		1			477560	11/13/19 18:18	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHM-05-42A_FAL19

Lab Sample ID: 680-176611-19

Date Collected: 11/05/19 12:35
Date Received: 11/11/19 08:55

Matrix: WG

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597187	11/21/19 02:08	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595609	11/11/19 17:21	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/12/19 19:38	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595608	11/11/19 17:19	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 19:51	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1	20 mL	20 mL	479067	11/27/19 17:40	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477560	11/13/19 18:24	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHM-05-42B_FAL19

Lab Sample ID: 680-176611-20

Date Collected: 11/05/19 13:30
Date Received: 11/08/19 09:10

Matrix: WG

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597187	11/21/19 02:21	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595456	11/10/19 18:43	PG	TAL SAV
Dissolved	Analysis	6010C		1			597765	11/22/19 20:06	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595455	11/10/19 18:39	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 18:01	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1	20 mL	20 mL	479067	11/27/19 18:48	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477560	11/13/19 18:32	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: EPA-PZ-2012-7B_FAL19

Lab Sample ID: 680-176611-21

Date Collected: 11/05/19 15:00

Matrix: WG

Date Received: 11/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597187	11/21/19 02:33	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595454	11/10/19 18:38	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/13/19 01:25	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595453	11/10/19 18:36	PG	TAL SAV
Dissolved	Analysis	6020A		1			596160	11/14/19 01:43	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1	20 mL	20 mL	479067	11/27/19 19:05	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477560	11/13/19 18:37	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHP-99-29X_FAL19

Lab Sample ID: 680-176611-22

Date Collected: 11/06/19 09:00

Matrix: WG

Date Received: 11/11/19 08:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597187	11/21/19 02:46	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595802	11/12/19 16:09	PG	TAL SAV
Dissolved	Analysis	6010C		1			596380	11/15/19 06:39	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595800	11/12/19 16:07	PG	TAL SAV
Dissolved	Analysis	6020A		1			596160	11/14/19 03:16	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1	20 mL	20 mL	479440	12/03/19 09:32	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477560	11/13/19 18:44	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: EW-1_FAL19

Lab Sample ID: 680-176611-23

Date Collected: 11/05/19 08:00

Matrix: WG

Date Received: 11/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597187	11/21/19 02:59	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595454	11/10/19 18:38	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/13/19 01:16	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595453	11/10/19 18:36	PG	TAL SAV
Dissolved	Analysis	6020A		1			596160	11/14/19 01:28	BWR	TAL SAV
	Instrument ID: ICPMSC									

Client Sample ID: EW-1_FAL19

Lab Sample ID: 680-176611-23

Date Collected: 11/05/19 08:00

Matrix: WG

Date Received: 11/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060		1	20 mL	20 mL	479067	11/27/19 19:23	SGB	TAL DEN
Total/NA	Analysis	SM 2320B		1			477560	11/13/19 18:51	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: EW-4_FAL19

Lab Sample ID: 680-176611-24

Date Collected: 11/05/19 08:10

Matrix: WG

Date Received: 11/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597187	11/21/19 00:52	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595456	11/10/19 18:43	PG	TAL SAV
Dissolved	Analysis	6010C		1			595683	11/12/19 08:02	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595455	11/10/19 18:39	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 18:59	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1	20 mL	20 mL	479067	11/27/19 19:40	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477721	11/14/19 20:43	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHP-2016-06A_FAL19

Lab Sample ID: 680-176611-25

Date Collected: 11/05/19 10:00

Matrix: WG

Date Received: 11/11/19 08:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597187	11/21/19 03:49	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595609	11/11/19 17:21	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/12/19 19:51	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595608	11/11/19 17:19	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 20:11	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1	20 mL	20 mL	479067	11/27/19 20:24	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477721	11/14/19 20:48	SPG	TAL DEN
	Instrument ID: WC-AT3									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176611-1

Client Sample ID: SHP-2016-06B_FAL19

Lab Sample ID: 680-176611-26
Matrix: WG
Date Collected: 11/05/19 12:10
Date Received: 11/11/19 08:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597187	11/21/19 03:11	UI	TAL SAV
	Instrument ID: CICK									
Total/NA	Analysis	9056A		5	5 mL	5 mL	597975	11/26/19 04:06	EKB	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595609	11/11/19 17:21	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/12/19 19:47	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595608	11/11/19 17:19	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 20:08	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1	20 mL	20 mL	479067	11/27/19 20:39	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477721	11/14/19 20:54	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHP-2016-06C_FAL19

Lab Sample ID: 680-176611-27
Matrix: WG
Date Collected: 11/05/19 13:50
Date Received: 11/11/19 08:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597187	11/21/19 04:27	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595802	11/12/19 16:09	PG	TAL SAV
Dissolved	Analysis	6010C		1			596380	11/15/19 06:47	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595800	11/12/19 16:07	PG	TAL SAV
Dissolved	Analysis	6020A		1			596160	11/14/19 03:24	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1	20 mL	20 mL	479067	11/27/19 20:56	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477721	11/14/19 21:10	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHL-EB-110519

Lab Sample ID: 680-176611-28
Matrix: WQ
Date Collected: 11/05/19 14:50
Date Received: 11/11/19 08:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597187	11/21/19 04:40	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595802	11/12/19 16:09	PG	TAL SAV
Dissolved	Analysis	6010C		1			596380	11/15/19 06:30	BCB	TAL SAV
	Instrument ID: ICPE									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176611-1

Client Sample ID: SHL-EB-110519

Lab Sample ID: 680-176611-28

Date Collected: 11/05/19 14:50

Matrix: WQ

Date Received: 11/11/19 08:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	250 mL	595800	11/12/19 16:07	PG	TAL SAV
Dissolved	Analysis	6020A		1			596160	11/14/19 03:08	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060		1	20 mL	20 mL	479067	11/27/19 21:11	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477721	11/14/19 21:14	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHP-2016-07B_FAL19

Lab Sample ID: 680-176611-29

Date Collected: 11/06/19 13:00

Matrix: WG

Date Received: 11/11/19 08:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597187	11/21/19 04:52	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595609	11/11/19 17:21	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/12/19 19:20	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595608	11/11/19 17:19	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 19:30	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060		1	20 mL	20 mL	479067	11/27/19 21:57	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477721	11/14/19 21:19	SPG	TAL DEN
	Instrument ID: WC-AT3									

Laboratory References:

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

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

N1 = native
FD = field dup

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2; Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

680-176611 Chain of Custody

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: SW9060A/FLDFLT (B)	SW9056A (A)	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	A2320B (A)	VOCs	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
						3	5	9	9	46							
	SHM-93-22B-FAL19	WG	11/4/19	0920	KE	X	X	X	X	X	X	SHM-93-22B	N1	82.55	92.55		1
	SHL-22-FAL19	WG	11/4/19	1130	KE	X	X	X	X	X	X	SHL-22	N1	~~126.07~~ 126.07		RD Top: 105.68 Bottom: 115.68	
	SHM-93-22C-FAL19	WG	11/4/19	1325	KE	X	X	X	X	X	X	SHM-93-22C	N1	126.07	136.07		1
	SHP-2016-05A-FAL19	WG	11/5/19	0900	KE	X	X	X	X	X	X	SHP-2016-05A	N1	27.13	32.13		1
1	SHP-2016-05B-FAL19	WG	11/5/19	1030	KE	X	X	X	X	X	X	SHP-2016-05B	N1	87.07	92.07		1
X 1	SHP-2016-04A-FAL19	WG	11/5/19	1200	KE	X	X	X	X	X	X	SHP-2016-04A	N1	27.4	32.4		1
1	SHP-2016-04B-FAL19	WG	11/5/19	1325	KE	X	X	X	X	X	X	SHP-2016-04B	N1	87.18	92.18		1
1	SHM-10-14-FAL19	WG	11/6/19	0900	KE	X	X	X	X	X		SHM-10-14	N1	102.82	82.82		1
1	SHL-DUP09-FAL19	WG	11/6/19	0905	KE	X	X	X	X	X		SHM-10-14	FD	102.82	82.82	Field dup	
1	SHM-10-13-FAL19	WG	11/6/19	1045	KE	X	X	X	X	X		SHM-10-13	N1	63.26	73.26		
1	N5-P1-FAL19	WG	11/6/19	1240	KE	X	X	X	X	X		N5-P1	N1	97.69	99.69		

Relinquished by: (Signature)	Date	Time
	11/6/19	1500
	11/7/19	1800

Received by: (Signature)	Date	Time
	11/6/19	1500

Shipping Date / Carrier / Airbill Number

Received by Laboratory: (Signature, Date, Time) & condition

11/8/19 0.8 0.9 1.0
~~1.2~~ 1.3, 2.0 2.1
BD 11-11-19
1.2 1.3

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508 366.7442, lekes@komangs com

COC # SHL-FAL19-CO

Project Name: Long Term Monitoring	Laboratory Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to. 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

N1 = native
FD = field dup

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL amber glass H2SO4 pH < 2 Cool < 6°C
5	1 x 125mL plastic Cool < 6°C
9	1 x 250mL plastic HNO3 pH < 2 Cool < 6°C
46	1 x 250mL plastic Cool < 6°C

680-176611 Chain of Custody

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init	Analytical Test Method: SW9060A/FLDFLT (B)	SW9056A (A)	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	A2320B (A)	VOCs	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
						3	5	9	9	46							
	SHM-93-22B-FAL19	WG	11/4/19	0920	KE	X	X	X	X	X	X	SHM-93-22B	N1	82.55	92.55		1
	SHL-22-FAL19	WG	11/4/19	1130	KE	X	X	X	X	X	X	SHL-22	N1	126.07	136.07	Top 105.45 Bottom 145.68	
	SHM-93-22C-FAL19	WG	11/4/19	1325	KE	X	X	X	X	X	X	SHM-93-22C	N1	126.07	136.07		1
	SHP-2016-05A-FAL19	WG	11/5/19	0900	KE	X	X	X	X	X	X	SHP-2016-05A	N1	27.13	32.13		1
1	SHP-2016-05B-FAL19	WG	11/5/19	1030	KE	X	X	X	X	X	X	SHP-2016-05B	N1	87.07	92.07		1
1	SHP-2016-04A-FAL19	WG	11/5/19	1200	KE	X	X	X	X	X	X	SHP-2016-04A	N1	27.4	32.4		1
1	SHP-2016-04B-FAL19	WG	11/5/19	1325	KE	X	X	X	X	X	X	SHP-2016-04B	N1	87.18	92.18		1
1	SHM-10-14-FAL19	WG	11/6/19	0900	KE	X	X	X	X	X		SHM-10-14	N1	82.82	82.82		1
1	SHL-DUP09-FAL19	WG	11/6/19	0905	KE	X	X	X	X	X		SHM-10-14	FD	82.82	82.82	Field dup	
1	SHM-10-13-FAL19	WG	11/6/19	1045	KE	X	X	X	X	X		SHM-10-13	N1	73.26	73.26		
1	N5-P1-FAL19	WG	11/6/19	1240	KE	X	X	X	X	X		N5-P1	N1	97.09	99.69		

Relinquished by: (Signature)	Date	Time
	11/6/19	1500
	11/7/19	1450

Received by: (Signature)	Date	Time
	11/6/19	1520
	11.11.19	0855
4.1/4.2		

Shipping Date / Carrier / Airbill Number

Received by Laboratory: (Signature, Date, Time) & condition

11/8/19 0.3/0.4/1.0

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2; Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: SW9060A/FLDFLT (B) 3	SW9056A (A) 5	SW6010C/FLDFLT (B) 9	SW6020A/FLDFLT (B) 9	A2320B (A) 46	VOCs	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
	SHM-10-07_FAL19	WG	11/06/19	1235	AC	X	X	X	X	X		SHM-10-07	N1	41.84	51.84		1
		WG				X	X	X	X	X			N1				1
		WG				X	X	X	X	X			N1				1
		WG				X	X	X	X	X			N1				1
1																	
1																	
1																	
1																	
1																	
1																	
1																	

Relinquished by: *(Signature)*	Date	Time
Abigail Cartwright	11/6/19	1500
	11/6/19	1720

Received by: *(Signature)*	Date	Time
	11/6/19	1720

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

11/8/19 910
0.8/0.9
1.2/1.3, 2.0/2.1

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC #. SHL-FAL19-CO

KGS

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC Jerry Lanier email jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL amber glass H2SO4 pH < 2 Cool < 6°C
5	1 x 125mL plastic Cool < 6°C
9	1 x 250mL plastic HNO3 pH < 2 Cool < 6°C
46	1 x 250mL plastic Cool < 6°C

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: SW9060A/FLDFLT (B) 3	SW9056A (A) 5	SW6010C/FLDFLT (B) 9	SW6020A/FLDFLT (B) 9	A2320B (A) 46	VOCs	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
	SHM-10-07_FAL19	WG	11/06/19	1235	AC	X	X	X	X	X		SHM-10-07	N1	41.84	51.84		1
		WG				X	X	X	X	X			N1				1
		WG				X	X	X	X	X			N1				1
		WG				X	X	X	X	X			N1				1
1																	
1																	
1																	
1																	
1																	
1																	
1																	

Relinquished by: *(Signature)*	Date	Time
Virgil Cartwright	11/6/19	1500
	11/7/19	1720

Received by: *(Signature)*	Date	Time
	11/6/19	KGS
	11/7/19	0855
4.1/4.2		

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* & condition

11/8/19 910
O.K/0.9

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2; Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	SW9060A/FLDFLT (B)	SW9056A (A)	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	A2320B (A)	VOCs	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
						3	5	9	9	46							
	SHP-01-38A_FAL19	WG	11/04/19	0855	AC	X	X	X	X	X	X	SHP-01-38A	N1	3.59	8.59		1
	SHP-01-37X_FAL19	WG	11/04/19	1110	AC	X	X	X	X	X	X	SHP-01-37X	N1	5.12	10.12		1
	SHP-01-36X_FAL19	WG	11/04/19	1225	AC	X	X	X	X	X	X	SHP-01-36X	N1	6.96	11.98		1
AC	~~N2-P1_FAL19~~	~~WG~~	~~11/04/19~~	~~1400~~	~~AC~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N2-P1~~	N1				1 AC
1	SHL-DUP04_FAL19	WG	11/04/19	0900	AC	X	X	X	X	X	X	SHP-01-38A	FD	3.59	8.59		
1	EPA-PZ-2012-5A_FAL19	WG	11/05/19	0920	AC	X	X	X	X	X	X	EPA-PZ-2012-5A	N1	23.68	28.68		
1	EPA-PZ-2012-5B_FAL19	WG	11/05/19	1025	AC	X	X	X	X	X	X	EPA-PZ-2012-5B	N1	83.18	88.18		
1	SHM-05-42A_FAL19	WG	11/05/19	1235	AC	X	X	X	X	X	X	SHM-05-42A	N1	43.16	45.16		
1	SHM-05-42B_FAL19	WG	11/05/19	1330	AC	X	X	X	X	X	X	SHM-05-42B	N1	73.15	75.15		
1	EPA-PZ-2012-7B_FAL19	WG	11/05/19	1500	AC	X	X	X	X	X	X	EPA-PZ-2012-7B	N1	59.75	64.75		
1	SHP-99-29X_FAL19	WG	11/06/19	0900	AC	X	X	X	X	X		SHP-99-29X	N1	20.88	30.88		

AC

Relinquished by: *(Signature)*	Date	Time
Abigail Courtright	11/06/19	1500
	11/7/19	1705

Received by: *(Signature)*	Date	Time
	11/6/19	1500

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

11/8/19 910
0.8/0.9

1.2/1.3, 2.0/2.1

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

KGS

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL amber glass H2SO4 pH < 2 Cool < 6°C
5	1 x 125mL plastic Cool < 6°C
9	1 x 250mL plastic HNO3 pH < 2 Cool < 6°C
46	1 x 250mL plastic Cool < 6°C

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init	Analytical Test Method: SW9060A/FLDFLT (B)	SW9056A (A)	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	A2320B (A)	VOCs	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
						3	5	9	9	46							
	SHP-01-35A_FAL19	WG	11/04/19	0855	AC	X	X	X	X	X	X	SHP-01-35A	N1	3.59	8.59		1
	SHP-01-37X_FAL19	WG	11/04/19	1110	AC	X	X	X	X	X	X	SHP-01-37X	N1	5.12	10.12		1
	SHP-01-36X_FAL19	WG	11/04/19	1225	AC	X	X	X	X	X	X	SHP-01-36X	N1	6.96	11.98		1
	~~NZ-F1_FAL19~~	~~WG~~	~~11/04/19~~	~~1400~~	~~AC~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~NZ-F1~~	N1				1 AC
1	SHL-DUP04_FAL19	WG	11/04/19	0900	AC	X	X	X	X	X	X	SHP-01-35A	FD	3.59	8.59		
1	EPA-PZ-2012-5A_FAL19	WG	11/05/19	0920	AC	X	X	X	X	X	X	EPA-PZ-2012-5A	N1	23.68	28.68		
1	EPA-PZ-2012-5B_FAL19	WG	11/05/19	1025	AC	X	X	X	X	X	X	EPA-PZ-2012-5B	N1	83.18	88.18		
1	SHM-05-42A_FAL19	WG	11/05/19	1235	AC	X	X	X	X	X	X	SHM-05-42A	N1	43.16	45.16		
1	SHM-05-42B_FAL19	WG	11/05/19	1330	AC	X	X	X	X	X	X	SHM-05-42B	N1	73.15	75.15		
1	EPA-PZ-2012-7B_FAL19	WG	11/05/19	1500	AC	X	X	X	X	X	X	EPA-PZ-2012-7B	N1	59.75	64.75		
1	SHP-99-29X_FAL19	WG	11/06/19	0900	AC	X	X	X	X	X		SHP-99-29X	N1	20.85	30.85		

AC

Relinquished by: *(Signature)*	Date	Time
Megan Cartwright	11/06/19	1500
	11/7/19	1100

Received by: *(Signature)*	Date	Time
	11/6/19	1500
	11.11.19	0855
4.1/4.2		

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

11/8/19 910
C: 4/10.9

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2; Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	SW9060A/FLDFLT (B) 3	SW9056A (A) 5	SW6010C/FLDFLT (B) 9	SW6020A/FLDFLT (B) 9	A2320B (A) 46	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
	EW-1_FAL19	WG	11/5/19	0900	B/A	X	X	X	X	X	EW-1	N1				1
	EW-4_FAL19	WG	11/5/19	0910	B/A	X	X	X	X	X	EW-4	N1				1
	SHP-2016-06A_FAL19	WG	11/5/19	1000	B/A	X	X	X	X	X	SHP-2016-06A	N1				1
	SHP-2016-06B-FAL19	WG	11/5/19	1210	B/A	X	X	X	X	X	SHP-2016-06B	N1				1
1	SHP-2016-06C-FAL19	WG	11/5/19	1350	B/A	X	X	X	X	X	SHP-2016-06C	N1				
1	SHL-EB-110519	WG	11/5/19	1450	B/A	X	X	X	X	X	Equipment Blank	EB				
1	SHP-2016-07B-FAL19	WG	11/6/19	1300	B/A	X	X	X	X	X	SHP-2016-07B	N1				
1																
1																
1																
1																

Relinquished by: *(Signature)*	Date	Time
	11/6/19	1500
	11/7/19	1700

Received by: *(Signature)*	Date	Time
	11/6/19	1500

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

11/8/19 910
0.8/0.9
1.2/1.3, 2.0/2.1

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

KGS

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL amber glass H2SO4 pH < 2 Cool < 6°C
5	1 x 125mL plastic Cool < 6°C
9	1 x 250mL plastic HNO3 pH < 2 Cool < 6°C
46	1 x 250mL plastic Cool < 6°C

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	SW9060A/FLDFLT (B)	SW9056A (A)	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	A2320B (A)	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
					Analytical Test Method	3	5	9	9	46						
	EW-1_FAL19	WG	11/5/19	0900	B/A	X	X	X	X	X	EW-1	N1				1
	EW-4_FAL19	WG	11/5/19	0810	B/A	X	X	X	X	X	EW-4	N1				1
	SHP-2016-06A.FAL19	WG	11/5/19	1000	B/A	X	X	X	X	X	SHP-2016-06A	N1				1
	SHP-2016-06B.FAL19	WG	11/5/19	1210	B/A	X	X	X	X	X	SHP-2016-06B	N1				1
1	SHP-2016-06C.FAL19	WG	11/5/19	1350	B/A	X	X	X	X	X	SHP-2016-06C	N1				
1	SHL EB-11519	WG	11/5/19	1450	B/A	X	X	X	X	X	Equipment Blank	EB				
1	SHP-2016-07B.FAL19	WG	11/6/19	1300	B/A	X	X	X	X	X	SHP-2016-07B	N1				
1																
1																
1																
1																

Relinquished by: *(Signature)*	Date	Time
	11/6/19	1550
	11/7/19	1700

Received by: *(Signature)*	Date	Time
	11/6/19	1700
	11/1.19	0855
4.1/4.2		

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

11/8/19 910
0.8 0.9

Eurofins TestAmerica, Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Phone: 912-354-7858 Fax: 912-352-0165

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lanier, Jerry A	Carrier Tracking No(s):	COC No: 680-589164.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: jerry.lanier@testamericainc.com	State of Origin: Massachusetts	Page: Page 1 of 4
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA; DoD ELAP - A2LA		Job #: 680-176611-1
Address: 4955 Yarrow Street	Due Date Requested: 11/21/2019			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: LTM - SHL Fall 2019	Project #: 68016363			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2320B/ (MOD) Local Method	9060_Diss/FIELD_FLTRD DOC	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
SHM-93-22B_FAL19 (680-176611-1)	11/4/19	09:20 Eastern		Water			X	X	2	
SHL-22_FAL19 (680-176611-2)	11/4/19	11:30 Eastern		Water			X	X	2	
SHM-93-22C_FAL19 (680-176611-3)	11/4/19	13:25 Eastern		Water			X	X	2	
SHP-2016-05A_FAL19 (680-176611-4)	11/5/19	09:00 Eastern		Water			X	X	2	
SHP-2016-05B_FAL19 (680-176611-5)	11/5/19	10:30 Eastern		Water			X	X	2	
SHP-2016-04A_FAL19 (680-176611-6)	11/5/19	12:00 Eastern		Water			X	X	2	
SHP-2016-04B_FAL19 (680-176611-7)	11/5/19	13:25 Eastern		Water			X	X	2	
SHM-10-14_FAL19 (680-176611-8)	11/6/19	09:00 Eastern		Water			X	X	2	
SHL-DUP09_FAL19 (680-176611-9)	11/6/19	09:05 Eastern		Water			X	X	2	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 11.11.19 1625	Company:	Received by: [signature]	Date/Time: 11/12/19 1035	Company: ETADEN
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 0.9, SOG, IR9, CFO.9, DUP, 11/12/19		

Ver: 01/16/2019

Eurofins TestAmerica, Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Phone: 912-354-7858 Fax: 912-352-0165

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lanier, Jerry A	Carrier Tracking No(s):	COC No: 680-589164.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: jerry.lanier@testamericainc.com	State of Origin: Massachusetts	Page: Page 2 of 4
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA; DoD ELAP - A2LA		Job #: 680-176611-1
Address: 4955 Yarrow Street,	Due Date Requested: 11/21/2019			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: LTM - SHL Fall 2019	Project #: 68016363			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2320B/ (MOD) Local Method	9060_Diss/FIELD_FLTRD DOC	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
SHM-10-13_FAL19 (680-176611-10)	11/6/19	10:45 Eastern		Water			X	X	2	
N5-P1_FAL19 (680-176611-11)	11/6/19	12:40 Eastern		Water			X	X	2	
SHM-10-07_FAL19 (680-176611-12)	11/6/19	12:35 Eastern		Water			X	X	2	
SHP-01-38A_FAL19 (680-176611-13)	11/4/19	08:55 Eastern		Water			X	X	2	
SHP-01-37X_FAL19 (680-176611-14)	11/4/19	11:10 Eastern		Water			X	X	2	
SHP-01-36X_FAL19 (680-176611-15)	11/4/19	12:25 Eastern		Water			X	X	2	
SHL-DUP04_FAL19 (680-176611-16)	11/4/19	09:00 Eastern		Water			X	X	2	
EPA-PZ-2012-5A_FAL19 (680-176611-17)	11/5/19	09:20 Eastern		Water			X	X	2	
EPA-PZ-2012-5B_FAL19 (680-176611-18)	11/5/19	10:25 Eastern		Water			X	X	2	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	11.1.19 1625		[signature]	11/2/19 1035	ETAS
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica, Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Phone: 912-354-7858 Fax: 912-352-0165

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lanier, Jerry A	Carrier Tracking No(s):	COC No: 680-589164.3
Client Contact: Shipping/Receiving	Phone:	E-Mail: jerry.lanier@testamericainc.com	State of Origin: Massachusetts	Page: Page 3 of 4
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA; DoD ELAP - A2LA		Job #: 680-176611-1
Address: 4955 Yarrow Street,	Due Date Requested: 11/21/2019			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: LTM - SHL Fall 2019	Project #: 68016363			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2320B/ (MOD) Local Method	9060_Diss/FIELD_FLTRD DOC	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
SHM-05-42A_FAL19 (680-176611-19)	11/5/19	12:35 Eastern		Water			X	X	2	
SHM-05-42B_FAL19 (680-176611-20)	11/5/19	13:30 Eastern		Water			X	X	2	
EPA-PZ-2012-7B_FAL19 (680-176611-21)	11/5/19	15:00 Eastern		Water			X	X	2	
SHP-99-29X_FAL19 (680-176611-22)	11/6/19	09:00 Eastern		Water			X	X	2	
EW-1_FAL19 (680-176611-23)	11/5/19	08:00 Eastern		Water			X	X	2	
EW-4_FAL19 (680-176611-24)	11/5/19	08:10 Eastern		Water			X	X	2	
SHP-2016-06A_FAL19 (680-176611-25)	11/5/19	10:00 Eastern		Water			X	X	2	
SHP-2016-06B_FAL19 (680-176611-26)	11/5/19	12:10 Eastern		Water			X	X	2	
SHP-2016-06C_FAL19 (680-176611-27)	11/5/19	13:50 Eastern		Water			X	X	2	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	11-11-19 1625		[signature]	11/12/19 1035	ETA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica, Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Phone: 912-354-7858 Fax: 912-352-0165

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lanier, Jerry A	Carrier Tracking No(s):	COC No: 680-589164.4
Client Contact: Shipping/Receiving	Phone:	E-Mail: jerry.lanier@testamericainc.com	State of Origin: Massachusetts	Page: Page 4 of 4
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA; DoD ELAP - A2LA		Job #: 680-176611-1
Address: 4955 Yarrow Street,	Due Date Requested: 11/21/2019			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: LTM - SHL Fall 2019	Project #: 68016363			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2320B/ (MOD) Local Method	9060_Diss/FIELD_FLTRD DOC	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
SHL-EB-110519 (680-176611-28)	11/5/19	14:50 Eastern		Water			X	X	2	
SHP-2016-07B_FAL19 (680-176611-29)	11/6/19	13:00 Eastern		Water			X	X	2	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

12/4/2019

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-176611-1

Login Number: 176611
List Number: 1
Creator: Weston, Pamela

List Source: Eurofins TestAmerica, Savannah

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

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-176611-1

Login Number: 176611
List Number: 2
Creator: Petunin, Peter

List Source: Eurofins TestAmerica, Denver
List Creation: 11/12/19 03:48 PM

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

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-176611-1
Project/Site: LTM - SHL Fall 2019

Laboratory: Eurofins TestAmerica, Savannah

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

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-20
Alaska	State	GA00006	06-30-20
Alaska (UST)	State	17-016	09-30-20
ANAB	Dept. of Defense ELAP	L2463	09-22-22
ANAB	ISO/IEC 17025	L2463.01	09-22-22
Arizona	State	AZ0808	12-14-19
Arkansas DEQ	State	19-015-0	02-01-20
California	State	2939	06-30-20
Colorado	State	GA00006	12-31-19
Connecticut	State	PH-0161	03-31-21
Florida	NELAP	E87052	06-30-20
GA Dept. of Agriculture	State Program	N/A	06-12-20
Georgia	State	E87052	06-30-20
Georgia (DW)	State	803	06-30-20
Guam	State	19-007R	04-17-20
Hawaii	State	<cert No.>	06-30-20
Indiana	State	C-GA-02	06-30-20
Iowa	State	353	09-22-20
Kansas	NELAP	E-10322	10-15-20
Kentucky (DW)	State	KY90084	12-31-19
Kentucky (UST)	State	<cert No.>	06-30-20
Kentucky (WW)	State	KY90084	12-31-19
Louisiana	NELAP	02011	06-30-20
Louisiana (DW)	State	LA009	12-31-19
Maine	State	GA00006	09-26-20
Maryland	State	250	12-31-19
Massachusetts	State	M-GA006	06-30-20
Michigan	State	9925	06-30-20
Mississippi	State	<cert No.>	06-30-20
Nebraska	State	NE-OS-7-04	06-30-20
New Hampshire	NELAP	2096	05-29-20
New Jersey	NELAP	GA769	06-30-20
New Mexico	State	GA00006	06-30-20
New York	NELAP	10842	04-01-20
North Carolina (DW)	State	13701	07-31-20
North Carolina (WW/SW)	State	269	12-31-19
Oklahoma	State	9984	08-31-20
Pennsylvania	NELAP	68-00474	06-30-20
Puerto Rico	State	GA00006	01-01-20
South Carolina	State	98001	06-30-20
Tennessee	State	02961	06-30-20
Texas	NELAP	T1047004185-19-14	11-30-19
Texas	TCEQ Water Supply	T104704185	09-23-20
US Fish & Wildlife	US Federal Programs	LE058448-0	07-31-20
USDA	US Federal Programs	P330-18-00313	10-29-21
Virginia	NELAP	10509	06-14-20
Washington	State	C805	06-10-20
West Virginia (DW)	State	9950C	12-31-19
West Virginia DEP	State	094	11-30-19

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-176611-1
Project/Site: LTM - SHL Fall 2019

Laboratory: Eurofins TestAmerica, Savannah (Continued)

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999819810	08-31-20
Wyoming	State	8TMS-L	06-30-20 *

Laboratory: Eurofins TestAmerica, Denver

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

Authority	Program	Identification Number	Expiration Date
A2LA	DoD	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

Laboratory Job ID: 680-176683-1
Client Project/Site: LTM - SHL Fall 2019

For:
KOMAN Government Solutions, LLC
293 Boston Post Road West
Suite 100
Marlborough, Massachusetts 01752

Attn: Laurie Ekes

Jerry Lanier

Authorized for release by:
12/3/2019 6:44:15 PM

Jerry Lanier, Project Manager I
(912)250-0281
jerry.lanier@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 680-176683-1

Laboratory: Eurofins TestAmerica, Savannah

Narrative

CASE NARRATIVE

Client: KOMAN Government Solutions, LLC

Project: LTM - SHL Fall 2019

Report Number: 680-176683-1

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 the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 11/09/2019; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 5.5 C.

METALS (ICP) - DISSOLVED

Samples SHM-96-5B_FAL19 (680-176683-1), SHM-96-5C_FAL19 (680-176683-2), EPA-PZ-2012-1A_FAL19 (680-176683-3), EPA-PZ-2012-1B_FAL19 (680-176683-4), SHP-2016-1A_FAL19 (680-176683-5), SHP-2016-1B_FAL19 (680-176683-6), SHL-5_FAL19 (680-176683-7), SHM-93-24A_FAL19 (680-176683-8), SHL-24_FAL19 (680-176683-9), SHL-12_FAL19 (680-176683-10), SHM-07-03_FAL19 (680-176683-11), SHM-05-40X_FAL19 (680-176683-12), SHL-DUP10_FAL19 (680-176683-13), SHM-07-05X_FAL19 (680-176683-14), SHM-10-11_FAL19 (680-176683-15), SHM-10-06A_FAL19 (680-176683-16), SHL-EB-110819 (680-176683-17), SHM-05-41C_FAL19 (680-176683-18), SHM-05-41A_FAL19 (680-176683-19) and SHM-05-41B_FAL19 (680-176683-20) were analyzed for Metals (ICP) - Dissolved in accordance with EPA SW-846 Method 6010C. The samples were prepared on 11/10/2019 and analyzed on 11/12/2019 and 11/13/2019.

Iron was detected in method blank MB 680-595456/1-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. Refer to the QC report for details.

Manganese failed the recovery criteria low for the MS/MSD of sample SHM-05-41C_FAL19 (680-176683-18) in batch 680-596156.

Refer to the QC report for details.

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

METALS (ICPMS) - DISSOLVED

Samples SHM-96-5B_FAL19 (680-176683-1), SHM-96-5C_FAL19 (680-176683-2), EPA-PZ-2012-1A_FAL19 (680-176683-3), EPA-PZ-2012-1B_FAL19 (680-176683-4), SHP-2016-1A_FAL19 (680-176683-5), SHP-2016-1B_FAL19 (680-176683-6), SHL-5_FAL19 (680-176683-7), SHM-93-24A_FAL19 (680-176683-8), SHL-24_FAL19 (680-176683-9), SHL-12_FAL19 (680-176683-10), SHM-07-03_FAL19 (680-176683-11), SHM-05-40X_FAL19 (680-176683-12), SHL-DUP10_FAL19 (680-176683-13), SHM-07-05X_FAL19 (680-176683-14), SHM-10-11_FAL19 (680-176683-15), SHM-10-06A_FAL19 (680-176683-16), SHL-EB-110819 (680-176683-17), SHM-05-41C_FAL19 (680-176683-18), SHM-05-41A_FAL19 (680-176683-19) and SHM-05-41B_FAL19 (680-176683-20) were analyzed for Metals (ICPMS) - Dissolved in accordance with EPA SW-846 Method 6020A. The samples were prepared on 11/10/2019 and analyzed on 11/13/2019.

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

Job ID: 680-176683-1 (Continued)

Laboratory: Eurofins TestAmerica, Savannah (Continued)

ALKALINITY

Samples SHM-96-5B_FAL19 (680-176683-1), SHM-96-5C_FAL19 (680-176683-2), EPA-PZ-2012-1A_FAL19 (680-176683-3), EPA-PZ-2012-1B_FAL19 (680-176683-4), SHP-2016-1A_FAL19 (680-176683-5), SHP-2016-1B_FAL19 (680-176683-6), SHL-5_FAL19 (680-176683-7), SHM-93-24A_FAL19 (680-176683-8), SHL-24_FAL19 (680-176683-9), SHL-12_FAL19 (680-176683-10), SHM-07-03_FAL19 (680-176683-11), SHM-05-40X_FAL19 (680-176683-12), SHL-DUP10_FAL19 (680-176683-13), SHM-07-05X_FAL19 (680-176683-14), SHM-10-11_FAL19 (680-176683-15), SHM-10-06A_FAL19 (680-176683-16), SHL-EB-110819 (680-176683-17), SHM-05-41C_FAL19 (680-176683-18), SHM-05-41A_FAL19 (680-176683-19) and SHM-05-41B_FAL19 (680-176683-20) were analyzed for alkalinity in accordance with SM 2320B. The samples were analyzed on 11/15/2019.

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

ANIONS BY ION CHROMATOGRAPHY (28 DAY)

Samples SHM-96-5B_FAL19 (680-176683-1), SHM-96-5C_FAL19 (680-176683-2), EPA-PZ-2012-1A_FAL19 (680-176683-3), EPA-PZ-2012-1B_FAL19 (680-176683-4), SHP-2016-1A_FAL19 (680-176683-5), SHP-2016-1B_FAL19 (680-176683-6), SHL-5_FAL19 (680-176683-7), SHM-93-24A_FAL19 (680-176683-8), SHL-24_FAL19 (680-176683-9), SHL-12_FAL19 (680-176683-10), SHM-07-03_FAL19 (680-176683-11), SHM-05-40X_FAL19 (680-176683-12), SHL-DUP10_FAL19 (680-176683-13), SHM-07-05X_FAL19 (680-176683-14), SHM-10-11_FAL19 (680-176683-15), SHM-10-06A_FAL19 (680-176683-16), SHL-EB-110819 (680-176683-17), SHM-05-41C_FAL19 (680-176683-18), SHM-05-41A_FAL19 (680-176683-19) and SHM-05-41B_FAL19 (680-176683-20) were analyzed for Anions by Ion Chromatography (28 Day) in accordance with SW 846 9056A. The samples were analyzed on 11/21/2019 and 11/22/2019.

Sample SHM-05-41C_FAL19 (680-176683-18)[25X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

TOTAL ORGANIC CARBON (TOC)

Samples SHM-96-5B_FAL19 (680-176683-1), SHM-96-5C_FAL19 (680-176683-2), EPA-PZ-2012-1A_FAL19 (680-176683-3), EPA-PZ-2012-1B_FAL19 (680-176683-4), SHP-2016-1A_FAL19 (680-176683-5), SHP-2016-1B_FAL19 (680-176683-6), SHL-5_FAL19 (680-176683-7), SHM-93-24A_FAL19 (680-176683-8), SHL-24_FAL19 (680-176683-9), SHL-12_FAL19 (680-176683-10), SHM-07-03_FAL19 (680-176683-11), SHM-05-40X_FAL19 (680-176683-12), SHL-DUP10_FAL19 (680-176683-13), SHM-07-05X_FAL19 (680-176683-14), SHM-10-11_FAL19 (680-176683-15), SHM-10-06A_FAL19 (680-176683-16), SHL-EB-110819 (680-176683-17), SHM-05-41C_FAL19 (680-176683-18), SHM-05-41A_FAL19 (680-176683-19) and SHM-05-41B_FAL19 (680-176683-20) were analyzed for Total Organic Carbon (TOC) in accordance with EPA SW-846 9060A. The samples were analyzed on 11/29/2019.

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

Sample Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176683-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
680-176683-1	SHM-96-5B_FAL19	WG	11/07/19 09:15	11/09/19 10:00	
680-176683-2	SHM-96-5C_FAL19	WG	11/07/19 10:30	11/09/19 10:00	
680-176683-3	EPA-PZ-2012-1A_FAL19	WG	11/07/19 11:55	11/09/19 10:00	
680-176683-4	EPA-PZ-2012-1B_FAL19	WG	11/07/19 13:00	11/09/19 10:00	
680-176683-5	SHP-2016-1A_FAL19	WG	11/08/19 09:10	11/09/19 10:00	
680-176683-6	SHP-2016-1B_FAL19	WG	11/08/19 11:10	11/09/19 10:00	
680-176683-7	SHL-5_FAL19	WG	11/08/19 12:20	11/09/19 10:00	
680-176683-8	SHM-93-24A_FAL19	WG	11/08/19 09:10	11/09/19 10:00	
680-176683-9	SHL-24_FAL19	WG	11/07/19 10:15	11/09/19 10:00	
680-176683-10	SHL-12_FAL19	WG	11/07/19 12:45	11/09/19 10:00	
680-176683-11	SHM-07-03_FAL19	WG	11/07/19 09:00	11/09/19 10:00	
680-176683-12	SHM-05-40X_FAL19	WG	11/08/19 11:05	11/09/19 10:00	
680-176683-13	SHL-DUP10_FAL19	WG	11/08/19 11:10	11/09/19 10:00	
680-176683-14	SHM-07-05X_FAL19	WG	11/08/19 12:40	11/09/19 10:00	
680-176683-15	SHM-10-11_FAL19	WG	11/07/19 10:30	11/09/19 10:00	
680-176683-16	SHM-10-06A_FAL19	WG	11/07/19 12:30	11/09/19 10:00	
680-176683-17	SHL-EB-110819	WQ	11/08/19 06:45	11/09/19 10:00	
680-176683-18	SHM-05-41C_FAL19	WG	11/08/19 09:10	11/09/19 10:00	
680-176683-19	SHM-05-41A_FAL19	WG	11/08/19 10:40	11/09/19 10:00	
680-176683-20	SHM-05-41B_FAL19	WG	11/08/19 12:05	11/09/19 10:00	

Method Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176683-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV
6020A	Metals (ICP/MS)	SW846	TAL SAV
9060A	Organic Carbon, Dissolved (DOC)	SW846	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL SAV

Protocol References:

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

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

Laboratory References:

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

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
D	The reported value is from a dilution.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Metals

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

General Chemistry

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.

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)

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176683-1

Client Sample ID: SHM-96-5B_FAL19

Lab Sample ID: 680-176683-1

Date Collected: 11/07/19 09:15

Matrix: WG

Date Received: 11/09/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	23		0.50	0.50	0.20	mg/L		11/21/19 05:43	1
Sulfate	9.6		1.0	1.0	0.40	mg/L		11/21/19 05:43	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/13/19 03:24	1
Manganese	23		10	3.0	1.0	ug/L		11/13/19 03:24	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	41		3.0	3.0	1.5	ug/L		11/13/19 16:51	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	230		10	10	3.1	mg/L		11/15/19 16:05	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	2.5		1.0	1.0	0.35	mg/L		11/29/19 13:38	1

Client Sample ID: SHM-96-5C_FAL19

Lab Sample ID: 680-176683-2

Date Collected: 11/07/19 10:30

Matrix: WG

Date Received: 11/09/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	28		0.50	0.50	0.20	mg/L		11/21/19 05:56	1
Sulfate	8.1		1.0	1.0	0.40	mg/L		11/21/19 05:56	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	1900		50	50	17	ug/L		11/12/19 06:49	1
Manganese	14000		10	3.0	1.0	ug/L		11/12/19 06:49	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	13		3.0	3.0	1.5	ug/L		11/13/19 22:38	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	240		10	10	3.1	mg/L		11/15/19 16:22	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	3.3		1.0	1.0	0.35	mg/L		11/29/19 13:55	1

Client Sample Results

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176683-1

Client Sample ID: EPA-PZ-2012-1A_FAL19

Lab Sample ID: 680-176683-3

Date Collected: 11/07/19 11:55
Matrix: WG
Date Received: 11/09/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	11		0.50	0.50	0.20	mg/L		11/21/19 19:27	1
Sulfate	3.6		1.0	1.0	0.40	mg/L		11/21/19 19:27	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	190		50	50	17	ug/L		11/13/19 03:02	1
Manganese	240		10	3.0	1.0	ug/L		11/13/19 03:02	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/13/19 16:43	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	43		10	10	3.1	mg/L		11/15/19 16:28	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	3.0		1.0	1.0	0.35	mg/L		11/29/19 14:09	1

Client Sample ID: EPA-PZ-2012-1B_FAL19

Lab Sample ID: 680-176683-4

Date Collected: 11/07/19 13:00
Matrix: WG
Date Received: 11/09/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	30		0.50	0.50	0.20	mg/L		11/21/19 19:40	1
Sulfate	20		1.0	1.0	0.40	mg/L		11/21/19 19:40	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	13000		50	50	17	ug/L		11/13/19 03:46	1
Manganese	9400		10	3.0	1.0	ug/L		11/13/19 03:46	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	220		3.0	3.0	1.5	ug/L		11/13/19 17:11	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	190		10	10	3.1	mg/L		11/15/19 16:35	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	2.7		1.0	1.0	0.35	mg/L		11/29/19 14:26	1

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176683-1

Client Sample ID: SHP-2016-1A_FAL19

Lab Sample ID: 680-176683-5

Date Collected: 11/08/19 09:10

Matrix: WG

Date Received: 11/09/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.48	J	0.50	0.50	0.20	mg/L		11/21/19 18:10	1
Sulfate	4.8		1.0	1.0	0.40	mg/L		11/21/19 18:10	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	20	J	50	50	17	ug/L		11/12/19 06:27	1
Manganese	4.7	J J1	10	3.0	1.0	ug/L		11/12/19 06:27	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/13/19 22:11	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	24		10	10	3.1	mg/L		11/15/19 16:40	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	1.7		1.0	1.0	0.35	mg/L		11/29/19 12:52	1

Client Sample ID: SHP-2016-1B_FAL19

Lab Sample ID: 680-176683-6

Date Collected: 11/08/19 11:10

Matrix: WG

Date Received: 11/09/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	11		0.50	0.50	0.20	mg/L		11/21/19 19:53	1
Sulfate	7.3		1.0	1.0	0.40	mg/L		11/21/19 19:53	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	34000		50	50	17	ug/L		11/13/19 03:41	1
Manganese	1700		10	3.0	1.0	ug/L		11/13/19 03:41	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	180		3.0	3.0	1.5	ug/L		11/13/19 17:03	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	140		10	10	3.1	mg/L		11/15/19 16:47	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	4.0		1.0	1.0	0.35	mg/L		11/29/19 14:43	1

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176683-1

Client Sample ID: SHL-5_FAL19

Lab Sample ID: 680-176683-7

Date Collected: 11/08/19 12:20

Matrix: WG

Date Received: 11/09/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	**12**		0.50	0.50	0.20	mg/L		11/21/19 20:06	1
Sulfate	**11**		1.0	1.0	0.40	mg/L		11/21/19 20:06	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	**390**		50	50	17	ug/L		11/13/19 04:03	1
Manganese	**170**		10	3.0	1.0	ug/L		11/13/19 04:03	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	**5.1**		3.0	3.0	1.5	ug/L		11/13/19 17:23	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	**41**		10	10	3.1	mg/L		11/15/19 16:53	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	**8.0**		1.0	1.0	0.35	mg/L		11/29/19 15:02	1

Client Sample ID: SHM-93-24A_FAL19

Lab Sample ID: 680-176683-8

Date Collected: 11/08/19 09:10

Matrix: WG

Date Received: 11/09/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	**180**	**M**	0.50	0.50	0.20	mg/L		11/21/19 20:19	1
Sulfate	**54**		1.0	1.0	0.40	mg/L		11/21/19 20:19	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/13/19 03:54	1
Manganese	**7.7**	**J**	10	3.0	1.0	ug/L		11/13/19 03:54	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/13/19 17:17	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	**22**		10	10	3.1	mg/L		11/15/19 16:58	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	**2.1**		1.0	1.0	0.35	mg/L		11/29/19 15:48	1

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176683-1

Client Sample ID: SHL-24_FAL19

Lab Sample ID: 680-176683-9

Date Collected: 11/07/19 10:15

Matrix: WG

Date Received: 11/09/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	38		0.50	0.50	0.20	mg/L		11/21/19 20:32	1
Sulfate	26		1.0	1.0	0.40	mg/L		11/21/19 20:32	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/13/19 02:57	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/13/19 02:57	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	4.2		3.0	3.0	1.5	ug/L		11/13/19 16:40	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	49		10	10	3.1	mg/L		11/15/19 17:04	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	1.6		1.0	1.0	0.35	mg/L		11/29/19 16:03	1

Client Sample ID: SHL-12_FAL19

Lab Sample ID: 680-176683-10

Date Collected: 11/07/19 12:45

Matrix: WG

Date Received: 11/09/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	40		0.50	0.50	0.20	mg/L		11/21/19 21:11	1
Sulfate	98		1.0	1.0	0.40	mg/L		11/21/19 21:11	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	660		50	50	17	ug/L		11/13/19 03:32	1
Manganese	890		10	3.0	1.0	ug/L		11/13/19 03:32	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	7.4		3.0	3.0	1.5	ug/L		11/13/19 16:57	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	69		10	10	3.1	mg/L		11/15/19 17:29	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	3.2		1.0	1.0	0.35	mg/L		11/29/19 16:19	1

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176683-1

Client Sample ID: SHM-07-03_FAL19

Lab Sample ID: 680-176683-11

Date Collected: 11/07/19 09:00
Date Received: 11/09/19 10:00

Matrix: WG

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	130	M	0.50	0.50	0.20	mg/L		11/21/19 21:49	1
Sulfate	8.8		1.0	1.0	0.40	mg/L		11/21/19 21:49	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	200	B	50	50	17	ug/L		11/12/19 07:44	1
Manganese	7.3	J	10	3.0	1.0	ug/L		11/12/19 07:44	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/13/19 18:30	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	16		10	10	3.1	mg/L		11/15/19 17:34	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	1.9		1.0	1.0	0.35	mg/L		11/29/19 17:18	1

Client Sample ID: SHM-05-40X_FAL19

Lab Sample ID: 680-176683-12

Date Collected: 11/08/19 11:05
Date Received: 11/09/19 10:00

Matrix: WG

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	23		0.50	0.50	0.20	mg/L		11/21/19 22:02	1
Sulfate	5.4		1.0	1.0	0.40	mg/L		11/21/19 22:02	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	33000		50	50	17	ug/L		11/13/19 03:59	1
Manganese	820		10	3.0	1.0	ug/L		11/13/19 03:59	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	2200		3.0	3.0	1.5	ug/L		11/13/19 17:20	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	140		10	10	3.1	mg/L		11/15/19 17:41	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	2.8		1.0	1.0	0.35	mg/L		11/29/19 17:35	1

Client Sample ID: SHL-DUP10_FAL19

Lab Sample ID: 680-176683-13

Date Collected: 11/08/19 11:10

Matrix: WG

Date Received: 11/09/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	22		0.50	0.50	0.20	mg/L		11/21/19 22:15	1
Sulfate	5.4		1.0	1.0	0.40	mg/L		11/21/19 22:15	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	32000		50	50	17	ug/L		11/13/19 03:37	1
Manganese	770		10	3.0	1.0	ug/L		11/13/19 03:37	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	2100		3.0	3.0	1.5	ug/L		11/13/19 17:00	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	140		10	10	3.1	mg/L		11/15/19 17:48	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	2.8		1.0	1.0	0.35	mg/L		11/29/19 17:52	1

Client Sample ID: SHM-07-05X_FAL19

Lab Sample ID: 680-176683-14

Date Collected: 11/08/19 12:40

Matrix: WG

Date Received: 11/09/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	68		0.50	0.50	0.20	mg/L		11/21/19 22:28	1
Sulfate	8.7		1.0	1.0	0.40	mg/L		11/21/19 22:28	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	18000		50	50	17	ug/L		11/13/19 03:06	1
Manganese	1900		10	3.0	1.0	ug/L		11/13/19 03:06	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	500		3.0	3.0	1.5	ug/L		11/13/19 16:45	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	240		10	10	3.1	mg/L		11/15/19 17:56	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	3.1		1.0	1.0	0.35	mg/L		11/29/19 18:09	1

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176683-1

Client Sample ID: SHM-10-11_FAL19

Lab Sample ID: 680-176683-15

Date Collected: 11/07/19 10:30

Matrix: WG

Date Received: 11/09/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	32		0.50	0.50	0.20	mg/L		11/21/19 22:41	1
Sulfate	51		1.0	1.0	0.40	mg/L		11/21/19 22:41	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	63000		50	50	17	ug/L		11/13/19 03:28	1
Manganese	2800		10	3.0	1.0	ug/L		11/13/19 03:28	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	560		3.0	3.0	1.5	ug/L		11/13/19 16:54	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	150		10	10	3.1	mg/L		11/15/19 18:02	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	5.2		1.0	1.0	0.35	mg/L		11/29/19 18:53	1

Client Sample ID: SHM-10-06A_FAL19

Lab Sample ID: 680-176683-16

Date Collected: 11/07/19 12:30

Matrix: WG

Date Received: 11/09/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	13		0.50	0.50	0.20	mg/L		11/21/19 22:54	1
Sulfate	6.1		1.0	1.0	0.40	mg/L		11/21/19 22:54	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	8900		50	50	17	ug/L		11/13/19 03:50	1
Manganese	710		10	3.0	1.0	ug/L		11/13/19 03:50	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	63		3.0	3.0	1.5	ug/L		11/13/19 17:14	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	93		10	10	3.1	mg/L		11/15/19 18:09	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	2.6		1.0	1.0	0.35	mg/L		11/29/19 19:07	1

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176683-1

Client Sample ID: SHL-EB-110819

Lab Sample ID: 680-176683-17

Date Collected: 11/08/19 06:45
Matrix: WQ
Date Received: 11/09/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		11/21/19 23:07	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		11/21/19 23:07	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/12/19 07:36	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/12/19 07:36	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/13/19 18:15	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		11/15/19 18:15	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	**1.2**		1.0	1.0	0.35	mg/L		11/29/19 19:22	1

Client Sample ID: SHM-05-41C_FAL19

Lab Sample ID: 680-176683-18

Date Collected: 11/08/19 09:10
Matrix: WG
Date Received: 11/09/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	**1900**	**D**	13	13	5.0	mg/L		11/22/19 00:37	25
Sulfate	**14**	**J D**	25	25	10	mg/L		11/22/19 00:37	25

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	**3400**		50	50	17	ug/L		11/13/19 02:09	1
Manganese	**820**	**J1**	10	3.0	1.0	ug/L		11/13/19 02:09	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	**29**		3.0	3.0	1.5	ug/L		11/13/19 16:08	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	**86**		10	10	3.1	mg/L		11/15/19 18:22	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	**3.4**		1.0	1.0	0.35	mg/L		11/29/19 16:34	1

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176683-1

Client Sample ID: SHM-05-41A_FAL19

Lab Sample ID: 680-176683-19

Date Collected: 11/08/19 10:40
Date Received: 11/09/19 10:00

Matrix: WG

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	5.8		0.50	0.50	0.20	mg/L		11/21/19 23:20	1
Sulfate	8.5		1.0	1.0	0.40	mg/L		11/21/19 23:20	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	6300		50	50	17	ug/L		11/13/19 02:40	1
Manganese	260		10	3.0	1.0	ug/L		11/13/19 02:40	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	31		3.0	3.0	1.5	ug/L		11/13/19 16:22	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	36		10	10	3.1	mg/L		11/15/19 18:28	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	2.3		1.0	1.0	0.35	mg/L		11/29/19 19:37	1

Client Sample ID: SHM-05-41B_FAL19

Lab Sample ID: 680-176683-20

Date Collected: 11/08/19 12:05
Date Received: 11/09/19 10:00

Matrix: WG

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	2.3		0.50	0.50	0.20	mg/L		11/21/19 23:32	1
Sulfate	6.4		1.0	1.0	0.40	mg/L		11/21/19 23:32	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	24000		50	50	17	ug/L		11/13/19 02:53	1
Manganese	720		10	3.0	1.0	ug/L		11/13/19 02:53	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	530		3.0	3.0	1.5	ug/L		11/13/19 16:37	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	62		10	10	3.1	mg/L		11/15/19 19:09	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	2.5		1.0	1.0	0.35	mg/L		11/29/19 19:56	1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 680-597187/33
Matrix: Water
Analysis Batch: 597187

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		11/21/19 00:14	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		11/21/19 00:14	1

Lab Sample ID: LCS 680-597187/34
Matrix: Water
Analysis Batch: 597187

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.2		mg/L		102	87 - 111
Sulfate	10.0	10.6		mg/L		106	87 - 112

Lab Sample ID: LCSD 680-597187/35
Matrix: Water
Analysis Batch: 597187

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
Chloride	10.0	10.1		mg/L		101	87 - 111	0	15
Sulfate	10.0	10.7		mg/L		107	87 - 112	1	15

Lab Sample ID: MB 680-597329/2
Matrix: Water
Analysis Batch: 597329

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		11/21/19 12:35	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		11/21/19 12:35	1

Lab Sample ID: LCS 680-597329/3
Matrix: Water
Analysis Batch: 597329

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.1		mg/L		101	87 - 111
Sulfate	10.0	10.3		mg/L		103	87 - 112

Lab Sample ID: LCSD 680-597329/4
Matrix: Water
Analysis Batch: 597329

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
Chloride	10.0	10.1		mg/L		101	87 - 111	0	15
Sulfate	10.0	10.3		mg/L		103	87 - 112	0	15

Lab Sample ID: 680-176683-5 MS
Matrix: WG
Analysis Batch: 597329

Client Sample ID: SHP-2016-1A_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	0.48	J	10.0	11.0		mg/L		105	87 - 111
Sulfate	4.8		10.0	15.3		mg/L		104	87 - 112

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: 680-176683-5 MSD
Matrix: WG
Analysis Batch: 597329

Client Sample ID: SHP-2016-1A_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	0.48	J	10.0	10.6		mg/L		101	87 - 111	3	15
Sulfate	4.8		10.0	15.0		mg/L		102	87 - 112	2	15

Lab Sample ID: 680-176683-10 MS
Matrix: WG
Analysis Batch: 597329

Client Sample ID: SHL-12_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	40		10.0	49.7		mg/L		99	87 - 111
Sulfate	98		10.0	108	4	mg/L		97	87 - 112

Lab Sample ID: 680-176683-10 MSD
Matrix: WG
Analysis Batch: 597329

Client Sample ID: SHL-12_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	40		10.0	49.9		mg/L		101	87 - 111	0	15
Sulfate	98		10.0	108	4	mg/L		98	87 - 112	0	15

Lab Sample ID: MB 680-597387/33
Matrix: Water
Analysis Batch: 597387

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		11/21/19 23:58	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		11/21/19 23:58	1

Lab Sample ID: LCS 680-597387/34
Matrix: Water
Analysis Batch: 597387

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.99	M	mg/L		100	87 - 111
Sulfate	10.0	10.1		mg/L		101	87 - 112

Lab Sample ID: LCSD 680-597387/35
Matrix: Water
Analysis Batch: 597387

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
Chloride	10.0	10.1	M	mg/L		101	87 - 111	1	15
Sulfate	10.0	10.2		mg/L		102	87 - 112	1	15

Lab Sample ID: 680-176683-18 MS
Matrix: WG
Analysis Batch: 597387

Client Sample ID: SHM-05-41C_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1900	D	250	2080	D 4	mg/L		92	87 - 111
Sulfate	14	J D	250	267	D	mg/L		101	87 - 112

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: 680-176683-18 MSD
Matrix: WG
Analysis Batch: 597387

Client Sample ID: SHM-05-41C_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1900	D	250	2090	D 4	mg/L		95	87 - 111	0	15
Sulfate	14	J D	250	268	D	mg/L		101	87 - 112	0	15

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-595452/1-A
Matrix: Water
Analysis Batch: 595683

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 595452

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/12/19 06:19	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/12/19 06:19	1

Lab Sample ID: LCS 680-595452/2-A
Matrix: Water
Analysis Batch: 595683

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 595452

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5010	4890		ug/L		98	87 - 115
Manganese	400	375		ug/L		94	90 - 114

Lab Sample ID: MB 680-595456/1-A
Matrix: Water
Analysis Batch: 595683

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 595456

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	33.5	J	50	50	17	ug/L		11/12/19 06:53	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/12/19 06:53	1

Lab Sample ID: LCS 680-595456/2-A
Matrix: Water
Analysis Batch: 595683

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 595456

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5010	5020		ug/L		100	87 - 115
Manganese	400	385		ug/L		96	90 - 114

Lab Sample ID: MB 680-595463/1-A
Matrix: Water
Analysis Batch: 596156

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 595463

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/13/19 02:00	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/13/19 02:00	1

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

Lab Sample ID: LCS 680-595463/2-A
Matrix: Water
Analysis Batch: 596156

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 595463

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5010	5220		ug/L		104	87 - 115
Manganese	400	402		ug/L		101	90 - 114

Lab Sample ID: 680-176683-5 MS
Matrix: WG
Analysis Batch: 595683

Client Sample ID: SHP-2016-1A_FAL19
Prep Type: Dissolved
Prep Batch: 595452

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	20	J	5010	5060		ug/L		101	87 - 115
Manganese	4.7	J1	400	390		ug/L		96	90 - 114

Lab Sample ID: 680-176683-5 MSD
Matrix: WG
Analysis Batch: 595683

Client Sample ID: SHP-2016-1A_FAL19
Prep Type: Dissolved
Prep Batch: 595452

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	20	J	5010	4450		ug/L		88	87 - 115	13	20
Manganese	4.7	J1	400	343	J1	ug/L		85	90 - 114	13	20

Lab Sample ID: 680-176683-18 MS
Matrix: WG
Analysis Batch: 596156

Client Sample ID: SHM-05-41C_FAL19
Prep Type: Dissolved
Prep Batch: 595463

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	3400		5010	8360		ug/L		99	87 - 115
Manganese	820	J1	400	1150	J1	ug/L		82	90 - 114

Lab Sample ID: 680-176683-18 MSD
Matrix: WG
Analysis Batch: 596156

Client Sample ID: SHM-05-41C_FAL19
Prep Type: Dissolved
Prep Batch: 595463

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	3400		5010	8590		ug/L		104	87 - 115	3	20
Manganese	820	J1	400	1180		ug/L		90	90 - 114	3	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 680-595451/1-A
Matrix: Water
Analysis Batch: 596160

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 595451

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/13/19 22:03	1

Lab Sample ID: LCS 680-595451/2-A
Matrix: Water
Analysis Batch: 596160

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 595451

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	116		ug/L		116	84 - 116

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

Lab Sample ID: MB 680-595455/1-A
Matrix: Water
Analysis Batch: 596185

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 595455

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/13/19 17:35	1

Lab Sample ID: LCS 680-595455/2-A
Matrix: Water
Analysis Batch: 596185

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 595455

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	105		ug/L		105	84 - 116

Lab Sample ID: MB 680-595462/1-A
Matrix: Water
Analysis Batch: 596185

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 595462

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/13/19 16:02	1

Lab Sample ID: LCS 680-595462/2-A
Matrix: Water
Analysis Batch: 596185

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 595462

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	107		ug/L		107	84 - 116

Lab Sample ID: 680-176683-5 MS
Matrix: WG
Analysis Batch: 596160

Client Sample ID: SHP-2016-1A_FAL19
Prep Type: Dissolved
Prep Batch: 595451

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	3.0	U	100	110		ug/L		110	84 - 116

Lab Sample ID: 680-176683-5 MSD
Matrix: WG
Analysis Batch: 596160

Client Sample ID: SHP-2016-1A_FAL19
Prep Type: Dissolved
Prep Batch: 595451

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	3.0	U	100	94.0		ug/L		94	84 - 116	16	20

Lab Sample ID: 680-176683-18 MS
Matrix: WG
Analysis Batch: 596185

Client Sample ID: SHM-05-41C_FAL19
Prep Type: Dissolved
Prep Batch: 595462

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	29		100	143		ug/L		114	84 - 116

Lab Sample ID: 680-176683-18 MSD
Matrix: WG
Analysis Batch: 596185

Client Sample ID: SHM-05-41C_FAL19
Prep Type: Dissolved
Prep Batch: 595462

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	29		100	144		ug/L		114	84 - 116	0	20

Method: 9060A - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 280-479222/5
Matrix: Water
Analysis Batch: 479222

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	1.0	U	1.0	1.0	0.35	mg/L		11/29/19 12:20	1

Lab Sample ID: LCS 280-479222/3
Matrix: Water
Analysis Batch: 479222

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	25.0	25.3		mg/L		101	88 - 112

Lab Sample ID: LCSD 280-479222/4
Matrix: Water
Analysis Batch: 479222

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	25.0	25.3		mg/L		101	88 - 112	0	15

Lab Sample ID: 680-176683-5 MS
Matrix: WG
Analysis Batch: 479222

Client Sample ID: SHP-2016-1A_FAL19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	1.7		25.0	25.5		mg/L		95	88 - 112

Lab Sample ID: 680-176683-5 MSD
Matrix: WG
Analysis Batch: 479222

Client Sample ID: SHP-2016-1A_FAL19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	1.7		25.0	25.7		mg/L		96	88 - 112	1	15

Lab Sample ID: 680-176683-18 MS
Matrix: WG
Analysis Batch: 479222

Client Sample ID: SHM-05-41C_FAL19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	3.4		25.0	27.6		mg/L		96	88 - 112

Lab Sample ID: 680-176683-18 MSD
Matrix: WG
Analysis Batch: 479222

Client Sample ID: SHM-05-41C_FAL19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	3.4		25.0	27.5		mg/L		96	88 - 112	0	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-477982/31
Matrix: Water
Analysis Batch: 477982

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		11/15/19 19:03	1

Lab Sample ID: MB 280-477982/5
Matrix: Water
Analysis Batch: 477982

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		11/15/19 15:57	1

Lab Sample ID: LCS 280-477982/30
Matrix: Water
Analysis Batch: 477982

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity			200	203		mg/L		101	89 - 109		

Lab Sample ID: LCS 280-477982/4
Matrix: Water
Analysis Batch: 477982

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity			200	204		mg/L		102	89 - 109		

Lab Sample ID: 680-176683-1 DU
Matrix: WG
Analysis Batch: 477982

Client Sample ID: SHM-96-5B_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity	230			227		mg/L				0.2	10

Lab Sample ID: 680-176683-20 DU
Matrix: WG
Analysis Batch: 477982

Client Sample ID: SHM-05-41B_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity	62			61.4		mg/L				0.8	10

HPLC/IC

Analysis Batch: 597187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176683-1	SHM-96-5B_FAL19	Total/NA	WG	9056A	
680-176683-2	SHM-96-5C_FAL19	Total/NA	WG	9056A	
MB 680-597187/33	Method Blank	Total/NA	Water	9056A	
LCS 680-597187/34	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-597187/35	Lab Control Sample Dup	Total/NA	Water	9056A	

Analysis Batch: 597329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176683-3	EPA-PZ-2012-1A_FAL19	Total/NA	WG	9056A	
680-176683-4	EPA-PZ-2012-1B_FAL19	Total/NA	WG	9056A	
680-176683-5	SHP-2016-1A_FAL19	Total/NA	WG	9056A	
680-176683-6	SHP-2016-1B_FAL19	Total/NA	WG	9056A	
680-176683-7	SHL-5_FAL19	Total/NA	WG	9056A	
680-176683-8	SHM-93-24A_FAL19	Total/NA	WG	9056A	
680-176683-9	SHL-24_FAL19	Total/NA	WG	9056A	
680-176683-10	SHL-12_FAL19	Total/NA	WG	9056A	
680-176683-11	SHM-07-03_FAL19	Total/NA	WG	9056A	
680-176683-12	SHM-05-40X_FAL19	Total/NA	WG	9056A	
680-176683-13	SHL-DUP10_FAL19	Total/NA	WG	9056A	
680-176683-14	SHM-07-05X_FAL19	Total/NA	WG	9056A	
680-176683-15	SHM-10-11_FAL19	Total/NA	WG	9056A	
680-176683-16	SHM-10-06A_FAL19	Total/NA	WG	9056A	
680-176683-17	SHL-EB-110819	Total/NA	WQ	9056A	
680-176683-19	SHM-05-41A_FAL19	Total/NA	WG	9056A	
680-176683-20	SHM-05-41B_FAL19	Total/NA	WG	9056A	
MB 680-597329/2	Method Blank	Total/NA	Water	9056A	
LCS 680-597329/3	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-597329/4	Lab Control Sample Dup	Total/NA	Water	9056A	
680-176683-5 MS	SHP-2016-1A_FAL19	Total/NA	WG	9056A	
680-176683-5 MSD	SHP-2016-1A_FAL19	Total/NA	WG	9056A	
680-176683-10 MS	SHL-12_FAL19	Total/NA	WG	9056A	
680-176683-10 MSD	SHL-12_FAL19	Total/NA	WG	9056A	

Analysis Batch: 597387

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176683-18	SHM-05-41C_FAL19	Total/NA	WG	9056A	
MB 680-597387/33	Method Blank	Total/NA	Water	9056A	
LCS 680-597387/34	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-597387/35	Lab Control Sample Dup	Total/NA	Water	9056A	
680-176683-18 MS	SHM-05-41C_FAL19	Total/NA	WG	9056A	
680-176683-18 MSD	SHM-05-41C_FAL19	Total/NA	WG	9056A	

Metals

Prep Batch: 595451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176683-2	SHM-96-5C_FAL19	Dissolved	WG	3005A	
680-176683-5	SHP-2016-1A_FAL19	Dissolved	WG	3005A	
MB 680-595451/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-595451/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
680-176683-5 MS	SHP-2016-1A_FAL19	Dissolved	WG	3005A	

Metals (Continued)

Prep Batch: 595451 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176683-5 MSD	SHP-2016-1A_FAL19	Dissolved	WG	3005A	

Prep Batch: 595452

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176683-2	SHM-96-5C_FAL19	Dissolved	WG	3005A	
680-176683-5	SHP-2016-1A_FAL19	Dissolved	WG	3005A	
MB 680-595452/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-595452/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
680-176683-5 MS	SHP-2016-1A_FAL19	Dissolved	WG	3005A	
680-176683-5 MSD	SHP-2016-1A_FAL19	Dissolved	WG	3005A	

Prep Batch: 595455

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176683-11	SHM-07-03_FAL19	Dissolved	WG	3005A	
680-176683-17	SHL-EB-110819	Dissolved	WQ	3005A	
MB 680-595455/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-595455/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 595456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176683-11	SHM-07-03_FAL19	Dissolved	WG	3005A	
680-176683-17	SHL-EB-110819	Dissolved	WQ	3005A	
MB 680-595456/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-595456/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 595462

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176683-1	SHM-96-5B_FAL19	Dissolved	WG	3005A	
680-176683-3	EPA-PZ-2012-1A_FAL19	Dissolved	WG	3005A	
680-176683-4	EPA-PZ-2012-1B_FAL19	Dissolved	WG	3005A	
680-176683-6	SHP-2016-1B_FAL19	Dissolved	WG	3005A	
680-176683-7	SHL-5_FAL19	Dissolved	WG	3005A	
680-176683-8	SHM-93-24A_FAL19	Dissolved	WG	3005A	
680-176683-9	SHL-24_FAL19	Dissolved	WG	3005A	
680-176683-10	SHL-12_FAL19	Dissolved	WG	3005A	
680-176683-12	SHM-05-40X_FAL19	Dissolved	WG	3005A	
680-176683-13	SHL-DUP10_FAL19	Dissolved	WG	3005A	
680-176683-14	SHM-07-05X_FAL19	Dissolved	WG	3005A	
680-176683-15	SHM-10-11_FAL19	Dissolved	WG	3005A	
680-176683-16	SHM-10-06A_FAL19	Dissolved	WG	3005A	
680-176683-18	SHM-05-41C_FAL19	Dissolved	WG	3005A	
680-176683-19	SHM-05-41A_FAL19	Dissolved	WG	3005A	
680-176683-20	SHM-05-41B_FAL19	Dissolved	WG	3005A	
MB 680-595462/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-595462/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
680-176683-18 MS	SHM-05-41C_FAL19	Dissolved	WG	3005A	
680-176683-18 MSD	SHM-05-41C_FAL19	Dissolved	WG	3005A	

Prep Batch: 595463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176683-1	SHM-96-5B_FAL19	Dissolved	WG	3005A	

Metals (Continued)

Prep Batch: 595463 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176683-3	EPA-PZ-2012-1A_FAL19	Dissolved	WG	3005A	
680-176683-4	EPA-PZ-2012-1B_FAL19	Dissolved	WG	3005A	
680-176683-6	SHP-2016-1B_FAL19	Dissolved	WG	3005A	
680-176683-7	SHL-5_FAL19	Dissolved	WG	3005A	
680-176683-8	SHM-93-24A_FAL19	Dissolved	WG	3005A	
680-176683-9	SHL-24_FAL19	Dissolved	WG	3005A	
680-176683-10	SHL-12_FAL19	Dissolved	WG	3005A	
680-176683-12	SHM-05-40X_FAL19	Dissolved	WG	3005A	
680-176683-13	SHL-DUP10_FAL19	Dissolved	WG	3005A	
680-176683-14	SHM-07-05X_FAL19	Dissolved	WG	3005A	
680-176683-15	SHM-10-11_FAL19	Dissolved	WG	3005A	
680-176683-16	SHM-10-06A_FAL19	Dissolved	WG	3005A	
680-176683-18	SHM-05-41C_FAL19	Dissolved	WG	3005A	
680-176683-19	SHM-05-41A_FAL19	Dissolved	WG	3005A	
680-176683-20	SHM-05-41B_FAL19	Dissolved	WG	3005A	
MB 680-595463/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-595463/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
680-176683-18 MS	SHM-05-41C_FAL19	Dissolved	WG	3005A	
680-176683-18 MSD	SHM-05-41C_FAL19	Dissolved	WG	3005A	

Analysis Batch: 595683

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176683-2	SHM-96-5C_FAL19	Dissolved	WG	6010C	595452
680-176683-5	SHP-2016-1A_FAL19	Dissolved	WG	6010C	595452
680-176683-11	SHM-07-03_FAL19	Dissolved	WG	6010C	595456
680-176683-17	SHL-EB-110819	Dissolved	WQ	6010C	595456
MB 680-595452/1-A	Method Blank	Total Recoverable	Water	6010C	595452
MB 680-595456/1-A	Method Blank	Total Recoverable	Water	6010C	595456
LCS 680-595452/2-A	Lab Control Sample	Total Recoverable	Water	6010C	595452
LCS 680-595456/2-A	Lab Control Sample	Total Recoverable	Water	6010C	595456
680-176683-5 MS	SHP-2016-1A_FAL19	Dissolved	WG	6010C	595452
680-176683-5 MSD	SHP-2016-1A_FAL19	Dissolved	WG	6010C	595452

Analysis Batch: 596156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176683-1	SHM-96-5B_FAL19	Dissolved	WG	6010C	595463
680-176683-3	EPA-PZ-2012-1A_FAL19	Dissolved	WG	6010C	595463
680-176683-4	EPA-PZ-2012-1B_FAL19	Dissolved	WG	6010C	595463
680-176683-6	SHP-2016-1B_FAL19	Dissolved	WG	6010C	595463
680-176683-7	SHL-5_FAL19	Dissolved	WG	6010C	595463
680-176683-8	SHM-93-24A_FAL19	Dissolved	WG	6010C	595463
680-176683-9	SHL-24_FAL19	Dissolved	WG	6010C	595463
680-176683-10	SHL-12_FAL19	Dissolved	WG	6010C	595463
680-176683-12	SHM-05-40X_FAL19	Dissolved	WG	6010C	595463
680-176683-13	SHL-DUP10_FAL19	Dissolved	WG	6010C	595463
680-176683-14	SHM-07-05X_FAL19	Dissolved	WG	6010C	595463
680-176683-15	SHM-10-11_FAL19	Dissolved	WG	6010C	595463
680-176683-16	SHM-10-06A_FAL19	Dissolved	WG	6010C	595463
680-176683-18	SHM-05-41C_FAL19	Dissolved	WG	6010C	595463
680-176683-19	SHM-05-41A_FAL19	Dissolved	WG	6010C	595463
680-176683-20	SHM-05-41B_FAL19	Dissolved	WG	6010C	595463

Metals (Continued)

Analysis Batch: 596156 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-595463/1-A	Method Blank	Total Recoverable	Water	6010C	595463
LCS 680-595463/2-A	Lab Control Sample	Total Recoverable	Water	6010C	595463
680-176683-18 MS	SHM-05-41C_FAL19	Dissolved	WG	6010C	595463
680-176683-18 MSD	SHM-05-41C_FAL19	Dissolved	WG	6010C	595463

Analysis Batch: 596160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176683-2	SHM-96-5C_FAL19	Dissolved	WG	6020A	595451
680-176683-5	SHP-2016-1A_FAL19	Dissolved	WG	6020A	595451
MB 680-595451/1-A	Method Blank	Total Recoverable	Water	6020A	595451
LCS 680-595451/2-A	Lab Control Sample	Total Recoverable	Water	6020A	595451
680-176683-5 MS	SHP-2016-1A_FAL19	Dissolved	WG	6020A	595451
680-176683-5 MSD	SHP-2016-1A_FAL19	Dissolved	WG	6020A	595451

Analysis Batch: 596185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176683-1	SHM-96-5B_FAL19	Dissolved	WG	6020A	595462
680-176683-3	EPA-PZ-2012-1A_FAL19	Dissolved	WG	6020A	595462
680-176683-4	EPA-PZ-2012-1B_FAL19	Dissolved	WG	6020A	595462
680-176683-6	SHP-2016-1B_FAL19	Dissolved	WG	6020A	595462
680-176683-7	SHL-5_FAL19	Dissolved	WG	6020A	595462
680-176683-8	SHM-93-24A_FAL19	Dissolved	WG	6020A	595462
680-176683-9	SHL-24_FAL19	Dissolved	WG	6020A	595462
680-176683-10	SHL-12_FAL19	Dissolved	WG	6020A	595462
680-176683-11	SHM-07-03_FAL19	Dissolved	WG	6020A	595455
680-176683-12	SHM-05-40X_FAL19	Dissolved	WG	6020A	595462
680-176683-13	SHL-DUP10_FAL19	Dissolved	WG	6020A	595462
680-176683-14	SHM-07-05X_FAL19	Dissolved	WG	6020A	595462
680-176683-15	SHM-10-11_FAL19	Dissolved	WG	6020A	595462
680-176683-16	SHM-10-06A_FAL19	Dissolved	WG	6020A	595462
680-176683-17	SHL-EB-110819	Dissolved	WQ	6020A	595455
680-176683-18	SHM-05-41C_FAL19	Dissolved	WG	6020A	595462
680-176683-19	SHM-05-41A_FAL19	Dissolved	WG	6020A	595462
680-176683-20	SHM-05-41B_FAL19	Dissolved	WG	6020A	595462
MB 680-595455/1-A	Method Blank	Total Recoverable	Water	6020A	595455
MB 680-595462/1-A	Method Blank	Total Recoverable	Water	6020A	595462
LCS 680-595455/2-A	Lab Control Sample	Total Recoverable	Water	6020A	595455
LCS 680-595462/2-A	Lab Control Sample	Total Recoverable	Water	6020A	595462
680-176683-18 MS	SHM-05-41C_FAL19	Dissolved	WG	6020A	595462
680-176683-18 MSD	SHM-05-41C_FAL19	Dissolved	WG	6020A	595462

General Chemistry

Analysis Batch: 477982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176683-1	SHM-96-5B_FAL19	Total/NA	WG	SM 2320B	
680-176683-2	SHM-96-5C_FAL19	Total/NA	WG	SM 2320B	
680-176683-3	EPA-PZ-2012-1A_FAL19	Total/NA	WG	SM 2320B	
680-176683-4	EPA-PZ-2012-1B_FAL19	Total/NA	WG	SM 2320B	
680-176683-5	SHP-2016-1A_FAL19	Total/NA	WG	SM 2320B	
680-176683-6	SHP-2016-1B_FAL19	Total/NA	WG	SM 2320B	

General Chemistry (Continued)

Analysis Batch: 477982 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176683-7	SHL-5_FAL19	Total/NA	WG	SM 2320B	
680-176683-8	SHM-93-24A_FAL19	Total/NA	WG	SM 2320B	
680-176683-9	SHL-24_FAL19	Total/NA	WG	SM 2320B	
680-176683-10	SHL-12_FAL19	Total/NA	WG	SM 2320B	
680-176683-11	SHM-07-03_FAL19	Total/NA	WG	SM 2320B	
680-176683-12	SHM-05-40X_FAL19	Total/NA	WG	SM 2320B	
680-176683-13	SHL-DUP10_FAL19	Total/NA	WG	SM 2320B	
680-176683-14	SHM-07-05X_FAL19	Total/NA	WG	SM 2320B	
680-176683-15	SHM-10-11_FAL19	Total/NA	WG	SM 2320B	
680-176683-16	SHM-10-06A_FAL19	Total/NA	WG	SM 2320B	
680-176683-17	SHL-EB-110819	Total/NA	WQ	SM 2320B	
680-176683-18	SHM-05-41C_FAL19	Total/NA	WG	SM 2320B	
680-176683-19	SHM-05-41A_FAL19	Total/NA	WG	SM 2320B	
680-176683-20	SHM-05-41B_FAL19	Total/NA	WG	SM 2320B	
MB 280-477982/31	Method Blank	Total/NA	Water	SM 2320B	
MB 280-477982/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-477982/30	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 280-477982/4	Lab Control Sample	Total/NA	Water	SM 2320B	
680-176683-1 DU	SHM-96-5B_FAL19	Total/NA	WG	SM 2320B	
680-176683-20 DU	SHM-05-41B_FAL19	Total/NA	WG	SM 2320B	

Analysis Batch: 479222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176683-1	SHM-96-5B_FAL19	Dissolved	WG	9060A	
680-176683-2	SHM-96-5C_FAL19	Dissolved	WG	9060A	
680-176683-3	EPA-PZ-2012-1A_FAL19	Dissolved	WG	9060A	
680-176683-4	EPA-PZ-2012-1B_FAL19	Dissolved	WG	9060A	
680-176683-5	SHP-2016-1A_FAL19	Dissolved	WG	9060A	
680-176683-6	SHP-2016-1B_FAL19	Dissolved	WG	9060A	
680-176683-7	SHL-5_FAL19	Dissolved	WG	9060A	
680-176683-8	SHM-93-24A_FAL19	Dissolved	WG	9060A	
680-176683-9	SHL-24_FAL19	Dissolved	WG	9060A	
680-176683-10	SHL-12_FAL19	Dissolved	WG	9060A	
680-176683-11	SHM-07-03_FAL19	Dissolved	WG	9060A	
680-176683-12	SHM-05-40X_FAL19	Dissolved	WG	9060A	
680-176683-13	SHL-DUP10_FAL19	Dissolved	WG	9060A	
680-176683-14	SHM-07-05X_FAL19	Dissolved	WG	9060A	
680-176683-15	SHM-10-11_FAL19	Dissolved	WG	9060A	
680-176683-16	SHM-10-06A_FAL19	Dissolved	WG	9060A	
680-176683-17	SHL-EB-110819	Dissolved	WQ	9060A	
680-176683-18	SHM-05-41C_FAL19	Dissolved	WG	9060A	
680-176683-19	SHM-05-41A_FAL19	Dissolved	WG	9060A	
680-176683-20	SHM-05-41B_FAL19	Dissolved	WG	9060A	
MB 280-479222/5	Method Blank	Dissolved	Water	9060A	
LCS 280-479222/3	Lab Control Sample	Dissolved	Water	9060A	
LCSD 280-479222/4	Lab Control Sample Dup	Dissolved	Water	9060A	
680-176683-5 MS	SHP-2016-1A_FAL19	Dissolved	WG	9060A	
680-176683-5 MSD	SHP-2016-1A_FAL19	Dissolved	WG	9060A	
680-176683-18 MS	SHM-05-41C_FAL19	Dissolved	WG	9060A	
680-176683-18 MSD	SHM-05-41C_FAL19	Dissolved	WG	9060A	

Client Sample ID: SHM-96-5B_FAL19

Lab Sample ID: 680-176683-1

Date Collected: 11/07/19 09:15

Matrix: WG

Date Received: 11/09/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597187	11/21/19 05:43	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595463	11/10/19 18:58	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/13/19 03:24	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595462	11/10/19 18:56	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 16:51	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479222	11/29/19 13:38	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477982	11/15/19 16:05	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHM-96-5C_FAL19

Lab Sample ID: 680-176683-2

Date Collected: 11/07/19 10:30

Matrix: WG

Date Received: 11/09/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597187	11/21/19 05:56	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	595452	11/10/19 18:34	PG	TAL SAV
Dissolved	Analysis	6010C		1			595683	11/12/19 06:49	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595451	11/10/19 18:30	PG	TAL SAV
Dissolved	Analysis	6020A		1			596160	11/13/19 22:38	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479222	11/29/19 13:55	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477982	11/15/19 16:22	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: EPA-PZ-2012-1A_FAL19

Lab Sample ID: 680-176683-3

Date Collected: 11/07/19 11:55

Matrix: WG

Date Received: 11/09/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597329	11/21/19 19:27	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	595463	11/10/19 18:58	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/13/19 03:02	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595462	11/10/19 18:56	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 16:43	BJB	TAL SAV
	Instrument ID: ICPMSD									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176683-1

Client Sample ID: EPA-PZ-2012-1A_FAL19

Lab Sample ID: 680-176683-3

Date Collected: 11/07/19 11:55
Matrix: WG
Date Received: 11/09/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060A		1	20 mL	20 mL	479222	11/29/19 14:09	SGB	TAL DEN
Total/NA	Analysis	SM 2320B		1			477982	11/15/19 16:28	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: EPA-PZ-2012-1B_FAL19

Lab Sample ID: 680-176683-4

Date Collected: 11/07/19 13:00
Matrix: WG
Date Received: 11/09/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597329	11/21/19 19:40	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	595463	11/10/19 18:58	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/13/19 03:46	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595462	11/10/19 18:56	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 17:11	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479222	11/29/19 14:26	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477982	11/15/19 16:35	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHP-2016-1A_FAL19

Lab Sample ID: 680-176683-5

Date Collected: 11/08/19 09:10
Matrix: WG
Date Received: 11/09/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597329	11/21/19 18:10	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	595452	11/10/19 18:34	PG	TAL SAV
Dissolved	Analysis	6010C		1			595683	11/12/19 06:27	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595451	11/10/19 18:30	PG	TAL SAV
Dissolved	Analysis	6020A		1			596160	11/13/19 22:11	BWR	TAL SAV
	Instrument ID: ICPMSC									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479222	11/29/19 12:52	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477982	11/15/19 16:40	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHP-2016-1B_FAL19

Lab Sample ID: 680-176683-6

Date Collected: 11/08/19 11:10

Matrix: WG

Date Received: 11/09/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597329	11/21/19 19:53	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	595463	11/10/19 18:58	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/13/19 03:41	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595462	11/10/19 18:56	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 17:03	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479222	11/29/19 14:43	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477982	11/15/19 16:47	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHL-5_FAL19

Lab Sample ID: 680-176683-7

Date Collected: 11/08/19 12:20

Matrix: WG

Date Received: 11/09/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597329	11/21/19 20:06	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	595463	11/10/19 18:58	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/13/19 04:03	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595462	11/10/19 18:56	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 17:23	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479222	11/29/19 15:02	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477982	11/15/19 16:53	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHM-93-24A_FAL19

Lab Sample ID: 680-176683-8

Date Collected: 11/08/19 09:10

Matrix: WG

Date Received: 11/09/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597329	11/21/19 20:19	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	595463	11/10/19 18:58	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/13/19 03:54	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595462	11/10/19 18:56	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 17:17	BJB	TAL SAV
	Instrument ID: ICPMSD									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176683-1

Client Sample ID: SHM-93-24A_FAL19

Lab Sample ID: 680-176683-8

Date Collected: 11/08/19 09:10

Matrix: WG

Date Received: 11/09/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060A		1	20 mL	20 mL	479222	11/29/19 15:48	SGB	TAL DEN
Total/NA	Analysis	SM 2320B		1			477982	11/15/19 16:58	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHL-24_FAL19

Lab Sample ID: 680-176683-9

Date Collected: 11/07/19 10:15

Matrix: WG

Date Received: 11/09/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597329	11/21/19 20:32	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	595463	11/10/19 18:58	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/13/19 02:57	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595462	11/10/19 18:56	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 16:40	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479222	11/29/19 16:03	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477982	11/15/19 17:04	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHL-12_FAL19

Lab Sample ID: 680-176683-10

Date Collected: 11/07/19 12:45

Matrix: WG

Date Received: 11/09/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597329	11/21/19 21:11	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	595463	11/10/19 18:58	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/13/19 03:32	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595462	11/10/19 18:56	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 16:57	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479222	11/29/19 16:19	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477982	11/15/19 17:29	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHM-07-03_FAL19

Lab Sample ID: 680-176683-11

Date Collected: 11/07/19 09:00

Matrix: WG

Date Received: 11/09/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597329	11/21/19 21:49	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	595456	11/10/19 18:43	PG	TAL SAV
Dissolved	Analysis	6010C		1			595683	11/12/19 07:44	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595455	11/10/19 18:39	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 18:30	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479222	11/29/19 17:18	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477982	11/15/19 17:34	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHM-05-40X_FAL19

Lab Sample ID: 680-176683-12

Date Collected: 11/08/19 11:05

Matrix: WG

Date Received: 11/09/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597329	11/21/19 22:02	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	595463	11/10/19 18:58	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/13/19 03:59	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595462	11/10/19 18:56	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 17:20	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479222	11/29/19 17:35	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477982	11/15/19 17:41	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHL-DUP10_FAL19

Lab Sample ID: 680-176683-13

Date Collected: 11/08/19 11:10

Matrix: WG

Date Received: 11/09/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597329	11/21/19 22:15	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	595463	11/10/19 18:58	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/13/19 03:37	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595462	11/10/19 18:56	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 17:00	BJB	TAL SAV
	Instrument ID: ICPMSD									

Client Sample ID: SHL-DUP10_FAL19

Lab Sample ID: 680-176683-13

Date Collected: 11/08/19 11:10

Matrix: WG

Date Received: 11/09/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060A		1	20 mL	20 mL	479222	11/29/19 17:52	SGB	TAL DEN
Total/NA	Analysis	SM 2320B		1			477982	11/15/19 17:48	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHM-07-05X_FAL19

Lab Sample ID: 680-176683-14

Date Collected: 11/08/19 12:40

Matrix: WG

Date Received: 11/09/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597329	11/21/19 22:28	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	595463	11/10/19 18:58	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/13/19 03:06	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595462	11/10/19 18:56	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 16:45	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479222	11/29/19 18:09	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477982	11/15/19 17:56	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHM-10-11_FAL19

Lab Sample ID: 680-176683-15

Date Collected: 11/07/19 10:30

Matrix: WG

Date Received: 11/09/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597329	11/21/19 22:41	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	595463	11/10/19 18:58	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/13/19 03:28	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595462	11/10/19 18:56	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 16:54	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479222	11/29/19 18:53	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477982	11/15/19 18:02	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHM-10-06A_FAL19

Lab Sample ID: 680-176683-16

Date Collected: 11/07/19 12:30

Matrix: WG

Date Received: 11/09/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597329	11/21/19 22:54	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	595463	11/10/19 18:58	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/13/19 03:50	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595462	11/10/19 18:56	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 17:14	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479222	11/29/19 19:07	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477982	11/15/19 18:09	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHL-EB-110819

Lab Sample ID: 680-176683-17

Date Collected: 11/08/19 06:45

Matrix: WQ

Date Received: 11/09/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597329	11/21/19 23:07	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	595456	11/10/19 18:43	PG	TAL SAV
Dissolved	Analysis	6010C		1			595683	11/12/19 07:36	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595455	11/10/19 18:39	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 18:15	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479222	11/29/19 19:22	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477982	11/15/19 18:15	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHM-05-41C_FAL19

Lab Sample ID: 680-176683-18

Date Collected: 11/08/19 09:10

Matrix: WG

Date Received: 11/09/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		25	5 mL	5 mL	597387	11/22/19 00:37	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	595463	11/10/19 18:58	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/13/19 02:09	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595462	11/10/19 18:56	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 16:08	BJB	TAL SAV
	Instrument ID: ICPMSD									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176683-1

Client Sample ID: SHM-05-41C_FAL19

Lab Sample ID: 680-176683-18

Date Collected: 11/08/19 09:10

Matrix: WG

Date Received: 11/09/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060A		1	20 mL	20 mL	479222	11/29/19 16:34	SGB	TAL DEN
Total/NA	Analysis	SM 2320B		1			477982	11/15/19 18:22	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHM-05-41A_FAL19

Lab Sample ID: 680-176683-19

Date Collected: 11/08/19 10:40

Matrix: WG

Date Received: 11/09/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597329	11/21/19 23:20	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	595463	11/10/19 18:58	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/13/19 02:40	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595462	11/10/19 18:56	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 16:22	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479222	11/29/19 19:37	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477982	11/15/19 18:28	SPG	TAL DEN
	Instrument ID: WC_AT2									

Client Sample ID: SHM-05-41B_FAL19

Lab Sample ID: 680-176683-20

Date Collected: 11/08/19 12:05

Matrix: WG

Date Received: 11/09/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	597329	11/21/19 23:32	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	595463	11/10/19 18:58	PG	TAL SAV
Dissolved	Analysis	6010C		1			596156	11/13/19 02:53	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	595462	11/10/19 18:56	PG	TAL SAV
Dissolved	Analysis	6020A		1			596185	11/13/19 16:37	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479222	11/29/19 19:56	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			477982	11/15/19 19:09	SPG	TAL DEN
	Instrument ID: WC_AT2									

Laboratory References:

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

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2, Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2, Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: SW9060A/FLDFLT (B)	SW9056A (A)	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	A2320B (A)	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Co	Cooler
						3	5	9	9	46						
	SHM-96-5B_FAL19	WG	11/07/19	0915	AC	X	X	X	X	X	SHM-96-5B	N1	81.54	91.54		1
	SHM-96-5C_FAL19	WG	11/07/19	1030	AC	X	X	X	X	X	SHM-96-5C	N1	51.00	61.00		1
	EPA-PZ-2012-1A_FAL19	WG	11/07/19	1155	AC	X	X	X	X	X	EPA-PZ-2012-1A	N1	23.88	28.88		1
	EPA-PZ-2012-1B_FAL19	WG	11/07/19	1300	AC	X	X	X	X	X	EPA-PZ-2012-1B	N1	73.72	78.72		1
1	SHP-2016-1A_FAL19	WG	11/08/19	0910	AC	X	X	X	X	X	SHP-2016-1A	N1	15.59	25.59	* MS/MS	
1	SHP-2016-1B_FAL19	WG	11/08/19	1110	AC	X	X	X	X	X	SHP-2016-1B	N1	77.56	87.56		
1	SHL-5_FAL19	WG	11/08/19	1220	AC	X	X	X	X	X	SHL-5	N1	3.70	13.70		
1																
1																
1																
1																

680-176683-01 Chain of Custody

Relinquished by: *(Signature)*	Date	Time
Abigail Cartwright	~~11~~ 11/8/19	1400
	11/8/19	1800

Received by: *(Signature)*	Date	Time
	11-8-19	1406

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

11/9/19 1000
5.4/5.5

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC
FD = field dup

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2, Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2, Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	SW9060A/FLDFLT (B) 3	SW9056A (A) 5	SW6010C/FLDFLT (B) 9	SW6020A/FLDFLT (B) 9	A2320B (A) 46	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler
	SHM-93-24A-FAL19	WG	11/7/19	0910	KE	X	X	X	X	X	SHM-93-24A	N1	16.23	26.33	1
	SHL-24-FAL19	WG	11/7/19	1015	KE	X	X	X	X	X	SHL-24	N1	111.96	121.96	1
	SHL-12-FAL19	WG	11/7/19	1245	KE	X	X	X	X	X	SHL-12	N1	16.40	31.40	1
	SHM-07-03-FAL19	WG	11/8/19	0900	KE	X	X	X	X	X	SHM-07-03	N1	24.94	34.94	1
1	SHM-05-40X-FAL19	WG	11/8/19	1105	KE	X	X	X	X	X	SHM-05-40X	N1	31.93	33.93	
1	SHL-DUP10-FAL19WG	WG	11/8/19	1110	KE	X	X	X	X	X	~~SHL-DUP~~ SHM-05-40X	FD	31.93	33.93	
1	SHM-07-05X-FAL19	WG	11/8/19	1240	KE	X	X	X	X	X	SHM-07-05X	N1	55.83	64.83	
1															
1															
1															
1															

680-176683-02 Chain of Custody

Relinquished by: *(Signature)*	Date	Time
	11/8/19	1400
	11/8/19	1540

Received by: *(Signature)*	Date	Time
	11-8-19	1400

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**
11/9/19 1000

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2, Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2, Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: SW9060A/FLDFLT (B) 3	SW9056A (A) 5	SW6010C/FLDFLT (B) 9	SW6020A/FLDFLT (B) 9	A2320B (A) 46	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
	SHM-10-11_FAL19	WG	11/7/19	1030	BrA	X	X	X	X	X	SHM-10-11	N1				1
	SHM-10-06A_FAL19	WG	11/7/19	1230	BrA	X	X	X	X	X	SHM-10-06A	N1				1
	SHL-EB-110819	WG	11/8/19	0645	BrA	X	X	X	X	X	SHL-EB	EBN			Equip Blank	1
	SHM-05-41C_FAL19	WG	11/8/19	0910	BrA	X	X	X	X	X	SHM-05-41C	N1			MS/MSD	1
1	SHM-05-41A_FAL19	WG	11/8/19	1040	BrA	X	X	X	X	X	SHM-05-41A	N1				
1	SHM-05-41B_FAL19	WG	11/8/19	1205	BrA	X	X	X	X	X	SHM-05-41B	N1				
1																
1																
1																
1																
1																

Relinquished by: *(Signature)*	Date	Time
	11/8/19	1400
	11-8-19	1700

Received by: *(Signature)*	Date	Time
	11-8-19	1400

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

11/9/19 1000
4.9 5.4/5.5

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

360325 Reston

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2; Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

680-176683 Chain of Custody

						Analytical Test Method	SW9060A/FLDFLT (B)	SW9056A (A)	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	A2320B (A)					
Event: KOMAN, Long Term Monitoring, SHL Fall 2019							3	5	9	9	46					
	Sample ID	Matrix	Date	Time	Samp Init.							Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
	SHM-96-5B_FAL19	WG	11/07/19	0915	AC	X	X	X	X	X		SHM-96-5B	N1	81.54	91.54		1
	SHM-96-5C_FAL19	WG	11/07/19	1030	AC	X	X	X	X	X		SHM-96-5C	N1	51.00	61.00		1
	EPA-PZ-2012-1A_FAL19	WG	11/07/19	1155	AC	X	X	X	X	X		EPA-PZ-2012-1A	N1	23.88	28.88		1
	EPA-PZ-2012-1B_FAL19	WG	11/07/19	1300	AC	X	X	X	X	X		EPA-PZ-2012-1B	N1	73.72	78.72		1
1	SHP-2016-1A_FAL19	WG	11/08/19	0910	AC	X	X	X	X	X		SHP-2016-1A	N1	15.59	25.59	* MS/MSD	
1	SHP-2016-1B_FAL19	WG	11/08/19	1110	AC	X	X	X	X	X		SHP-2016-1B	N1	77.56	87.56		
1	SHL-5_FAL19	WG	11/08/19	1220	AC	X	X	X	X	X		SHL-5	N1	3.70	13.70		
1																	
1																	
1																	
1																	

Relinquished by: *(Signature)*	Date	Time
Abigail Cartwright	~~11~~ 11/3/19	1400
	11/5/19	1500

Received by: *(Signature)*	Date	Time
	11-5-19	1900
	11/9/19	0900

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* & condition

360325 Boston

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC
FD = field dup

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2; Cool < 6°C
5	1 x 125mL, plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	SW9060A/FLDFLT (B)	SW9056A (A)	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	A2320B (A)	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
						3	5	9	9	46						
	SHM-93-24A_FAL19	WG	11/7/19	0910	KE	X	X	X	X	X	SHM-93-24A	N1	16.23	26.33		1
	SHL-24_FAL19	WG	11/7/19	1015	KE	X	X	X	X	X	SHL-24	N1	111.96	121.96		1
	SHL-12_FAL19	WG	11/7/19	1245	KE	X	X	X	X	X	SHL-12	N1	16.40	31.40		1
	SHM-07-03_FAL19	WG	11/8/19	0900	KE	X	X	X	X	X	SHM-07-03	N1	24.94	34.94		1
1	SHM-05-40X_FAL19	WG	11/8/19	1105	KE	X	X	X	X	X	SHM-05-40X	N1	31.93	33.93		
1	SHL-DUP10_FAL19	WG	11/8/19	1110	KE	X	X	X	X	X	~~SHL-DUP~~ SHM-05-40X	FD	31.93	33.93		
1	SHM-07-05X_FAL19	WG	11/8/19	1240	KE	X	X	X	X	X	SHM-07-05X	N1	55.53	64.53		
1																
1																
1																
1																

Relinquished by: *(Signature)*	Date	Time
	11/8/19	1400
	11/9/19	0800

Received by: *(Signature)*	Date	Time
	11-8-19	1400
	11/9/19	0900

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2, Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2, Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: SW9060A/FLDFLT (B) 3	SW9056A (A) 5	SW6010C/FLDFLT (B) 9	SW6020A/FLDFLT (B) 9	A2320B (A) 46	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
	SHM-10-11_FAL19	WG	11/7/19	1030	BCA	X	X	X	X	X	SHM-10-11	N1				1
	SHM-10-DUP_FAL19	WG	11/7/19	1230	BCA	X	X	X	X	X	SHM-10-DUP	N1				1
	SHL-EB-110819	WQ	11/8/19	0645	BCA	X	X	X	X	X	SHL-EB	EBN			Equip Blank	1
	SHM-05-41C_FAL19	WG	11/8/19	0910	BCA	X	X	X	X	X	SHM-05-41C	N1			MS/MSD	1
1	SHM-05-41A_FAL19	WG	11/8/19	1040	BCA	X	X	X	X	X	SHM-05-41A	N1				
1	SHM-05-41B_FAL19	WG	11/8/19	1205	BCA	X	X	X	X	X	SHM-05-41B	N1				
1																
1																
1																
1																
1																

Relinquished by: *(Signature)*	Date	Time
Brett Cole	11/8/19	1401
Eric Cole	11-8-19	1700

Received by: *(Signature)*	Date	Time
Eric Cole	11-8-19	1400
Jerry Lanier	11/9/19	0800

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-176683-1

Login Number: 176683

List Source: Eurofins TestAmerica, Savannah

List Number: 1

Creator: Weston, Pamela

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-176683-1

Login Number: 176683
List Number: 2
Creator: Zimmerman, Steven M

List Source: Eurofins TestAmerica, Denver
List Creation: 11/12/19 01:07 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-176683-1
Project/Site: LTM - SHL Fall 2019

Laboratory: Eurofins TestAmerica, Savannah

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

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-20
Alaska	State	GA00006	06-30-20
Alaska (UST)	State	17-016	09-30-20
ANAB	Dept. of Defense ELAP	L2463	09-22-22
ANAB	ISO/IEC 17025	L2463.01	09-22-22
Arizona	State	AZ0808	12-14-19
Arkansas DEQ	State	19-015-0	02-01-20
California	State	2939	06-30-20
Colorado	State	GA00006	12-31-19
Connecticut	State	PH-0161	03-31-21
Florida	NELAP	E87052	06-30-20
GA Dept. of Agriculture	State Program	N/A	06-12-20
Georgia	State	E87052	06-30-20
Georgia (DW)	State	803	06-30-20
Guam	State	19-007R	04-17-20
Hawaii	State	<cert No.>	06-30-20
Indiana	State	C-GA-02	06-30-20
Iowa	State	353	09-22-20
Kansas	NELAP	E-10322	10-15-20
Kentucky (DW)	State	KY90084	12-31-19
Kentucky (UST)	State	<cert No.>	06-30-20
Kentucky (WW)	State	KY90084	12-31-19
Louisiana	NELAP	02011	06-30-20
Louisiana (DW)	State	LA009	12-31-19
Maine	State	GA00006	09-26-20
Maryland	State	250	12-31-19
Massachusetts	State	M-GA006	06-30-20
Michigan	State	9925	06-30-20
Mississippi	State	<cert No.>	06-30-20
Nebraska	State	NE-OS-7-04	06-30-20
New Hampshire	NELAP	2096	05-29-20
New Jersey	NELAP	GA769	06-30-20
New Mexico	State	GA00006	06-30-20
New York	NELAP	10842	04-01-20
North Carolina (DW)	State	13701	07-31-20
North Carolina (WW/SW)	State	269	12-31-19
Oklahoma	State	9984	08-31-20
Pennsylvania	NELAP	68-00474	06-30-20
Puerto Rico	State	GA00006	01-01-20
South Carolina	State	98001	06-30-20
Tennessee	State	02961	06-30-20
Texas	NELAP	T1047004185-19-14	11-30-19
Texas	TCEQ Water Supply	T104704185	09-23-20
US Fish & Wildlife	US Federal Programs	LE058448-0	07-31-20
USDA	US Federal Programs	P330-18-00313	10-29-21
Virginia	NELAP	10509	06-14-20
Washington	State	C805	06-10-20
West Virginia (DW)	State	9950C	12-31-19
West Virginia DEP	State	094	11-30-19

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-176683-1
Project/Site: LTM - SHL Fall 2019

Laboratory: Eurofins TestAmerica, Savannah (Continued)

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999819810	08-31-20
Wyoming	State	8TMS-L	06-30-20 *

Laboratory: Eurofins TestAmerica, Denver

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

Authority	Program	Identification Number	Expiration Date
A2LA	DoD	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

Laboratory Job ID: 680-176927-1
Client Project/Site: LTM - SHL Fall 2019

For:
KOMAN Government Solutions, LLC
293 Boston Post Road West
Suite 100
Marlborough, Massachusetts 01752

Attn: Laurie Ekes

Jerry Lanier

Authorized for release by:
12/9/2019 4:50:44 PM

Jerry Lanier, Project Manager I
(912)250-0281
jerry.lanier@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 680-176927-1

Laboratory: Eurofins TestAmerica, Savannah

Narrative

CASE NARRATIVE

Client: KOMAN Government Solutions, LLC

Project: LTM - SHL Fall 2019

Report Number: 680-176927-1

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 the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 11/14/2019 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.9º C, 1.5º C and 2.5º C.

METALS (ICP) - DISSOLVED

Samples SHM-13-08_FAL19 (680-176927-1), SHM-13-14S_FAL19 (680-176927-2), SHM-13-15_FAL19 (680-176927-3), SHM-10-10_FAL19 (680-176927-4), SHM-93-18B_FAL19 (680-176927-6), SHL-7_FAL19 (680-176927-7), SHM-13-06_FAL19 (680-176927-17), SHM-13-04_FAL19 (680-176927-18), SHM-13-05_FAL19 (680-176927-19), SHM-10-16_FAL19 (680-176927-20), SHL-DUP08_FAL19 (680-176927-21), SHM-13-07_FAL19 (680-176927-22), SHM-13-14D_FAL19 (680-176927-23), SHM-13-03_FAL19 (680-176927-24), SHM-13-02_FAL19 (680-176927-25), SHM-10-05A_FAL19 (680-176927-26), SHM-99-32X_FAL19 (680-176927-27), SHL-23_FAL19 (680-176927-28), SHM-11-02_FAL19 (680-176927-29) and SHL-EB-111319 (680-176927-30) were analyzed for Metals (ICP) - Dissolved in accordance with EPA SW-846 Method 6010C. The samples were prepared on 11/16/2019 and 11/17/2019 and analyzed on 11/21/2019 and 11/22/2019.

Iron was detected in method blank MB 680-596525/1-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. Iron was detected in method blank MB 680-596597/1-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. Refer to the QC report for details.

Manganese failed the recovery criteria low for the MS of sample SHM-13-02_FAL19MS (680-176927-25) in batch 680-597332.

Manganese failed the recovery criteria high for the MSD of sample SHM-13-02_FAL19MSD (680-176927-25) in batch 680-597332.

Refer to the QC report for details.

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

METALS (ICPMS) - DISSOLVED

Samples SHM-13-08_FAL19 (680-176927-1), SHM-13-14S_FAL19 (680-176927-2), SHM-13-15_FAL19 (680-176927-3), SHM-10-10_FAL19 (680-176927-4), SHM-93-18B_FAL19 (680-176927-6), SHL-7_FAL19 (680-176927-7), SHM-13-06_FAL19 (680-176927-17), SHM-13-04_FAL19 (680-176927-18), SHM-13-05_FAL19 (680-176927-19), SHM-10-16_FAL19 (680-176927-20), SHL-DUP08_FAL19 (680-176927-21), SHM-13-07_FAL19 (680-176927-22), SHM-13-14D_FAL19 (680-176927-23), SHM-13-03_FAL19 (680-176927-24), SHM-13-02_FAL19 (680-176927-25), SHM-10-05A_FAL19 (680-176927-26), SHM-99-32X_FAL19 (680-176927-27), SHL-23_FAL19 (680-176927-28), SHM-11-02_FAL19 (680-176927-29) and SHL-EB-111319 (680-176927-30) were analyzed for Metals (ICPMS) - Dissolved in accordance with EPA SW-846 Method 6020A. The samples were prepared on 11/16/2019 and 11/17/2019 and analyzed on 11/19/2019 and 11/20/2019.

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

Job ID: 680-176927-1 (Continued)

Laboratory: Eurofins TestAmerica, Savannah (Continued)

ALKALINITY

Samples SHM-13-08_FAL19 (680-176927-1), SHM-13-14S_FAL19 (680-176927-2), SHM-13-15_FAL19 (680-176927-3), SHM-10-10_FAL19 (680-176927-4), SHM-93-18B_FAL19 (680-176927-6), SHL-7_FAL19 (680-176927-7), SHM-13-06_FAL19 (680-176927-17), SHM-13-04_FAL19 (680-176927-18), SHM-13-05_FAL19 (680-176927-19), SHM-10-16_FAL19 (680-176927-20), SHL-DUP08_FAL19 (680-176927-21), SHM-13-07_FAL19 (680-176927-22), SHM-13-14D_FAL19 (680-176927-23), SHM-13-03_FAL19 (680-176927-24), SHM-13-02_FAL19 (680-176927-25), SHM-10-05A_FAL19 (680-176927-26), SHM-99-32X_FAL19 (680-176927-27), SHL-23_FAL19 (680-176927-28), SHM-11-02_FAL19 (680-176927-29) and SHL-EB-111319 (680-176927-30) were analyzed for alkalinity in accordance with SM 2320B. The samples were analyzed on 11/19/2019.

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

ANIONS BY ION CHROMATOGRAPHY (28 DAY)

Samples SHM-13-08_FAL19 (680-176927-1), SHM-13-14S_FAL19 (680-176927-2), SHM-13-15_FAL19 (680-176927-3), SHM-10-10_FAL19 (680-176927-4), SHM-93-18B_FAL19 (680-176927-6), SHL-7_FAL19 (680-176927-7), SHM-13-06_FAL19 (680-176927-17), SHM-13-04_FAL19 (680-176927-18), SHM-13-05_FAL19 (680-176927-19), SHM-10-16_FAL19 (680-176927-20), SHL-DUP08_FAL19 (680-176927-21), SHM-13-07_FAL19 (680-176927-22), SHM-13-14D_FAL19 (680-176927-23), SHM-13-03_FAL19 (680-176927-24), SHM-13-02_FAL19 (680-176927-25), SHM-10-05A_FAL19 (680-176927-26), SHM-99-32X_FAL19 (680-176927-27), SHL-23_FAL19 (680-176927-28), SHM-11-02_FAL19 (680-176927-29) and SHL-EB-111319 (680-176927-30) were analyzed for Anions by Ion Chromatography (28 Day) in accordance with SW 846 9056A. The samples were analyzed on 11/27/2019, 11/28/2019 and 11/29/2019.

The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Refer to the QC report for details.

Sample SHM-13-04_FAL19 (680-176927-18)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

TOTAL ORGANIC CARBON (TOC)

Samples SHM-13-08_FAL19 (680-176927-1), SHM-13-14S_FAL19 (680-176927-2), SHM-13-15_FAL19 (680-176927-3), SHM-10-10_FAL19 (680-176927-4), SHM-93-18B_FAL19 (680-176927-6), SHL-7_FAL19 (680-176927-7), SHM-13-06_FAL19 (680-176927-17), SHM-13-04_FAL19 (680-176927-18), SHM-13-05_FAL19 (680-176927-19), SHM-10-16_FAL19 (680-176927-20), SHL-DUP08_FAL19 (680-176927-21), SHM-13-07_FAL19 (680-176927-22), SHM-13-14D_FAL19 (680-176927-23), SHM-13-03_FAL19 (680-176927-24), SHM-13-02_FAL19 (680-176927-25), SHM-10-05A_FAL19 (680-176927-26), SHM-99-32X_FAL19 (680-176927-27), SHL-23_FAL19 (680-176927-28), SHM-11-02_FAL19 (680-176927-29) and SHL-EB-111319 (680-176927-30) were analyzed for Total Organic Carbon (TOC) in accordance with EPA SW-846 9060A. The samples were analyzed on 12/06/2019 and 12/07/2019.

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

Sample Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176927-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
680-176927-1	SHM-13-08_FAL19	WG	11/11/19 08:30	11/14/19 09:20	
680-176927-2	SHM-13-14S_FAL19	WG	11/11/19 10:20	11/14/19 09:20	
680-176927-3	SHM-13-15_FAL19	WG	11/11/19 11:30	11/14/19 09:20	
680-176927-4	SHM-10-10_FAL19	WG	11/11/19 13:25	11/14/19 09:20	
680-176927-6	SHM-93-18B_FAL19	WG	11/13/19 10:25	11/14/19 09:20	
680-176927-7	SHL-7_FAL19	WG	11/13/19 12:25	11/14/19 09:20	
680-176927-17	SHM-13-06_FAL19	WG	11/12/19 08:30	11/14/19 09:20	
680-176927-18	SHM-13-04_FAL19	WG	11/12/19 10:30	11/14/19 09:20	
680-176927-19	SHM-13-05_FAL19	WG	11/12/19 11:50	11/14/19 09:20	
680-176927-20	SHM-10-16_FAL19	WG	11/13/19 12:35	11/14/19 09:20	
680-176927-21	SHL-DUP08_FAL19	WG	11/13/19 12:40	11/14/19 09:20	
680-176927-22	SHM-13-07_FAL19	WG	11/11/19 08:35	11/14/19 09:20	
680-176927-23	SHM-13-14D_FAL19	WG	11/11/19 10:15	11/14/19 09:20	
680-176927-24	SHM-13-03_FAL19	WG	11/11/19 11:30	11/14/19 09:20	
680-176927-25	SHM-13-02_FAL19	WG	11/11/19 13:20	11/14/19 09:20	
680-176927-26	SHM-10-05A_FAL19	WG	11/12/19 08:20	11/14/19 09:20	
680-176927-27	SHM-99-32X_FAL19	WG	11/12/19 09:30	11/14/19 09:20	
680-176927-28	SHL-23_FAL19	WG	11/13/19 09:05	11/14/19 09:20	
680-176927-29	SHM-11-02_FAL19	WG	11/13/19 11:50	11/14/19 09:20	
680-176927-30	SHL-EB-111319	WG	11/13/19 07:40	11/14/19 09:20	

Method Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176927-1

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV
6020A	Metals (ICP/MS)	SW846	TAL SAV
9060A	Organic Carbon, Dissolved (DOC)	SW846	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL SAV

Protocol References:

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

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

Laboratory References:

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

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
D	The reported value is from a dilution.
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Metals

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

General Chemistry

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

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)

Client Sample ID: SHM-13-08_FAL19

Lab Sample ID: 680-176927-1
Matrix: WG
Date Collected: 11/11/19 08:30
Date Received: 11/14/19 09:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	33		0.50	0.50	0.20	mg/L		11/27/19 16:55	1
Sulfate	4.4		1.0	1.0	0.40	mg/L		11/27/19 16:55	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	41000		50	50	17	ug/L		11/22/19 01:19	1
Manganese	970		10	3.0	1.0	ug/L		11/22/19 01:19	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	930		3.0	3.0	1.5	ug/L		11/19/19 18:38	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	100		10	10	3.1	mg/L		11/19/19 17:00	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	1.9		1.0	1.0	0.35	mg/L		12/06/19 18:48	1

Client Sample ID: SHM-13-14S_FAL19

Lab Sample ID: 680-176927-2
Matrix: WG
Date Collected: 11/11/19 10:20
Date Received: 11/14/19 09:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	140		0.50	0.50	0.20	mg/L		11/27/19 17:08	1
Sulfate	19		1.0	1.0	0.40	mg/L		11/27/19 17:08	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/21/19 11:18	1
Manganese	410		10	3.0	1.0	ug/L		11/21/19 11:18	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	1.9	J	3.0	3.0	1.5	ug/L		11/20/19 16:09	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	42		10	10	3.1	mg/L		11/19/19 17:04	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	1.8		1.0	1.0	0.35	mg/L		12/06/19 19:33	1

Client Sample ID: SHM-13-15_FAL19

Lab Sample ID: 680-176927-3
Date Collected: 11/11/19 11:30
Matrix: WG
Date Received: 11/14/19 09:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	43		0.50	0.50	0.20	mg/L		11/27/19 17:20	1
Sulfate	9.6	M	1.0	1.0	0.40	mg/L		11/27/19 17:20	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	770		50	50	17	ug/L		11/22/19 01:24	1
Manganese	5800		10	3.0	1.0	ug/L		11/22/19 01:24	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	5.1		3.0	3.0	1.5	ug/L		11/19/19 18:41	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	430		10	10	3.1	mg/L		11/19/19 17:11	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	3.2		1.0	1.0	0.35	mg/L		12/06/19 19:47	1

Client Sample ID: SHM-10-10_FAL19

Lab Sample ID: 680-176927-4
Date Collected: 11/11/19 13:25
Matrix: WG
Date Received: 11/14/19 09:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	93		0.50	0.50	0.20	mg/L		11/28/19 00:43	1
Sulfate	4.9		1.0	1.0	0.40	mg/L		11/28/19 00:43	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	38	J	50	50	17	ug/L		11/22/19 01:28	1
Manganese	8400		10	3.0	1.0	ug/L		11/22/19 01:28	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/19/19 18:44	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	260		10	10	3.1	mg/L		11/19/19 17:17	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	2.6		1.0	1.0	0.35	mg/L		12/06/19 20:04	1

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176927-1

Client Sample ID: SHM-93-18B_FAL19

Lab Sample ID: 680-176927-6
Date Collected: 11/13/19 10:25
Matrix: WG
Date Received: 11/14/19 09:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	51		0.50	0.50	0.20	mg/L		11/27/19 17:33	1
Sulfate	33		1.0	1.0	0.40	mg/L		11/27/19 17:33	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	18	J	50	50	17	ug/L		11/21/19 12:48	1
Manganese	1.4	J	10	3.0	1.0	ug/L		11/21/19 12:48	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/20/19 16:58	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	60		10	10	3.1	mg/L		11/19/19 17:23	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	0.61	J	1.0	1.0	0.35	mg/L		12/06/19 20:23	1

Client Sample ID: SHL-7_FAL19

Lab Sample ID: 680-176927-7
Date Collected: 11/13/19 12:25
Matrix: WG
Date Received: 11/14/19 09:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	26		0.50	0.50	0.20	mg/L		11/27/19 17:46	1
Sulfate	12		1.0	1.0	0.40	mg/L		11/27/19 17:46	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	160		50	50	17	ug/L		11/21/19 12:53	1
Manganese	13		10	3.0	1.0	ug/L		11/21/19 12:53	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/20/19 17:01	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	61		10	10	3.1	mg/L		11/19/19 17:27	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	1.0		1.0	1.0	0.35	mg/L		12/06/19 20:38	1

Client Sample ID: SHM-13-06_FAL19

Lab Sample ID: 680-176927-17
Date Collected: 11/12/19 08:30
Matrix: WG
Date Received: 11/14/19 09:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	100		0.50	0.50	0.20	mg/L		11/28/19 01:21	1
Sulfate	5.7		1.0	1.0	0.40	mg/L		11/28/19 01:21	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	18000		50	50	17	ug/L		11/21/19 12:01	1
Manganese	880		10	3.0	1.0	ug/L		11/21/19 12:01	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	1900		3.0	3.0	1.5	ug/L		11/20/19 16:29	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	44		10	10	3.1	mg/L		11/19/19 17:32	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	1.0		1.0	1.0	0.35	mg/L		12/06/19 20:52	1

Client Sample ID: SHM-13-04_FAL19

Lab Sample ID: 680-176927-18
Date Collected: 11/12/19 10:30
Matrix: WG
Date Received: 11/14/19 09:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Sulfate	11		1.0	1.0	0.40	mg/L		11/27/19 19:01	1

Method: 9056A - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	250	D M	2.5	2.5	1.0	mg/L		11/29/19 20:25	5

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	3400		50	50	17	ug/L		11/21/19 11:56	1
Manganese	84		10	3.0	1.0	ug/L		11/21/19 11:56	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	600		3.0	3.0	1.5	ug/L		11/20/19 16:27	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	46		10	10	3.1	mg/L		11/19/19 17:37	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	1.1		1.0	1.0	0.35	mg/L		12/06/19 21:38	1

Client Sample ID: SHM-13-05_FAL19

Lab Sample ID: 680-176927-19

Date Collected: 11/12/19 11:50

Matrix: WG

Date Received: 11/14/19 09:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	39		0.50	0.50	0.20	mg/L		11/27/19 19:14	1
Sulfate	12		1.0	1.0	0.40	mg/L		11/27/19 19:14	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	3100		50	50	17	ug/L		11/21/19 11:47	1
Manganese	3400		10	3.0	1.0	ug/L		11/21/19 11:47	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	16		3.0	3.0	1.5	ug/L		11/20/19 16:21	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	410		10	10	3.1	mg/L		11/19/19 17:53	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	2.5		1.0	1.0	0.35	mg/L		12/06/19 21:55	1

Client Sample ID: SHM-10-16_FAL19

Lab Sample ID: 680-176927-20

Date Collected: 11/13/19 12:35

Matrix: WG

Date Received: 11/14/19 09:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	24		0.50	0.50	0.20	mg/L		11/27/19 19:27	1
Sulfate	3.7		1.0	1.0	0.40	mg/L		11/27/19 19:27	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	37000		50	50	17	ug/L		11/21/19 11:13	1
Manganese	1700		10	3.0	1.0	ug/L		11/21/19 11:13	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	1200		3.0	3.0	1.5	ug/L		11/20/19 16:06	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	280		10	10	3.1	mg/L		11/19/19 17:59	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	1.9		1.0	1.0	0.35	mg/L		12/06/19 22:12	1

Client Sample ID: SHL-DUP08_FAL19

Lab Sample ID: 680-176927-21
Date Collected: 11/13/19 12:40
Matrix: WG
Date Received: 11/14/19 09:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	24		0.50	0.50	0.20	mg/L		11/27/19 19:39	1
Sulfate	3.7		1.0	1.0	0.40	mg/L		11/27/19 19:39	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	38000		50	50	17	ug/L		11/21/19 11:23	1
Manganese	1700		10	3.0	1.0	ug/L		11/21/19 11:23	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	1100		3.0	3.0	1.5	ug/L		11/20/19 16:12	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	280		10	10	3.1	mg/L		11/19/19 18:05	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	1.9		1.0	1.0	0.35	mg/L		12/06/19 23:13	1

Client Sample ID: SHM-13-07_FAL19

Lab Sample ID: 680-176927-22
Date Collected: 11/11/19 08:35
Matrix: WG
Date Received: 11/14/19 09:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	180		0.50	0.50	0.20	mg/L		11/27/19 19:52	1
Sulfate	4.9		1.0	1.0	0.40	mg/L		11/27/19 19:52	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	27000		50	50	17	ug/L		11/21/19 11:42	1
Manganese	4700		10	3.0	1.0	ug/L		11/21/19 11:42	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	750		3.0	3.0	1.5	ug/L		11/20/19 16:18	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	65		10	10	3.1	mg/L		11/19/19 18:09	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	1.2		1.0	1.0	0.35	mg/L		12/06/19 23:28	1

Client Sample ID: SHM-13-14D_FAL19

Lab Sample ID: 680-176927-23

Date Collected: 11/11/19 10:15

Matrix: WG

Date Received: 11/14/19 09:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	120		0.50	0.50	0.20	mg/L		11/27/19 20:05	1
Sulfate	7.0		1.0	1.0	0.40	mg/L		11/27/19 20:05	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	2600		50	50	17	ug/L		11/21/19 12:06	1
Manganese	470		10	3.0	1.0	ug/L		11/21/19 12:06	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	12		3.0	3.0	1.5	ug/L		11/20/19 16:32	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	74		10	10	3.1	mg/L		11/19/19 18:14	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	1.4		1.0	1.0	0.35	mg/L		12/06/19 23:45	1

Client Sample ID: SHM-13-03_FAL19

Lab Sample ID: 680-176927-24

Date Collected: 11/11/19 11:30

Matrix: WG

Date Received: 11/14/19 09:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	32		0.50	0.50	0.20	mg/L		11/27/19 20:17	1
Sulfate	6.0		1.0	1.0	0.40	mg/L		11/27/19 20:17	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	8600		50	50	17	ug/L		11/21/19 12:10	1
Manganese	10000		10	3.0	1.0	ug/L		11/21/19 12:10	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	140		3.0	3.0	1.5	ug/L		11/20/19 16:41	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	280		10	10	3.1	mg/L		11/19/19 18:20	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	2.5		1.0	1.0	0.35	mg/L		12/07/19 00:01	1

Client Sample ID: SHM-13-02_FAL19

Lab Sample ID: 680-176927-25
Date Collected: 11/11/19 13:20
Matrix: WG
Date Received: 11/14/19 09:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	**51**		0.50	0.50	0.20	mg/L		11/28/19 04:06	1
Sulfate	**7.1**		1.0	1.0	0.40	mg/L		11/28/19 04:06	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	**18**	**J**	50	50	17	ug/L		11/21/19 10:46	1
Manganese	**9400**	**J1**	10	3.0	1.0	ug/L		11/21/19 10:46	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/20/19 15:46	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	**160**		10	10	3.1	mg/L		11/19/19 18:25	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	**1.7**		1.0	1.0	0.35	mg/L		12/06/19 22:27	1

Client Sample ID: SHM-10-05A_FAL19

Lab Sample ID: 680-176927-26
Date Collected: 11/12/19 08:20
Matrix: WG
Date Received: 11/14/19 09:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	**32**		0.50	0.50	0.20	mg/L		11/28/19 04:44	1
Sulfate	**9.5**		1.0	1.0	0.40	mg/L		11/28/19 04:44	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/22/19 01:43	1
Manganese	**2.4**	**J**	10	3.0	1.0	ug/L		11/22/19 01:43	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	**2.0**	**J**	3.0	3.0	1.5	ug/L		11/19/19 18:58	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	**32**		10	10	3.1	mg/L		11/19/19 18:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	**0.62**	**J**	1.0	1.0	0.35	mg/L		12/07/19 00:45	1

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176927-1

Client Sample ID: SHM-99-32X_FAL19

Lab Sample ID: 680-176927-27
Date Collected: 11/12/19 09:30
Matrix: WG
Date Received: 11/14/19 09:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	64		0.50	0.50	0.20	mg/L		11/28/19 04:56	1
Sulfate	17		1.0	1.0	0.40	mg/L		11/28/19 04:56	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	6700		50	50	17	ug/L		11/21/19 12:57	1
Manganese	4100		10	3.0	1.0	ug/L		11/21/19 12:57	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	47		3.0	3.0	1.5	ug/L		11/20/19 17:04	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	78		10	10	3.1	mg/L		11/19/19 18:34	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	1.4		1.0	1.0	0.35	mg/L		12/07/19 01:06	1

Client Sample ID: SHL-23_FAL19

Lab Sample ID: 680-176927-28
Date Collected: 11/13/19 09:05
Matrix: WG
Date Received: 11/14/19 09:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	4.8		0.50	0.50	0.20	mg/L		11/28/19 05:09	1
Sulfate	6.7		1.0	1.0	0.40	mg/L		11/28/19 05:09	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	19	J	50	50	17	ug/L		11/22/19 01:33	1
Manganese	14		10	3.0	1.0	ug/L		11/22/19 01:33	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/19/19 18:52	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	4.5	J	10	10	3.1	mg/L		11/19/19 18:39	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	0.95	J	1.0	1.0	0.35	mg/L		12/07/19 01:21	1

Client Sample ID: SHM-11-02_FAL19

Lab Sample ID: 680-176927-29
Date Collected: 11/13/19 11:50
Matrix: WG
Date Received: 11/14/19 09:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	**47**		0.50	0.50	0.20	mg/L		11/28/19 05:21	1
Sulfate	**1.1**		1.0	1.0	0.40	mg/L		11/28/19 05:21	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	**22000**		50	50	17	ug/L		11/21/19 12:15	1
Manganese	**1600**		10	3.0	1.0	ug/L		11/21/19 12:15	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	**33**		3.0	3.0	1.5	ug/L		11/20/19 16:44	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	**250**		10	10	3.1	mg/L		11/19/19 19:06	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	**1.6**		1.0	1.0	0.35	mg/L		12/07/19 01:38	1

Client Sample ID: SHL-EB-111319

Lab Sample ID: 680-176927-30
Date Collected: 11/13/19 07:40
Matrix: WG
Date Received: 11/14/19 09:20

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		11/28/19 05:34	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		11/28/19 05:34	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/21/19 12:43	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/21/19 12:43	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/20/19 16:55	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		11/19/19 19:16	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	**0.37**	**J**	1.0	1.0	0.35	mg/L		12/07/19 01:52	1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 680-598339/2
Matrix: Water
Analysis Batch: 598339

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		11/27/19 12:32	1
Sulfate	1.0	U M	1.0	1.0	0.40	mg/L		11/27/19 12:32	1

Lab Sample ID: LCS 680-598339/6
Matrix: Water
Analysis Batch: 598339

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.92		mg/L		99	87 - 111
Sulfate	10.0	10.4		mg/L		104	87 - 112

Lab Sample ID: LCSD 680-598339/7
Matrix: Water
Analysis Batch: 598339

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
Chloride	10.0	9.99		mg/L		100	87 - 111	1	15
Sulfate	10.0	10.5		mg/L		105	87 - 112	1	15

Lab Sample ID: MB 680-598392/35
Matrix: Water
Analysis Batch: 598392

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		11/27/19 21:08	1
Sulfate	1.0	U M	1.0	1.0	0.40	mg/L		11/27/19 21:08	1

Lab Sample ID: LCS 680-598392/36
Matrix: Water
Analysis Batch: 598392

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.2		mg/L		102	87 - 111
Sulfate	10.0	10.1		mg/L		101	87 - 112

Lab Sample ID: LCSD 680-598392/37
Matrix: Water
Analysis Batch: 598392

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
Chloride	10.0	10.3		mg/L		103	87 - 111	1	15
Sulfate	10.0	10.2		mg/L		102	87 - 112	1	15

Lab Sample ID: 680-176927-4 MS
Matrix: WG
Analysis Batch: 598392

Client Sample ID: SHM-10-10_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	93		10.0	102	4	mg/L		90	87 - 111
Sulfate	4.9		10.0	14.5		mg/L		97	87 - 112

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: 680-176927-4 MSD
Matrix: WG
Analysis Batch: 598392

Client Sample ID: SHM-10-10_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	93		10.0	102	4	mg/L		92	87 - 111	0	15
Sulfate	4.9		10.0	14.6		mg/L		98	87 - 112	1	15

Lab Sample ID: MB 680-598402/65
Matrix: Water
Analysis Batch: 598402

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		11/28/19 03:28	1
Sulfate	1.0	U M	1.0	1.0	0.40	mg/L		11/28/19 03:28	1

Lab Sample ID: LCS 680-598402/66
Matrix: Water
Analysis Batch: 598402

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.0		mg/L		100	87 - 111
Sulfate	10.0	9.94		mg/L		99	87 - 112

Lab Sample ID: LCSD 680-598402/67
Matrix: Water
Analysis Batch: 598402

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
Chloride	10.0	9.92		mg/L		99	87 - 111	1	15
Sulfate	10.0	9.93		mg/L		99	87 - 112	0	15

Lab Sample ID: 680-176927-25 MS
Matrix: WG
Analysis Batch: 598402

Client Sample ID: SHM-13-02_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	51		10.0	60.8	4	mg/L		100	87 - 111
Sulfate	7.1		10.0	17.4		mg/L		103	87 - 112

Lab Sample ID: 680-176927-25 MSD
Matrix: WG
Analysis Batch: 598402

Client Sample ID: SHM-13-02_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	51		10.0	60.5	4	mg/L		97	87 - 111	0	15
Sulfate	7.1		10.0	17.4		mg/L		103	87 - 112	0	15

Lab Sample ID: MB 680-598517/2
Matrix: Water
Analysis Batch: 598517

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		11/29/19 12:52	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		11/29/19 12:52	1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: LCS 680-598517/3
Matrix: Water
Analysis Batch: 598517

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.2	M	mg/L		102	87 - 111
Sulfate	10.0	10.4		mg/L		104	87 - 112

Lab Sample ID: LCSD 680-598517/4
Matrix: Water
Analysis Batch: 598517

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
Chloride	10.0	10.2	M	mg/L		102	87 - 111	0	15
Sulfate	10.0	10.2		mg/L		102	87 - 112	1	15

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-596525/1-A
Matrix: Water
Analysis Batch: 597332

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 596525

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	20.0	J	50	50	17	ug/L		11/21/19 10:37	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/21/19 10:37	1

Lab Sample ID: LCS 680-596525/2-A
Matrix: Water
Analysis Batch: 597332

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 596525

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	5000	4540		ug/L		91	86 - 115
Chromium	100	104		ug/L		104	90 - 113
Iron	5010	5080		ug/L		101	87 - 115
Lead	454	461		ug/L		102	86 - 113
Manganese	400	402		ug/L		101	90 - 114
Nickel	99.5	96.5		ug/L		97	88 - 113
Sodium	5040	4360		ug/L		87	87 - 115

Lab Sample ID: MB 680-596597/1-A
Matrix: Water
Analysis Batch: 597499

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 596597

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	21.5	J	50	50	17	ug/L		11/22/19 00:31	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/22/19 00:31	1

Lab Sample ID: LCS 680-596597/2-A
Matrix: Water
Analysis Batch: 597499

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 596597

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5010	5050		ug/L		101	87 - 115
Manganese	400	415		ug/L		104	90 - 114

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

Lab Sample ID: 680-176927-25 MS
Matrix: WG
Analysis Batch: 597332

Client Sample ID: SHM-13-02_FAL19
Prep Type: Dissolved
Prep Batch: 596525

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	18	J	5010	4900		ug/L		97	87 - 115
Manganese	9400	J1	400	8690	4	ug/L		-182	90 - 114

Lab Sample ID: 680-176927-25 MSD
Matrix: WG
Analysis Batch: 597332

Client Sample ID: SHM-13-02_FAL19
Prep Type: Dissolved
Prep Batch: 596525

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	18	J	5010	4730		ug/L		94	87 - 115	3	20
Manganese	9400	J1	400	9940	4	ug/L		132	90 - 114	13	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 680-596524/1-A
Matrix: Water
Analysis Batch: 597249

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 596524

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/20/19 15:40	1

Lab Sample ID: LCS 680-596524/2-A
Matrix: Water
Analysis Batch: 597249

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 596524

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	105		ug/L		105	84 - 116

Lab Sample ID: MB 680-596596/1-A
Matrix: Water
Analysis Batch: 597053

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 596596

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/19/19 18:18	1

Lab Sample ID: LCS 680-596596/2-A
Matrix: Water
Analysis Batch: 597053

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 596596

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	113		ug/L		113	84 - 116

Lab Sample ID: 680-176927-25 MS
Matrix: WG
Analysis Batch: 597249

Client Sample ID: SHM-13-02_FAL19
Prep Type: Dissolved
Prep Batch: 596524

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	3.0	U	100	99.6		ug/L		100	84 - 116

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

Lab Sample ID: 680-176927-25 MSD — **Client Sample ID: SHM-13-02_FAL19**
Matrix: WG — **Prep Type: Dissolved**
Analysis Batch: 597249 — **Prep Batch: 596524**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	3.0	U	100	97.0		ug/L		97	84 - 116	3	20

Method: 9060A - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 280-479927/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 479927

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	1.0	U	1.0	1.0	0.35	mg/L		12/06/19 17:51	1

Lab Sample ID: LCS 280-479927/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 479927

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	25.0	24.9		mg/L		99	88 - 112

Lab Sample ID: LCSD 280-479927/4 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 479927

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	25.0	25.3		mg/L		101	88 - 112	2	15

Lab Sample ID: 680-176927-1 MS — **Client Sample ID: SHM-13-08_FAL19**
Matrix: WG — **Prep Type: Dissolved**
Analysis Batch: 479927

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	1.9		25.0	27.9		mg/L		104	88 - 112

Lab Sample ID: 680-176927-1 MSD — **Client Sample ID: SHM-13-08_FAL19**
Matrix: WG — **Prep Type: Dissolved**
Analysis Batch: 479927

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	1.9		25.0	27.7		mg/L		103	88 - 112	1	15

Lab Sample ID: 680-176927-25 MS — **Client Sample ID: SHM-13-02_FAL19**
Matrix: WG — **Prep Type: Dissolved**
Analysis Batch: 479927

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	1.7		25.0	26.8		mg/L		100	88 - 112

Method: 9060A - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: 680-176927-25 MSD
Matrix: WG
Analysis Batch: 479927

Client Sample ID: SHM-13-02_FAL19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	1.7		25.0	26.9		mg/L		101	88 - 112	1	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-478263/31
Matrix: Water
Analysis Batch: 478263

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		11/19/19 16:31	1

Lab Sample ID: MB 280-478263/57
Matrix: Water
Analysis Batch: 478263

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		11/19/19 19:01	1

Lab Sample ID: LCS 280-478263/30
Matrix: Water
Analysis Batch: 478263

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	204		mg/L		102	89 - 109

Lab Sample ID: LCS 280-478263/56
Matrix: Water
Analysis Batch: 478263

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	209		mg/L		104	89 - 109

Lab Sample ID: 680-176927-29 DU
Matrix: WG
Analysis Batch: 478263

Client Sample ID: SHM-11-02_FAL19
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	250		247		mg/L		0.5	10

HPLC/IC

Analysis Batch: 598339

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-1	SHM-13-08_FAL19	Total/NA	WG	9056A	
680-176927-2	SHM-13-14S_FAL19	Total/NA	WG	9056A	
680-176927-3	SHM-13-15_FAL19	Total/NA	WG	9056A	
680-176927-6	SHM-93-18B_FAL19	Total/NA	WG	9056A	
680-176927-7	SHL-7_FAL19	Total/NA	WG	9056A	
680-176927-18	SHM-13-04_FAL19	Total/NA	WG	9056A	
680-176927-19	SHM-13-05_FAL19	Total/NA	WG	9056A	
680-176927-20	SHM-10-16_FAL19	Total/NA	WG	9056A	
680-176927-21	SHL-DUP08_FAL19	Total/NA	WG	9056A	
680-176927-22	SHM-13-07_FAL19	Total/NA	WG	9056A	
680-176927-23	SHM-13-14D_FAL19	Total/NA	WG	9056A	
680-176927-24	SHM-13-03_FAL19	Total/NA	WG	9056A	
MB 680-598339/2	Method Blank	Total/NA	Water	9056A	
LCS 680-598339/6	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-598339/7	Lab Control Sample Dup	Total/NA	Water	9056A	

Analysis Batch: 598392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-4	SHM-10-10_FAL19	Total/NA	WG	9056A	
680-176927-17	SHM-13-06_FAL19	Total/NA	WG	9056A	
MB 680-598392/35	Method Blank	Total/NA	Water	9056A	
LCS 680-598392/36	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-598392/37	Lab Control Sample Dup	Total/NA	Water	9056A	
680-176927-4 MS	SHM-10-10_FAL19	Total/NA	WG	9056A	
680-176927-4 MSD	SHM-10-10_FAL19	Total/NA	WG	9056A	

Analysis Batch: 598402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-25	SHM-13-02_FAL19	Total/NA	WG	9056A	
680-176927-26	SHM-10-05A_FAL19	Total/NA	WG	9056A	
680-176927-27	SHM-99-32X_FAL19	Total/NA	WG	9056A	
680-176927-28	SHL-23_FAL19	Total/NA	WG	9056A	
680-176927-29	SHM-11-02_FAL19	Total/NA	WG	9056A	
680-176927-30	SHL-EB-111319	Total/NA	WG	9056A	
MB 680-598402/65	Method Blank	Total/NA	Water	9056A	
LCS 680-598402/66	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-598402/67	Lab Control Sample Dup	Total/NA	Water	9056A	
680-176927-25 MS	SHM-13-02_FAL19	Total/NA	WG	9056A	
680-176927-25 MSD	SHM-13-02_FAL19	Total/NA	WG	9056A	

Analysis Batch: 598517

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-18 - DL	SHM-13-04_FAL19	Total/NA	WG	9056A	
MB 680-598517/2	Method Blank	Total/NA	Water	9056A	
LCS 680-598517/3	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-598517/4	Lab Control Sample Dup	Total/NA	Water	9056A	

Metals

Prep Batch: 596524

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-2	SHM-13-14S_FAL19	Dissolved	WG	3005A	
680-176927-6	SHM-93-18B_FAL19	Dissolved	WG	3005A	
680-176927-7	SHL-7_FAL19	Dissolved	WG	3005A	
680-176927-17	SHM-13-06_FAL19	Dissolved	WG	3005A	
680-176927-18	SHM-13-04_FAL19	Dissolved	WG	3005A	
680-176927-19	SHM-13-05_FAL19	Dissolved	WG	3005A	
680-176927-20	SHM-10-16_FAL19	Dissolved	WG	3005A	
680-176927-21	SHL-DUP08_FAL19	Dissolved	WG	3005A	
680-176927-22	SHM-13-07_FAL19	Dissolved	WG	3005A	
680-176927-23	SHM-13-14D_FAL19	Dissolved	WG	3005A	
680-176927-24	SHM-13-03_FAL19	Dissolved	WG	3005A	
680-176927-25	SHM-13-02_FAL19	Dissolved	WG	3005A	
680-176927-27	SHM-99-32X_FAL19	Dissolved	WG	3005A	
680-176927-29	SHM-11-02_FAL19	Dissolved	WG	3005A	
680-176927-30	SHL-EB-111319	Dissolved	WG	3005A	
MB 680-596524/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-596524/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
680-176927-25 MS	SHM-13-02_FAL19	Dissolved	WG	3005A	
680-176927-25 MSD	SHM-13-02_FAL19	Dissolved	WG	3005A	

Prep Batch: 596525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-2	SHM-13-14S_FAL19	Dissolved	WG	3005A	
680-176927-6	SHM-93-18B_FAL19	Dissolved	WG	3005A	
680-176927-7	SHL-7_FAL19	Dissolved	WG	3005A	
680-176927-17	SHM-13-06_FAL19	Dissolved	WG	3005A	
680-176927-18	SHM-13-04_FAL19	Dissolved	WG	3005A	
680-176927-19	SHM-13-05_FAL19	Dissolved	WG	3005A	
680-176927-20	SHM-10-16_FAL19	Dissolved	WG	3005A	
680-176927-21	SHL-DUP08_FAL19	Dissolved	WG	3005A	
680-176927-22	SHM-13-07_FAL19	Dissolved	WG	3005A	
680-176927-23	SHM-13-14D_FAL19	Dissolved	WG	3005A	
680-176927-24	SHM-13-03_FAL19	Dissolved	WG	3005A	
680-176927-25	SHM-13-02_FAL19	Dissolved	WG	3005A	
680-176927-27	SHM-99-32X_FAL19	Dissolved	WG	3005A	
680-176927-29	SHM-11-02_FAL19	Dissolved	WG	3005A	
680-176927-30	SHL-EB-111319	Dissolved	WG	3005A	
MB 680-596525/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-596525/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
680-176927-25 MS	SHM-13-02_FAL19	Dissolved	WG	3005A	
680-176927-25 MSD	SHM-13-02_FAL19	Dissolved	WG	3005A	

Prep Batch: 596596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-1	SHM-13-08_FAL19	Dissolved	WG	3005A	
680-176927-3	SHM-13-15_FAL19	Dissolved	WG	3005A	
680-176927-4	SHM-10-10_FAL19	Dissolved	WG	3005A	
680-176927-26	SHM-10-05A_FAL19	Dissolved	WG	3005A	
680-176927-28	SHL-23_FAL19	Dissolved	WG	3005A	
MB 680-596596/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-596596/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Metals

Prep Batch: 596597

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-1	SHM-13-08_FAL19	Dissolved	WG	3005A	
680-176927-3	SHM-13-15_FAL19	Dissolved	WG	3005A	
680-176927-4	SHM-10-10_FAL19	Dissolved	WG	3005A	
680-176927-26	SHM-10-05A_FAL19	Dissolved	WG	3005A	
680-176927-28	SHL-23_FAL19	Dissolved	WG	3005A	
MB 680-596597/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-596597/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 597053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-1	SHM-13-08_FAL19	Dissolved	WG	6020A	596596
680-176927-3	SHM-13-15_FAL19	Dissolved	WG	6020A	596596
680-176927-4	SHM-10-10_FAL19	Dissolved	WG	6020A	596596
680-176927-26	SHM-10-05A_FAL19	Dissolved	WG	6020A	596596
680-176927-28	SHL-23_FAL19	Dissolved	WG	6020A	596596
MB 680-596596/1-A	Method Blank	Total Recoverable	Water	6020A	596596
LCS 680-596596/2-A	Lab Control Sample	Total Recoverable	Water	6020A	596596

Analysis Batch: 597249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-2	SHM-13-14S_FAL19	Dissolved	WG	6020A	596524
680-176927-6	SHM-93-18B_FAL19	Dissolved	WG	6020A	596524
680-176927-7	SHL-7_FAL19	Dissolved	WG	6020A	596524
680-176927-17	SHM-13-06_FAL19	Dissolved	WG	6020A	596524
680-176927-18	SHM-13-04_FAL19	Dissolved	WG	6020A	596524
680-176927-19	SHM-13-05_FAL19	Dissolved	WG	6020A	596524
680-176927-20	SHM-10-16_FAL19	Dissolved	WG	6020A	596524
680-176927-21	SHL-DUP08_FAL19	Dissolved	WG	6020A	596524
680-176927-22	SHM-13-07_FAL19	Dissolved	WG	6020A	596524
680-176927-23	SHM-13-14D_FAL19	Dissolved	WG	6020A	596524
680-176927-24	SHM-13-03_FAL19	Dissolved	WG	6020A	596524
680-176927-25	SHM-13-02_FAL19	Dissolved	WG	6020A	596524
680-176927-27	SHM-99-32X_FAL19	Dissolved	WG	6020A	596524
680-176927-29	SHM-11-02_FAL19	Dissolved	WG	6020A	596524
680-176927-30	SHL-EB-111319	Dissolved	WG	6020A	596524
MB 680-596524/1-A	Method Blank	Total Recoverable	Water	6020A	596524
LCS 680-596524/2-A	Lab Control Sample	Total Recoverable	Water	6020A	596524
680-176927-25 MS	SHM-13-02_FAL19	Dissolved	WG	6020A	596524
680-176927-25 MSD	SHM-13-02_FAL19	Dissolved	WG	6020A	596524

Analysis Batch: 597332

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-2	SHM-13-14S_FAL19	Dissolved	WG	6010C	596525
680-176927-6	SHM-93-18B_FAL19	Dissolved	WG	6010C	596525
680-176927-7	SHL-7_FAL19	Dissolved	WG	6010C	596525
680-176927-17	SHM-13-06_FAL19	Dissolved	WG	6010C	596525
680-176927-18	SHM-13-04_FAL19	Dissolved	WG	6010C	596525
680-176927-19	SHM-13-05_FAL19	Dissolved	WG	6010C	596525
680-176927-20	SHM-10-16_FAL19	Dissolved	WG	6010C	596525
680-176927-21	SHL-DUP08_FAL19	Dissolved	WG	6010C	596525
680-176927-22	SHM-13-07_FAL19	Dissolved	WG	6010C	596525

Metals (Continued)

Analysis Batch: 597332 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-23	SHM-13-14D_FAL19	Dissolved	WG	6010C	596525
680-176927-24	SHM-13-03_FAL19	Dissolved	WG	6010C	596525
680-176927-25	SHM-13-02_FAL19	Dissolved	WG	6010C	596525
680-176927-27	SHM-99-32X_FAL19	Dissolved	WG	6010C	596525
680-176927-29	SHM-11-02_FAL19	Dissolved	WG	6010C	596525
680-176927-30	SHL-EB-111319	Dissolved	WG	6010C	596525
MB 680-596525/1-A	Method Blank	Total Recoverable	Water	6010C	596525
LCS 680-596525/2-A	Lab Control Sample	Total Recoverable	Water	6010C	596525
680-176927-25 MS	SHM-13-02_FAL19	Dissolved	WG	6010C	596525
680-176927-25 MSD	SHM-13-02_FAL19	Dissolved	WG	6010C	596525

Analysis Batch: 597499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-1	SHM-13-08_FAL19	Dissolved	WG	6010C	596597
680-176927-3	SHM-13-15_FAL19	Dissolved	WG	6010C	596597
680-176927-4	SHM-10-10_FAL19	Dissolved	WG	6010C	596597
680-176927-26	SHM-10-05A_FAL19	Dissolved	WG	6010C	596597
680-176927-28	SHL-23_FAL19	Dissolved	WG	6010C	596597
MB 680-596597/1-A	Method Blank	Total Recoverable	Water	6010C	596597
LCS 680-596597/2-A	Lab Control Sample	Total Recoverable	Water	6010C	596597

General Chemistry

Analysis Batch: 478263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-1	SHM-13-08_FAL19	Total/NA	WG	SM 2320B	
680-176927-2	SHM-13-14S_FAL19	Total/NA	WG	SM 2320B	
680-176927-3	SHM-13-15_FAL19	Total/NA	WG	SM 2320B	
680-176927-4	SHM-10-10_FAL19	Total/NA	WG	SM 2320B	
680-176927-6	SHM-93-18B_FAL19	Total/NA	WG	SM 2320B	
680-176927-7	SHL-7_FAL19	Total/NA	WG	SM 2320B	
680-176927-17	SHM-13-06_FAL19	Total/NA	WG	SM 2320B	
680-176927-18	SHM-13-04_FAL19	Total/NA	WG	SM 2320B	
680-176927-19	SHM-13-05_FAL19	Total/NA	WG	SM 2320B	
680-176927-20	SHM-10-16_FAL19	Total/NA	WG	SM 2320B	
680-176927-21	SHL-DUP08_FAL19	Total/NA	WG	SM 2320B	
680-176927-22	SHM-13-07_FAL19	Total/NA	WG	SM 2320B	
680-176927-23	SHM-13-14D_FAL19	Total/NA	WG	SM 2320B	
680-176927-24	SHM-13-03_FAL19	Total/NA	WG	SM 2320B	
680-176927-25	SHM-13-02_FAL19	Total/NA	WG	SM 2320B	
680-176927-26	SHM-10-05A_FAL19	Total/NA	WG	SM 2320B	
680-176927-27	SHM-99-32X_FAL19	Total/NA	WG	SM 2320B	
680-176927-28	SHL-23_FAL19	Total/NA	WG	SM 2320B	
680-176927-29	SHM-11-02_FAL19	Total/NA	WG	SM 2320B	
680-176927-30	SHL-EB-111319	Total/NA	WG	SM 2320B	
MB 280-478263/31	Method Blank	Total/NA	Water	SM 2320B	
MB 280-478263/57	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-478263/30	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 280-478263/56	Lab Control Sample	Total/NA	Water	SM 2320B	
680-176927-29 DU	SHM-11-02_FAL19	Total/NA	WG	SM 2320B	

General Chemistry

Analysis Batch: 479927

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-1	SHM-13-08_FAL19	Dissolved	WG	9060A	
680-176927-2	SHM-13-14S_FAL19	Dissolved	WG	9060A	
680-176927-3	SHM-13-15_FAL19	Dissolved	WG	9060A	
680-176927-4	SHM-10-10_FAL19	Dissolved	WG	9060A	
680-176927-6	SHM-93-18B_FAL19	Dissolved	WG	9060A	
680-176927-7	SHL-7_FAL19	Dissolved	WG	9060A	
680-176927-17	SHM-13-06_FAL19	Dissolved	WG	9060A	
680-176927-18	SHM-13-04_FAL19	Dissolved	WG	9060A	
680-176927-19	SHM-13-05_FAL19	Dissolved	WG	9060A	
680-176927-20	SHM-10-16_FAL19	Dissolved	WG	9060A	
680-176927-21	SHL-DUP08_FAL19	Dissolved	WG	9060A	
680-176927-22	SHM-13-07_FAL19	Dissolved	WG	9060A	
680-176927-23	SHM-13-14D_FAL19	Dissolved	WG	9060A	
680-176927-24	SHM-13-03_FAL19	Dissolved	WG	9060A	
680-176927-25	SHM-13-02_FAL19	Dissolved	WG	9060A	
680-176927-26	SHM-10-05A_FAL19	Dissolved	WG	9060A	
680-176927-27	SHM-99-32X_FAL19	Dissolved	WG	9060A	
680-176927-28	SHL-23_FAL19	Dissolved	WG	9060A	
680-176927-29	SHM-11-02_FAL19	Dissolved	WG	9060A	
680-176927-30	SHL-EB-111319	Dissolved	WG	9060A	
MB 280-479927/5	Method Blank	Dissolved	Water	9060A	
LCS 280-479927/3	Lab Control Sample	Dissolved	Water	9060A	
LCSD 280-479927/4	Lab Control Sample Dup	Dissolved	Water	9060A	
680-176927-1 MS	SHM-13-08_FAL19	Dissolved	WG	9060A	
680-176927-1 MSD	SHM-13-08_FAL19	Dissolved	WG	9060A	
680-176927-25 MS	SHM-13-02_FAL19	Dissolved	WG	9060A	
680-176927-25 MSD	SHM-13-02_FAL19	Dissolved	WG	9060A	

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176927-1

Client Sample ID: SHM-13-08_FAL19

Lab Sample ID: 680-176927-1
Date Collected: 11/11/19 08:30
Matrix: WG
Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	598339	11/27/19 16:55	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	596597	11/17/19 16:32	PG	TAL SAV
Dissolved	Analysis	6010C		1			597499	11/22/19 01:19	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596596	11/17/19 16:30	PG	TAL SAV
Dissolved	Analysis	6020A		1			597053	11/19/19 18:38	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/06/19 18:48	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			478263	11/19/19 17:00	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-13-14S_FAL19

Lab Sample ID: 680-176927-2
Date Collected: 11/11/19 10:20
Matrix: WG
Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	598339	11/27/19 17:08	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	596525	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597332	11/21/19 11:18	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596524	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6020A		1			597249	11/20/19 16:09	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/06/19 19:33	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			478263	11/19/19 17:04	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-13-15_FAL19

Lab Sample ID: 680-176927-3
Date Collected: 11/11/19 11:30
Matrix: WG
Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	598339	11/27/19 17:20	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	596597	11/17/19 16:32	PG	TAL SAV
Dissolved	Analysis	6010C		1			597499	11/22/19 01:24	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596596	11/17/19 16:30	PG	TAL SAV
Dissolved	Analysis	6020A		1			597053	11/19/19 18:41	BJB	TAL SAV
	Instrument ID: ICPMSD									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176927-1

Client Sample ID: SHM-13-15_FAL19

Lab Sample ID: 680-176927-3
Matrix: WG
Date Collected: 11/11/19 11:30
Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/06/19 19:47	SGB	TAL DEN
Total/NA	Analysis	SM 2320B		1			478263	11/19/19 17:11	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-10-10_FAL19

Lab Sample ID: 680-176927-4
Matrix: WG
Date Collected: 11/11/19 13:25
Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	598392	11/28/19 00:43	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	596597	11/17/19 16:32	PG	TAL SAV
Dissolved	Analysis	6010C		1			597499	11/22/19 01:28	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596596	11/17/19 16:30	PG	TAL SAV
Dissolved	Analysis	6020A		1			597053	11/19/19 18:44	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/06/19 20:04	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			478263	11/19/19 17:17	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-93-18B_FAL19

Lab Sample ID: 680-176927-6
Matrix: WG
Date Collected: 11/13/19 10:25
Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	598339	11/27/19 17:33	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	596525	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597332	11/21/19 12:48	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596524	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6020A		1			597249	11/20/19 16:58	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/06/19 20:23	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			478263	11/19/19 17:23	SPG	TAL DEN
	Instrument ID: WC-AT3									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176927-1

Client Sample ID: SHL-7_FAL19

Lab Sample ID: 680-176927-7
Date Collected: 11/13/19 12:25
Matrix: WG
Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	598339	11/27/19 17:46	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	596525	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597332	11/21/19 12:53	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596524	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6020A		1			597249	11/20/19 17:01	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/06/19 20:38	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			478263	11/19/19 17:27	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-13-06_FAL19

Lab Sample ID: 680-176927-17
Date Collected: 11/12/19 08:30
Matrix: WG
Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	598392	11/28/19 01:21	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	596525	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597332	11/21/19 12:01	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596524	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6020A		1			597249	11/20/19 16:29	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/06/19 20:52	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			478263	11/19/19 17:32	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-13-04_FAL19

Lab Sample ID: 680-176927-18
Date Collected: 11/12/19 10:30
Matrix: WG
Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A	DL	5	5 mL	5 mL	598517	11/29/19 20:25	UI	TAL SAV
	Instrument ID: CICH									
Total/NA	Analysis	9056A		1	5 mL	5 mL	598339	11/27/19 19:01	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	596525	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597332	11/21/19 11:56	BCB	TAL SAV
	Instrument ID: ICPE									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176927-1

Client Sample ID: SHM-13-04_FAL19

Lab Sample ID: 680-176927-18
Matrix: WG
Date Collected: 11/12/19 10:30
Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	250 mL	596524	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6020A		1			597249	11/20/19 16:27	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/06/19 21:38	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			478263	11/19/19 17:37	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-13-05_FAL19

Lab Sample ID: 680-176927-19
Matrix: WG
Date Collected: 11/12/19 11:50
Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	598339	11/27/19 19:14	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	596525	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597332	11/21/19 11:47	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596524	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6020A		1			597249	11/20/19 16:21	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/06/19 21:55	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			478263	11/19/19 17:53	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-10-16_FAL19

Lab Sample ID: 680-176927-20
Matrix: WG
Date Collected: 11/13/19 12:35
Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	598339	11/27/19 19:27	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	596525	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597332	11/21/19 11:13	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596524	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6020A		1			597249	11/20/19 16:06	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/06/19 22:12	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			478263	11/19/19 17:59	SPG	TAL DEN
	Instrument ID: WC-AT3									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176927-1

Client Sample ID: SHL-DUP08_FAL19

Lab Sample ID: 680-176927-21

Date Collected: 11/13/19 12:40
Matrix: WG
Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	598339	11/27/19 19:39	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	596525	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597332	11/21/19 11:23	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596524	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6020A		1			597249	11/20/19 16:12	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/06/19 23:13	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			478263	11/19/19 18:05	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-13-07_FAL19

Lab Sample ID: 680-176927-22

Date Collected: 11/11/19 08:35
Matrix: WG
Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	598339	11/27/19 19:52	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	596525	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597332	11/21/19 11:42	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596524	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6020A		1			597249	11/20/19 16:18	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/06/19 23:28	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			478263	11/19/19 18:09	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-13-14D_FAL19

Lab Sample ID: 680-176927-23

Date Collected: 11/11/19 10:15
Matrix: WG
Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	598339	11/27/19 20:05	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	596525	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597332	11/21/19 12:06	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596524	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6020A		1			597249	11/20/19 16:32	BJB	TAL SAV
	Instrument ID: ICPMSD									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176927-1

Client Sample ID: SHM-13-14D_FAL19

Lab Sample ID: 680-176927-23

Date Collected: 11/11/19 10:15
Matrix: WG
Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/06/19 23:45	SGB	TAL DEN
Total/NA	Analysis	SM 2320B		1			478263	11/19/19 18:14	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-13-03_FAL19

Lab Sample ID: 680-176927-24

Date Collected: 11/11/19 11:30
Matrix: WG
Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	598339	11/27/19 20:17	UI	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	596525	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597332	11/21/19 12:10	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596524	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6020A		1			597249	11/20/19 16:41	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/07/19 00:01	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			478263	11/19/19 18:20	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-13-02_FAL19

Lab Sample ID: 680-176927-25

Date Collected: 11/11/19 13:20
Matrix: WG
Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	598402	11/28/19 04:06	SMP	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	596525	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597332	11/21/19 10:46	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596524	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6020A		1			597249	11/20/19 15:46	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/06/19 22:27	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			478263	11/19/19 18:25	SPG	TAL DEN
	Instrument ID: WC-AT3									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176927-1

Client Sample ID: SHM-10-05A_FAL19

Lab Sample ID: 680-176927-26
Matrix: WG
Date Collected: 11/12/19 08:20
Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	598402	11/28/19 04:44	SMP	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	596597	11/17/19 16:32	PG	TAL SAV
Dissolved	Analysis	6010C		1			597499	11/22/19 01:43	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596596	11/17/19 16:30	PG	TAL SAV
Dissolved	Analysis	6020A		1			597053	11/19/19 18:58	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/07/19 00:45	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			478263	11/19/19 18:30	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-99-32X_FAL19

Lab Sample ID: 680-176927-27
Matrix: WG
Date Collected: 11/12/19 09:30
Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	598402	11/28/19 04:56	SMP	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	596525	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597332	11/21/19 12:57	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596524	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6020A		1			597249	11/20/19 17:04	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/07/19 01:06	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			478263	11/19/19 18:34	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHL-23_FAL19

Lab Sample ID: 680-176927-28
Matrix: WG
Date Collected: 11/13/19 09:05
Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	598402	11/28/19 05:09	SMP	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	596597	11/17/19 16:32	PG	TAL SAV
Dissolved	Analysis	6010C		1			597499	11/22/19 01:33	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596596	11/17/19 16:30	PG	TAL SAV
Dissolved	Analysis	6020A		1			597053	11/19/19 18:52	BJB	TAL SAV
	Instrument ID: ICPMSD									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-176927-1

Client Sample ID: SHL-23_FAL19

Date Collected: 11/13/19 09:05
Date Received: 11/14/19 09:20

Lab Sample ID: 680-176927-28

Matrix: WG

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/07/19 01:21	SGB	TAL DEN
Total/NA	Analysis	SM 2320B		1			478263	11/19/19 18:39	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-11-02_FAL19

Date Collected: 11/13/19 11:50
Date Received: 11/14/19 09:20

Lab Sample ID: 680-176927-29

Matrix: WG

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	598402	11/28/19 05:21	SMP	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	596525	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597332	11/21/19 12:15	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596524	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6020A		1			597249	11/20/19 16:44	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/07/19 01:38	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			478263	11/19/19 19:06	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHL-EB-111319

Date Collected: 11/13/19 07:40
Date Received: 11/14/19 09:20

Lab Sample ID: 680-176927-30

Matrix: WG

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	598402	11/28/19 05:34	SMP	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	596525	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597332	11/21/19 12:43	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596524	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6020A		1			597249	11/20/19 16:55	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/07/19 01:52	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			478263	11/19/19 19:16	SPG	TAL DEN
	Instrument ID: WC-AT3									

Laboratory References:

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

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2, Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2, Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

08/09

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: SW9060A/FLDFLT (B) 3	SW9056A (A) 5	SW6010C/FLDFLT (B) 9	SW6020A/FLDFLT (B) 9	A2320B (A) 46	Location ID	Sample Type	Depth (ft bgs) Top - Bottom	Comments	Cooler
	SHM-13-08	WG	11/11/19	830	VGA	X	X	X	X	X		N1			1
	SHM-13-14S	WG	11/11/19	1020	VGA	X	X	X	X	X		N1			1
	SHM-13-15	WG	11/11/19	1130	VGA	X	X	X	X	X		N1			1
	SHM-10-10	WG	11/11/19	1325	VGA	X	X	X	X	X		N1			1
1	32M-01-15XBR		11/12/19	845	VGA	X	X	X	X	X		N1			
1	32M-01-16XBR		11/12/19	915	VGA	X	X	X	X	X		N1			
1	SHM-93-01A		11/13/19	845	VGA	X	X	X	X	X		N1			
1	SHM-93-18B		11/13/19	1025	VGA	X	X	X	X	X		N1			
1	SHL-7		11/13/19	1215	VGA	X	X	X	X	X		N1			
1	~~SHL-FRB-111319~~		~~11/13/19~~	~~700~~	VGA										
1															

680-176927-01 Chain of Custody

Relinquished by: *(Signature)*	Date	Time
	11/13/19	
	11-13-19	1640

Received by: *(Signature)*	Date	Time
	11-13-19	1640
	11-14-19	920

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-ADD-1107

Project Name: Long Term Monitoring	Laboratory: TestAmerica Laboratories, Inc., Savannah, GA	Event: KOMAN, Long Term Monitoring, SHL Supplemental Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier 912.354.7858 jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 5102 LaRoche Avenue, Savannah, GA 31404	

Comments:
SW6010C/FLDFLT (B) = Fe Mn

NOTE: PLEASE ANALYZE FOR THE SELECT LIST OF ANALYTES IN EMAIL FROM LEKES.

FD - field dup

Equipment:

Analytical Test Method

Code	Matrix
WG	Ground Water
WQ	Water Quality Control Matrix

Code	Container/Preservative
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
29	3 x 40mL glass VOA Vials, HCl, pH < 2, Cool < 6°C

0.8/0.9

Event: KOMAN, Long Term Monitoring, SHL Supplemental Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	SW6010C/FLDFLT (B) 9	SW6020A/FLDFLT (B) 9	SW8260B - VOCs 29	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
1	SHL-10_NOV19	WG	11/13/19	1035	BrA	X	X	X	SHL-10	N1	24.00	39.00		1
2	SHL-11_NOV19	WG	11/11/19	1150	KE	X	X	X	SHL-11	N1	12.00	27.00		1
3	SHL-19_NOV19	WG	11/11/19	1025	KE	X	X	X	SHL-19	N1	20.00	30.00		1
4	SHL-20_NOV19	WG	11/11/19	1320	KE	X	X	X	SHL-20	N1	39.00	49.00		1
5	SHM-93-22C_NOV19	WG	11/11/19	0840	KE	X	X	X	SHM-93-22C	N1	124.30	134.30		1
6	TRIPBLANK_NOV19	WQ	11/13/19	—	—			X	FIELDQC	TB1	0.00	0.00		
7	SHM-99-32X-NOV19	WG	11/13/19	0905	KE	X	X	X	SHM-99-32X	N1	74.16	84.16		
8	SHM-10-16-NOV19	WG	11/13/19	1235	KE	X	X	X	SHM-10-16	N1	77.51	87.51		
9	SHL-DUP08-NOV19	WG	11/13/19	1240	KE	X	X	X	SHM-10-16	FD	77.51	87.51		
10														
11														

680-176927-02 Chain of Custody

Relinquished by: *(Signature)*	Date	Time
	11/13/19	1400
	11-13-19	1700

Received by: *(Signature)*	Date	Time
	11-13-19	1700
	11/14/19	920

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC
FD = field dup

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2, Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2, Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

0.8/0.9

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: SW9060A/FLDFLT (B) 3	SW9056A (A) 5	SW6010C/FLDFLT (B) 9	SW6020A/FLDFLT (B) 9	A2320B (A) 46	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
	SHM-13-06_FAL19	WG	11/12/19	0830	KE	X	X	X	X	X	SHM-13-06	N1	35.66	45.66		1
	SHM-13-04_FAL19	WG	11/12/19	1030	KE	X	X	X	X	X	SHM-13-04	N1	19.68	29.68		1
	SHM-13-05_FAL19	WG	11/12/19	1150	KE	X	X	X	X	X	SHM-13-05	N1	74.75	84.75		1
	SHM-10-16_FAL19	WG	11/13/19	1235	KE	X	X	X	X	X	SHM-10-16	N1	77.51	87.51		1
1	SHL-DUP08_FAL19	WG	11/13/19	1240	KE	X	X	X	X	X	SHM-10-16	FD	77.51	87.51		
1																
1																
1																
1																
1																
1																

680-176927-03 Chain of Custody

Relinquished by: *(Signature)*	Date	Time
	11/13/19	1400
	11-13-19	1700

Received by: *(Signature)*	Date	Time
	11-13-19	1940
	11-14-19	920

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2; Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

0.8/09

						Analytical Test Method	SW9060A/FLDFLT (B)	SW9056A (A)	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	A2320B (A)					
Event: KOMAN, Long Term Monitoring, SHL Fall 2019							3	5	9	9	46					
	Sample ID	Matrix	Date	Time	Samp Init.							Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
	SHM-13-07_FAL19	WG	11/11/19	0835	B/A	X	X	X	X	X		SHM-13-07	N1				1
	SHM-13-14D-FAL19	WG	11/11/19	1015	B/A	X	X	X	X	X		SHM-13-14D	N1				1
	SHM-13-03-FAL19	WG	11/11/19	1130	B/A	X	X	X	X	X		SHM-13-03	N1				1
	SHM-13-02_FAL19	WG	11/11/19	1320	B/A	X	X	X	X	X		SHM-13-02	N1			MS/MSD	1
1	SHM-10-05A-FAL19	WG	11/12/19	0820	B/A	X	X	X	X	X		SHM-10-05A	N1				
1	SHM-99-32X_FAL19	WG	11/12/19	0930	B/A	X	X	X	X	X		SHM-99-32X	N1				
1	SHL-23_FAL19	WG	11/13/19	0905	B/A	X	X	X	X	X		SHL-23	N1				
1	SHM-11-02_FAL19	WG	11/13/19	1150	B/A	X	X	X	X	X		SHM-11-02	N1				
1	SHL-EB-~~MC~~111319	WG	11/13/19	0940	B/A	X	X	X	X	X		Equipment Blank	EB				
1																	
1																	

680-176927-04 Chain of Custody

Relinquished by: *(Signature)*	Date	Time
	11/13/19	1740
	11/13/19	1800

Received by: *(Signature)*	Date	Time
	11-13-19	1940
	11-14-19	520

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

KGS

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2, Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2, Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

680-176927 Chain of Custody

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: SW9060A/FLDFLT (B) 3	SW9056A (A) 5	SW6010C/FLDFLT (B) 9	SW6020A/FLDFLT (B) 9	A2320B (A) 46	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
	SHM-13-08	WG	11/11/19	830	VBA	X	X	X	X	X		N1				1
	SHM-13-14S	WG	11/11/19	1020	VBA	X	X	X	X	X		N1				1
	SHM-13-15	WG	11/11/19	1130	VBA	X	X	X	X	X		N1				1
	SHM-10-10	WG	11/11/19	1325	VBA	X	X	X	X	X		N1				1
1	32M-01-15XBR		11/12/19	825	VBA	X	X	X	X	X		N1				
1	32M-01-16XBR		11/12/19	915	VBA	X	X	X	X	X		N1				
1	SHM-93-01A		11/13/19	845	VBA	X	X	X	X	X		N1				
1	SHM-93-18B		11/13/19	1025	VBA	X	X	X	X	X		N1				
1	SHL-7		11/13/19	1225	VBA	X	X	X	X	X		N1				
1	~~SHL-FRB-111319~~		~~11/13/19~~	~~700~~	~~VBA~~											
1																

Relinquished by: *(Signature)*	Date	Time
	11/13/19	
	11-13-19	1845

Received by: *(Signature)*	Date	Time
	11-13-19	1845
Julian Fuhi	11-14-19	0920

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

1.6, 0.6°C +0.9 IR 8 11-14-19

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

FD = Field dup

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2; Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

						Analytical Test Method	SW9060A/FLDFLT (B)	SW9056A (A)	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	A2320B (A)					
	Event: KOMAN, Long Term Monitoring, SHL Fall 2019						3	5	9	9	46					
	Sample ID	Matrix	Date	Time	Samp Init.							Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
	SHM-13-06_FAL19	WG	11/12/19	0930	KE		X	X	X	X	X	SHM-13-06	N1	35.66	45.66		1
	SHM-13-04_FAL19	WG	11/12/19	1030	KE		X	X	X	X	X	SHM-13-04	N1	19.68	29.68		1
	SHM-13-05_FAL19	WG	11/12/19	1150	KE		X	X	X	X	X	SHM-13-05	N1	74.75	84.75		1
	SHM-10-16_FAL19	WG	11/13/19	1235	KE		X	X	X	X	X	SHM-10-16	N1	77.51	87.51		1
1	SHL-DUP08_FAL19	WG	11/13/19	1240	KE		X	X	X	X	X	SHM-10-16	FD	77.51	87.51		
1																	
1																	
1																	
1																	
1																	
1																	

Relinquished by: *(Signature)*	Date	Time
	11/13/19	1400
	11/13-19	

Received by: *(Signature)*	Date	Time
	11-13-19	1400
Julian Fuhr	11-14-19	0920

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2, Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2, Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	SW9060A/FLDFLT (B)	SW9056A (A)	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	A2320B (A)	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
					Analytical Test Method	3	5	9	9	46						
	SHM-13-07_FAL19	WG	11/11/19	0835	B:A	X	X	X	X	X	SHM-13-07	N1				1
	SHM-13-140_FAL19	WG	11/11/19	1015	B:A	X	X	X	X	X	SHM-13-140	N1				1
	SHM-13-03_FAL19	WG	11/11/19	1130	B:A	X	X	X	X	X	SHM-13-03	N1				1
	SHM-13-02_FAL19	WG	11/11/19	1320	B:A	X	X	X	X	X	SHM-13-02	N1			MS/MSD	1
1	SHM-10-05A_FAL19	WG	11/12/19	0820	B:A	X	X	X	X	X	SHM-10-05A	N1				
1	SHM-GG-32X_FAL19	WG	11/12/19	0930	B:A	X	X	X	X	X	SHM-GG-32X	N1				
1	SHL-23_FAL19	WG	11/13/19	0905	B:A	X	X	X	X	X	SHL-23	N1				
1	SHM-11-02_FAL19	WG	11/13/19	1150	B:A	X	X	X	X	X	SHM-11-02	N1				
1	SHL-EB-[illegible]11319	WG	11/13/19	0940	B:A	X	X	X	X	X	Equipment Blank	EB				
1																
1																

Relinquished by: *(Signature)*	Date	Time
[signature]	11/13/19	[illegible]
[signature]	11/13/19	[illegible]

Received by: *(Signature)*	Date	Time
[signature]	11-13-19	[illegible]
[signature]	11-14-19	0920

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-ADD-1107

KGS

Project Name: Long Term Monitoring	Laboratory: TestAmerica Laboratories, Inc., Savannah, GA	Event: KOMAN, Long Term Monitoring, SHL Supplemental Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier 912.354.7858 jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 5102 LaRoche Avenue, Savannah, GA 31404	

Comments:
SW6010C/FLDFLT (B) = Fe Mn

NOTE: PLEASE ANALYZE FOR THE SELECT LIST OF ANALYTES IN EMAIL FROM LEKES.

FD - field dup

Equipment:

Code	Matrix
WG	Ground Water
WQ	Water Quality Control Matrix

Code	Container/Preservative
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
29	3 x 40mL glass VOA Vials, HCl, pH < 2; Cool < 6°C

Event: KOMAN, Long Term Monitoring, SHL Supplemental Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	SW8260B - VOCs	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
						9	9	29						
1	SHL-10_NOV19	WG	11/13/19	1035	BrA	X	X	X	SHL-10	N1	24.00	39.00		1
2	SHL-11_NOV19	WG	11/11/19	1150	KE	X	X	X	SHL-11	N1	12.00	27.00		1
3	SHL-19_NOV19	WG	11/11/19	1025	KE	X	X	X	SHL-19	N1	20.00	30.00		1
4	SHL-20_NOV19	WG	11/11/19	1320	KE	X	X	X	SHL-20	N1	39.00	49.00		1
5	SHM-93-22C_NOV19	WG	11/11/19	0840	KE	X	X	X	SHM-93-22C	N1	124.30	134.30		1
6	TRIPBLANK_NOV19	WQ	11/13/19	—	—			X	FIELDQC	TB1	0.00	0.00		1
7	SHM-99-32X_NOV19	WG	11/13/19	0905	KE	X	X	X	SHM-99-32X	N1	74.16	84.16		1
8	SHM-10-16-NOV19	WG	11/13/19	1235	KE	X	X	X	SHM-10-16	N1	77.51	87.51		1
9	SHL-DUP08_NOV19	WQ	11/13/19	1240	KE	X	X	X	SHM-10-16	FD	77.51	87.51		1
10														
11														

Relinquished by: *(Signature)*	Date	Time
[signature]	11/13/19	1400
[signature]	11-13-19	[illegible]

Received by: *(Signature)*	Date	Time
[signature]	11-13-19	[illegible]
[signature]	11-14-19	0920

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-176927-1

Login Number: 176927
List Number: 1
Creator: Sims, Robert D

List Source: Eurofins TestAmerica, Savannah

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

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-176927-1

Login Number: 176927
List Number: 2
Creator: Lubin, Julius C

List Source: Eurofins TestAmerica, Denver

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

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-176927-1
Project/Site: LTM - SHL Fall 2019

Laboratory: Eurofins TestAmerica, Savannah

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

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-20
Alaska	State	GA00006	06-30-20
Alaska (UST)	State	17-016	09-30-20
ANAB	Dept. of Defense ELAP	L2463	09-22-22
ANAB	ISO/IEC 17025	L2463.01	09-22-22
Arkansas DEQ	State	19-015-0	02-01-20
California	State	2939	06-30-20
Colorado	State	GA00006	12-31-19
Connecticut	State	PH-0161	03-31-21
Florida	NELAP	E87052	06-30-20
GA Dept. of Agriculture	State Program	N/A	06-12-20
Georgia	State	E87052	06-30-20
Georgia (DW)	State	803	06-30-20
Guam	State	19-007R	04-17-20
Hawaii	State	<cert No.>	06-30-20
Illinois	NELAP	004547	11-27-20
Indiana	State	C-GA-02	06-30-20
Iowa	State	353	09-22-20
Kansas	NELAP	E-10322	10-15-20
Kentucky (DW)	State	KY90084	12-31-19
Kentucky (UST)	State	<cert No.>	06-30-20
Kentucky (WW)	State	KY90084	12-31-19
Louisiana	NELAP	02011	06-30-20
Louisiana (DW)	State	LA009	12-31-19
Maine	State	GA00006	09-26-20
Maryland	State	250	12-31-19
Massachusetts	State	M-GA006	06-30-20
Michigan	State	9925	06-30-20
Mississippi	State	<cert No.>	06-30-20
Nebraska	State	NE-OS-7-04	06-30-20
New Hampshire	NELAP	2096	05-29-20
New Jersey	NELAP	GA769	06-30-20
New Mexico	State	GA00006	06-30-20
New York	NELAP	10842	04-01-20
North Carolina (DW)	State	13701	07-31-20
North Carolina (WW/SW)	State	269	12-31-19
Oklahoma	State	9984	08-31-20
Pennsylvania	NELAP	68-00474	06-30-20
Puerto Rico	State	GA00006	01-01-20
South Carolina	State	98001	06-30-20
Tennessee	State	02961	06-30-20
Texas	NELAP	T1047004185-19-14	11-30-19
Texas	TCEQ Water Supply	T104704185	09-23-20
US Fish & Wildlife	US Federal Programs	LE058448-0	07-31-20
USDA	US Federal Programs	P330-18-00313	10-29-21
Virginia	NELAP	10509	06-14-20
Washington	State	C805	06-10-20
West Virginia (DW)	State	9950C	12-31-19
West Virginia DEP	State	094	11-30-19

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-176927-1
Project/Site: LTM - SHL Fall 2019

Laboratory: Eurofins TestAmerica, Savannah (Continued)

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999819810	08-31-20
Wyoming	State	8TMS-L	06-30-20 *

Laboratory: Eurofins TestAmerica, Denver

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

Authority	Program	Identification Number	Expiration Date
A2LA	DoD	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

Laboratory Job ID: 680-176927-2
Client Project/Site: LTM - SHL Supplemental Fall 2019

For:
KOMAN Government Solutions, LLC
293 Boston Post Road West
Suite 100
Marlborough, Massachusetts 01752

Attn: Laurie Ekes

Authorized for release by:
11/30/2019 9:24:40 AM

Jerry Lanier, Project Manager I
(912)250-0281
jerry.lanier@testamericainc.com

LINKS

Review your project results through TotalAccess

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 680-176927-2

Laboratory: Eurofins TestAmerica, Savannah

Narrative

CASE NARRATIVE

Client: KOMAN Government Solutions, LLC

Project: LTM - SHL Supplemental Fall 2019

Report Number: 680-176927-2

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 the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 11/14/2019 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.9º C, 1.5º C and 2.5º C.

VOLATILE ORGANIC COMPOUNDS (GC/MS)

Samples SHL-10_NOV19 (680-176927-8), SHL-11_NOV19 (680-176927-9), SHL-19_NOV19 (680-176927-10), SHL-20_NOV19 (680-176927-11), SHM-93-22C_NOV19 (680-176927-12), TRIPBLANK_NOV19 (680-176927-13), SHM-99-32X_NOV19 (680-176927-14), SHM-10-16_NOV19 (680-176927-15) and SHL-DUP08_NOV19 (680-176927-16) were analyzed for Volatile Organic Compounds (GC/MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 11/21/2019, 11/25/2019 and 11/27/2019.

Reanalysis of the following samples were performed outside of the analytical holding time due to no capping CCV in the first run: SHL-11_NOV19 (680-176927-9), SHL-19_NOV19 (680-176927-10) and SHL-20_NOV19 (680-176927-11).

Surrogate recovery for the following sample was outside the upper control limit: SHL-20_NOV19 (680-176927-11). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

The closing continuing calibration verification (CCVC) analyzed in batch 597217 was outside the method criteria for the 12 hour window. The data integrity was not impacted and the data has been reported and addressed. All other QC criteria have been met

The closing calibration verification (CCVC 680-597781/30) ran outside of the method specific 12 hour window. The sample QC and capping was within acceptable limits therefore; the data has been qualified and reported.

The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 680-597781 recovered outside control limits for the following analytes: 1,2-Dichlorobenzene.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-597217.

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

METALS (ICP) - DISSOLVED

Samples SHL-10_NOV19 (680-176927-8), SHL-11_NOV19 (680-176927-9), SHL-19_NOV19 (680-176927-10), SHL-20_NOV19 (680-176927-11), SHM-93-22C_NOV19 (680-176927-12) and SHM-99-32X_NOV19 (680-176927-14) were analyzed for Metals (ICP) - Dissolved in accordance with EPA SW-846 Method 6010C. The samples were prepared on 11/16/2019, 11/17/2019 and 11/26/2019 and analyzed on 11/21/2019, 11/22/2019 and 11/27/2019.

Iron was detected in method blank MB 680-596525/1-A at a level that was above the method detection limit but below the reporting limit.

Job ID: 680-176927-2 (Continued)

Laboratory: Eurofins TestAmerica, Savannah (Continued)

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. Iron was detected in method blank MB 680-596597/1-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. Refer to the QC report for details.

Manganese and Sodium failed the recovery criteria low for the MS of sample 680-176927-25 in batch 680-597332.

Manganese failed the recovery criteria high for the MSD of sample 680-176927-25 in batch 680-597332.

Refer to the QC report for details.

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

METALS (ICPMS) - DISSOLVED

Samples SHL-10_NOV19 (680-176927-8), SHL-11_NOV19 (680-176927-9), SHL-19_NOV19 (680-176927-10), SHL-20_NOV19 (680-176927-11), SHM-93-22C_NOV19 (680-176927-12) and SHM-99-32X_NOV19 (680-176927-14) were analyzed for Metals (ICPMS) - Dissolved in accordance with EPA SW-846 Method 6020A. The samples were prepared on 11/16/2019, 11/17/2019 and 11/26/2019 and analyzed on 11/19/2019, 11/20/2019 and 11/26/2019.

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

Sample Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-176927-2
Project/Site: LTM - SHL Supplemental Fall 2019

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
680-176927-8	SHL-10_NOV19	WG	11/13/19 10:35	11/14/19 09:20	
680-176927-9	SHL-11_NOV19	WG	11/11/19 11:50	11/14/19 09:20	
680-176927-10	SHL-19_NOV19	WG	11/11/19 10:25	11/14/19 09:20	
680-176927-11	SHL-20_NOV19	WG	11/11/19 13:20	11/14/19 09:20	
680-176927-12	SHM-93-22C_NOV19	WG	11/11/19 08:40	11/14/19 09:20	
680-176927-13	TRIPBLANK_NOV19	WQ	11/13/19 00:00	11/14/19 09:20	
680-176927-14	SHM-99-32X_NOV19	WG	11/13/19 09:05	11/14/19 09:20	
680-176927-15	SHM-10-16_NOV19	WG	11/13/19 12:35	11/14/19 09:20	
680-176927-16	SHL-DUP08_NOV19	WG	11/13/19 12:40	11/14/19 09:20	

Method Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-176927-2
Project/Site: LTM - SHL Supplemental Fall 2019

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV
6020A	Metals (ICP/MS)	SW846	TAL SAV
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL SAV
5030B	Purge and Trap	SW846	TAL SAV

Protocol References:

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

Laboratory References:

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Client: KOMAN Government Solutions, LLC
Job ID: 680-176927-2
Project/Site: LTM - SHL Supplemental Fall 2019

Qualifiers

GC/MS VOA

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

Metals

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

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)

Client Sample ID: SHL-10_NOV19

Lab Sample ID: 680-176927-8

Date Collected: 11/13/19 10:35

Matrix: WG

Date Received: 11/14/19 09:20

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichlorobenzene	1.0	U	1.0	1.0	0.37	ug/L		11/25/19 15:36	1
1,2-Dichloroethane	1.0	U M Q	1.0	1.0	0.50	ug/L		11/25/19 15:36	1
1,4-Dichlorobenzene	1.0	U	1.0	1.0	0.46	ug/L		11/25/19 15:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*84*		*81 - 118*		*11/25/19 15:36*	*1*
4-Bromofluorobenzene (Surr)	*98*		*85 - 114*		*11/25/19 15:36*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 119*		*11/25/19 15:36*	*1*
Toluene-d8 (Surr)	*104*		*89 - 112*		*11/25/19 15:36*	*1*

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	70	U	200	70	24	ug/L		11/21/19 12:34	1
Chromium	4.0	U	10	4.0	1.6	ug/L		11/21/19 12:34	1
Iron	**47000**		50	50	17	ug/L		11/21/19 12:34	1
Lead	10	U	10	10	3.9	ug/L		11/21/19 12:34	1
Manganese	**1800**		10	3.0	1.0	ug/L		11/21/19 12:34	1
Nickel	**6.4**	**J**	40	5.0	2.1	ug/L		11/21/19 12:34	1
Sodium	**28000**		1000	1000	480	ug/L		11/21/19 12:34	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	**880**		3.0	3.0	1.5	ug/L		11/20/19 16:50	1

Client Sample ID: SHL-11_NOV19

Lab Sample ID: 680-176927-9

Date Collected: 11/11/19 11:50

Matrix: WG

Date Received: 11/14/19 09:20

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichlorobenzene	1.0	U	1.0	1.0	0.37	ug/L		11/21/19 17:22	1
1,2-Dichloroethane	1.0	U M	1.0	1.0	0.50	ug/L		11/21/19 17:22	1
1,4-Dichlorobenzene	1.0	U	1.0	1.0	0.46	ug/L		11/21/19 17:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*81 - 118*		*11/21/19 17:22*	*1*
4-Bromofluorobenzene (Surr)	*90*		*85 - 114*		*11/21/19 17:22*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 119*		*11/21/19 17:22*	*1*
Toluene-d8 (Surr)	*103*		*89 - 112*		*11/21/19 17:22*	*1*

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichlorobenzene	1.0	U H	1.0	1.0	0.37	ug/L		11/27/19 20:36	1
1,2-Dichloroethane	1.0	U H	1.0	1.0	0.50	ug/L		11/27/19 20:36	1
1,4-Dichlorobenzene	**0.72**	**J H**	1.0	1.0	0.46	ug/L		11/27/19 20:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*81 - 118*		*11/27/19 20:36*	*1*
4-Bromofluorobenzene (Surr)	*100*		*85 - 114*		*11/27/19 20:36*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 119*		*11/27/19 20:36*	*1*
Toluene-d8 (Surr)	*97*		*89 - 112*		*11/27/19 20:36*	*1*

Client Sample ID: SHL-11_NOV19

Lab Sample ID: 680-176927-9

Date Collected: 11/11/19 11:50

Matrix: WG

Date Received: 11/14/19 09:20

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	70	U	200	70	24	ug/L		11/27/19 11:26	1
Chromium	4.0	U	10	4.0	1.6	ug/L		11/27/19 11:26	1
Iron	**52000**		50	50	17	ug/L		11/27/19 11:26	1
Lead	10	U	10	10	3.9	ug/L		11/27/19 11:26	1
Manganese	**1800**		10	3.0	1.0	ug/L		11/27/19 11:26	1
Nickel	**4.3**	**J**	40	5.0	2.1	ug/L		11/27/19 11:26	1
Sodium	**29000**		1000	1000	480	ug/L		11/27/19 11:26	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	**910**		3.0	3.0	1.5	ug/L		11/26/19 15:54	1

Client Sample ID: SHL-19_NOV19

Lab Sample ID: 680-176927-10

Date Collected: 11/11/19 10:25

Matrix: WG

Date Received: 11/14/19 09:20

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichlorobenzene	1.0	U	1.0	1.0	0.37	ug/L		11/21/19 17:45	1
1,2-Dichloroethane	1.0	U M	1.0	1.0	0.50	ug/L		11/21/19 17:45	1
1,4-Dichlorobenzene	1.0	U	1.0	1.0	0.46	ug/L		11/21/19 17:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*81 - 118*		*11/21/19 17:45*	*1*
4-Bromofluorobenzene (Surr)	*105*		*85 - 114*		*11/21/19 17:45*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 119*		*11/21/19 17:45*	*1*
Toluene-d8 (Surr)	*105*		*89 - 112*		*11/21/19 17:45*	*1*

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichlorobenzene	1.0	U H	1.0	1.0	0.37	ug/L		11/27/19 21:00	1
1,2-Dichloroethane	1.0	U H	1.0	1.0	0.50	ug/L		11/27/19 21:00	1
1,4-Dichlorobenzene	1.0	U H	1.0	1.0	0.46	ug/L		11/27/19 21:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*81 - 118*		*11/27/19 21:00*	*1*
4-Bromofluorobenzene (Surr)	*102*		*85 - 114*		*11/27/19 21:00*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 119*		*11/27/19 21:00*	*1*
Toluene-d8 (Surr)	*98*		*89 - 112*		*11/27/19 21:00*	*1*

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	70	U	200	70	24	ug/L		11/21/19 12:20	1
Chromium	4.0	U	10	4.0	1.6	ug/L		11/21/19 12:20	1
Iron	**80**		50	50	17	ug/L		11/21/19 12:20	1
Lead	10	U	10	10	3.9	ug/L		11/21/19 12:20	1
Manganese	**2.8**	**J**	10	3.0	1.0	ug/L		11/21/19 12:20	1
Nickel	5.0	U	40	5.0	2.1	ug/L		11/21/19 12:20	1
Sodium	**4500**		1000	1000	480	ug/L		11/21/19 12:20	1

Client Sample ID: SHL-19_NOV19

Lab Sample ID: 680-176927-10

Date Collected: 11/11/19 10:25

Matrix: WG

Date Received: 11/14/19 09:20

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	**3.0**		3.0	3.0	1.5	ug/L		11/20/19 16:47	1

Client Sample ID: SHL-20_NOV19

Lab Sample ID: 680-176927-11

Date Collected: 11/11/19 13:20

Matrix: WG

Date Received: 11/14/19 09:20

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichlorobenzene	1.0	U	1.0	1.0	0.37	ug/L		11/21/19 18:09	1
1,2-Dichloroethane	1.0	U M	1.0	1.0	0.50	ug/L		11/21/19 18:09	1
1,4-Dichlorobenzene	1.0	U	1.0	1.0	0.46	ug/L		11/21/19 18:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*81 - 118*		*11/21/19 18:09*	*1*
4-Bromofluorobenzene (Surr)	*94*		*85 - 114*		*11/21/19 18:09*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 119*		*11/21/19 18:09*	*1*
Toluene-d8 (Surr)	*107*		*89 - 112*		*11/21/19 18:09*	*1*

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichlorobenzene	1.0	U H	1.0	1.0	0.37	ug/L		11/27/19 21:24	1
1,2-Dichloroethane	1.0	U H	1.0	1.0	0.50	ug/L		11/27/19 21:24	1
1,4-Dichlorobenzene	1.0	U H	1.0	1.0	0.46	ug/L		11/27/19 21:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*81 - 118*		*11/27/19 21:24*	*1*
4-Bromofluorobenzene (Surr)	*116*	*Q*	*85 - 114*		*11/27/19 21:24*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 119*		*11/27/19 21:24*	*1*
Toluene-d8 (Surr)	*98*		*89 - 112*		*11/27/19 21:24*	*1*

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	70	U	200	70	24	ug/L		11/21/19 11:52	1
Chromium	4.0	U	10	4.0	1.6	ug/L		11/21/19 11:52	1
Iron	**17**	**J**	50	50	17	ug/L		11/21/19 11:52	1
Lead	10	U	10	10	3.9	ug/L		11/21/19 11:52	1
Manganese	**2.1**	**J**	10	3.0	1.0	ug/L		11/21/19 11:52	1
Nickel	**3.2**	**J**	40	5.0	2.1	ug/L		11/21/19 11:52	1
Sodium	**27000**		1000	1000	480	ug/L		11/21/19 11:52	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	**1.8**	**J**	3.0	3.0	1.5	ug/L		11/20/19 16:24	1

Client Sample ID: SHM-93-22C_NOV19

Lab Sample ID: 680-176927-12

Date Collected: 11/11/19 08:40

Matrix: WG

Date Received: 11/14/19 09:20

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichlorobenzene	1.0	U	1.0	1.0	0.37	ug/L		11/21/19 21:25	1
1,2-Dichloroethane	1.0	U M	1.0	1.0	0.50	ug/L		11/21/19 21:25	1

Client Sample ID: SHM-93-22C_NOV19

Lab Sample ID: 680-176927-12

Date Collected: 11/11/19 08:40

Matrix: WG

Date Received: 11/14/19 09:20

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,4-Dichlorobenzene	1.0	U	1.0	1.0	0.46	ug/L		11/21/19 21:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*81 - 118*		*11/21/19 21:25*	*1*
4-Bromofluorobenzene (Surr)	*96*		*85 - 114*		*11/21/19 21:25*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 119*		*11/21/19 21:25*	*1*
Toluene-d8 (Surr)	*106*		*89 - 112*		*11/21/19 21:25*	*1*

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	70	U	200	70	24	ug/L		11/22/19 01:38	1
Chromium	4.0	U	10	4.0	1.6	ug/L		11/22/19 01:38	1
Iron	**47**	**J**	50	50	17	ug/L		11/22/19 01:38	1
Lead	10	U	10	10	3.9	ug/L		11/22/19 01:38	1
Manganese	**2.6**	**J**	10	3.0	1.0	ug/L		11/22/19 01:38	1
Nickel	**2.2**	**J**	40	5.0	2.1	ug/L		11/22/19 01:38	1
Sodium	**14000**		1000	1000	480	ug/L		11/22/19 01:38	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	**4.2**		3.0	3.0	1.5	ug/L		11/19/19 18:55	1

Client Sample ID: TRIPBLANK_NOV19

Lab Sample ID: 680-176927-13

Date Collected: 11/13/19 00:00

Matrix: WQ

Date Received: 11/14/19 09:20

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichlorobenzene	1.0	U	1.0	1.0	0.37	ug/L		11/25/19 14:21	1
1,2-Dichloroethane	1.0	U M Q	1.0	1.0	0.50	ug/L		11/25/19 14:21	1
1,4-Dichlorobenzene	1.0	U	1.0	1.0	0.46	ug/L		11/25/19 14:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*86*		*81 - 118*		*11/25/19 14:21*	*1*
4-Bromofluorobenzene (Surr)	*94*		*85 - 114*		*11/25/19 14:21*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 119*		*11/25/19 14:21*	*1*
Toluene-d8 (Surr)	*105*		*89 - 112*		*11/25/19 14:21*	*1*

Client Sample ID: SHM-99-32X_NOV19

Lab Sample ID: 680-176927-14

Date Collected: 11/13/19 09:05

Matrix: WG

Date Received: 11/14/19 09:20

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichlorobenzene	1.0	U	1.0	1.0	0.37	ug/L		11/25/19 16:01	1
1,2-Dichloroethane	1.0	U M Q	1.0	1.0	0.50	ug/L		11/25/19 16:01	1
1,4-Dichlorobenzene	1.0	U	1.0	1.0	0.46	ug/L		11/25/19 16:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*81 - 118*		*11/25/19 16:01*	*1*
4-Bromofluorobenzene (Surr)	*97*		*85 - 114*		*11/25/19 16:01*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 119*		*11/25/19 16:01*	*1*

Client Sample ID: SHM-99-32X_NOV19

Lab Sample ID: 680-176927-14

Date Collected: 11/13/19 09:05

Matrix: WG

Date Received: 11/14/19 09:20

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	*105*		*89 - 112*		*11/25/19 16:01*	*1*

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	70	U	200	70	24	ug/L		11/21/19 11:37	1
Chromium	4.0	U	10	4.0	1.6	ug/L		11/21/19 11:37	1
Iron	**7100**		50	50	17	ug/L		11/21/19 11:37	1
Lead	10	U	10	10	3.9	ug/L		11/21/19 11:37	1
Manganese	**4600**		10	3.0	1.0	ug/L		11/21/19 11:37	1
Nickel	5.0	U	40	5.0	2.1	ug/L		11/21/19 11:37	1
Sodium	**29000**		1000	1000	480	ug/L		11/21/19 11:37	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	**55**		3.0	3.0	1.5	ug/L		11/20/19 16:15	1

Client Sample ID: SHM-10-16_NOV19

Lab Sample ID: 680-176927-15

Date Collected: 11/13/19 12:35

Matrix: WG

Date Received: 11/14/19 09:20

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichlorobenzene	1.0	U M	1.0	1.0	0.37	ug/L		11/25/19 16:26	1
1,2-Dichloroethane	1.0	U M Q	1.0	1.0	0.50	ug/L		11/25/19 16:26	1
1,4-Dichlorobenzene	**0.87**	**J**	1.0	1.0	0.46	ug/L		11/25/19 16:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*89*		*81 - 118*		*11/25/19 16:26*	*1*
4-Bromofluorobenzene (Surr)	*96*		*85 - 114*		*11/25/19 16:26*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 119*		*11/25/19 16:26*	*1*
Toluene-d8 (Surr)	*106*		*89 - 112*		*11/25/19 16:26*	*1*

Client Sample ID: SHL-DUP08_NOV19

Lab Sample ID: 680-176927-16

Date Collected: 11/13/19 12:40

Matrix: WG

Date Received: 11/14/19 09:20

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichlorobenzene	1.0	U	1.0	1.0	0.37	ug/L		11/25/19 16:51	1
1,2-Dichloroethane	1.0	U M Q	1.0	1.0	0.50	ug/L		11/25/19 16:51	1
1,4-Dichlorobenzene	**0.93**	**J**	1.0	1.0	0.46	ug/L		11/25/19 16:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*87*		*81 - 118*		*11/25/19 16:51*	*1*
4-Bromofluorobenzene (Surr)	*98*		*85 - 114*		*11/25/19 16:51*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 119*		*11/25/19 16:51*	*1*
Toluene-d8 (Surr)	*105*		*89 - 112*		*11/25/19 16:51*	*1*

Surrogate Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Supplemental Fall 2019

Job ID: 680-176927-2

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(81-118)	(85-114)	(80-119)	(89-112)
LCS 680-597214/4	Lab Control Sample	89	103	97	98
LCS 680-597217/3	Lab Control Sample	99	98	109	109
LCS 680-597781/1002	Lab Control Sample	86 M	107	98	110
LCS 680-598305/3	Lab Control Sample	100	108	100	97
LCSD 680-597214/5	Lab Control Sample Dup	91	103	97	100
LCSD 680-597217/4	Lab Control Sample Dup	96	99	108	109
LCSD 680-597781/5	Lab Control Sample Dup	97	98	108	109
LCSD 680-598305/4	Lab Control Sample Dup	99	106	100	93
MB 680-597214/9	Method Blank	86	104	94	97
MB 680-597217/11	Method Blank	92	99	104	106
MB 680-597781/8	Method Blank	111	98	107	104
MB 680-598305/9	Method Blank	93	103	99	95

Surrogate Legend

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

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

Matrix: WG

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(81-118)	(85-114)	(80-119)	(89-112)
680-176927-8	SHL-10_NOV19	84	98	100	104
680-176927-9	SHL-11_NOV19	91	90	99	103
680-176927-9 - RA	SHL-11_NOV19	92	100	99	97
680-176927-10	SHL-19_NOV19	90	105	101	105
680-176927-10 - RA	SHL-19_NOV19	92	102	99	98
680-176927-11	SHL-20_NOV19	91	94	98	107
680-176927-11 - RA	SHL-20_NOV19	93	116 Q	99	98
680-176927-12	SHM-93-22C_NOV19	92	96	104	106
680-176927-14	SHM-99-32X_NOV19	90	97	101	105
680-176927-15	SHM-10-16_NOV19	89	96	102	106
680-176927-16	SHL-DUP08_NOV19	87	98	100	105

Surrogate Legend

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

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

Matrix: WQ

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(81-118)	(85-114)	(80-119)	(89-112)
680-176927-13	TRIPBLANK_NOV19	86	94	100	105

Surrogate Legend

Surrogate Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-176927-2
Project/Site: LTM - SHL Supplemental Fall 2019

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

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

Lab Sample ID: MB 680-597214/9
Matrix: Water
Analysis Batch: 597214

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichlorobenzene	1.0	U M	1.0	1.0	0.37	ug/L		11/21/19 13:27	1
1,2-Dichloroethane	1.0	U M	1.0	1.0	0.50	ug/L		11/21/19 13:27	1
1,4-Dichlorobenzene	1.0	U	1.0	1.0	0.46	ug/L		11/21/19 13:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*86*		*81 - 118*		*11/21/19 13:27*	*1*
4-Bromofluorobenzene (Surr)	*104*		*85 - 114*		*11/21/19 13:27*	*1*
Dibromofluoromethane (Surr)	*94*		*80 - 119*		*11/21/19 13:27*	*1*
Toluene-d8 (Surr)	*97*		*89 - 112*		*11/21/19 13:27*	*1*

Lab Sample ID: LCS 680-597214/4
Matrix: Water
Analysis Batch: 597214

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,2-Dichlorobenzene			50.0	48.5		ug/L		97	80 - 119		
1,2-Dichloroethane			50.0	46.1		ug/L		92	73 - 128		
1,4-Dichlorobenzene			50.0	49.7		ug/L		99	79 - 118		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*89*		*81 - 118*
4-Bromofluorobenzene (Surr)	*103*		*85 - 114*
Dibromofluoromethane (Surr)	*97*		*80 - 119*
Toluene-d8 (Surr)	*98*		*89 - 112*

Lab Sample ID: LCSD 680-597214/5
Matrix: Water
Analysis Batch: 597214

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
1,2-Dichlorobenzene			50.0	49.0		ug/L		98	80 - 119	1	20
1,2-Dichloroethane			50.0	47.1		ug/L		94	73 - 128	2	20
1,4-Dichlorobenzene			50.0	49.8		ug/L		100	79 - 118	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*81 - 118*
4-Bromofluorobenzene (Surr)	*103*		*85 - 114*
Dibromofluoromethane (Surr)	*97*		*80 - 119*
Toluene-d8 (Surr)	*100*		*89 - 112*

Lab Sample ID: MB 680-597217/11
Matrix: Water
Analysis Batch: 597217

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichlorobenzene	1.0	U	1.0	1.0	0.37	ug/L		11/21/19 15:36	1
1,2-Dichloroethane	1.0	U	1.0	1.0	0.50	ug/L		11/21/19 15:36	1
1,4-Dichlorobenzene	1.0	U	1.0	1.0	0.46	ug/L		11/21/19 15:36	1

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		81 - 118		11/21/19 15:36	1
4-Bromofluorobenzene (Surr)	99		85 - 114		11/21/19 15:36	1
Dibromofluoromethane (Surr)	104		80 - 119		11/21/19 15:36	1
Toluene-d8 (Surr)	106		89 - 112		11/21/19 15:36	1

Lab Sample ID: LCS 680-597217/3
Matrix: Water
Analysis Batch: 597217

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,2-Dichlorobenzene			50.0	52.3		ug/L		105	80 - 119		
1,2-Dichloroethane			50.0	53.9		ug/L		108	73 - 128		
1,4-Dichlorobenzene			50.0	53.0		ug/L		106	79 - 118		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		81 - 118
4-Bromofluorobenzene (Surr)	98		85 - 114
Dibromofluoromethane (Surr)	109		80 - 119
Toluene-d8 (Surr)	109		89 - 112

Lab Sample ID: LCSD 680-597217/4
Matrix: Water
Analysis Batch: 597217

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
1,2-Dichlorobenzene			50.0	51.9		ug/L		104	80 - 119	1	20
1,2-Dichloroethane			50.0	53.0		ug/L		106	73 - 128	2	20
1,4-Dichlorobenzene			50.0	52.5		ug/L		105	79 - 118	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		81 - 118
4-Bromofluorobenzene (Surr)	99		85 - 114
Dibromofluoromethane (Surr)	108		80 - 119
Toluene-d8 (Surr)	109		89 - 112

Lab Sample ID: MB 680-597781/8
Matrix: Water
Analysis Batch: 597781

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichlorobenzene	1.0	U	1.0	1.0	0.37	ug/L		11/25/19 13:31	1
1,2-Dichloroethane	1.0	U M	1.0	1.0	0.50	ug/L		11/25/19 13:31	1
1,4-Dichlorobenzene	1.0	U	1.0	1.0	0.46	ug/L		11/25/19 13:31	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		81 - 118		11/25/19 13:31	1
4-Bromofluorobenzene (Surr)	98		85 - 114		11/25/19 13:31	1
Dibromofluoromethane (Surr)	107		80 - 119		11/25/19 13:31	1
Toluene-d8 (Surr)	104		89 - 112		11/25/19 13:31	1

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

Lab Sample ID: LCS 680-597781/1002
Matrix: Water
Analysis Batch: 597781

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,2-Dichlorobenzene			50.0	47.2		ug/L		94	80 - 119		
1,2-Dichloroethane			50.0	42.1		ug/L		84	73 - 128		
1,4-Dichlorobenzene			50.0	51.3		ug/L		103	79 - 118		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*86*	*M*	*81 - 118*
4-Bromofluorobenzene (Surr)	*107*		*85 - 114*
Dibromofluoromethane (Surr)	*98*		*80 - 119*
Toluene-d8 (Surr)	*110*		*89 - 112*

Lab Sample ID: LCSD 680-597781/5
Matrix: Water
Analysis Batch: 597781

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
1,2-Dichlorobenzene			50.0	52.7		ug/L		105	80 - 119	11	20
1,2-Dichloroethane			50.0	52.3	Q	ug/L		105	73 - 128	21	20
1,4-Dichlorobenzene			50.0	51.8		ug/L		104	79 - 118	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*81 - 118*
4-Bromofluorobenzene (Surr)	*98*		*85 - 114*
Dibromofluoromethane (Surr)	*108*		*80 - 119*
Toluene-d8 (Surr)	*109*		*89 - 112*

Lab Sample ID: MB 680-598305/9
Matrix: Water
Analysis Batch: 598305

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichlorobenzene	1.0	U	1.0	1.0	0.37	ug/L		11/27/19 17:47	1
1,2-Dichloroethane	1.0	U	1.0	1.0	0.50	ug/L		11/27/19 17:47	1
1,4-Dichlorobenzene	1.0	U	1.0	1.0	0.46	ug/L		11/27/19 17:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*81 - 118*		*11/27/19 17:47*	*1*
4-Bromofluorobenzene (Surr)	*103*		*85 - 114*		*11/27/19 17:47*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 119*		*11/27/19 17:47*	*1*
Toluene-d8 (Surr)	*95*		*89 - 112*		*11/27/19 17:47*	*1*

Lab Sample ID: LCS 680-598305/3
Matrix: Water
Analysis Batch: 598305

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,2-Dichlorobenzene			50.0	51.2		ug/L		102	80 - 119		
1,2-Dichloroethane			50.0	50.3		ug/L		101	73 - 128		
1,4-Dichlorobenzene			50.0	49.6		ug/L		99	79 - 118		

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		81 - 118
4-Bromofluorobenzene (Surr)	108		85 - 114
Dibromofluoromethane (Surr)	100		80 - 119
Toluene-d8 (Surr)	97		89 - 112

Lab Sample ID: LCSD 680-598305/4
Matrix: Water
Analysis Batch: 598305

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
1,2-Dichlorobenzene			50.0	51.0		ug/L		102	80 - 119	0	20
1,2-Dichloroethane			50.0	49.6		ug/L		99	73 - 128	1	20
1,4-Dichlorobenzene			50.0	49.6		ug/L		99	79 - 118	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		81 - 118
4-Bromofluorobenzene (Surr)	106		85 - 114
Dibromofluoromethane (Surr)	100		80 - 119
Toluene-d8 (Surr)	93		89 - 112

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-596525/1-A
Matrix: Water
Analysis Batch: 597332

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 596525

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	70	U	200	70	24	ug/L		11/21/19 10:37	1
Chromium	4.0	U	10	4.0	1.6	ug/L		11/21/19 10:37	1
Iron	20.0	J	50	50	17	ug/L		11/21/19 10:37	1
Lead	10	U	10	10	3.9	ug/L		11/21/19 10:37	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/21/19 10:37	1
Nickel	5.0	U	40	5.0	2.1	ug/L		11/21/19 10:37	1
Sodium	1000	U	1000	1000	480	ug/L		11/21/19 10:37	1

Lab Sample ID: LCS 680-596525/2-A
Matrix: Water
Analysis Batch: 597332

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 596525

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum			5000	4540		ug/L		91	86 - 115
Chromium			100	104		ug/L		104	90 - 113
Iron			5010	5080		ug/L		101	87 - 115
Lead			454	461		ug/L		102	86 - 113
Manganese			400	402		ug/L		101	90 - 114
Nickel			99.5	96.5		ug/L		97	88 - 113
Sodium			5040	4360		ug/L		87	87 - 115

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

Lab Sample ID: MB 680-596597/1-A
Matrix: Water
Analysis Batch: 597499

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 596597

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	70	U	200	70	24	ug/L		11/22/19 00:31	1
Chromium	4.0	U	10	4.0	1.6	ug/L		11/22/19 00:31	1
Iron	21.5	J	50	50	17	ug/L		11/22/19 00:31	1
Lead	10	U	10	10	3.9	ug/L		11/22/19 00:31	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/22/19 00:31	1
Nickel	5.0	U	40	5.0	2.1	ug/L		11/22/19 00:31	1
Sodium	1000	U	1000	1000	480	ug/L		11/22/19 00:31	1

Lab Sample ID: LCS 680-596597/2-A
Matrix: Water
Analysis Batch: 597499

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 596597

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	5000	4760		ug/L		95	86 - 115
Chromium	100	107		ug/L		107	90 - 113
Iron	5010	5050		ug/L		101	87 - 115
Lead	454	470		ug/L		103	86 - 113
Manganese	400	415		ug/L		104	90 - 114
Nickel	99.5	102		ug/L		103	88 - 113
Sodium	5040	4510		ug/L		90	87 - 115

Lab Sample ID: MB 680-598013/1-A
Matrix: Water
Analysis Batch: 598460

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 598013

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	70	U	200	70	24	ug/L		11/27/19 10:50	1
Chromium	4.0	U	10	4.0	1.6	ug/L		11/27/19 10:50	1
Iron	50	U	50	50	17	ug/L		11/27/19 10:50	1
Lead	10	U	10	10	3.9	ug/L		11/27/19 10:50	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/27/19 10:50	1
Nickel	5.0	U	40	5.0	2.1	ug/L		11/27/19 10:50	1
Sodium	1000	U	1000	1000	480	ug/L		11/27/19 10:50	1

Lab Sample ID: LCS 680-598013/2-A
Matrix: Water
Analysis Batch: 598460

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 598013

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	5000	4920		ug/L		98	86 - 115
Chromium	100	103		ug/L		103	90 - 113
Iron	5010	5160		ug/L		103	87 - 115
Lead	454	460		ug/L		101	86 - 113
Manganese	400	412		ug/L		103	90 - 114
Nickel	99.5	102		ug/L		103	88 - 113
Sodium	5040	4730		ug/L		94	87 - 115

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 680-596524/1-A
Matrix: Water
Analysis Batch: 597249

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 596524

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/20/19 15:40	1

Lab Sample ID: LCS 680-596524/2-A
Matrix: Water
Analysis Batch: 597249

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 596524

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	105		ug/L		105	84 - 116

Lab Sample ID: MB 680-596596/1-A
Matrix: Water
Analysis Batch: 597053

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 596596

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/19/19 18:18	1

Lab Sample ID: LCS 680-596596/2-A
Matrix: Water
Analysis Batch: 597053

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 596596

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	113		ug/L		113	84 - 116

Lab Sample ID: MB 680-598012/1-A
Matrix: Water
Analysis Batch: 598259

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 598012

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/26/19 15:18	1

Lab Sample ID: LCS 680-598012/2-A
Matrix: Water
Analysis Batch: 598259

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 598012

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	104		ug/L		104	84 - 116

GC/MS VOA

Analysis Batch: 597214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-9	SHL-11_NOV19	Total/NA	WG	8260B	
680-176927-10	SHL-19_NOV19	Total/NA	WG	8260B	
680-176927-11	SHL-20_NOV19	Total/NA	WG	8260B	
MB 680-597214/9	Method Blank	Total/NA	Water	8260B	
LCS 680-597214/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-597214/5	Lab Control Sample Dup	Total/NA	Water	8260B	

Analysis Batch: 597217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-12	SHM-93-22C_NOV19	Total/NA	WG	8260B	
MB 680-597217/11	Method Blank	Total/NA	Water	8260B	
LCS 680-597217/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-597217/4	Lab Control Sample Dup	Total/NA	Water	8260B	

Analysis Batch: 597781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-8	SHL-10_NOV19	Total/NA	WG	8260B	
680-176927-13	TRIPBLANK_NOV19	Total/NA	WQ	8260B	
680-176927-14	SHM-99-32X_NOV19	Total/NA	WG	8260B	
680-176927-15	SHM-10-16_NOV19	Total/NA	WG	8260B	
680-176927-16	SHL-DUP08_NOV19	Total/NA	WG	8260B	
MB 680-597781/8	Method Blank	Total/NA	Water	8260B	
LCS 680-597781/1002	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-597781/5	Lab Control Sample Dup	Total/NA	Water	8260B	

Analysis Batch: 598305

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-9 - RA	SHL-11_NOV19	Total/NA	WG	8260B	
680-176927-10 - RA	SHL-19_NOV19	Total/NA	WG	8260B	
680-176927-11 - RA	SHL-20_NOV19	Total/NA	WG	8260B	
MB 680-598305/9	Method Blank	Total/NA	Water	8260B	
LCS 680-598305/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-598305/4	Lab Control Sample Dup	Total/NA	Water	8260B	

Metals

Prep Batch: 596524

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-8	SHL-10_NOV19	Dissolved	WG	3005A	
680-176927-10	SHL-19_NOV19	Dissolved	WG	3005A	
680-176927-11	SHL-20_NOV19	Dissolved	WG	3005A	
680-176927-14	SHM-99-32X_NOV19	Dissolved	WG	3005A	
MB 680-596524/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-596524/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 596525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-8	SHL-10_NOV19	Dissolved	WG	3005A	
680-176927-10	SHL-19_NOV19	Dissolved	WG	3005A	
680-176927-11	SHL-20_NOV19	Dissolved	WG	3005A	
680-176927-14	SHM-99-32X_NOV19	Dissolved	WG	3005A	

Metals (Continued)

Prep Batch: 596525 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-596525/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-596525/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 596596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-12	SHM-93-22C_NOV19	Dissolved	WG	3005A	
MB 680-596596/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-596596/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 596597

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-12	SHM-93-22C_NOV19	Dissolved	WG	3005A	
MB 680-596597/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-596597/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 597053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-12	SHM-93-22C_NOV19	Dissolved	WG	6020A	596596
MB 680-596596/1-A	Method Blank	Total Recoverable	Water	6020A	596596
LCS 680-596596/2-A	Lab Control Sample	Total Recoverable	Water	6020A	596596

Analysis Batch: 597249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-8	SHL-10_NOV19	Dissolved	WG	6020A	596524
680-176927-10	SHL-19_NOV19	Dissolved	WG	6020A	596524
680-176927-11	SHL-20_NOV19	Dissolved	WG	6020A	596524
680-176927-14	SHM-99-32X_NOV19	Dissolved	WG	6020A	596524
MB 680-596524/1-A	Method Blank	Total Recoverable	Water	6020A	596524
LCS 680-596524/2-A	Lab Control Sample	Total Recoverable	Water	6020A	596524

Analysis Batch: 597332

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-8	SHL-10_NOV19	Dissolved	WG	6010C	596525
680-176927-10	SHL-19_NOV19	Dissolved	WG	6010C	596525
680-176927-11	SHL-20_NOV19	Dissolved	WG	6010C	596525
680-176927-14	SHM-99-32X_NOV19	Dissolved	WG	6010C	596525
MB 680-596525/1-A	Method Blank	Total Recoverable	Water	6010C	596525
LCS 680-596525/2-A	Lab Control Sample	Total Recoverable	Water	6010C	596525

Analysis Batch: 597499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-12	SHM-93-22C_NOV19	Dissolved	WG	6010C	596597
MB 680-596597/1-A	Method Blank	Total Recoverable	Water	6010C	596597
LCS 680-596597/2-A	Lab Control Sample	Total Recoverable	Water	6010C	596597

Prep Batch: 598012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-9	SHL-11_NOV19	Dissolved	WG	3005A	
MB 680-598012/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-598012/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

QC Association Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Supplemental Fall 2019

Job ID: 680-176927-2

Metals

Prep Batch: 598013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-9	SHL-11_NOV19	Dissolved	WG	3005A	
MB 680-598013/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-598013/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 598259

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-9	SHL-11_NOV19	Dissolved	WG	6020A	598012
MB 680-598012/1-A	Method Blank	Total Recoverable	Water	6020A	598012
LCS 680-598012/2-A	Lab Control Sample	Total Recoverable	Water	6020A	598012

Analysis Batch: 598460

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-176927-9	SHL-11_NOV19	Dissolved	WG	6010C	598013
MB 680-598013/1-A	Method Blank	Total Recoverable	Water	6010C	598013
LCS 680-598013/2-A	Lab Control Sample	Total Recoverable	Water	6010C	598013

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Supplemental Fall 2019

Job ID: 680-176927-2

Client Sample ID: SHL-10_NOV19

Lab Sample ID: 680-176927-8

Date Collected: 11/13/19 10:35

Matrix: WG

Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	597781	11/25/19 15:36	Y1S	TAL SAV
	Instrument ID: CMSO2									
Dissolved	Prep	3005A			50 mL	50 mL	596525	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597332	11/21/19 12:34	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596524	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6020A		1			597249	11/20/19 16:50	BJB	TAL SAV
	Instrument ID: ICPMSD									

Client Sample ID: SHL-11_NOV19

Lab Sample ID: 680-176927-9

Date Collected: 11/11/19 11:50

Matrix: WG

Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	5 mL	5 mL	598305	11/27/19 20:36	UI	TAL SAV
	Instrument ID: CMSAA									
Total/NA	Analysis	8260B		1	5 mL	5 mL	597214	11/21/19 17:22	SMP	TAL SAV
	Instrument ID: CMSC									
Dissolved	Prep	3005A			50 mL	50 mL	598013	11/26/19 10:13	AJR	TAL SAV
Dissolved	Analysis	6010C		1			598460	11/27/19 11:26	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	598012	11/26/19 10:13	AJR	TAL SAV
Dissolved	Analysis	6020A		1			598259	11/26/19 15:54	BJB	TAL SAV
	Instrument ID: ICPMSD									

Client Sample ID: SHL-19_NOV19

Lab Sample ID: 680-176927-10

Date Collected: 11/11/19 10:25

Matrix: WG

Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	5 mL	5 mL	598305	11/27/19 21:00	UI	TAL SAV
	Instrument ID: CMSAA									
Total/NA	Analysis	8260B		1	5 mL	5 mL	597214	11/21/19 17:45	SMP	TAL SAV
	Instrument ID: CMSC									
Dissolved	Prep	3005A			50 mL	50 mL	596525	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597332	11/21/19 12:20	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596524	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6020A		1			597249	11/20/19 16:47	BJB	TAL SAV
	Instrument ID: ICPMSD									

Client Sample ID: SHL-20_NOV19

Lab Sample ID: 680-176927-11

Date Collected: 11/11/19 13:20

Matrix: WG

Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	5 mL	5 mL	598305	11/27/19 21:24	UI	TAL SAV
	Instrument ID: CMSAA									
Total/NA	Analysis	8260B		1	5 mL	5 mL	597214	11/21/19 18:09	SMP	TAL SAV
	Instrument ID: CMSC									
Dissolved	Prep	3005A			50 mL	50 mL	596525	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597332	11/21/19 11:52	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596524	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6020A		1			597249	11/20/19 16:24	BJB	TAL SAV
	Instrument ID: ICPMSD									

Client Sample ID: SHM-93-22C_NOV19

Lab Sample ID: 680-176927-12

Date Collected: 11/11/19 08:40

Matrix: WG

Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	597217	11/21/19 21:25	P1C	TAL SAV
	Instrument ID: CMSO2									
Dissolved	Prep	3005A			50 mL	50 mL	596597	11/17/19 16:32	PG	TAL SAV
Dissolved	Analysis	6010C		1			597499	11/22/19 01:38	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596596	11/17/19 16:30	PG	TAL SAV
Dissolved	Analysis	6020A		1			597053	11/19/19 18:55	BJB	TAL SAV
	Instrument ID: ICPMSD									

Client Sample ID: TRIPBLANK_NOV19

Lab Sample ID: 680-176927-13

Date Collected: 11/13/19 00:00

Matrix: WQ

Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	597781	11/25/19 14:21	Y1S	TAL SAV
	Instrument ID: CMSO2									

Client Sample ID: SHM-99-32X_NOV19

Lab Sample ID: 680-176927-14

Date Collected: 11/13/19 09:05

Matrix: WG

Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	597781	11/25/19 16:01	Y1S	TAL SAV
	Instrument ID: CMSO2									
Dissolved	Prep	3005A			50 mL	50 mL	596525	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597332	11/21/19 11:37	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596524	11/16/19 13:45	AJR	TAL SAV
Dissolved	Analysis	6020A		1			597249	11/20/19 16:15	BJB	TAL SAV
	Instrument ID: ICPMSD									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Job ID: 680-176927-2
Project/Site: LTM - SHL Supplemental Fall 2019

Client Sample ID: SHM-10-16_NOV19
Lab Sample ID: 680-176927-15
Date Collected: 11/13/19 12:35
Matrix: WG
Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	597781	11/25/19 16:26	Y1S	TAL SAV
	Instrument ID: CMSO2									

Client Sample ID: SHL-DUP08_NOV19
Lab Sample ID: 680-176927-16
Date Collected: 11/13/19 12:40
Matrix: WG
Date Received: 11/14/19 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	597781	11/25/19 16:51	Y1S	TAL SAV
	Instrument ID: CMSO2									

Laboratory References:

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-ADD-1107

Project Name: Long Term Monitoring	Laboratory: TestAmerica Laboratories, Inc., Savannah, GA	Event: KOMAN, Long Term Monitoring, SHL Supplemental Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier 912.354.7858 jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 5102 LaRoche Avenue, Savannah, GA 31404	

Comments:
SW6010C/FLDFLT (B) = Fe Mn

NOTE: PLEASE ANALYZE FOR THE SELECT LIST OF ANALYTES IN EMAIL FROM LEKES.

FD - field dup

Equipment:

Analytical Test Method

Code	Matrix
WG	Ground Water
WQ	Water Quality Control Matrix

Code	Container/Preservative
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
29	3 x 40mL glass VOA Vials, HCl, pH < 2, Cool < 6°C

0.8/0.9

Event: KOMAN, Long Term Monitoring, SHL Supplemental Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	SW6010C/FLDFLT (B) 9	SW6020A/FLDFLT (B) 9	SW8260B - VOCs 29	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
1	SHL-10_NOV19	WG	11/13/19	1035	BrA	X	X	X	SHL-10	N1	24.00	39.00		1
2	SHL-11_NOV19	WG	11/11/19	1150	KE	X	X	X	SHL-11	N1	12.00	27.00		1
3	SHL-19_NOV19	WG	11/11/19	1025	KE	X	X	X	SHL-19	N1	20.00	30.00		1
4	SHL-20_NOV19	WG	11/11/19	1320	KE	X	X	X	SHL-20	N1	39.00	49.00		1
5	SHM-93-22C_NOV19	WG	11/11/19	0840	KE	X	X	X	SHM-93-22C	N1	124.30	134.30		1
6	TRIPBLANK_NOV19	WQ	11/13/19	—	—			X	FIELDQC	TB1	0.00	0.00		
7	SHM-99-32X-NOV19	WG	11/13/19	0905	KE	X	X	X	SHM-99-32X	N1	74.16	84.16		
8	SHM-10-16-NOV19	WG	11/13/19	1235	KE	X	X	X	SHM-10-16	N1	77.51	87.51		
9	SHL-DUP08-NOV19	WG	11/13/19	1240	KE	X	X	X	SHM-10-16	FD	77.51	87.51		
10														
11														

680-176927-02 Chain of Custody

Relinquished by: *(Signature)*	Date	Time
	11/13/19	1400
	11-13-19	1700

Received by: *(Signature)*	Date	Time
	11-13-19	1700
	11/14/19	920

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-ADD-1107

Project Name: Long Term Monitoring	Laboratory: TestAmerica Laboratories, Inc., Savannah, GA	Event: KOMAN, Long Term Monitoring, SHL Supplemental Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier 912.354.7858 jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 5102 LaRoche Avenue, Savannah, GA 31404	

Comments:
SW6010C/FLDFLT (B) = Fe Mn

NOTE: PLEASE ANALYZE FOR THE SELECT LIST OF ANALYTES IN EMAIL FROM LEKES.

FD - field dup

Equipment:

Code	Matrix
WG	Ground Water
WQ	Water Quality Control Matrix

Code	Container/Preservative
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
29	3 x 40mL glass VOA Vials, HCl, pH < 2; Cool < 6°C

						Analytical Test Method	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	SW8260B - VOCs					
	Event: KOMAN, Long Term Monitoring, SHL Supplemental Fall 2019						9	9	29					
	Sample ID	Matrix	Date	Time	Samp Init.				Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
1	SHL-10_NOV19	WG	11/13/19	1035	BrB	X	X	X	SHL-10	N1	24.00	39.00		1
2	SHL-11_NOV19	WG	11/11/19	1150	KE	X	X	X	SHL-11	N1	12.00	27.00		1
3	SHL-19_NOV19	WG	11/11/19	1025	KE	X	X	X	SHL-19	N1	20.00	30.00		1
4	SHL-20_NOV19	WG	11/11/19	1320	KE	X	X	X	SHL-20	N1	39.00	49.00		1
5	SHM-93-22C_NOV19	WG	11/11/19	0840	KE	X	X	X	SHM-93-22C	N1	124.30	134.30		1
6	TRIPBLANK_NOV19	WQ	11/13/19	—	—			X	FIELDQC	TB1	0.00	0.00		1
7	SHM-99-32X_NOV19	WG	11/13/19	0905	KE	X	X	X	SHM-99-32X	N1	74.16	84.16		1
8	SHM-10-16-NOV19	WG	11/13/19	1235	KE	X	X	X	SHM-10-16	N1	77.51	87.51		1
9	SHL-DUP08_NOV19	WQ	11/13/19	1210	KE	X	X	X	SHM-10-16	~~FD~~	77.51	87.51		1
10														
11														

Relinquished by: *(Signature)*	Date	Time
	11/13/19	1400
	11-13-19	

Received by: *(Signature)*	Date	Time
	11-13-19	
	11-14-19	0920

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-176927-2

Login Number: 176927

List Source: Eurofins TestAmerica, Savannah

List Number: 1

Creator: Sims, Robert D

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

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-176927-2
Project/Site: LTM - SHL Supplemental Fall 2019

Laboratory: Eurofins TestAmerica, Savannah

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

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-20
Alaska	State	GA00006	06-30-20
Alaska (UST)	State	17-016	09-30-20
ANAB	Dept. of Defense ELAP	L2463	09-22-22
ANAB	ISO/IEC 17025	L2463.01	09-22-22
Arizona	State	AZ0808	12-14-19
Arkansas DEQ	State	19-015-0	02-01-20
California	State	2939	06-30-20
Colorado	State	GA00006	12-31-19
Connecticut	State	PH-0161	03-31-21
Florida	NELAP	E87052	06-30-20
GA Dept. of Agriculture	State Program	N/A	06-12-20
Georgia	State	E87052	06-30-20
Georgia (DW)	State	803	06-30-20
Guam	State	19-007R	04-17-20
Hawaii	State	<cert No.>	06-30-20
Illinois	NELAP	004547	11-27-20
Indiana	State	C-GA-02	06-30-20
Iowa	State	353	09-22-20
Kansas	NELAP	E-10322	10-15-20
Kentucky (DW)	State	KY90084	12-31-19
Kentucky (UST)	State	<cert No.>	06-30-20
Kentucky (WW)	State	KY90084	12-31-19
Louisiana	NELAP	02011	06-30-20
Louisiana (DW)	State	LA009	12-31-19
Maine	State	GA00006	09-26-20
Maryland	State	250	12-31-19
Massachusetts	State	M-GA006	06-30-20
Michigan	State	9925	06-30-20
Mississippi	State	<cert No.>	06-30-20
Nebraska	State	NE-OS-7-04	06-30-20
New Hampshire	NELAP	2096	05-29-20
New Jersey	NELAP	GA769	06-30-20
New Mexico	State	GA00006	06-30-20
New York	NELAP	10842	04-01-20
North Carolina (DW)	State	13701	07-31-20
North Carolina (WW/SW)	State	269	12-31-19
Oklahoma	State	9984	08-31-20
Pennsylvania	NELAP	68-00474	06-30-20
Puerto Rico	State	GA00006	01-01-20
South Carolina	State	98001	06-30-20
Tennessee	State	02961	06-30-20
Texas	NELAP	T1047004185-19-14	11-30-19
Texas	TCEQ Water Supply	T104704185	09-23-20
US Fish & Wildlife	US Federal Programs	LE058448-0	07-31-20
USDA	US Federal Programs	P330-18-00313	10-29-21
Virginia	NELAP	10509	06-14-20
Washington	State	C805	06-10-20
West Virginia (DW)	State	9950C	12-31-19

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-176927-2
Project/Site: LTM - SHL Supplemental Fall 2019

Laboratory: Eurofins TestAmerica, Savannah (Continued)

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

Authority	Program	Identification Number	Expiration Date
West Virginia DEP	State	094	11-30-19
Wisconsin	State	999819810	08-31-20
Wyoming	State	8TMS-L	06-30-20 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

Laboratory Job ID: 680-177032-2
Client Project/Site: LTM - SHL Fall 2019

For:
KOMAN Government Solutions, LLC
293 Boston Post Road West
Suite 100
Marlborough, Massachusetts 01752

Attn: Laurie Ekes

Jerry Lanier

Authorized for release by:
12/9/2019 5:27:24 PM

Jerry Lanier, Project Manager I
(912)250-0281
jerry.lanier@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 680-177032-2

Laboratory: Eurofins TestAmerica, Savannah

Narrative

CASE NARRATIVE

Client: KOMAN Government Solutions, LLC

Project: LTM - SHL Fall 2019

Report Number: 680-177032-2

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 the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT
The samples were received on 11/16/2019; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 1.0 C.

METALS (ICP) - DISSOLVED
Samples SHM-13-01_FAL19 (680-177032-5), SHM-10-12_FAL19 (680-177032-6), SHL-DUP05_FAL19 (680-177032-7), SHL-EB-111419 (680-177032-8), SHM-10-08_FAL19 (680-177032-12), SHM-10-02_FAL19 (680-177032-13), SHM-10-03_FAL19 (680-177032-14), SHM-10-04_FAL19 (680-177032-15) and SHM-10-15_FAL19 (680-177032-16) were analyzed for Metals (ICP) - Dissolved in accordance with EPA SW-846 Method 6010C. The samples were prepared on 11/19/2019 and analyzed on 11/21/2019.

Iron was detected in method blank MB 680-596602/1-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. Refer to the QC report for details.

Iron and Manganese failed the recovery criteria low for the MS/MSD of sample 680-177032-9 in batch 680-597291.

Refer to the QC report for details.

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

METALS (ICPMS) - DISSOLVED
Samples SHM-13-01_FAL19 (680-177032-5), SHM-10-12_FAL19 (680-177032-6), SHL-DUP05_FAL19 (680-177032-7), SHL-EB-111419 (680-177032-8), SHM-10-08_FAL19 (680-177032-12), SHM-10-02_FAL19 (680-177032-13), SHM-10-03_FAL19 (680-177032-14), SHM-10-04_FAL19 (680-177032-15) and SHM-10-15_FAL19 (680-177032-16) were analyzed for Metals (ICPMS) - Dissolved in accordance with EPA SW-846 Method 6020A. The samples were prepared on 11/17/2019 and analyzed on 11/18/2019.

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

ALKALINITY
Samples SHM-99-31C_FAL19 (680-177032-4), SHM-13-01_FAL19 (680-177032-5), SHM-10-12_FAL19 (680-177032-6), SHL-DUP05_FAL19 (680-177032-7), SHL-EB-111419 (680-177032-8), SHM-10-08_FAL19 (680-177032-12), SHM-10-02_FAL19 (680-177032-13), SHM-10-03_FAL19 (680-177032-14), SHM-10-04_FAL19 (680-177032-15) and SHM-10-15_FAL19 (680-177032-16) were analyzed for alkalinity in accordance with SM 2320B. The samples were analyzed on 11/20/2019.

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

ANIONS BY ION CHROMATOGRAPHY (28 DAY)

Job ID: 680-177032-2 (Continued)

Laboratory: Eurofins TestAmerica, Savannah (Continued)

Samples SHM-99-31C_FAL19 (680-177032-4), SHM-13-01_FAL19 (680-177032-5), SHM-10-12_FAL19 (680-177032-6), SHL-DUP05_FAL19 (680-177032-7), SHL-EB-111419 (680-177032-8), SHM-10-08_FAL19 (680-177032-12), SHM-10-02_FAL19 (680-177032-13), SHM-10-03_FAL19 (680-177032-14), SHM-10-04_FAL19 (680-177032-15) and SHM-10-15_FAL19 (680-177032-16) were analyzed for Anions by Ion Chromatography (28 Day) in accordance with SW 846 9056A. The samples were analyzed on 11/28/2019, 11/29/2019, 11/30/2019 and 12/01/2019.

The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Refer to the QC report for details.

Sample SHM-13-01_FAL19 (680-177032-5)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

TOTAL ORGANIC CARBON (TOC)

Samples SHM-99-31C_FAL19 (680-177032-4), SHM-13-01_FAL19 (680-177032-5), SHM-10-12_FAL19 (680-177032-6), SHL-DUP05_FAL19 (680-177032-7), SHL-EB-111419 (680-177032-8), SHM-10-08_FAL19 (680-177032-12), SHM-10-02_FAL19 (680-177032-13), SHM-10-03_FAL19 (680-177032-14), SHM-10-04_FAL19 (680-177032-15) and SHM-10-15_FAL19 (680-177032-16) were analyzed for Total Organic Carbon (TOC) in accordance with EPA SW-846 9060A. The samples were analyzed on 12/07/2019.

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

Sample Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-177032-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
680-177032-4	SHM-99-31C_FAL19	Water	11/14/19 09:05	11/16/19 10:00	
680-177032-5	SHM-13-01_FAL19	Water	11/14/19 13:40	11/16/19 10:00	
680-177032-6	SHM-10-12_FAL19	Water	11/14/19 09:55	11/16/19 10:00	
680-177032-7	SHL-DUP05_FAL19	Water	11/14/19 10:00	11/16/19 10:00	
680-177032-8	SHL-EB-111419	Water	11/14/19 11:15	11/16/19 10:00	
680-177032-12	SHM-10-08_FAL19	Water	11/14/19 08:25	11/16/19 10:00	
680-177032-13	SHM-10-02_FAL19	Water	11/14/19 09:20	11/16/19 10:00	
680-177032-14	SHM-10-03_FAL19	Water	11/14/19 10:50	11/16/19 10:00	
680-177032-15	SHM-10-04_FAL19	Water	11/14/19 12:25	11/16/19 10:00	
680-177032-16	SHM-10-15_FAL19	Water	11/14/19 13:55	11/16/19 10:00	

Method Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-177032-2

Method	Method Description	Protocol	Laboratory
9056A	Anions, Ion Chromatography	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV
6020A	Metals (ICP/MS)	SW846	TAL SAV
9060A	Organic Carbon, Dissolved (DOC)	SW846	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL SAV

Protocol References:

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

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

Laboratory References:

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

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Definitions/Glossary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-177032-2

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D	The reported value is from a dilution.
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Metals

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

General Chemistry

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

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)

Client Sample ID: SHM-99-31C_FAL19

Lab Sample ID: 680-177032-4

Date Collected: 11/14/19 09:05

Matrix: Water

Date Received: 11/16/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	31		0.50	0.50	0.20	mg/L		11/28/19 05:47	1
Sulfate	5.4		1.0	1.0	0.40	mg/L		11/28/19 05:47	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	250		10	10	3.1	mg/L		11/20/19 22:57	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	2.0		1.0	1.0	0.35	mg/L		12/07/19 03:10	1

Client Sample ID: SHM-13-01_FAL19

Lab Sample ID: 680-177032-5

Date Collected: 11/14/19 13:40

Matrix: Water

Date Received: 11/16/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Sulfate	9.5		1.0	1.0	0.40	mg/L		11/30/19 04:12	1

Method: 9056A - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	340	D	2.5	2.5	1.0	mg/L		12/01/19 03:07	5

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	27	J	50	50	17	ug/L		11/21/19 04:30	1
Manganese	3.3	J	10	3.0	1.0	ug/L		11/21/19 04:30	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	1.9	J	3.0	3.0	1.5	ug/L		11/18/19 19:18	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	17		10	10	3.1	mg/L		11/20/19 23:01	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	0.93	J	1.0	1.0	0.35	mg/L		12/07/19 04:26	1

Client Sample ID: SHM-10-12_FAL19

Lab Sample ID: 680-177032-6

Date Collected: 11/14/19 09:55

Matrix: Water

Date Received: 11/16/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	4.1		0.50	0.50	0.20	mg/L		11/30/19 03:09	1
Sulfate	2.6		1.0	1.0	0.40	mg/L		11/30/19 03:09	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	65000		50	50	17	ug/L		11/21/19 04:15	1

Client Sample ID: SHM-10-12_FAL19

Lab Sample ID: 680-177032-6
Date Collected: 11/14/19 09:55
Matrix: Water
Date Received: 11/16/19 10:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Manganese	5400		10	3.0	1.0	ug/L		11/21/19 04:15	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3400		3.0	3.0	1.5	ug/L		11/18/19 19:29	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	170		10	10	3.1	mg/L		11/20/19 23:06	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	2.9		1.0	1.0	0.35	mg/L		12/07/19 04:45	1

Client Sample ID: SHL-DUP05_FAL19

Lab Sample ID: 680-177032-7
Date Collected: 11/14/19 10:00
Matrix: Water
Date Received: 11/16/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	3.1		0.50	0.50	0.20	mg/L		11/30/19 03:22	1
Sulfate	2.2		1.0	1.0	0.40	mg/L		11/30/19 03:22	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	71000		50	50	17	ug/L		11/21/19 03:55	1
Manganese	5800		10	3.0	1.0	ug/L		11/21/19 03:55	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3200		3.0	3.0	1.5	ug/L		11/18/19 19:00	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	160		10	10	3.1	mg/L		11/20/19 23:11	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	2.9		1.0	1.0	0.35	mg/L		12/07/19 05:02	1

Client Sample ID: SHL-EB-111419

Lab Sample ID: 680-177032-8
Date Collected: 11/14/19 11:15
Matrix: Water
Date Received: 11/16/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		11/30/19 03:34	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		11/30/19 03:34	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	20	J	50	50	17	ug/L		11/21/19 04:35	1

Client Sample ID: SHL-EB-111419

Lab Sample ID: 680-177032-8

Date Collected: 11/14/19 11:15

Matrix: Water

Date Received: 11/16/19 10:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Manganese	3.0	U	10	3.0	1.0	ug/L		11/21/19 04:35	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	**23**		3.0	3.0	1.5	ug/L		11/18/19 19:15	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		11/20/19 23:15	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	1.0	U	1.0	1.0	0.35	mg/L		12/07/19 05:16	1

Client Sample ID: SHM-10-08_FAL19

Lab Sample ID: 680-177032-12

Date Collected: 11/14/19 08:25

Matrix: Water

Date Received: 11/16/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	**69**		0.50	0.50	0.20	mg/L		11/30/19 03:47	1
Sulfate	**7.9**		1.0	1.0	0.40	mg/L		11/30/19 03:47	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	**61**		50	50	17	ug/L		11/21/19 04:10	1
Manganese	**550**		10	3.0	1.0	ug/L		11/21/19 04:10	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/18/19 19:21	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	**350**		10	10	3.1	mg/L		11/20/19 23:22	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	**2.1**		1.0	1.0	0.35	mg/L		12/07/19 05:33	1

Client Sample ID: SHM-10-02_FAL19

Lab Sample ID: 680-177032-13

Date Collected: 11/14/19 09:20

Matrix: Water

Date Received: 11/16/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	**120**		0.50	0.50	0.20	mg/L		11/30/19 04:00	1
Sulfate	**7.8**		1.0	1.0	0.40	mg/L		11/30/19 04:00	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	**32**	**J**	50	50	17	ug/L		11/21/19 03:50	1

Client Sample ID: SHM-10-02_FAL19

Lab Sample ID: 680-177032-13
Date Collected: 11/14/19 09:20
Matrix: Water
Date Received: 11/16/19 10:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Manganese	1400		10	3.0	1.0	ug/L		11/21/19 03:50	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/18/19 18:58	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	90		10	10	3.1	mg/L		11/20/19 23:37	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	1.3		1.0	1.0	0.35	mg/L		12/07/19 05:50	1

Client Sample ID: SHM-10-03_FAL19

Lab Sample ID: 680-177032-14
Date Collected: 11/14/19 10:50
Matrix: Water
Date Received: 11/16/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	120	M	0.50	0.50	0.20	mg/L		11/29/19 19:46	1
Sulfate	11		1.0	1.0	0.40	mg/L		11/29/19 19:46	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	29	J	50	50	17	ug/L		11/21/19 03:45	1
Manganese	4.0	J	10	3.0	1.0	ug/L		11/21/19 03:45	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	8.5		3.0	3.0	1.5	ug/L		11/18/19 19:09	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	150		10	10	3.1	mg/L		11/20/19 23:42	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	1.4		1.0	1.0	0.35	mg/L		12/07/19 06:07	1

Client Sample ID: SHM-10-04_FAL19

Lab Sample ID: 680-177032-15
Date Collected: 11/14/19 12:25
Matrix: Water
Date Received: 11/16/19 10:00

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	89		0.50	0.50	0.20	mg/L		11/29/19 19:59	1
Sulfate	20		1.0	1.0	0.40	mg/L		11/29/19 19:59	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	36	J	50	50	17	ug/L		11/21/19 04:40	1

Client Sample ID: SHM-10-04_FAL19

Lab Sample ID: 680-177032-15

Date Collected: 11/14/19 12:25
Date Received: 11/16/19 10:00

Matrix: Water

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Manganese	330		10	3.0	1.0	ug/L		11/21/19 04:40	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/18/19 18:55	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	71		10	10	3.1	mg/L		11/20/19 23:47	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	1.1		1.0	1.0	0.35	mg/L		12/07/19 06:21	1

Client Sample ID: SHM-10-15_FAL19

Lab Sample ID: 680-177032-16

Date Collected: 11/14/19 13:55
Date Received: 11/16/19 10:00

Matrix: Water

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	12		0.50	0.50	0.20	mg/L		11/29/19 20:12	1
Sulfate	14		1.0	1.0	0.40	mg/L		11/29/19 20:12	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	44000		50	50	17	ug/L		11/21/19 04:25	1
Manganese	7300		10	3.0	1.0	ug/L		11/21/19 04:25	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	5600		3.0	3.0	1.5	ug/L		11/18/19 19:03	1

General Chemistry

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	200		10	10	3.1	mg/L		11/20/19 23:52	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	2.4		1.0	1.0	0.35	mg/L		12/07/19 07:10	1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 680-598402/65
Matrix: Water
Analysis Batch: 598402

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		11/28/19 03:28	1
Sulfate	1.0	U M	1.0	1.0	0.40	mg/L		11/28/19 03:28	1

Lab Sample ID: LCS 680-598402/66
Matrix: Water
Analysis Batch: 598402

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.0		mg/L		100	87 - 111
Sulfate	10.0	9.94		mg/L		99	87 - 112

Lab Sample ID: LCSD 680-598402/67
Matrix: Water
Analysis Batch: 598402

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
Chloride	10.0	9.92		mg/L		99	87 - 111	1	15
Sulfate	10.0	9.93		mg/L		99	87 - 112	0	15

Lab Sample ID: MB 680-598517/2
Matrix: Water
Analysis Batch: 598517

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		11/29/19 12:52	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		11/29/19 12:52	1

Lab Sample ID: LCS 680-598517/3
Matrix: Water
Analysis Batch: 598517

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.2	M	mg/L		102	87 - 111
Sulfate	10.0	10.4		mg/L		104	87 - 112

Lab Sample ID: LCSD 680-598517/4
Matrix: Water
Analysis Batch: 598517

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
Chloride	10.0	10.2	M	mg/L		102	87 - 111	0	15
Sulfate	10.0	10.2		mg/L		102	87 - 112	1	15

Lab Sample ID: MB 680-598579/33
Matrix: Water
Analysis Batch: 598579

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		11/30/19 01:15	1
Sulfate	1.0	U M	1.0	1.0	0.40	mg/L		11/30/19 01:15	1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: LCS 680-598579/34
Matrix: Water
Analysis Batch: 598579

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			10.0	10.2		mg/L		102	87 - 111		
Sulfate			10.0	9.76		mg/L		98	87 - 112		

Lab Sample ID: LCSD 680-598579/35
Matrix: Water
Analysis Batch: 598579

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
Chloride			10.0	10.2		mg/L		102	87 - 111	0	15
Sulfate			10.0	9.87		mg/L		99	87 - 112	1	15

Lab Sample ID: MB 680-598593/33
Matrix: Water
Analysis Batch: 598593

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Chloride	0.50	U	0.50	0.50	0.20	mg/L		12/01/19 00:32	1
Sulfate	1.0	U	1.0	1.0	0.40	mg/L		12/01/19 00:32	1

Lab Sample ID: LCS 680-598593/34
Matrix: Water
Analysis Batch: 598593

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			10.0	10.1	M	mg/L		101	87 - 111		
Sulfate			10.0	10.1		mg/L		101	87 - 112		

Lab Sample ID: LCSD 680-598593/35
Matrix: Water
Analysis Batch: 598593

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
Chloride			10.0	10.1	M	mg/L		101	87 - 111	0	15
Sulfate			10.0	10.0		mg/L		100	87 - 112	0	15

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-596602/1-A
Matrix: Water
Analysis Batch: 597291

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 596602

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	23.0	J	50	50	17	ug/L		11/21/19 06:39	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/21/19 06:39	1

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

Lab Sample ID: LCS 680-596602/2-A
Matrix: Water
Analysis Batch: 597291

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 596602

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5010	4890		ug/L		98	87 - 115
Manganese	400	400		ug/L		100	90 - 114

Lab Sample ID: MB 680-596898/1-A
Matrix: Water
Analysis Batch: 597291

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 596898

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Iron	50	U	50	50	17	ug/L		11/21/19 03:10	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/21/19 03:10	1

Lab Sample ID: LCS 680-596898/2-A
Matrix: Water
Analysis Batch: 597291

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 596898

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5010	4920		ug/L		98	87 - 115
Manganese	400	402		ug/L		101	90 - 114

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 680-596601/1-A
Matrix: Water
Analysis Batch: 596837

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 596601

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/18/19 18:20	1

Lab Sample ID: LCS 680-596601/2-A
Matrix: Water
Analysis Batch: 596837

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 596601

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	101		ug/L		101	84 - 116

Method: 9060A - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 280-479927/37
Matrix: Water
Analysis Batch: 479927

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Dissolved Organic Carbon	1.0	U	1.0	1.0	0.35	mg/L		12/07/19 02:37	1

Lab Sample ID: LCS 280-479927/35
Matrix: Water
Analysis Batch: 479927

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	25.0	24.9		mg/L		100	88 - 112

Method: 9060A - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: LCSD 280-479927/36
Matrix: Water
Analysis Batch: 479927

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon			25.0	24.8		mg/L		99	88 - 112	0	15

Lab Sample ID: 680-177032-4 MS
Matrix: Water
Analysis Batch: 479927

Client Sample ID: SHM-99-31C_FAL19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Dissolved Organic Carbon	2.0		25.0	27.3		mg/L		101	88 - 112		

Lab Sample ID: 680-177032-4 MSD
Matrix: Water
Analysis Batch: 479927

Client Sample ID: SHM-99-31C_FAL19
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	2.0		25.0	27.5		mg/L		102	88 - 112	1	15

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-478392/57
Matrix: Water
Analysis Batch: 478392

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Alkalinity	10	U	10	10	3.1	mg/L		11/20/19 22:25	1

Lab Sample ID: LCS 280-478392/56
Matrix: Water
Analysis Batch: 478392

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity			200	206		mg/L		103	89 - 109		

HPLC/IC

Analysis Batch: 598402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-177032-4	SHM-99-31C_FAL19	Total/NA	Water	9056A	
MB 680-598402/65	Method Blank	Total/NA	Water	9056A	
LCS 680-598402/66	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-598402/67	Lab Control Sample Dup	Total/NA	Water	9056A	

Analysis Batch: 598517

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-177032-14	SHM-10-03_FAL19	Total/NA	Water	9056A	
680-177032-15	SHM-10-04_FAL19	Total/NA	Water	9056A	
680-177032-16	SHM-10-15_FAL19	Total/NA	Water	9056A	
MB 680-598517/2	Method Blank	Total/NA	Water	9056A	
LCS 680-598517/3	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-598517/4	Lab Control Sample Dup	Total/NA	Water	9056A	

Analysis Batch: 598579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-177032-5	SHM-13-01_FAL19	Total/NA	Water	9056A	
680-177032-6	SHM-10-12_FAL19	Total/NA	Water	9056A	
680-177032-7	SHL-DUP05_FAL19	Total/NA	Water	9056A	
680-177032-8	SHL-EB-111419	Total/NA	Water	9056A	
680-177032-12	SHM-10-08_FAL19	Total/NA	Water	9056A	
680-177032-13	SHM-10-02_FAL19	Total/NA	Water	9056A	
MB 680-598579/33	Method Blank	Total/NA	Water	9056A	
LCS 680-598579/34	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-598579/35	Lab Control Sample Dup	Total/NA	Water	9056A	

Analysis Batch: 598593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-177032-5 - DL	SHM-13-01_FAL19	Total/NA	Water	9056A	
MB 680-598593/33	Method Blank	Total/NA	Water	9056A	
LCS 680-598593/34	Lab Control Sample	Total/NA	Water	9056A	
LCSD 680-598593/35	Lab Control Sample Dup	Total/NA	Water	9056A	

Metals

Prep Batch: 596601

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-177032-5	SHM-13-01_FAL19	Dissolved	Water	3005A	
680-177032-6	SHM-10-12_FAL19	Dissolved	Water	3005A	
680-177032-7	SHL-DUP05_FAL19	Dissolved	Water	3005A	
680-177032-8	SHL-EB-111419	Dissolved	Water	3005A	
680-177032-12	SHM-10-08_FAL19	Dissolved	Water	3005A	
680-177032-13	SHM-10-02_FAL19	Dissolved	Water	3005A	
680-177032-14	SHM-10-03_FAL19	Dissolved	Water	3005A	
680-177032-15	SHM-10-04_FAL19	Dissolved	Water	3005A	
680-177032-16	SHM-10-15_FAL19	Dissolved	Water	3005A	
MB 680-596601/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-596601/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Metals

Prep Batch: 596602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-596602/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-596602/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 596837

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-177032-5	SHM-13-01_FAL19	Dissolved	Water	6020A	596601
680-177032-6	SHM-10-12_FAL19	Dissolved	Water	6020A	596601
680-177032-7	SHL-DUP05_FAL19	Dissolved	Water	6020A	596601
680-177032-8	SHL-EB-111419	Dissolved	Water	6020A	596601
680-177032-12	SHM-10-08_FAL19	Dissolved	Water	6020A	596601
680-177032-13	SHM-10-02_FAL19	Dissolved	Water	6020A	596601
680-177032-14	SHM-10-03_FAL19	Dissolved	Water	6020A	596601
680-177032-15	SHM-10-04_FAL19	Dissolved	Water	6020A	596601
680-177032-16	SHM-10-15_FAL19	Dissolved	Water	6020A	596601
MB 680-596601/1-A	Method Blank	Total Recoverable	Water	6020A	596601
LCS 680-596601/2-A	Lab Control Sample	Total Recoverable	Water	6020A	596601

Prep Batch: 596898

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-177032-5	SHM-13-01_FAL19	Dissolved	Water	3005A	
680-177032-6	SHM-10-12_FAL19	Dissolved	Water	3005A	
680-177032-7	SHL-DUP05_FAL19	Dissolved	Water	3005A	
680-177032-8	SHL-EB-111419	Dissolved	Water	3005A	
680-177032-12	SHM-10-08_FAL19	Dissolved	Water	3005A	
680-177032-13	SHM-10-02_FAL19	Dissolved	Water	3005A	
680-177032-14	SHM-10-03_FAL19	Dissolved	Water	3005A	
680-177032-15	SHM-10-04_FAL19	Dissolved	Water	3005A	
680-177032-16	SHM-10-15_FAL19	Dissolved	Water	3005A	
MB 680-596898/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-596898/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 597291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-177032-5	SHM-13-01_FAL19	Dissolved	Water	6010C	596898
680-177032-6	SHM-10-12_FAL19	Dissolved	Water	6010C	596898
680-177032-7	SHL-DUP05_FAL19	Dissolved	Water	6010C	596898
680-177032-8	SHL-EB-111419	Dissolved	Water	6010C	596898
680-177032-12	SHM-10-08_FAL19	Dissolved	Water	6010C	596898
680-177032-13	SHM-10-02_FAL19	Dissolved	Water	6010C	596898
680-177032-14	SHM-10-03_FAL19	Dissolved	Water	6010C	596898
680-177032-15	SHM-10-04_FAL19	Dissolved	Water	6010C	596898
680-177032-16	SHM-10-15_FAL19	Dissolved	Water	6010C	596898
MB 680-596602/1-A	Method Blank	Total Recoverable	Water	6010C	596602
MB 680-596898/1-A	Method Blank	Total Recoverable	Water	6010C	596898
LCS 680-596602/2-A	Lab Control Sample	Total Recoverable	Water	6010C	596602
LCS 680-596898/2-A	Lab Control Sample	Total Recoverable	Water	6010C	596898

QC Association Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-177032-2

General Chemistry

Analysis Batch: 478392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-177032-4	SHM-99-31C_FAL19	Total/NA	Water	SM 2320B	
680-177032-5	SHM-13-01_FAL19	Total/NA	Water	SM 2320B	
680-177032-6	SHM-10-12_FAL19	Total/NA	Water	SM 2320B	
680-177032-7	SHL-DUP05_FAL19	Total/NA	Water	SM 2320B	
680-177032-8	SHL-EB-111419	Total/NA	Water	SM 2320B	
680-177032-12	SHM-10-08_FAL19	Total/NA	Water	SM 2320B	
680-177032-13	SHM-10-02_FAL19	Total/NA	Water	SM 2320B	
680-177032-14	SHM-10-03_FAL19	Total/NA	Water	SM 2320B	
680-177032-15	SHM-10-04_FAL19	Total/NA	Water	SM 2320B	
680-177032-16	SHM-10-15_FAL19	Total/NA	Water	SM 2320B	
MB 280-478392/57	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-478392/56	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 479927

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-177032-4	SHM-99-31C_FAL19	Dissolved	Water	9060A	
680-177032-5	SHM-13-01_FAL19	Dissolved	Water	9060A	
680-177032-6	SHM-10-12_FAL19	Dissolved	Water	9060A	
680-177032-7	SHL-DUP05_FAL19	Dissolved	Water	9060A	
680-177032-8	SHL-EB-111419	Dissolved	Water	9060A	
680-177032-12	SHM-10-08_FAL19	Dissolved	Water	9060A	
680-177032-13	SHM-10-02_FAL19	Dissolved	Water	9060A	
680-177032-14	SHM-10-03_FAL19	Dissolved	Water	9060A	
680-177032-15	SHM-10-04_FAL19	Dissolved	Water	9060A	
680-177032-16	SHM-10-15_FAL19	Dissolved	Water	9060A	
MB 280-479927/37	Method Blank	Dissolved	Water	9060A	
LCS 280-479927/35	Lab Control Sample	Dissolved	Water	9060A	
LCSD 280-479927/36	Lab Control Sample Dup	Dissolved	Water	9060A	
680-177032-4 MS	SHM-99-31C_FAL19	Dissolved	Water	9060A	
680-177032-4 MSD	SHM-99-31C_FAL19	Dissolved	Water	9060A	

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-177032-2

Client Sample ID: SHM-99-31C_FAL19

Lab Sample ID: 680-177032-4

Date Collected: 11/14/19 09:05
Matrix: Water
Date Received: 11/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	598402	11/28/19 05:47	SMP	TAL SAV
	Instrument ID: CICK									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/07/19 03:10	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			478392	11/20/19 22:57	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-13-01_FAL19

Lab Sample ID: 680-177032-5

Date Collected: 11/14/19 13:40
Matrix: Water
Date Received: 11/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A	DL	5	5 mL	5 mL	598593	12/01/19 03:07	UI	TAL SAV
	Instrument ID: CICH									
Total/NA	Analysis	9056A		1	5 mL	5 mL	598579	11/30/19 04:12	SMP	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	596898	11/19/19 13:04	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597291	11/21/19 04:30	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596601	11/17/19 16:35	PG	TAL SAV
Dissolved	Analysis	6020A		1			596837	11/18/19 19:18	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/07/19 04:26	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			478392	11/20/19 23:01	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-10-12_FAL19

Lab Sample ID: 680-177032-6

Date Collected: 11/14/19 09:55
Matrix: Water
Date Received: 11/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	598579	11/30/19 03:09	SMP	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	596898	11/19/19 13:04	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597291	11/21/19 04:15	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596601	11/17/19 16:35	PG	TAL SAV
Dissolved	Analysis	6020A		1			596837	11/18/19 19:29	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/07/19 04:45	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			478392	11/20/19 23:06	SPG	TAL DEN
	Instrument ID: WC-AT3									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-177032-2

Client Sample ID: SHL-DUP05_FAL19

Lab Sample ID: 680-177032-7

Date Collected: 11/14/19 10:00
Date Received: 11/16/19 10:00

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	9056A		1	5 mL	5 mL	598579	11/30/19 03:22	SMP	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	596898	11/19/19 13:04	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597291	11/21/19 03:55	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596601	11/17/19 16:35	PG	TAL SAV
Dissolved	Analysis	6020A		1			596837	11/18/19 19:00	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/07/19 05:02	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			478392	11/20/19 23:11	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHL-EB-111419

Lab Sample ID: 680-177032-8

Date Collected: 11/14/19 11:15
Date Received: 11/16/19 10:00

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	9056A		1	5 mL	5 mL	598579	11/30/19 03:34	SMP	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	596898	11/19/19 13:04	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597291	11/21/19 04:35	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596601	11/17/19 16:35	PG	TAL SAV
Dissolved	Analysis	6020A		1			596837	11/18/19 19:15	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/07/19 05:16	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			478392	11/20/19 23:15	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-10-08_FAL19

Lab Sample ID: 680-177032-12

Date Collected: 11/14/19 08:25
Date Received: 11/16/19 10:00

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	9056A		1	5 mL	5 mL	598579	11/30/19 03:47	SMP	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	596898	11/19/19 13:04	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597291	11/21/19 04:10	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596601	11/17/19 16:35	PG	TAL SAV
Dissolved	Analysis	6020A		1			596837	11/18/19 19:21	BJB	TAL SAV
	Instrument ID: ICPMSD									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-177032-2

Client Sample ID: SHM-10-08_FAL19

Lab Sample ID: 680-177032-12

Date Collected: 11/14/19 08:25

Matrix: Water

Date Received: 11/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/07/19 05:33	SGB	TAL DEN
Total/NA	Analysis	SM 2320B		1			478392	11/20/19 23:22	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-10-02_FAL19

Lab Sample ID: 680-177032-13

Date Collected: 11/14/19 09:20

Matrix: Water

Date Received: 11/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	598579	11/30/19 04:00	SMP	TAL SAV
	Instrument ID: CICK									
Dissolved	Prep	3005A			50 mL	50 mL	596898	11/19/19 13:04	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597291	11/21/19 03:50	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596601	11/17/19 16:35	PG	TAL SAV
Dissolved	Analysis	6020A		1			596837	11/18/19 18:58	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/07/19 05:50	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			478392	11/20/19 23:37	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-10-03_FAL19

Lab Sample ID: 680-177032-14

Date Collected: 11/14/19 10:50

Matrix: Water

Date Received: 11/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	598517	11/29/19 19:46	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	596898	11/19/19 13:04	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597291	11/21/19 03:45	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596601	11/17/19 16:35	PG	TAL SAV
Dissolved	Analysis	6020A		1			596837	11/18/19 19:09	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/07/19 06:07	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			478392	11/20/19 23:42	SPG	TAL DEN
	Instrument ID: WC-AT3									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Fall 2019

Job ID: 680-177032-2

Client Sample ID: SHM-10-04_FAL19

Lab Sample ID: 680-177032-15

Date Collected: 11/14/19 12:25

Matrix: Water

Date Received: 11/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	598517	11/29/19 19:59	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	596898	11/19/19 13:04	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597291	11/21/19 04:40	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596601	11/17/19 16:35	PG	TAL SAV
Dissolved	Analysis	6020A		1			596837	11/18/19 18:55	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/07/19 06:21	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			478392	11/20/19 23:47	SPG	TAL DEN
	Instrument ID: WC-AT3									

Client Sample ID: SHM-10-15_FAL19

Lab Sample ID: 680-177032-16

Date Collected: 11/14/19 13:55

Matrix: Water

Date Received: 11/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	598517	11/29/19 20:12	UI	TAL SAV
	Instrument ID: CICH									
Dissolved	Prep	3005A			50 mL	50 mL	596898	11/19/19 13:04	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597291	11/21/19 04:25	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596601	11/17/19 16:35	PG	TAL SAV
Dissolved	Analysis	6020A		1			596837	11/18/19 19:03	BJB	TAL SAV
	Instrument ID: ICPMSD									
Dissolved	Analysis	9060A		1	20 mL	20 mL	479927	12/07/19 07:10	SGB	TAL DEN
	Instrument ID: WC_SHI3									
Total/NA	Analysis	SM 2320B		1			478392	11/20/19 23:52	SPG	TAL DEN
	Instrument ID: WC-AT3									

Laboratory References:

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

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2; Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: SW9060A/FLDFLT (B)	SW9056A (A)	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	A2320B (A)	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	C	Cooler
						3	5	9	9	46						
	SHM-99-31C_FAL19	WG	11/14/19	0905	MV	X	X	X	X	X		N1				1
	SHM-13-01_FAL19	WG	11/14/19	1340	MV	X	X	X	X	X		N1				1
		WG				X	X	X	X	X		N1				1
		WG				X	X	X	X	X		N1				1
1																
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680-177032-05 Chain of Custody

Relinquished by: *(Signature)*	Date	Time
[signature]	11/15/19	13:00
[signature]	11/15/19	1400
[signature]	11-15-19	1700

Received by: *(Signature)*	Date	Time
[signature]	11/15/19	1300
[signature]	11.15.19	1440

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

[signature] 11/16/19
3.2/3.3 1000
0.9/1.0 BAD 11-18-19

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2; Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

						Analytical Test Method	SW9060A/FLDFLT (B)	SW9056A (A)	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	A2320B (A)					
Event: KOMAN, Long Term Monitoring, SHL Fall 2019							3	5	9	9	46					
	Sample ID	Matrix	Date	Time	Samp Init.							Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler
	SHM-10-12_FAL19	WG	11/14/19	0955	B/A	X	X	X	X	X		SHM-10-12	N1			1
	SHL-DUP05_FAL19	WG	11/14/19	1000	B/A	X	X	X	X	X		SHL-DUP Field QC	FDN1			1
	SHL-EB-111419	WG	11/14/19	1115	B/A	X	X	X	X	X		Field QC	EBN1			1
	~~[illegible]~~	WG				X	X	X	X	X		~~[illegible]~~	N1			~~1~~
1																
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680-177032-02 Chain of Custody

Relinquished by: (Signature)	Date	Time
[signature]	11/15/19	1400
[signature]	11-15-19	1840

Received by: (Signature)	Date	Time
[signature]	11-16-19	1000

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**
Beth AD Daughtry 11-16-19@1000
0.9/1.0 BD 11-18-19

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2; Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: SW9060A/FLDFLT (B) 3	SW9056A (A) 5	SW6010C/FLDFLT (B) 9	SW6020A/FLDFLT (B) 9	A2320B (A) 46	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cocler
	SHM-10-08	WG	11/14/19	825	VLL	X	X	X	X	X		N1			1
	SHM-10-02	WG	11/14/19	920	VLL	X	X	X	X	X		N1			1
	SHM-10-03	WG	11/14/19	1050	VLL	X	X	X	X	X		N1			1
	SHM-10-04	WG	11/14/19	1225	VLL	X	X	X	X	X		N1			1
1	SHM-10-15	WG	11/14/19	1355	VLL	X	X	X	X	X		N1			1
1															
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680-177032-04 Chain of Custody

Relinquished by: *(Signature)*	Date	Time
	11/15/19	1409
	11-15-19	1800

Received by: *(Signature)*	Date	Time
	11-15-19	1900

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

11/16/19 1000
3.2/3.3
0.9/1.0 BIAD
11-18-19

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-ADD-1107

Project Name: Long Term Monitoring	Laboratory: TestAmerica Laboratories, Inc., Savannah, GA	Event: KOMAN, Long Term Monitoring, SHL Supplemental Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier 912.354.7858 jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 5102 LaRoche Avenue, Savannah, GA 31404	

Comments:
SW6010C/FLDFLT (G) = Mn Fe Cr Pb Ni Na Al
SW8260B (A) = VOCs 12DCA 12DCB 14DCB

Equipment:

Code	Matrix
WG	Ground Water
WQ	Water Quality Control Matrix

Code	Container/Preservative
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
29	3 x 40mL glass VOA Vials, HCl, pH < 2; Cool < 6°C

Analytical Test Method: SW6010C/FLDFLT (G) = 9; SW6020A/FLDFLT (B) = 9; 29; SW8260B - VOCs = 29

Event: KOMAN, Long Term Monitoring, SHL Supplemental Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	SW6010C/FLDFLT (G)	SW6020A/FLDFLT (B)	29	SW8260B - VOCs	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
1	~~EW-01_NOV19~~	~~WG~~	~~11/14/2019~~			~~X~~	~~X~~		~~X~~	~~EW-01~~	~~N1~~	~~60.00~~	~~85.00~~		~~1~~
2	~~EW-04_NOV19~~	~~WG~~	~~11/14/2019~~			~~X~~	~~X~~		~~X~~	~~EW-04~~	~~N1~~	~~70.00~~	~~95.00~~		~~1~~
3	~~SHM-99-32X_NOV19~~	~~WG~~	11/14/2019			~~X~~	~~X~~		~~X~~	~~SHM-99-32X~~	~~N1~~	~~72.00~~	~~82.00~~		~~1~~
4	~~TRIPBLANK-111419~~	~~WQ~~	~~11/14/2019~~						~~X~~	~~FIELDQC~~	~~TB1~~	~~0.00~~	~~0.00~~		~~1~~
5	SHM-99-31C-FAL19	WG	11/14/19	0905	MV	X	X		X	SHM-99-31C	N,	—	—	MS/MSD Collected	
6	EW-01-FAL19	WG	11/15/19	1010	BrA	X	X		X	EW-1	N.				
7	EW-04-FAL19	WG	11/15/19	1015	BrA	X	X		X	EW-4	N,				
8	TripBlank2-111519	WQ	11/15/19						X	Trip Blank	TB2	-	-		
9															
		Turnaround Time: 21 Days													

Relinquished by: *(Signature)*	Date	Time
	11/15/19	1400
	11-15-19	1700

Received by: *(Signature)*	Date	Time
	11-15-19	1700
	11/16/19	0905

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

680-177032 Chain of Custody

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2, Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2, Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

						Analytical Test Method	SW9060A/FLDFLT (B)	SW9056A (A)	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	A2320B (A)				
Event: KOMAN, Long Term Monitoring, SHL Fall 2019							**3**	**5**	**9**	**9**	**46**				
	Sample ID	Matrix	Date	Time	Samp Init.							Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
	SHM-10-12_FAL19	WG	11/14/19	0955	B/A		X	X	X	X	X	SHM-10-12	N1				1
	SHL-DUP05_FAL19	WG	11/14/19	1000	B/A		X	X	X	X	X	SHL-DUP Field QC	FD N1				1
	SHL-EB-111419	WG	11/14/19	1115	B/A		X	X	X	X	X	Field QC	EB N1				1
	~~[illegible]~~	WG					~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		~~N1~~				~~1~~
1																	
1																	
1																	
1																	
1																	
1																	
1																	

Relinquished by: (Signature)	Date	Time
[signature]	11/15/19	1403
[signature]	11-15-19	1811

Received by: (Signature)	Date	Time
[signature]	11-15-19	1401
[signature]	11/16/19	0905

Shipping Date / Carrier / Airbill Number

Received by Laboratory: (Signature, Date, Time) & condition

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2, Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2, Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

						Analytical Test Method	SW9060A/FLDFLT (B)	SW9056A (A)	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	A2320B (A)					
Event: KOMAN, Long Term Monitoring, SHL Fall 2019							**3**	**5**	**9**	**9**	**46**					
	Sample ID	Matrix	Date	Time	Samp Init.							Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
	SHM-99-32C_FAL19	WG	11/14/19	0905	MV		X	X	X	X	X		N1				1
	SHM-13-01_FAL19	WG	11/14/19	1340	MV		X	X	X	X	X		N1				1
		WG					X	X	X	X	X		N1				1
		WG					X	X	X	X	X		N1				1
1																	
1																	
1																	
1																	
1																	
1																	
1																	

Relinquished by: *(Signature)*	Date	Time
	11/15/19	13:00
	11/15/19	1400
	11-15-19	1600

Received by: *(Signature)*	Date	Time
	11/15/19	1300
	11/15/19	1430
	11/16/19	0905

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* & condition

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SUDA7_FAL19

Project Name: Long Term Monitoring	Laboratory: TestAmerica Laboratories, Inc., Savannah, GA	Event: KOMAN, Long Term Monitoring, Sudbury Annex Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier 912.354.7858 jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 5102 LaRoche Avenue, Savannah, GA 31404	

Comments:

Equipment:

Code	Matrix
WG	Ground Water
WQ	Water Quality Control Matrix

Code	Container/Preservative
6	1 x 500ml glass, H2SO4, Cool < 6°C
21	1 x 2-1 Liter, amber, glass, Cool < 6°C
29	3 x 40mL glass VOA Vials, HCl, pH < 2, Cool < 6°C
48	1 x 250mL plastic, NaOH to pH >12, Cool < 6°C

Analytical Test Method

Event: KOMAN, Long Term Monitoring, Sudbury Annex Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init	E410.4 - COD (6)	SW8081B (A) (21)	SW8260B - VOCs (29)	SW9012B (A) (48)	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
1	SUDA7-19-01_FAL19	WG	11/15/19	1040	VBA	X	X	X	X	SUDA7-19-01	N1	2.00	10.00		1
2	~~SUDA7-19-01_FAL19~~	~~WG~~				~~X~~	~~X~~	~~X~~	~~X~~	~~SUDA7-19-01~~	~~MS1~~	~~2.00~~	~~10.00~~	VBA	1
3	~~SUDA7-19-01_FAL19~~	~~WG~~				~~X~~	~~X~~	~~X~~	~~X~~	~~SUDA7-19-01~~	~~SD1~~	~~2.00~~	~~10.00~~	VBA	1
4	A7-TRIPBLANK_FAL19	WQ	—	—	—			X		FIELDQC	TB1	0.00	0.00		1
5	A7-DUP-1	WG	11/15/19	1045	VBA	X	X	X	X	SUDA7-19-01	DUP1				
6															
7															
8															
		Turnaround Time: 21 Days													

Relinquished by: *(Signature)*	**Date**	**Time**
	11/15/19	1400
	11/15/19	1700

Received by: *(Signature)*	**Date**	**Time**
	11/15/19	1700
	11/16/19	0905

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* & condition

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

KGS

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2; Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init	Analytical Test Method: SW9060A/FLDFLT (B) **3**	SW9056A (A) **5**	SW6010C/FLDFLT (B) **9**	SW6020A/FLDFLT (B) **9**	A2320B (A) **46**	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
	SHM-10-08	WG	11/14/19	825	VLL	X	X	X	X	X		N1				1
	SHM-10-02	WG	11/14/19	920	VLL	X	X	X	X	X		N1				1
	SHM-10-03	WG	11/14/19	1050	VLL	X	X	X	X	X		N1				1
	SHM-10-04	WG	11/14/19	1225	VLL	X	X	X	X	X		N1				1
1	SHM-10-15	WG	11/14/19	1355	VLL	X	X	X	X	X		N1				1
1																
1																
1																
1																
1																
1																

Relinquished by: *(Signature)*	Date	Time
	11/15/19	1409
	11-15-19	1800

Received by: *(Signature)*	Date	Time
	11-15-19	1700
	11/16/19	0905

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-177032-2

Login Number: 177032
List Number: 1
Creator: Weston, Pamela

List Source: Eurofins TestAmerica, Savannah

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

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-177032-2

Login Number: 177032
List Number: 2
Creator: Zimmerman, Steven M

List Source: Eurofins TestAmerica, Denver
List Creation: 11/18/19 03:32 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-177032-2
Project/Site: LTM - SHL Fall 2019

Laboratory: Eurofins TestAmerica, Savannah

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

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-20
Alaska	State	GA00006	06-30-20
Alaska (UST)	State	17-016	09-30-20
ANAB	Dept. of Defense ELAP	L2463	09-22-22
ANAB	ISO/IEC 17025	L2463.01	09-22-22
Arkansas DEQ	State	19-015-0	02-01-20
California	State	2939	06-30-20
Colorado	State	GA00006	12-31-19
Connecticut	State	PH-0161	03-31-21
Florida	NELAP	E87052	06-30-20
GA Dept. of Agriculture	State Program	N/A	06-12-20
Georgia	State	E87052	06-30-20
Georgia (DW)	State	803	06-30-20
Guam	State	19-007R	04-17-20
Hawaii	State	<cert No.>	06-30-20
Illinois	NELAP	004547	11-27-20
Indiana	State	C-GA-02	06-30-20
Iowa	State	353	09-22-20
Kansas	NELAP	E-10322	10-15-20
Kentucky (DW)	State	KY90084	12-31-19
Kentucky (UST)	State	<cert No.>	06-30-20
Kentucky (WW)	State	KY90084	12-31-19
Louisiana	NELAP	02011	06-30-20
Louisiana (DW)	State	LA009	12-31-19
Maine	State	GA00006	09-26-20
Maryland	State	250	12-31-19
Massachusetts	State	M-GA006	06-30-20
Michigan	State	9925	06-30-20
Mississippi	State	<cert No.>	06-30-20
Nebraska	State	NE-OS-7-04	06-30-20
New Hampshire	NELAP	2096	05-29-20
New Jersey	NELAP	GA769	06-30-20
New Mexico	State	GA00006	06-30-20
New York	NELAP	10842	04-01-20
North Carolina (DW)	State	13701	07-31-20
North Carolina (WW/SW)	State	269	12-31-19
Oklahoma	State	9984	08-31-20
Pennsylvania	NELAP	68-00474	06-30-20
Puerto Rico	State	GA00006	01-01-20
South Carolina	State	98001	06-30-20
Tennessee	State	02961	06-30-20
Texas	NELAP	T1047004185-19-14	11-30-20
Texas	TCEQ Water Supply	T104704185	09-23-20
US Fish & Wildlife	US Federal Programs	LE058448-0	07-31-20
USDA	US Federal Programs	P330-18-00313	10-29-21
Virginia	NELAP	10509	06-14-20
Washington	State	C805	06-10-20
West Virginia (DW)	State	9950C	12-31-19
Wisconsin	State	999819810	08-31-20

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-177032-2
Project/Site: LTM - SHL Fall 2019

Laboratory: Eurofins TestAmerica, Savannah (Continued)

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

Authority	Program	Identification Number	Expiration Date
Wyoming	State	8TMS-L	06-30-20 *

Laboratory: Eurofins TestAmerica, Denver

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

Authority	Program	Identification Number	Expiration Date
A2LA	DoD	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

Laboratory Job ID: 680-177032-3
Client Project/Site: LTM - SHL Supplemental Fall 2019
Revision: 1

For:
KOMAN Government Solutions, LLC
293 Boston Post Road West
Suite 100
Marlborough, Massachusetts 01752

Attn: Laurie Ekes

Jerry Lanier

Authorized for release by:
12/11/2019 10:06:09 AM

Jerry Lanier, Project Manager I
(912)250-0281
jerry.lanier@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 680-177032-3

Laboratory: Eurofins TestAmerica, Savannah

Narrative

CASE NARRATIVE

Client: KOMAN Government Solutions, LLC

Project: LTM - SHL Supplemental Fall 2019

Report Number: 680-177032-3

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 the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 11/16/2019; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 1.0 C.

The final report was revised to edit the sample IDs to add an R to the end per client request.

VOLATILE ORGANIC COMPOUNDS (GC/MS)

Samples SHM-99-31C_FAL19R (680-177032-4), EW-01_FAL19R (680-177032-9), EW-04_FAL19R (680-177032-10) and TRIPBLANK2_111519 (680-177032-11) were analyzed for Volatile Organic Compounds (GC/MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 11/27/2019.

Toluene-d8 (Surr) failed the surrogate recovery criteria high for LCS 680-598228/4. Toluene-d8 (Surr) failed the surrogate recovery criteria high for LCSD 680-598228/5. Refer to the QC report for details.

Surrogate recovery for the following sample was outside the upper control limit: EW-01_FAL19R (680-177032-9). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Surrogate recovery for the following sample was outside control limits: SHM-99-31C_FAL19R (680-177032-4). Evidence of matrix interferences is not obvious. The failing surrogate does not link to target analytes.

Surrogate recovery for the following samples were outside control limits: EW-04_FAL19R (680-177032-10) and TRIPBLANK2_111519 (680-177032-11). Evidence of matrix interferences is not obvious. There is insufficient hold time to rerun the samples in hold.

The closing calibration verification (CCVC 680-598170/32) ran outside of the method specific 12 hour window. The sample QC and capping was within acceptable limits therefore; the data has been qualified and reported.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 680-598228.

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

METALS (ICP) - DISSOLVED

Samples SHM-99-31C_FAL19R (680-177032-4), EW-01_FAL19R (680-177032-9) and EW-04_FAL19R (680-177032-10) were analyzed for Metals (ICP) - Dissolved in accordance with EPA SW-846 Method 6010C. The samples were prepared on 11/17/2019 and 11/19/2019 and analyzed on 11/20/2019 and 11/21/2019.

Job ID: 680-177032-3 (Continued)

Laboratory: Eurofins TestAmerica, Savannah (Continued)

Iron was detected in method blank MB 680-596602/1-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. Refer to the QC report for details.

Iron, Manganese and Sodium failed the recovery criteria low for the MS of sample SHM-99-31C_FAL19RMS (680-177032-4) in batch 680-597291.

Manganese and Sodium failed the recovery criteria low for the MSD of sample SHM-99-31C_FAL19RMSD (680-177032-4) in batch 680-597291.

Iron, Manganese and Sodium failed the recovery criteria low for the MS/MSD of sample EW-01_FAL19R (680-177032-9) in batch 680-597291.

Refer to the QC report for details.

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

METALS (ICPMS) - DISSOLVED

Samples SHM-99-31C_FAL19R (680-177032-4), EW-01_FAL19R (680-177032-9) and EW-04_FAL19R (680-177032-10) were analyzed for Metals (ICPMS) - Dissolved in accordance with EPA SW-846 Method 6020A. The samples were prepared on 11/17/2019 and analyzed on 11/18/2019 and 11/19/2019.

Arsenic failed the recovery criteria low for the MS of sample SHM-99-31C_FAL19RMS (680-177032-4) in batch 680-597053.

Refer to the QC report for details.

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

Sample Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Supplemental Fall 2019

Job ID: 680-177032-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
680-177032-4	SHM-99-31C_FAL19R	Water	11/14/19 09:05	11/16/19 10:00	
680-177032-9	EW-01_FAL19R	Water	11/15/19 10:10	11/16/19 10:00	
680-177032-10	EW-04_FAL19R	Water	11/15/19 10:15	11/16/19 10:00	
680-177032-11	TRIPBLANK2_111519	Water	11/15/19 00:00	11/16/19 10:00	

Method Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Supplemental Fall 2019

Job ID: 680-177032-3

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV
6020A	Metals (ICP/MS)	SW846	TAL SAV
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL SAV
5030B	Purge and Trap	SW846	TAL SAV

Protocol References:

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

Laboratory References:

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Qualifiers

GC/MS VOA

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

Metals

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

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)

Client Sample ID: SHM-99-31C_FAL19R
Lab Sample ID: 680-177032-4

Date Collected: 11/14/19 09:05
Matrix: Water
Date Received: 11/16/19 10:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichlorobenzene	1.0	U	1.0	1.0	0.37	ug/L		11/27/19 03:15	1
1,2-Dichloroethane	1.0	U	1.0	1.0	0.50	ug/L		11/27/19 03:15	1
1,4-Dichlorobenzene	1.0	U M	1.0	1.0	0.46	ug/L		11/27/19 03:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*81 - 118*		*11/27/19 03:15*	*1*
4-Bromofluorobenzene (Surr)	*101*		*85 - 114*		*11/27/19 03:15*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 119*		*11/27/19 03:15*	*1*
Toluene-d8 (Surr)	*87*	*Q*	*89 - 112*		*11/27/19 03:15*	*1*

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	**110**	**J**	200	70	24	ug/L		11/20/19 21:39	1
Chromium	4.0	U	10	4.0	1.6	ug/L		11/20/19 21:39	1
Iron	**11000**	**J1**	50	50	17	ug/L		11/20/19 21:39	1
Lead	**9.0**	**J**	10	10	3.9	ug/L		11/20/19 21:39	1
Manganese	**4700**	**J1**	10	3.0	1.0	ug/L		11/20/19 21:39	1
Nickel	**6.3**	**J**	40	5.0	2.1	ug/L		11/20/19 21:39	1
Sodium	**28000**	**J1**	1000	1000	480	ug/L		11/20/19 21:39	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	**140**	**J1**	3.0	3.0	1.5	ug/L		11/19/19 20:45	1

Client Sample ID: EW-01_FAL19R
Lab Sample ID: 680-177032-9

Date Collected: 11/15/19 10:10
Matrix: Water
Date Received: 11/16/19 10:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichlorobenzene	1.0	U	1.0	1.0	0.37	ug/L		11/27/19 14:49	1
1,2-Dichloroethane	1.0	U M	1.0	1.0	0.50	ug/L		11/27/19 14:49	1
1,4-Dichlorobenzene	**0.71**	**J**	1.0	1.0	0.46	ug/L		11/27/19 14:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*81 - 118*		*11/27/19 14:49*	*1*
4-Bromofluorobenzene (Surr)	*100*		*85 - 114*		*11/27/19 14:49*	*1*
Dibromofluoromethane (Surr)	*114*		*80 - 119*		*11/27/19 14:49*	*1*
Toluene-d8 (Surr)	*116*	*Q*	*89 - 112*		*11/27/19 14:49*	*1*

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	70	U	200	70	24	ug/L		11/21/19 03:20	1
Chromium	4.0	U	10	4.0	1.6	ug/L		11/21/19 03:20	1
Iron	**66000**	**J1**	50	50	17	ug/L		11/21/19 03:20	1
Lead	10	U	10	10	3.9	ug/L		11/21/19 03:20	1
Manganese	**2200**	**J1**	10	3.0	1.0	ug/L		11/21/19 03:20	1
Nickel	**7.3**	**J**	40	5.0	2.1	ug/L		11/21/19 03:20	1
Sodium	**13000**	**J1**	1000	1000	480	ug/L		11/21/19 03:20	1

Client Sample ID: EW-01_FAL19R

Lab Sample ID: 680-177032-9
Date Collected: 11/15/19 10:10
Matrix: Water
Date Received: 11/16/19 10:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	**1700**		3.0	3.0	1.5	ug/L		11/18/19 19:12	1

Client Sample ID: EW-04_FAL19R

Lab Sample ID: 680-177032-10
Date Collected: 11/15/19 10:15
Matrix: Water
Date Received: 11/16/19 10:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichlorobenzene	1.0	U	1.0	1.0	0.37	ug/L		11/27/19 16:46	1
1,2-Dichloroethane	1.0	U M	1.0	1.0	0.50	ug/L		11/27/19 16:46	1
1,4-Dichlorobenzene	1.0	U	1.0	1.0	0.46	ug/L		11/27/19 16:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*77*	*Q*	*81 - 118*		*11/27/19 16:46*	*1*
4-Bromofluorobenzene (Surr)	*94*		*85 - 114*		*11/27/19 16:46*	*1*
Dibromofluoromethane (Surr)	*109*		*80 - 119*		*11/27/19 16:46*	*1*
Toluene-d8 (Surr)	*107*		*89 - 112*		*11/27/19 16:46*	*1*

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	70	U	200	70	24	ug/L		11/21/19 04:20	1
Chromium	4.0	U	10	4.0	1.6	ug/L		11/21/19 04:20	1
Iron	**40000**		50	50	17	ug/L		11/21/19 04:20	1
Lead	10	U	10	10	3.9	ug/L		11/21/19 04:20	1
Manganese	**2400**		10	3.0	1.0	ug/L		11/21/19 04:20	1
Nickel	**6.2**	**J**	40	5.0	2.1	ug/L		11/21/19 04:20	1
Sodium	**6500**		1000	1000	480	ug/L		11/21/19 04:20	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	**3200**		3.0	3.0	1.5	ug/L		11/18/19 19:06	1

Client Sample ID: TRIPBLANK2_111519

Lab Sample ID: 680-177032-11
Date Collected: 11/15/19 00:00
Matrix: Water
Date Received: 11/16/19 10:00

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichlorobenzene	1.0	U	1.0	1.0	0.37	ug/L		11/27/19 17:09	1
1,2-Dichloroethane	1.0	U M	1.0	1.0	0.50	ug/L		11/27/19 17:09	1
1,4-Dichlorobenzene	1.0	U	1.0	1.0	0.46	ug/L		11/27/19 17:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*80*	*Q*	*81 - 118*		*11/27/19 17:09*	*1*
4-Bromofluorobenzene (Surr)	*98*		*85 - 114*		*11/27/19 17:09*	*1*
Dibromofluoromethane (Surr)	*106*		*80 - 119*		*11/27/19 17:09*	*1*
Toluene-d8 (Surr)	*100*		*89 - 112*		*11/27/19 17:09*	*1*

Surrogate Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Supplemental Fall 2019

Job ID: 680-177032-3

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(81-118)	(85-114)	(80-119)	(89-112)
680-177032-4	SHM-99-31C_FAL19R	93	101	100	87 Q
680-177032-9	EW-01_FAL19R	92	100	114	116 Q
680-177032-10	EW-04_FAL19R	77 Q	94	109	107
680-177032-11	TRIPBLANK2_111519	80 Q	98	106	100
LCS 680-598170/4	Lab Control Sample	97	92	99	93
LCS 680-598228/4	Lab Control Sample	89	89	106	115 Q
LCSD 680-598170/5	Lab Control Sample Dup	96	107	98	98
LCSD 680-598228/5	Lab Control Sample Dup	89	92	118	113 Q
MB 680-598170/10	Method Blank	94	106	104	101
MB 680-598228/7	Method Blank	87	99	103	108

Surrogate Legend

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

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

Lab Sample ID: MB 680-598170/10
Matrix: Water
Analysis Batch: 598170

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichlorobenzene	1.0	U	1.0	1.0	0.37	ug/L		11/27/19 02:51	1
1,2-Dichloroethane	1.0	U	1.0	1.0	0.50	ug/L		11/27/19 02:51	1
1,4-Dichlorobenzene	1.0	U	1.0	1.0	0.46	ug/L		11/27/19 02:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*81 - 118*		*11/27/19 02:51*	*1*
4-Bromofluorobenzene (Surr)	*106*		*85 - 114*		*11/27/19 02:51*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 119*		*11/27/19 02:51*	*1*
Toluene-d8 (Surr)	*101*		*89 - 112*		*11/27/19 02:51*	*1*

Lab Sample ID: LCS 680-598170/4
Matrix: Water
Analysis Batch: 598170

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	50.0	50.6		ug/L		101	80 - 119
1,2-Dichloroethane	50.0	49.0		ug/L		98	73 - 128
1,4-Dichlorobenzene	50.0	49.4		ug/L		99	79 - 118

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*81 - 118*
4-Bromofluorobenzene (Surr)	*92*		*85 - 114*
Dibromofluoromethane (Surr)	*99*		*80 - 119*
Toluene-d8 (Surr)	*93*		*89 - 112*

Lab Sample ID: LCSD 680-598170/5
Matrix: Water
Analysis Batch: 598170

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
1,2-Dichlorobenzene	50.0	51.3		ug/L		103	80 - 119	1	20
1,2-Dichloroethane	50.0	48.3		ug/L		97	73 - 128	1	20
1,4-Dichlorobenzene	50.0	49.5		ug/L		99	79 - 118	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*81 - 118*
4-Bromofluorobenzene (Surr)	*107*		*85 - 114*
Dibromofluoromethane (Surr)	*98*		*80 - 119*
Toluene-d8 (Surr)	*98*		*89 - 112*

Lab Sample ID: MB 680-598228/7
Matrix: Water
Analysis Batch: 598228

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
1,2-Dichlorobenzene	1.0	U	1.0	1.0	0.37	ug/L		11/27/19 12:06	1
1,2-Dichloroethane	1.0	U M	1.0	1.0	0.50	ug/L		11/27/19 12:06	1
1,4-Dichlorobenzene	1.0	U	1.0	1.0	0.46	ug/L		11/27/19 12:06	1

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

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*87*		*81 - 118*		*11/27/19 12:06*	*1*
4-Bromofluorobenzene (Surr)	*99*		*85 - 114*		*11/27/19 12:06*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 119*		*11/27/19 12:06*	*1*
Toluene-d8 (Surr)	*108*		*89 - 112*		*11/27/19 12:06*	*1*

Lab Sample ID: LCS 680-598228/4
Matrix: Water
Analysis Batch: 598228

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,2-Dichlorobenzene			50.0	54.6		ug/L		109	80 - 119		
1,2-Dichloroethane			50.0	47.0		ug/L		94	73 - 128		
1,4-Dichlorobenzene			50.0	51.3		ug/L		103	79 - 118		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*89*		*81 - 118*
4-Bromofluorobenzene (Surr)	*89*		*85 - 114*
Dibromofluoromethane (Surr)	*106*		*80 - 119*
Toluene-d8 (Surr)	*115*	*Q*	*89 - 112*

Lab Sample ID: LCSD 680-598228/5
Matrix: Water
Analysis Batch: 598228

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
1,2-Dichlorobenzene			50.0	53.3		ug/L		107	80 - 119	2	20
1,2-Dichloroethane			50.0	45.3		ug/L		91	73 - 128	4	20
1,4-Dichlorobenzene			50.0	51.5		ug/L		103	79 - 118	0	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*89*		*81 - 118*
4-Bromofluorobenzene (Surr)	*92*		*85 - 114*
Dibromofluoromethane (Surr)	*118*		*80 - 119*
Toluene-d8 (Surr)	*113*	*Q*	*89 - 112*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-596602/1-A
Matrix: Water
Analysis Batch: 597291

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 596602

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	70	U	200	70	24	ug/L		11/21/19 06:39	1
Chromium	4.0	U	10	4.0	1.6	ug/L		11/21/19 06:39	1
Iron	23.0	J	50	50	17	ug/L		11/21/19 06:39	1
Lead	10	U	10	10	3.9	ug/L		11/21/19 06:39	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/21/19 06:39	1
Nickel	5.0	U	40	5.0	2.1	ug/L		11/21/19 06:39	1
Sodium	1000	U	1000	1000	480	ug/L		11/21/19 06:39	1

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

Lab Sample ID: LCS 680-596602/2-A
Matrix: Water
Analysis Batch: 597291

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 596602

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	5000	4730		ug/L		95	86 - 115
Chromium	100	101		ug/L		101	90 - 113
Iron	5010	4890		ug/L		98	87 - 115
Lead	454	455		ug/L		100	86 - 113
Manganese	400	400		ug/L		100	90 - 114
Nickel	99.5	99.1		ug/L		100	88 - 113
Sodium	5040	4760		ug/L		95	87 - 115

Lab Sample ID: MB 680-596607/1-A
Matrix: Water
Analysis Batch: 597291

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 596607

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	70	U	200	70	24	ug/L		11/20/19 21:29	1
Chromium	4.0	U	10	4.0	1.6	ug/L		11/20/19 21:29	1
Iron	50	U	50	50	17	ug/L		11/20/19 21:29	1
Lead	10	U	10	10	3.9	ug/L		11/20/19 21:29	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/20/19 21:29	1
Nickel	5.0	U	40	5.0	2.1	ug/L		11/20/19 21:29	1
Sodium	1000	U	1000	1000	480	ug/L		11/20/19 21:29	1

Lab Sample ID: LCS 680-596607/2-A
Matrix: Water
Analysis Batch: 597291

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 596607

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	5000	4810		ug/L		96	86 - 115
Chromium	100	102		ug/L		102	90 - 113
Iron	5010	4930		ug/L		98	87 - 115
Lead	454	459		ug/L		101	86 - 113
Manganese	400	405		ug/L		101	90 - 114
Nickel	99.5	101		ug/L		101	88 - 113
Sodium	5040	4770		ug/L		95	87 - 115

Lab Sample ID: MB 680-596898/1-A
Matrix: Water
Analysis Batch: 597291

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 596898

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	70	U	200	70	24	ug/L		11/21/19 03:10	1
Chromium	4.0	U	10	4.0	1.6	ug/L		11/21/19 03:10	1
Iron	50	U	50	50	17	ug/L		11/21/19 03:10	1
Lead	10	U	10	10	3.9	ug/L		11/21/19 03:10	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/21/19 03:10	1
Nickel	5.0	U	40	5.0	2.1	ug/L		11/21/19 03:10	1
Sodium	1000	U	1000	1000	480	ug/L		11/21/19 03:10	1

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

Lab Sample ID: LCS 680-596898/2-A
Matrix: Water
Analysis Batch: 597291

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 596898

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	5000	4750		ug/L		95	86 - 115
Chromium	100	101		ug/L		101	90 - 113
Iron	5010	4920		ug/L		98	87 - 115
Lead	454	456		ug/L		100	86 - 113
Manganese	400	402		ug/L		101	90 - 114
Nickel	99.5	97.6		ug/L		98	88 - 113
Sodium	5040	4740		ug/L		94	87 - 115

Lab Sample ID: 680-177032-4 MS
Matrix: Water
Analysis Batch: 597291

Client Sample ID: SHM-99-31C_FAL19R
Prep Type: Dissolved
Prep Batch: 596607

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	110	J	5000	4750		ug/L		93	86 - 115
Chromium	4.0	U	100	97.5		ug/L		97	90 - 113
Iron	11000	J1	5010	15200	J1	ug/L		83	87 - 115
Lead	9.0	J	454	433		ug/L		93	86 - 113
Manganese	4700	J1	400	4890	4	ug/L		46	90 - 114
Nickel	6.3	J	99.5	101		ug/L		95	88 - 113
Sodium	28000	J1	5040	31800	4	ug/L		77	87 - 115

Lab Sample ID: 680-177032-4 MSD
Matrix: Water
Analysis Batch: 597291

Client Sample ID: SHM-99-31C_FAL19R
Prep Type: Dissolved
Prep Batch: 596607

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	110	J	5000	4840		ug/L		95	86 - 115	2	20
Chromium	4.0	U	100	99.1		ug/L		99	90 - 113	2	20
Iron	11000	J1	5010	15400		ug/L		88	87 - 115	1	20
Lead	9.0	J	454	444		ug/L		96	86 - 113	3	20
Manganese	4700	J1	400	4950	4	ug/L		61	90 - 114	1	20
Nickel	6.3	J	99.5	102		ug/L		96	88 - 113	1	20
Sodium	28000	J1	5040	32100	4	ug/L		83	87 - 115	1	20

Lab Sample ID: 680-177032-9 MS
Matrix: Water
Analysis Batch: 597291

Client Sample ID: EW-01_FAL19R
Prep Type: Dissolved
Prep Batch: 596898

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	70	U	5000	4800		ug/L		96	86 - 115
Chromium	4.0	U	100	100		ug/L		100	90 - 113
Iron	66000	J1	5010	66200	4	ug/L		3	87 - 115
Lead	10	U	454	444		ug/L		98	86 - 113
Manganese	2200	J1	400	2440	4	ug/L		60	90 - 114
Nickel	7.3	J	99.5	104		ug/L		97	88 - 113
Sodium	13000	J1	5040	17400	J1	ug/L		80	87 - 115

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

Lab Sample ID: 680-177032-9 MSD
Matrix: Water
Analysis Batch: 597291

Client Sample ID: EW-01_FAL19R
Prep Type: Dissolved
Prep Batch: 596898

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	70	U	5000	4720		ug/L		94	86 - 115	2	20
Chromium	4.0	U	100	97.9		ug/L		98	90 - 113	2	20
Iron	66000	J1	5010	64700	4	ug/L		-27	87 - 115	2	20
Lead	10	U	454	438		ug/L		97	86 - 113	1	20
Manganese	2200	J1	400	2390	4	ug/L		48	90 - 114	2	20
Nickel	7.3	J	99.5	101		ug/L		95	88 - 113	3	20
Sodium	13000	J1	5040	17000	J1	ug/L		72	87 - 115	2	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 680-596601/1-A
Matrix: Water
Analysis Batch: 596837

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 596601

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/18/19 18:20	1

Lab Sample ID: LCS 680-596601/2-A
Matrix: Water
Analysis Batch: 596837

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 596601

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	101		ug/L		101	84 - 116

Lab Sample ID: MB 680-596604/1-A
Matrix: Water
Analysis Batch: 597053

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 596604

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/19/19 20:39	1

Lab Sample ID: LCS 680-596604/2-A
Matrix: Water
Analysis Batch: 597053

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 596604

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	99.2		ug/L		99	84 - 116

Lab Sample ID: 680-177032-4 MS
Matrix: Water
Analysis Batch: 597053

Client Sample ID: SHM-99-31C_FAL19R
Prep Type: Dissolved
Prep Batch: 596604

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	140	J1	100	228	J1	ug/L		83	84 - 116

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Supplemental Fall 2019

Job ID: 680-177032-3

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

Lab Sample ID: 680-177032-4 MSD
Matrix: Water
Analysis Batch: 597053

Client Sample ID: SHM-99-31C_FAL19R
Prep Type: Dissolved
Prep Batch: 596604

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	140	J1	100	244		ug/L		100	84 - 116	7	20

QC Association Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-177032-3
Project/Site: LTM - SHL Supplemental Fall 2019

GC/MS VOA

Analysis Batch: 598170

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-177032-4	SHM-99-31C_FAL19R	Total/NA	Water	8260B	
MB 680-598170/10	Method Blank	Total/NA	Water	8260B	
LCS 680-598170/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-598170/5	Lab Control Sample Dup	Total/NA	Water	8260B	

Analysis Batch: 598228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-177032-9	EW-01_FAL19R	Total/NA	Water	8260B	
680-177032-10	EW-04_FAL19R	Total/NA	Water	8260B	
680-177032-11	TRIPBLANK2_111519	Total/NA	Water	8260B	
MB 680-598228/7	Method Blank	Total/NA	Water	8260B	
LCS 680-598228/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-598228/5	Lab Control Sample Dup	Total/NA	Water	8260B	

Metals

Prep Batch: 596601

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-177032-9	EW-01_FAL19R	Dissolved	Water	3005A	
680-177032-10	EW-04_FAL19R	Dissolved	Water	3005A	
MB 680-596601/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-596601/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 596602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-596602/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-596602/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 596604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-177032-4	SHM-99-31C_FAL19R	Dissolved	Water	3005A	
MB 680-596604/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-596604/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
680-177032-4 MS	SHM-99-31C_FAL19R	Dissolved	Water	3005A	
680-177032-4 MSD	SHM-99-31C_FAL19R	Dissolved	Water	3005A	

Prep Batch: 596607

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-177032-4	SHM-99-31C_FAL19R	Dissolved	Water	3005A	
MB 680-596607/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-596607/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
680-177032-4 MS	SHM-99-31C_FAL19R	Dissolved	Water	3005A	
680-177032-4 MSD	SHM-99-31C_FAL19R	Dissolved	Water	3005A	

Analysis Batch: 596837

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-177032-9	EW-01_FAL19R	Dissolved	Water	6020A	596601
680-177032-10	EW-04_FAL19R	Dissolved	Water	6020A	596601
MB 680-596601/1-A	Method Blank	Total Recoverable	Water	6020A	596601
LCS 680-596601/2-A	Lab Control Sample	Total Recoverable	Water	6020A	596601

QC Association Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-177032-3
Project/Site: LTM - SHL Supplemental Fall 2019

Metals

Prep Batch: 596898

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-177032-9	EW-01_FAL19R	Dissolved	Water	3005A	
680-177032-10	EW-04_FAL19R	Dissolved	Water	3005A	
MB 680-596898/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-596898/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
680-177032-9 MS	EW-01_FAL19R	Dissolved	Water	3005A	
680-177032-9 MSD	EW-01_FAL19R	Dissolved	Water	3005A	

Analysis Batch: 597053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-177032-4	SHM-99-31C_FAL19R	Dissolved	Water	6020A	596604
MB 680-596604/1-A	Method Blank	Total Recoverable	Water	6020A	596604
LCS 680-596604/2-A	Lab Control Sample	Total Recoverable	Water	6020A	596604
680-177032-4 MS	SHM-99-31C_FAL19R	Dissolved	Water	6020A	596604
680-177032-4 MSD	SHM-99-31C_FAL19R	Dissolved	Water	6020A	596604

Analysis Batch: 597291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-177032-4	SHM-99-31C_FAL19R	Dissolved	Water	6010C	596607
680-177032-9	EW-01_FAL19R	Dissolved	Water	6010C	596898
680-177032-10	EW-04_FAL19R	Dissolved	Water	6010C	596898
MB 680-596602/1-A	Method Blank	Total Recoverable	Water	6010C	596602
MB 680-596607/1-A	Method Blank	Total Recoverable	Water	6010C	596607
MB 680-596898/1-A	Method Blank	Total Recoverable	Water	6010C	596898
LCS 680-596602/2-A	Lab Control Sample	Total Recoverable	Water	6010C	596602
LCS 680-596607/2-A	Lab Control Sample	Total Recoverable	Water	6010C	596607
LCS 680-596898/2-A	Lab Control Sample	Total Recoverable	Water	6010C	596898
680-177032-4 MS	SHM-99-31C_FAL19R	Dissolved	Water	6010C	596607
680-177032-4 MSD	SHM-99-31C_FAL19R	Dissolved	Water	6010C	596607
680-177032-9 MS	EW-01_FAL19R	Dissolved	Water	6010C	596898
680-177032-9 MSD	EW-01_FAL19R	Dissolved	Water	6010C	596898

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Supplemental Fall 2019

Job ID: 680-177032-3

Client Sample ID: SHM-99-31C_FAL19R

Lab Sample ID: 680-177032-4
Date Collected: 11/14/19 09:05
Matrix: Water
Date Received: 11/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	598170	11/27/19 03:15	Y1S	TAL SAV
	Instrument ID: CMSAA									
Dissolved	Prep	3005A			50 mL	50 mL	596607	11/17/19 21:03	PG	TAL SAV
Dissolved	Analysis	6010C		1			597291	11/20/19 21:39	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596604	11/17/19 17:14	PG	TAL SAV
Dissolved	Analysis	6020A		1			597053	11/19/19 20:45	BJB	TAL SAV
	Instrument ID: ICPMSD									

Client Sample ID: EW-01_FAL19R

Lab Sample ID: 680-177032-9
Date Collected: 11/15/19 10:10
Matrix: Water
Date Received: 11/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	598228	11/27/19 14:49	P1C	TAL SAV
	Instrument ID: CMSP2									
Dissolved	Prep	3005A			50 mL	50 mL	596898	11/19/19 13:04	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597291	11/21/19 03:20	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596601	11/17/19 16:35	PG	TAL SAV
Dissolved	Analysis	6020A		1			596837	11/18/19 19:12	BJB	TAL SAV
	Instrument ID: ICPMSD									

Client Sample ID: EW-04_FAL19R

Lab Sample ID: 680-177032-10
Date Collected: 11/15/19 10:15
Matrix: Water
Date Received: 11/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	598228	11/27/19 16:46	P1C	TAL SAV
	Instrument ID: CMSP2									
Dissolved	Prep	3005A			50 mL	50 mL	596898	11/19/19 13:04	AJR	TAL SAV
Dissolved	Analysis	6010C		1			597291	11/21/19 04:20	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	596601	11/17/19 16:35	PG	TAL SAV
Dissolved	Analysis	6020A		1			596837	11/18/19 19:06	BJB	TAL SAV
	Instrument ID: ICPMSD									

Client Sample ID: TRIPBLANK2_111519

Lab Sample ID: 680-177032-11
Date Collected: 11/15/19 00:00
Matrix: Water
Date Received: 11/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	598228	11/27/19 17:09	P1C	TAL SAV
	Instrument ID: CMSP2									

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Supplemental Fall 2019

Job ID: 680-177032-3

Laboratory References:

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

KGS

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2; Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: SW9060A/FLDFLT (B)	SW9056A (A)	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	A2320B (A)	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	C	Cooler
						3	5	9	9	46						
	SHM-99-35C_FAL19	WG	11/14/19	0905	MV	X	X	X	X	X		N1				1
	SHM-13-01_FAL19	WG	11/14/19	1340	MV	X	X	X	X	X		N1				1
		WG				X	X	X	X	X		N1				1
		WG				X	X	X	X	X		N1				1
1																
1																
1																
1																
1																
1																
1																

680-177032-05 Chain of Custody

Relinquished by: *(Signature)*	Date	Time
[signature]	11/15/19	13:00
[signature]	11/15/19	1400
[signature]	11/15/19	1800

Received by: *(Signature)*	Date	Time
[signature]	11/15/19	1300
[signature]	11/15/19	1400

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

11/16/19 1000
3.2/3.3
0.9/1.0 BAD 11-18-19

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-ADD-1107

Project Name: Long Term Monitoring	Laboratory: TestAmerica Laboratories, Inc., Savannah, GA	Event: KOMAN, Long Term Monitoring, SHL Supplemental Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier 912.354.7858 jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 5102 LaRoche Avenue, Savannah, GA 31404	

Comments:
SW6010C/FLDFLT (G) = Mn Fe Cr Pb Ni Na Al
SW8260B (A) = VOCs 12DCA 12DCB 14DCB

Equipment:

Code	Matrix
WG	Ground Water
WQ	Water Quality Control Matrix

Code	Container/Preservative
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
29	3 x 40mL glass VOA Vials, HCl, pH < 2; Cool < 6°C

680-177032-03 Chain of Custody

Event: KOMAN, Long Term Monitoring, SHL Supplemental Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	SW6010C/FLDFLT (G) 9	SW6020A/FLDFLT (B) 9	29	SW8260B - VOCs 29	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom		Cooler
1	~~EW-01_NOV19~~	~~WG~~	~~11/14/2019~~			X	X		X	~~EW-01~~	~~N1~~	~~60.00~~	~~85.00~~		
2	~~EW-04_NOV19~~	~~WG~~	~~11/14/2019~~			X	X		X	~~EW-04~~	~~N1~~	~~70.00~~	~~95.00~~		
3	~~SHM-99-32X_NOV19~~	~~WG~~	11/14/2019			X	X		X	~~SHM-99-32X~~	~~N1~~	~~72.00~~	~~82.00~~		
4	~~TRIPBLANK-111419~~	~~WQ~~	~~11/14/2019~~						X	~~FIELDQC~~	~~TB1~~	~~0.00~~	~~0.00~~		
5	SHM-99-31C-FAL19	WG	11/14/19	0905	MV	X	X		X	SHM-99-31C	N,	—	—	MS/MSD Collected	
6	EW-01-FAL19	WG	11/15/19	1010	BrA	X	X		X	EW-1	N,				
7	EW-04-FAL19	WG	11/15/19	1015	BrA	X	X		X	EW-4	N,				
8	TripBlank2-111519	WQ	11/15/19						X	TripBlank	TB2	-	-		
9															

Turnaround Time: 21 Days

Relinquished by: *(Signature)*	Date	Time
	11/15/19	1400
	11-15-19	1700

Received by: *(Signature)*	Date	Time
	11-15-19	1700

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

11/16/19 1000
3.2/3.3
0.9/1.0 BMD 11-18-19

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-ADD-1107

Project Name: Long Term Monitoring	Laboratory: TestAmerica Laboratories, Inc., Savannah, GA	Event: KOMAN, Long Term Monitoring, SHL Supplemental Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier 912.354.7858 jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 5102 LaRoche Avenue, Savannah, GA 31404	

Comments:
SW6010C/FLDFLT (G) = Mn Fe Cr Pb Ni Na Al
SW8260B (A) = VOCs 12DCA 12DCB 14DCB

Equipment:

Code	Matrix
WG	Ground Water
WQ	Water Quality Control Matrix

Code	Container/Preservative
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
29	3 x 40mL glass VOA Vials, HCl, pH < 2; Cool < 6°C

Analytical Test Method: SW6010C/FLDFLT (G) = 9; SW6020A/FLDFLT (B) = 9; 29; SW8260B - VOCs = 29

Event: KOMAN, Long Term Monitoring, SHL Supplemental Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	9	9	29	29	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
1	~~EW-01_NOV19~~	~~WG~~	~~11/14/2019~~			~~X~~	~~X~~		~~X~~	~~EW-01~~	~~N1~~	~~60.00~~	~~85.00~~		~~1~~
2	~~EW-04_NOV19~~	~~WG~~	~~11/14/2019~~			~~X~~	~~X~~		~~X~~	~~EW-04~~	~~N1~~	~~70.00~~	~~95.00~~		~~1~~
3	~~SHM-99-32X_NOV19~~	~~WG~~	11/14/2019			~~X~~	~~X~~		~~X~~	~~SHM-99-32X~~	~~N1~~	~~72.00~~	~~82.00~~		~~1~~
4	~~TRIPBLANK-111419~~	~~WQ~~	~~11/14/2019~~						~~X~~	~~FIELDQC~~	~~TB1~~	~~0.00~~	~~0.00~~		~~1~~
5	SHM-99-31C-FAL19	WG	11/14/19	0905	MV	X	X		X	SHM-99-31C	N,	—	—	MS/MSD Collected	
6	EW-01-FAL19	WG	11/15/19	1010	BrA	X	X		X	EW-1	N.				
7	EW-04-FAL19	WG	11/15/19	1015	BrA	X	X		X	EW-4	N,				
8	TripBlank2-111519	WQ	11/15/19						X	TripBlank	TB2	-	-		
9															
		Turnaround Time: 21 Days													

Relinquished by: *(Signature)*	Date	Time
	11/15/19	1400
	11-15-19	1700

Received by: *(Signature)*	Date	Time
	11-15-19	1700
	11/16/19	0905

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

680-177032 Chain of Custody

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2, Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2, Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

						Analytical Test Method	SW9060A/FLDFLT (B)	SW9056A (A)	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	A2320B (A)				
Event: KOMAN, Long Term Monitoring, SHL Fall 2019							**3**	**5**	**9**	**9**	**46**				
	Sample ID	Matrix	Date	Time	Samp Init.							Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
	SHM-10-12_FAL19	WG	11/14/19	0955	B/A		X	X	X	X	X	SHM-10-12	N1				1
	SHL-DUP05_FAL19	WG	11/14/19	1000	B/A		X	X	X	X	X	SHL-DUP Field QC	FD N1				1
	SHL-EB-111419	WG	11/14/19	1115	B/A		X	X	X	X	X	Field QC	EB N1				1
	~~WG~~						~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		~~N1~~				~~1~~
1																	
1																	
1																	
1																	
1																	
1																	
1																	

Relinquished by: (Signature)	Date	Time
	11/15/19	1403
	11/15/19	1811

Received by: (Signature)	Date	Time
	11-6-19	1401
	11/16/19	0905

Shipping Date / Carrier / Airbill Number

Received by Laboratory: (Signature, Date, Time) & condition

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2, Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2, Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: SW9060A/FLDFLT (B)	SW9056A (A)	SW6010C/FLDFLT (B)	SW6020A/FLDFLT (B)	A2320B (A)	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
						3	5	9	9	46						
	SHM-99-32C_FAL19	WG	11/14/19	0905	MV	X	X	X	X	X		N1				1
	SHM-13-01_FAL19	WG	11/14/19	1340	MV	X	X	X	X	X		N1				1
		WG				X	X	X	X	X		N1				1
		WG				X	X	X	X	X		N1				1
1																
1																
1																
1																
1																
1																
1																

Relinquished by: *(Signature)*	Date	Time
	11/15/19	13:00
	11/15/19	1400
	11-15-19	1600

Received by: *(Signature)*	Date	Time
	11/15/19	1300
	11/15/19	1430
	11/16/19	0905

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* & condition

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SUDA7_FAL19

KGS

Project Name: Long Term Monitoring	Laboratory: TestAmerica Laboratories, Inc., Savannah, GA	Event: KOMAN, Long Term Monitoring, Sudbury Annex Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier 912.354.7858 jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 5102 LaRoche Avenue, Savannah, GA 31404	

Comments:

Equipment:

Code	Matrix
WG	Ground Water
WQ	Water Quality Control Matrix

Code	Container/Preservative
6	1 x 500ml glass, H2SO4, Cool < 6°C
21	1 x 2-1 Liter, amber, glass, Cool < 6°C
29	3 x 40mL glass VOA Vials, HCl, pH < 2, Cool < 6°C
48	1 x 250mL plastic, NaOH to pH >12, Cool < 6°C

						Analytical Test Method	E410.4 - COD	SW8081B (A)	SW8260B - VOCs	SW9012B (A)				
Event: KOMAN, Long Term Monitoring, Sudbury Annex Fall 2019							**6**	**21**	**29**	**48**				
	Sample ID	Matrix	Date	Time	Samp Init.						Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
1	SUDA7-19-01_FAL19	WG	11/15/19	1040	VKA		X	X	X	X	SUDA7-19-01	N1	2.00	10.00		1
2	~~SUDA7-19-01_FAL19~~	~~WG~~					~~X~~	~~X~~	~~X~~	~~X~~	~~SUDA7-19-01~~	~~MS1~~	~~2.00~~	~~10.00~~	VKA	1
3	~~SUDA7-19-01_FAL19~~	~~WG~~					~~X~~	~~X~~	~~X~~	~~X~~	~~SUDA7-19-01~~	~~SD1~~	~~2.00~~	~~10.00~~	VKA	1
4	A7-TRIPBLANK_FAL19	WQ	—	—	—				X		FIELDQC	TB1	0.00	0.00		1
5	A7-DUP-1	WG	11/15/19	1045	VKA		X	X	X	X	SUDA7-19-01	DUP1				
6																
7																
8																
		Turnaround Time: 21 Days														

Relinquished by: *(Signature)*	**Date**	**Time**
	11/15/19	1400
	11/15/19	1700

Received by: *(Signature)*	**Date**	**Time**
	11/15/19	1700
	11/16/19	0905

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* & condition

Page 1 of 1

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

COC # SHL-FAL19-CO

KGS

Project Name: Long Term Monitoring	Laboratory: Test America Laboratory	Event: KOMAN, Long Term Monitoring, SHL Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier email: jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 510 LaRoche Avenue, Savannah, GA 31401 (912)354-7858	

Comments:
A2320B (A) = Alkalinity
SW6010C/FLDFLT (B) = Fe Mn
SW6020A/FLDFLT (B) = As
SW9056A (A) = Cl SO4
SW9060A/FLDFLT (B) = DOC

Equipment:

Code	Matrix
WG	Ground Water

Code	Container/Preservative
3	1 x 250mL, amber glass, H2SO4, pH < 2; Cool < 6°C
5	1 x 125mL plastic, Cool < 6°C
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C
46	1 x 250mL, plastic, Cool < 6°C

Event: KOMAN, Long Term Monitoring, SHL Fall 2019

	Sample ID	Matrix	Date	Time	Samp Init	Analytical Test Method: SW9060A/FLDFLT (B) **3**	SW9056A (A) **5**	SW6010C/FLDFLT (B) **9**	SW6020A/FLDFLT (B) **9**	A2320B (A) **46**	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
	SHM-10-08	WG	11/14/19	825	VLL	X	X	X	X	X		N1				1
	SHM-10-02	WG	11/14/19	920	VLL	X	X	X	X	X		N1				1
	SHM-10-03	WG	11/14/19	1050	VLL	X	X	X	X	X		N1				1
	SHM-10-04	WG	11/14/19	1225	VLL	X	X	X	X	X		N1				1
1	SHM-10-15	WG	11/14/19	1355	VLL	X	X	X	X	X		N1				1
1																
1																
1																
1																
1																
1																

Relinquished by: *(Signature)*	Date	Time
	11/15/19	1400
	11-15-19	1800

Received by: *(Signature)*	Date	Time
	11-15-19	1700
	11/16/19	0905

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* **& condition**

Page 1 of 2

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-177032-3

Login Number: 177032
List Number: 1
Creator: Weston, Pamela

List Source: Eurofins TestAmerica, Savannah

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

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-177032-3
Project/Site: LTM - SHL Supplemental Fall 2019

Laboratory: Eurofins TestAmerica, Savannah

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

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-20
Alaska	State	GA00006	06-30-20
Alaska (UST)	State	17-016	09-30-20
ANAB	Dept. of Defense ELAP	L2463	09-22-22
ANAB	ISO/IEC 17025	L2463.01	09-22-22
Arkansas DEQ	State	19-015-0	02-01-20
California	State	2939	06-30-20
Colorado	State	GA00006	12-31-19
Connecticut	State	PH-0161	03-31-21
Florida	NELAP	E87052	06-30-20
GA Dept. of Agriculture	State Program	N/A	06-12-20
Georgia	State	E87052	06-30-20
Georgia (DW)	State	803	06-30-20
Guam	State	19-007R	04-17-20
Hawaii	State	<cert No.>	06-30-20
Illinois	NELAP	004547	11-27-20
Indiana	State	C-GA-02	06-30-20
Iowa	State	353	09-22-20
Kansas	NELAP	E-10322	10-15-20
Kentucky (DW)	State	KY90084	12-31-19
Kentucky (UST)	State	<cert No.>	06-30-20
Kentucky (WW)	State	KY90084	12-31-19
Louisiana	NELAP	02011	06-30-20
Louisiana (DW)	State	LA009	12-31-19
Maine	State	GA00006	09-26-20
Maryland	State	250	12-31-19
Massachusetts	State	M-GA006	06-30-20
Michigan	State	9925	06-30-20
Mississippi	State	<cert No.>	06-30-20
Nebraska	State	NE-OS-7-04	06-30-20
New Hampshire	NELAP	2096	05-29-20
New Jersey	NELAP	GA769	06-30-20
New Mexico	State	GA00006	06-30-20
New York	NELAP	10842	04-01-20
North Carolina (DW)	State	13701	07-31-20
North Carolina (WW/SW)	State	269	12-31-19
Oklahoma	State	9984	08-31-20
Pennsylvania	NELAP	68-00474	06-30-20
Puerto Rico	State	GA00006	01-01-20
South Carolina	State	98001	06-30-20
Tennessee	State	02961	06-30-20
Texas	NELAP	T1047004185-19-14	11-30-19
Texas	TCEQ Water Supply	T104704185	09-23-20
US Fish & Wildlife	US Federal Programs	LE058448-0	07-31-20
USDA	US Federal Programs	P330-18-00313	10-29-21
Virginia	NELAP	10509	06-14-20
Washington	State	C805	06-10-20
West Virginia (DW)	State	9950C	12-31-19
West Virginia DEP	State	094	11-30-19

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-177032-3
Project/Site: LTM - SHL Supplemental Fall 2019

Laboratory: Eurofins TestAmerica, Savannah (Continued)

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999819810	08-31-20
Wyoming	State	8TMS-L	06-30-20 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

Laboratory Job ID: 680-177355-1
Client Project/Site: LTM - SHL Supplemental Fall 2019
Revision: 1

For:
KOMAN Government Solutions, LLC
293 Boston Post Road West
Suite 100
Marlborough, Massachusetts 01752

Attn: Laurie Ekes

Authorized for release by:
12/11/2019 10:16:35 AM

Jerry Lanier, Project Manager I
(912)250-0281
jerry.lanier@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 680-177355-1

Laboratory: Eurofins TestAmerica, Savannah

Narrative

CASE NARRATIVE

Client: KOMAN Government Solutions, LLC

Project: LTM - SHL Supplemental Fall 2019

Report Number: 680-177355-1

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 the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 11/23/2019; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 4.6 C.

The final report was revised to edit the sample ID. An "R" was added to the end per client request.

METALS (ICP) - DISSOLVED

Sample SHM-10-16_NOV19R (680-177355-1) was analyzed for Metals (ICP) - Dissolved in accordance with EPA SW-846 Method 6010C. The samples were prepared on 11/24/2019 and analyzed on 11/27/2019.

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

METALS (ICPMS) - DISSOLVED

Sample SHM-10-16_NOV19R (680-177355-1) was analyzed for Metals (ICPMS) - Dissolved in accordance with EPA SW-846 Method 6020A. The samples were prepared on 11/24/2019 and analyzed on 11/26/2019.

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

Sample Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Supplemental Fall 2019

Job ID: 680-177355-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
680-177355-1	SHM-10-16_NOV19R	WG	11/21/19 09:20	11/23/19 10:00	

Method Summary

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Supplemental Fall 2019

Job ID: 680-177355-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL SAV
6020A	Metals (ICP/MS)	SW846	TAL SAV
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL SAV

Protocol References:

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

Laboratory References:

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Definitions/Glossary

Client: KOMAN Government Solutions, LLC
Job ID: 680-177355-1
Project/Site: LTM - SHL Supplemental Fall 2019

Qualifiers

Metals

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

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)

Client Sample Results

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Supplemental Fall 2019

Job ID: 680-177355-1

Client Sample ID: SHM-10-16_NOV19R
Date Collected: 11/21/19 09:20
Date Received: 11/23/19 10:00

Lab Sample ID: 680-177355-1
Matrix: WG

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	**36**	**J**	200	70	24	ug/L		11/27/19 15:14	1
Chromium	4.0	U	10	4.0	1.6	ug/L		11/27/19 15:14	1
Iron	**33000**		50	50	17	ug/L		11/27/19 15:14	1
Lead	10	U	10	10	3.9	ug/L		11/27/19 15:14	1
Manganese	**1800**		10	3.0	1.0	ug/L		11/27/19 15:14	1
Nickel	**41**		40	5.0	2.1	ug/L		11/27/19 15:14	1
Sodium	**28000**		1000	1000	480	ug/L		11/27/19 15:14	1

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

Analyte	Result	Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	**1100**		3.0	3.0	1.5	ug/L		11/26/19 00:37	1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-597737/1-A
Matrix: Water
Analysis Batch: 598460

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 597737

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Aluminum	70	U	200	70	24	ug/L		11/27/19 13:56	1
Chromium	4.0	U	10	4.0	1.6	ug/L		11/27/19 13:56	1
Iron	50	U	50	50	17	ug/L		11/27/19 13:56	1
Lead	10	U	10	10	3.9	ug/L		11/27/19 13:56	1
Manganese	3.0	U	10	3.0	1.0	ug/L		11/27/19 13:56	1
Nickel	5.0	U	40	5.0	2.1	ug/L		11/27/19 13:56	1
Sodium	1000	U	1000	1000	480	ug/L		11/27/19 13:56	1

Lab Sample ID: LCS 680-597737/2-A
Matrix: Water
Analysis Batch: 598460

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 597737

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	5000	4890		ug/L		98	86 - 115
Chromium	100	98.2		ug/L		98	90 - 113
Iron	5010	4910		ug/L		98	87 - 115
Lead	454	444		ug/L		98	86 - 113
Manganese	400	399		ug/L		100	90 - 114
Nickel	99.5	98.9		ug/L		99	88 - 113
Sodium	5040	4610		ug/L		92	87 - 115

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 680-597736/1-A
Matrix: Water
Analysis Batch: 598010

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 597736

Analyte	MB Result	MB Qualifier	LOQ	LOD	DL	Unit	D	Analyzed	Dil Fac
Arsenic	3.0	U	3.0	3.0	1.5	ug/L		11/25/19 23:51	1

Lab Sample ID: LCS 680-597736/2-A
Matrix: Water
Analysis Batch: 598010

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 597736

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	105		ug/L		105	84 - 116

QC Association Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-177355-1
Project/Site: LTM - SHL Supplemental Fall 2019

Metals

Prep Batch: 597736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-177355-1	SHM-10-16_NOV19R	Dissolved	WG	3005A	
MB 680-597736/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-597736/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 597737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-177355-1	SHM-10-16_NOV19R	Dissolved	WG	3005A	
MB 680-597737/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-597737/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 598010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-177355-1	SHM-10-16_NOV19R	Dissolved	WG	6020A	597736
MB 680-597736/1-A	Method Blank	Total Recoverable	Water	6020A	597736
LCS 680-597736/2-A	Lab Control Sample	Total Recoverable	Water	6020A	597736

Analysis Batch: 598460

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-177355-1	SHM-10-16_NOV19R	Dissolved	WG	6010C	597737
MB 680-597737/1-A	Method Blank	Total Recoverable	Water	6010C	597737
LCS 680-597737/2-A	Lab Control Sample	Total Recoverable	Water	6010C	597737

Lab Chronicle

Client: KOMAN Government Solutions, LLC
Project/Site: LTM - SHL Supplemental Fall 2019

Job ID: 680-177355-1

Client Sample ID: SHM-10-16_NOV19R
Date Collected: 11/21/19 09:20
Date Received: 11/23/19 10:00

Lab Sample ID: 680-177355-1
Matrix: WG

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	597737	11/24/19 17:48	PG	TAL SAV
Dissolved	Analysis	6010C		1			598460	11/27/19 15:14	BCB	TAL SAV
	Instrument ID: ICPE									
Dissolved	Prep	3005A			50 mL	250 mL	597736	11/24/19 17:45	PG	TAL SAV
Dissolved	Analysis	6020A		1			598010	11/26/19 00:37	BJB	TAL SAV
	Instrument ID: ICPMSD									

Laboratory References:

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

CHAIN-OF-CUSTODY RECORD

KOMAN Government Services, LLC
Laurie Ekes
293 Boston Post Road West, Suite 100, Marlborough, MA 01752
(508) 508.366.7442, lekes@komangs.com

360325-Boston COC # SHL-SUP

Project Name: Long Term Monitoring	Laboratory: TestAmerica Laboratories, Inc., Savannah, GA	Event: KOMAN, Long Term Monitoring, SHL Supplemental Fall 2019
Project Number: DEVNS-LTM	POC: Jerry Lanier 912.354.7858 jerry.lanier@testamericainc.com	
WBS Code: Purchase Order 19-804	Ship to: 5102 LaRoche Avenue, Savannah, GA 31404	

Comments:
SW6010C/FLDFLT (G) = Mn Fe Cr Pb Ni Na Al

Equipment:

Analytical Test Method

Code	Matrix
WG	Ground Water

Code	Container/Preservative
9	1 x 250mL, plastic, HNO3, pH < 2; Cool < 6°C

	Sample ID	Matrix	Date	Time	Samp Init.	SW6010C/FLDFLT (G)	SW6020A/FLDFLT (B)	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Comments	Cooler
	Event: KOMAN, Long Term Monitoring, SHL Supplemental Fall 2019					9	9						
1	SHM-10-16_NOV19	WG	11/21/2019	920	KGS	X	X	SHM-10-16	N1	75.00	85.00		1
2													
3													
4													
		Turnaround Time: 21 Days											

680-177355 Chain of Custody

Relinquished by: *(Signature)*	Date	Time
	11/21/19	1700
	11/22/19	1515
	11-22-19	1800

Received by: *(Signature)*	Date	Time
Released to Trailer	11/21/19	1200
	11.22.19	1515
	11.25.19	1000

Shipping Date / Carrier / Airbill Number

Received by Laboratory: *(Signature, Date, Time)* & condition
4.5/14.6

Page 1 of 1

Login Sample Receipt Checklist

Client: KOMAN Government Solutions, LLC

Job Number: 680-177355-1

Login Number: 177355
List Number: 1
Creator: Laughlin, Paul D

List Source: Eurofins TestAmerica, Savannah

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-177355-1
Project/Site: LTM - SHL Supplemental Fall 2019

Laboratory: Eurofins TestAmerica, Savannah

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

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-20
Alaska	State	GA00006	06-30-20
Alaska (UST)	State	17-016	09-30-20
ANAB	Dept. of Defense ELAP	L2463	09-22-22
ANAB	ISO/IEC 17025	L2463.01	09-22-22
Arkansas DEQ	State	19-015-0	02-01-20
California	State	2939	06-30-20
Colorado	State	GA00006	12-31-19
Connecticut	State	PH-0161	03-31-21
Florida	NELAP	E87052	06-30-20
GA Dept. of Agriculture	State Program	N/A	06-12-20
Georgia	State	E87052	06-30-20
Georgia (DW)	State	803	06-30-20
Guam	State	19-007R	04-17-20
Hawaii	State	<cert No.>	06-30-20
Illinois	NELAP	004547	11-27-20
Indiana	State	C-GA-02	06-30-20
Iowa	State	353	09-22-20
Kansas	NELAP	E-10322	10-15-20
Kentucky (DW)	State	KY90084	12-31-19
Kentucky (UST)	State	<cert No.>	06-30-20
Kentucky (WW)	State	KY90084	12-31-19
Louisiana	NELAP	02011	06-30-20
Louisiana (DW)	State	LA009	12-31-19
Maine	State	GA00006	09-26-20
Maryland	State	250	12-31-19
Massachusetts	State	M-GA006	06-30-20
Michigan	State	9925	06-30-20
Mississippi	State	<cert No.>	06-30-20
Nebraska	State	NE-OS-7-04	06-30-20
New Hampshire	NELAP	2096	05-29-20
New Jersey	NELAP	GA769	06-30-20
New Mexico	State	GA00006	06-30-20
New York	NELAP	10842	04-01-20
North Carolina (DW)	State	13701	07-31-20
North Carolina (WW/SW)	State	269	12-31-19
Oklahoma	State	9984	08-31-20
Pennsylvania	NELAP	68-00474	06-30-20
Puerto Rico	State	GA00006	01-01-20
South Carolina	State	98001	06-30-20
Tennessee	State	02961	06-30-20
Texas	NELAP	T1047004185-19-14	11-30-19
Texas	TCEQ Water Supply	T104704185	09-23-20
US Fish & Wildlife	US Federal Programs	LE058448-0	07-31-20
USDA	US Federal Programs	P330-18-00313	10-29-21
Virginia	NELAP	10509	06-14-20
Washington	State	C805	06-10-20
West Virginia (DW)	State	9950C	12-31-19
West Virginia DEP	State	094	11-30-19

Accreditation/Certification Summary

Client: KOMAN Government Solutions, LLC
Job ID: 680-177355-1
Project/Site: LTM - SHL Supplemental Fall 2019

Laboratory: Eurofins TestAmerica, Savannah (Continued)

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999819810	08-31-20
Wyoming	State	8TMS-L	06-30-20 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.