



ALS Environmental
ALS Group USA, Corp
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www.alsglobal.com

July 07, 2017

Analytical Report for Service Request No: K1705817

Joseph Bancod
SPAWAR Systems Center San Diego
53605 Hull St.
San Diego, CA 92152-5001

RE: Mooring G - Kitsap Bremerton / CV62

Dear Joseph,

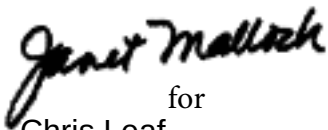
Enclosed are the results of the sample(s) submitted to our laboratory June 07, 2017
For your reference, these analyses have been assigned our service request number **K1705817**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3275. You may also contact me via email at Chris.Leaf@ALSGlobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental



for
Chris Leaf
Project Manager



ALS Environmental
ALS Group USA, Corp
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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated value.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L14-51
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjllabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdwlabservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/analyte is offered by that state.



Case Narrative

ALS Environmental—Kelso Laboratory
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www.alsglobal.com

ALS ENVIRONMENTAL

Client: SPAWAR Systems Center San Diego
Project: Mooring G-Kitsap Bremerton/CV62
Sample Matrix: Sediment

Service Request No.: K1705817
Date Received: 06/07/17

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Seven sediment samples were received for analysis at ALS Environmental on 06/07/17. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

Carbon, Total Organic (TOC) by Method ASTM D4129-05 Modified:

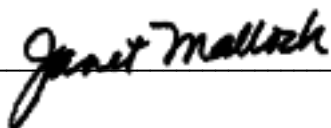
Samples were received past holding time remaining. The analysis was performed as soon as possible after receipt by the laboratory. The data was flagged to indicate the holding time violation.

No anomalies associated with the analysis of these samples were observed.

Total Metals

No anomalies associated with the analysis of these samples were observed.

Approved by _____





Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Date: 6/6/2017

Page: 1 of 1

COC Number: COC CV62PostSED

Project No.: CV62

Project Name: Mooring G NBK Bremerton

Project Manager: Dr. Bob Johnston (johnston@spawar.navy.mil)

Phone: 360-961-9072

EVENT:

Post Project Surface Sediment

Testing Parameters (as per SOW)

Homogenize

Observations, Instructions

[illegible]

Reinquished by

Robert K. Johnston
Signature
Printed Name

Relinquished by:

Signature		Date	Time
Printed Name		Company	

Received by:

Signature	Shipment Method
Les Kennedy 6/7/17 1030	Shipment Method
Printed Name	Sample Disposition

Received by:

	1) 2 copies to the Laboratory
Signature	2) 1 copy to project manager
Printed Name	3) Return completed original to Battelle Marine Sciences Laboratory

Total # of Containers	
-----------------------	--

Shipment Method:

Shipment Method:

7/17 1030

Sample Disposition:

Distribution:

1) 2 copies to the Laboratory

2) 1 copy to project manager

3) Return completed original to

Battelle Marine Sciences Laboratory

PC KC

Cooler Receipt and Preservation Form

Client Spawar Systems Service Request K17 05817
 Received: 6/7/17 Opened: 6/7/17 By: U Unloaded: 6/7/17 By: U

1. Samples were received via? USPS Fed Ex UPS DHL PDX Courier Hand Delivered
 2. Samples were received in: (circle) Cooler Box Envelope Other NA
 3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
 If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
-3.1	-3.3	—	—	-0.2	376		7868 1121 3503	

4. Packing material: Inserts Baggies Bubble Wrap Gel Packs Wet Ice Dry Ice Sleeves
 5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
 6. Were samples received in good condition (temperature, unbroken)? Indicate in the table below. NA Y N
 If applicable, tissue samples were received: Frozen Partially Thawed Thawed
 7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
 8. Did all sample labels and tags agree with custody papers? Indicate major discrepancies in the table on page 2. NA Y N
 9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
 10. Were the pH-preserved bottles (see SMO GEN SOP) received at the appropriate pH? Indicate in the table below NA Y N
 11. Were VOA vials received without headspace? Indicate in the table below. NA Y N
 12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____



Total Solids

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www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment
Analysis Method: PSEP TS
Prep Method: None

Service Request: K1705817
Date Collected: 03/30/17
Date Received: 06/7/17
Units: Percent
Basis: As Received

Solids, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
CV62SED-51	K1705817-001	11.8	-	-	1	06/09/17 16:47	
CV62SED-52	K1705817-002	62.0	-	-	1	06/09/17 16:47	
CV62SED-53	K1705817-003	27.6	-	-	1	06/09/17 16:47	
CV62SED-54	K1705817-004	26.1	-	-	1	06/09/17 16:47	
CV62SED-55	K1705817-005	27.9	-	-	1	06/09/17 16:47	
CV62SED-56	K1705817-006	25.3	-	-	1	06/09/17 16:47	
CV62SED-57	K1705817-007	23.2	-	-	1	06/09/17 16:47	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SPAWAR Systems Center San Diego
Project Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Analysis Method: PSEP TS
Prep Method: None

Service Request:K1705817
Date Collected:03/30/17
Date Received:06/07/17

Units:Percent
Basis:As Received

Replicate Sample Summary
Solids, Total

Sample Name:	Lab Code:	MRL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
CV62SED-52	K1705817-002DUP	-	62.0	64.6	63.3	4	10	06/09/17
Batch QC	K1705946-004DUP1	-	27.7	27.5	27.6	<1	10	06/09/17
Batch QC	K1705946-004DUP2	-	27.7	27.9	27.8	<1	10	06/09/17

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.



General Chemistry

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www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment
Analysis Method: ASTM D4129-05 Modified
Prep Method: ALS SOP

Service Request: K1705817
Date Collected: 03/30/17
Date Received: 06/7/17

Units: Percent
Basis: Dry, per Method

Carbon, Total Organic (TOC)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
CV62SED-51	K1705817-001	3.72	0.050	0.020	1	06/29/17 18:00	6/29/17	*
CV62SED-52	K1705817-002	0.593	0.050	0.020	1	06/29/17 18:00	6/29/17	*
CV62SED-53	K1705817-003	3.60	0.050	0.020	1	06/29/17 18:00	6/29/17	*
CV62SED-54	K1705817-004	3.34	0.050	0.020	1	06/29/17 18:00	6/29/17	*
CV62SED-55	K1705817-005	3.50	0.050	0.020	1	06/29/17 18:00	6/29/17	*
CV62SED-56	K1705817-006	4.11	0.050	0.020	1	06/29/17 18:00	6/29/17	*
CV62SED-57	K1705817-007	4.44	0.050	0.020	1	06/29/17 18:00	6/29/17	*
Method Blank	K1705817-MB	ND U	0.050	0.020	1	06/29/17 18:00	6/29/17	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: SPAWAR Systems Center San Diego
Project Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Service Request: K1705817
Date Collected: NA
Date Received: NA
Date Analyzed: 06/29/17

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1705946-001

Units: Percent
Basis: Dry, per Method

				Duplicate Sample K1705946- 001DUP				
Analyte Name	Analysis Method	MRL	MDL	Sample Result	Result	Average	RPD	RPD Limit
Carbon, Total Organic (TOC)	ASTM D4129-05 Modified	0.050	0.020	3.78	3.78	3.78	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
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QA/QC Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Service Request: K1705817
Date Collected: N/A
Date Received: N/A
Date Analyzed: 06/29/17
Date Extracted: 06/29/17

Duplicate Matrix Spike Summary
Carbon, Total Organic (TOC)

Sample Name: Batch QC
Lab Code: K1705946-001
Analysis Method: ASTM D4129-05 Modified
Prep Method: ALS SOP

Units: Percent
Basis: Dry, per Method

Analyte Name	Matrix Spike K1705946-001MS				Duplicate Matrix Spike K1705946-001DMS					
	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Carbon, Total Organic (TOC)	3.78	7.76	4.14	96	7.57	3.94	96	70-122	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Service Request: K1705817
Date Analyzed: 06/29/17
Date Extracted: 06/29/17

Lab Control Sample Summary
Carbon, Total Organic (TOC)

Analysis Method: ASTM D4129-05 Modified
Prep Method: ALS SOP

Units: Percent
Basis: Dry, per Method
Analysis Lot: 552009

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1705817-LCS	0.572	0.603	95	72-122

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Service Request: K1705817
Date Analyzed: 6/29/17 18:00

Standard Reference Material Summary
General Chemistry Parameters

Sample Name: Standard Reference Material
Lab Code: KQ1708801-06

Units: Percent
Basis: Dry, per Method

Analyte Name	Prep Method	Analytical Method	Certified Value	Result	ALS Advisory Limits	Notes
Carbon, Total Organic (TOC)	ALS SOP	ASTM D4129-05 Modified	2.99	2.94	2.152 - 3.828	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62

Service Request: K1705817**Continuing Calibration Verification (CCV) Summary****Carbon, Total Organic (TOC)****Analysis Method:** ASTM D4129-05 Modified**Units:** Percent

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	552009	KQ1708873-01	06/29/17 18:00	20.0	19.6	98	90-110
CCV2	552009	KQ1708873-02	06/29/17 18:00	20.0	19.9	100	90-110
CCV3	552009	KQ1708873-03	06/29/17 18:00	20.0	19.9	99	90-110
CCV4	552009	KQ1708873-04	06/29/17 18:00	20.0	19.9	100	90-110

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62

Service Request:K1705817

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic (TOC)

Analysis Method: ASTM D4129-05 Modified

Units:Percent

	Analysis Lot	Lab Code	Date Analyzed	MRL	MDL	Result	Q
CCB1	552009	KQ1708873-05	06/29/17 18:00	0.050	0.020	ND	U
CCB2	552009	KQ1708873-06	06/29/17 18:00	0.050	0.020	ND	U
CCB3	552009	KQ1708873-07	06/29/17 18:00	0.050	0.020	ND	U
CCB4	552009	KQ1708873-08	06/29/17 18:00	0.050	0.020	ND	U

ALS Group USA, Corp.

dba ALS Environmental

Analytical Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Service Request: K1705817
Date Collected: 3/30/2017
Date Received: 6/7/2017
Date Analyzed: 6/15/2017

Particle Size Determination
Puget Sound Estuary Program Protocol

Sample Name: CV62SED-51
Lab Code: K1705817-001

Sand Fraction: Dry Weight (Grams) 0.1509
Sand Fraction: Weight Recovered (Grams) 0.1483
Sand Fraction: Percent Recovery 98.28

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel (>2.00 mm)	<-1 Ø	0.0000	0.00
Sand, Very Coarse (1.00 mm to 2.00 mm)	-1 to 0 Ø	0.0023	0.04
Sand, Coarse (0.500 mm to 1.00 mm)	0 to 1 Ø	0.0083	0.13
Sand, Medium (0.250 mm to 0.500 mm)	1 to 2 Ø	0.0161	0.26
Sand, Fine (0.125 mm to 0.250 mm)	2 to 3 Ø	0.0350	0.56
Sand, Very Fine (0.0625 mm to 0.125 mm)	3 to 4 Ø	0.0852	1.37
Silt (0.0039 mm to 0.0625 mm)	4 to 8 Ø	4.7550	76.34
Clay (< 0.0039 mm)	> 8 Ø	1.9550	31.39
Total		6.8569	110.09

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Service Request: K1705817
Date Collected: 3/30/2017
Date Received: 6/7/2017
Date Analyzed: 6/15/2017

Particle Size Determination
Puget Sound Estuary Program Protocol

Sample Name: CV62SED-52
Lab Code: K1705817-002

Sand Fraction: Dry Weight (Grams) 26.9774
Sand Fraction: Weight Recovered (Grams) 26.9715
Sand Fraction: Percent Recovery 99.98

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel (>2.00 mm)	<-1 Ø	18.2902	60.09
Sand, Very Coarse (1.00 mm to 2.00 mm)	-1 to 0 Ø	2.8312	9.30
Sand, Coarse (0.500 mm to 1.00 mm)	0 to 1 Ø	2.6811	8.81
Sand, Medium (0.250 mm to 0.500 mm)	1 to 2 Ø	2.1604	7.10
Sand, Fine (0.125 mm to 0.250 mm)	2 to 3 Ø	0.4700	1.54
Sand, Very Fine (0.0625 mm to 0.125 mm)	3 to 4 Ø	0.5206	1.71
Silt (0.0039 mm to 0.0625 mm)	4 to 8 Ø	2.1100	6.93
Clay (< 0.0039 mm)	> 8 Ø	0.9950	3.27
Total		30.0585	98.75

ALS Group USA, Corp.

dba ALS Environmental

Analytical Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Service Request: K1705817
Date Collected: 3/30/2017
Date Received: 6/7/2017
Date Analyzed: 6/15/2017

Particle Size Determination
Puget Sound Estuary Program Protocol

Sample Name: CV62SED-53
Lab Code: K1705817-003

Sand Fraction: Dry Weight (Grams) 3.4577
Sand Fraction: Weight Recovered (Grams) 3.3661
Sand Fraction: Percent Recovery 97.35

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel (>2.00 mm)	<-1 Ø	2.2412	19.12
Sand, Very Coarse (1.00 mm to 2.00 mm)	-1 to 0 Ø	0.3434	2.93
Sand, Coarse (0.500 mm to 1.00 mm)	0 to 1 Ø	0.1651	1.41
Sand, Medium (0.250 mm to 0.500 mm)	1 to 2 Ø	0.1517	1.29
Sand, Fine (0.125 mm to 0.250 mm)	2 to 3 Ø	0.1963	1.67
Sand, Very Fine (0.0625 mm to 0.125 mm)	3 to 4 Ø	0.2539	2.17
Silt (0.0039 mm to 0.0625 mm)	4 to 8 Ø	6.5350	55.74
Clay (< 0.0039 mm)	> 8 Ø	2.6550	22.65
Total		12.5416	106.98

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Analytical Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Service Request: K1705817
Date Collected: 3/30/2017
Date Received: 6/7/2017
Date Analyzed: 6/15/2017

Particle Size Determination
Puget Sound Estuary Program Protocol

Sample Name: CV62SED-54
Lab Code: K1705817-004

Sand Fraction: Dry Weight (Grams) 0.3896
Sand Fraction: Weight Recovered (Grams) 0.3730
Sand Fraction: Percent Recovery 95.74

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel (>2.00 mm)	<-1 Ø	0.1541	1.44
Sand, Very Coarse (1.00 mm to 2.00 mm)	-1 to 0 Ø	0.0415	0.39
Sand, Coarse (0.500 mm to 1.00 mm)	0 to 1 Ø	0.0258	0.24
Sand, Medium (0.250 mm to 0.500 mm)	1 to 2 Ø	0.0210	0.20
Sand, Fine (0.125 mm to 0.250 mm)	2 to 3 Ø	0.0301	0.28
Sand, Very Fine (0.0625 mm to 0.125 mm)	3 to 4 Ø	0.0986	0.92
Silt (0.0039 mm to 0.0625 mm)	4 to 8 Ø	8.0500	75.41
Clay (< 0.0039 mm)	> 8 Ø	2.5950	24.31
Total		11.0161	103.19

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Service Request: K1705817
Date Collected: 3/30/2017
Date Received: 6/7/2017
Date Analyzed: 6/15/2017

Particle Size Determination
Puget Sound Estuary Program Protocol

Sample Name: CV62SED-55
Lab Code: K1705817-005

Sand Fraction: Dry Weight (Grams) 0.6679
Sand Fraction: Weight Recovered (Grams) 0.6744
Sand Fraction: Percent Recovery 100.97

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel (>2.00 mm)	<-1 Ø	0.1230	1.21
Sand, Very Coarse (1.00 mm to 2.00 mm)	-1 to 0 Ø	0.0414	0.41
Sand, Coarse (0.500 mm to 1.00 mm)	0 to 1 Ø	0.0415	0.41
Sand, Medium (0.250 mm to 0.500 mm)	1 to 2 Ø	0.0380	0.37
Sand, Fine (0.125 mm to 0.250 mm)	2 to 3 Ø	0.1306	1.28
Sand, Very Fine (0.0625 mm to 0.125 mm)	3 to 4 Ø	0.2998	2.95
Silt (0.0039 mm to 0.0625 mm)	4 to 8 Ø	6.8300	67.09
Clay (< 0.0039 mm)	> 8 Ø	2.8100	27.60
Total		10.3143	101.32

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Analytical Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Service Request: K1705817
Date Collected: 3/30/2017
Date Received: 6/7/2017
Date Analyzed: 6/15/2017

Particle Size Determination
Puget Sound Estuary Program Protocol

Sample Name: CV62SED-56
Lab Code: K1705817-006

Sand Fraction: Dry Weight (Grams) 1.6653
Sand Fraction: Weight Recovered (Grams) 1.6254
Sand Fraction: Percent Recovery 97.60

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel (>2.00 mm)	<-1 Ø	1.1346	9.67
Sand, Very Coarse (1.00 mm to 2.00 mm)	-1 to 0 Ø	0.1587	1.35
Sand, Coarse (0.500 mm to 1.00 mm)	0 to 1 Ø	0.0846	0.72
Sand, Medium (0.250 mm to 0.500 mm)	1 to 2 Ø	0.0554	0.47
Sand, Fine (0.125 mm to 0.250 mm)	2 to 3 Ø	0.0529	0.45
Sand, Very Fine (0.0625 mm to 0.125 mm)	3 to 4 Ø	0.1375	1.17
Silt (0.0039 mm to 0.0625 mm)	4 to 8 Ø	6.8950	58.74
Clay (< 0.0039 mm)	> 8 Ø	3.1800	27.09
Total		11.6987	99.66

ALS Group USA, Corp.
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Analytical Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Service Request: K1705817
Date Collected: 3/30/2017
Date Received: 6/7/2017
Date Analyzed: 6/15/2017

Particle Size Determination
Puget Sound Estuary Program Protocol

Sample Name: CV62SED-57
Lab Code: K1705817-007

Sand Fraction: Dry Weight (Grams) 2.1060
Sand Fraction: Weight Recovered (Grams) 2.0025
Sand Fraction: Percent Recovery 95.09

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel (>2.00 mm)	<-1 Ø	0.9713	8.19
Sand, Very Coarse (1.00 mm to 2.00 mm)	-1 to 0 Ø	0.4572	3.85
Sand, Coarse (0.500 mm to 1.00 mm)	0 to 1 Ø	0.1967	1.66
Sand, Medium (0.250 mm to 0.500 mm)	1 to 2 Ø	0.1052	0.89
Sand, Fine (0.125 mm to 0.250 mm)	2 to 3 Ø	0.1055	0.89
Sand, Very Fine (0.0625 mm to 0.125 mm)	3 to 4 Ø	0.1609	1.36
Silt (0.0039 mm to 0.0625 mm)	4 to 8 Ø	7.4150	62.51
Clay (< 0.0039 mm)	> 8 Ø	3.3800	28.49
Total		12.7918	107.84

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Analytical Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Service Request: K1705817
Date Collected: NA
Date Received: NA
Date Analyzed: 6/15/2017

Particle Size Determination
Puget Sound Estuary Program Protocol

Sample Name: Batch QC
Lab Code: K1705957-001

Sand Fraction: Dry Weight (Grams) 12.2228
Sand Fraction: Weight Recovered (Grams) 12.1053
Sand Fraction: Percent Recovery 99.04

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel (>2.00 mm)	<-1 Ø	3.2052	20.05
Sand, Very Coarse (1.00 mm to 2.00 mm)	-1 to 0 Ø	1.7238	10.78
Sand, Coarse (0.500 mm to 1.00 mm)	0 to 1 Ø	1.9564	12.24
Sand, Medium (0.250 mm to 0.500 mm)	1 to 2 Ø	2.6061	16.30
Sand, Fine (0.125 mm to 0.250 mm)	2 to 3 Ø	1.8035	11.28
Sand, Very Fine (0.0625 mm to 0.125 mm)	3 to 4 Ø	0.7798	4.88
Silt (0.0039 mm to 0.0625 mm)	4 to 8 Ø	3.7100	23.20
Clay (< 0.0039 mm)	> 8 Ø	0.0900	0.56
Total		15.8748	99.29

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Analytical Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Service Request: K1705817
Date Collected: NA
Date Received: NA
Date Analyzed: 6/15/2017

Particle Size Determination
Puget Sound Estuary Program Protocol

Sample Name: Batch QC
Lab Code: K1705957-001DUP

Sand Fraction: Dry Weight (Grams) 13.2275
Sand Fraction: Weight Recovered (Grams) 13.0269
Sand Fraction: Percent Recovery 98.48

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel (>2.00 mm)	<-1 Ø	2.5957	14.43
Sand, Very Coarse (1.00 mm to 2.00 mm)	-1 to 0 Ø	2.0262	11.27
Sand, Coarse (0.500 mm to 1.00 mm)	0 to 1 Ø	2.2510	12.52
Sand, Medium (0.250 mm to 0.500 mm)	1 to 2 Ø	3.0722	17.08
Sand, Fine (0.125 mm to 0.250 mm)	2 to 3 Ø	2.3106	12.85
Sand, Very Fine (0.0625 mm to 0.125 mm)	3 to 4 Ø	0.7566	4.21
Silt (0.0039 mm to 0.0625 mm)	4 to 8 Ø	4.0800	22.68
Clay (< 0.0039 mm)	> 8 Ø	0.2050	1.14
Total		17.2973	96.18

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Analytical Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Service Request: K1705817
Date Collected: NA
Date Received: NA
Date Analyzed: 6/15/2017

Particle Size Determination
Puget Sound Estuary Program Protocol

Sample Name: Batch QC
Lab Code: K1705957-001TPR

Sand Fraction: Dry Weight (Grams) 13.5827
Sand Fraction: Weight Recovered (Grams) 13.4796
Sand Fraction: Percent Recovery 99.24

Description	Phi Size	Dry Weight (Grams)	Percent of Total Weight Recovered
Gravel (>2.00 mm)	<-1 Ø	2.9219	16.71
Sand, Very Coarse (1.00 mm to 2.00 mm)	-1 to 0 Ø	2.0585	11.77
Sand, Coarse (0.500 mm to 1.00 mm)	0 to 1 Ø	2.4534	14.03
Sand, Medium (0.250 mm to 0.500 mm)	1 to 2 Ø	3.3632	19.23
Sand, Fine (0.125 mm to 0.250 mm)	2 to 3 Ø	1.8415	10.53
Sand, Very Fine (0.0625 mm to 0.125 mm)	3 to 4 Ø	0.8262	4.72
Silt (0.0039 mm to 0.0625 mm)	4 to 8 Ø	3.9350	22.50
Clay (< 0.0039 mm)	> 8 Ø	0.2200	1.26
Total		17.6197	100.75



Metals

ALS Environmental—Kelso Laboratory
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www.alsglobal.com

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Analytical Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment
Sample Name: CV62SED-51
Lab Code: K1705817-001

Service Request: K1705817
Date Collected: 03/30/17 11:30
Date Received: 06/07/17 10:30
Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	6010C	240	mg/Kg	2.3	0.8	2	06/27/17 12:55	06/09/17	
Zinc	6010C	208	mg/Kg	2.8	0.6	2	06/27/17 12:55	06/09/17	

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Analytical Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Sample Name: CV62SED-52
Lab Code: K1705817-002

Service Request: K1705817
Date Collected: 03/30/17 09:45
Date Received: 06/07/17 10:30

Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	6010C	82.0	mg/Kg	0.74	0.28	2	06/27/17 12:58	06/09/17	
Zinc	6010C	245	mg/Kg	0.93	0.19	2	06/27/17 12:58	06/09/17	

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Analytical Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment
Sample Name: CV62SED-53
Lab Code: K1705817-003

Service Request: K1705817
Date Collected: 03/30/17 12:30
Date Received: 06/07/17 10:30
Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	6010C	778	mg/Kg	0.94	0.35	2	06/27/17 13:00	06/09/17	
Zinc	6010C	314	mg/Kg	1.2	0.2	2	06/27/17 13:00	06/09/17	

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Analytical Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Sample Name: CV62SED-54
Lab Code: K1705817-004

Service Request: K1705817
Date Collected: 03/30/17 13:40
Date Received: 06/07/17 10:30

Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	6010C	169	mg/Kg	1.2	0.5	2	06/27/17 13:03	06/09/17	
Zinc	6010C	1200	mg/Kg	1.5	0.3	2	06/27/17 13:03	06/09/17	

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Analytical Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Sample Name: CV62SED-55
Lab Code: K1705817-005

Service Request: K1705817
Date Collected: 03/30/17 14:00
Date Received: 06/07/17 10:30

Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	6010C	432	mg/Kg	1.3	0.5	2	06/27/17 13:05	06/09/17	
Zinc	6010C	242	mg/Kg	1.6	0.3	2	06/27/17 13:05	06/09/17	

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Analytical Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Sample Name: CV62SED-56
Lab Code: K1705817-006

Service Request: K1705817
Date Collected: 03/30/17 10:15
Date Received: 06/07/17 10:30

Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	6010C	678	mg/Kg	1.1	0.4	2	06/27/17 13:08	06/09/17	
Zinc	6010C	284	mg/Kg	1.4	0.3	2	06/27/17 13:08	06/09/17	

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Analytical Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Sample Name: CV62SED-57
Lab Code: K1705817-007

Service Request: K1705817
Date Collected: 03/30/17 10:15
Date Received: 06/07/17 10:30

Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	6010C	265	mg/Kg	1.2	0.5	2	06/27/17 13:11	06/09/17	
Zinc	6010C	220	mg/Kg	1.5	0.3	2	06/27/17 13:11	06/09/17	

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Analytical Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Sample Name: Method Blank
Lab Code: KQ1708279-02

Service Request: K1705817
Date Collected: NA
Date Received: NA

Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Copper	6010C	0.46 J	mg/Kg	0.8	0.30	2	06/27/17 12:33	06/09/17	
Zinc	6010C	0.5 J	mg/Kg	1.0	0.2	2	06/27/17 12:33	06/09/17	

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QA/QC Report

Client: SPAWAR Systems Center San Diego
Project Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Service Request: K1705817**Date Collected:** NA**Date Received:** NA**Date Analyzed:** 06/27/17**Replicate Sample Summary****Total Metals**

Sample Name: Batch QC
Lab Code: K1705946-004

Units: mg/Kg**Basis:** Dry

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample KQ1708279-03	Average	RPD	RPD Limit
					Result			
Copper	6010C	2.0	0.7	146	142	144	3	20
Zinc	6010C	2.5	0.5	163	169	166	4	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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QA/QC Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Service Request: K1705817
Date Collected: N/A
Date Received: N/A
Date Analyzed: 06/27/17
Date Extracted: 06/9/17

Matrix Spike Summary
Total Metals

Sample Name: Batch QC
Lab Code: K1705946-004
Analysis Method: 6010C
Prep Method: EPA 3050B

Units: mg/Kg
Basis: Dry

Matrix Spike
KQ1708279-04

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Copper	146	272	119	106	75-125
Zinc	163	385	239	93	75-125

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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QA/QC Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Service Request: K1705817
Date Analyzed: 06/27/17

Lab Control Sample Summary
Total Metals

Units:mg/Kg
Basis:Dry

Lab Control Sample
KQ1708279-01

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Copper	6010C	112	103	109	75-125
Zinc	6010C	178	185	96	70-130

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Prep Summary Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Service Request:K1705817

Metals

Prep Method: EPA 3050B
Analytical Method: 6010C

Extraction Lot:291187

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
CV62SED-51	K1705817-001	3/30/17	6/7/17	3.009 g	100 mL	
CV62SED-52	K1705817-002	3/30/17	6/7/17	1.737 g	100 mL	
CV62SED-53	K1705817-003	3/30/17	6/7/17	3.079 g	100 mL	
CV62SED-54	K1705817-004	3/30/17	6/7/17	2.496 g	100 mL	
CV62SED-55	K1705817-005	3/30/17	6/7/17	2.238 g	100 mL	
CV62SED-56	K1705817-006	3/30/17	6/7/17	2.814 g	100 mL	
CV62SED-57	K1705817-007	3/30/17	6/7/17	2.784 g	100 mL	
Lab Control Sample	KQ1708279-01LCS	NA	NA	1.03 g	100 mL	
Method Blank	KQ1708279-02MB	NA	NA	1.00 g	100 mL	
Batch QC	KQ1708279-03DUP	NA	NA	1.449 g	100 mL	
Batch QC	KQ1708279-04MS	NA	NA	1.513 g	100 mL	

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QA/QC Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62

Service Request: K1705817

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Concentration Units: ug/L

Analyte	Method	Analysis Batch	Initial Calibration			Continuing Calibration			Continuing Calibration		
			True	Found	%R (1)	True	Found	%R (1)	True	Found	%R (1)
Copper	6010C	551337	625	600	96	250	256	102	250	253	101
Zinc	6010C	551337	1250	1230	98	250	249	99	250	251	100

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QA/QC Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62

Service Request: K1705817

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Concentration Units: ug/L

Analyte	Method	Analysis Batch	Initial Calibration			Continuing Calibration			Continuing Calibration		
			True	Found	%R (1)	True	Found	%R (1)	True	Found	%R (1)
Copper	6010C	551337				250	261	104	250	254	102
Zinc	6010C	551337				250	247	99	250	247	99

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QA/QC Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62

Service Request: K1705817

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Concentration Units: ug/L

Analyte	Method	Analysis Batch	Initial Calibration			Continuing Calibration			Continuing Calibration		
			True	Found	%R (1)	True	Found	%R (1)	True	Found	%R (1)
Copper	6010C	551337				250	260	104	250	262	105
Zinc	6010C	551337				250	248	99	250	247	99

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QA/QC Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62

Service Request: K1705817

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Concentration Units: ug/L

Analyte	Method	Analysis Batch	Initial Calibration			Continuing Calibration			Continuing Calibration		
			True	Found	%R (1)	True	Found	%R (1)	True	Found	%R (1)
Copper	6010C	551337				250	263	105	250	264	106
Zinc	6010C	551337				250	248	99	250	245	98

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QA/QC Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62

Service Request: K1705817

INITIAL AND CONTINUING CALIBRATION BLANK

Concentration Units: ug/L

Analyte	Method	Analysis Batch	Initial Calibration Blank		Continuing Calibration Blank		Continuing Calibration Blank		Continuing Calibration Blank	
			Result	C	Result	C	Result	C	Result	C
Copper	6010C	551337	1.5	U	1.5	U	1.5	U	1.5	U
Zinc	6010C	551337	1.0	U	1.0	U	1.0	U	1.0	U

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QA/QC Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62

Service Request: K1705817

INITIAL AND CONTINUING CALIBRATION BLANK

Concentration Units: ug/L

Analyte	Method	Analysis Batch	Initial Calibration Blank		Continuing Calibration Blank		Continuing Calibration Blank		Continuing Calibration Blank	
			Result	C	Result	C	Result	C	Result	C
Copper	6010C	551337			1.5	U	1.5	U	1.5	U
Zinc	6010C	551337			1.0	U	1.0	U	1.0	U

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QA/QC Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62

Service Request: K1705817

INITIAL AND CONTINUING CALIBRATION BLANK

Concentration Units: ug/L

Analyte	Method	Analysis Batch	Initial Calibration Blank		Continuing Calibration Blank		Continuing Calibration Blank		Continuing Calibration Blank	
			Result	C	Result	C	Result	C	Result	C
Copper	6010C	551337			1.5	U	1.5	U		
Zinc	6010C	551337			1.0	U	1.0	U		

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QA/QC Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62

Service Request: K1705817

LOW LEVEL INITIAL AND LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Concentration Units: ug/L

Sample ID	Analyte	Method	Analysis Batch:	Result	True Value	% Rec	% Rec. Limits	Analysis Date
LLICV								
	Copper	6010C	551337	3.9	4.0	98	70-130	06/27/17 08:51
	Zinc	6010C	551337	3.7	4.0	93	70-130	06/27/17 08:51
LLCCV								
	Copper	6010C	551337	5.0	4.0	125	70-130	06/27/17 10:48
	Zinc	6010C	551337	3.8	4.0	95	70-130	06/27/17 10:48
LLCCV								
	Copper	6010C	551337	4.6	4.0	115	70-130	06/27/17 12:07
	Zinc	6010C	551337	4.0	4.0	100	70-130	06/27/17 12:07
LLCCV								
	Copper	6010C	551337	4.4	4.0	110	70-130	06/27/17 14:00
	Zinc	6010C	551337	4.0	4.0	100	70-130	06/27/17 14:00

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62

Service Request: K1705817

ICP INTERFERENCE CHECK SAMPLE

Sample ID ICSA

Concentration Units: ug/L

Analyte	Method	Analysis Batch:	Result	True Value	% Rec	% Rec. Limits	Analysis Date
Copper	6010C	551337	-5.80	-	-	-	06/27/17 09:16
Zinc	6010C	551337	1.0	-	-	-	06/27/17 09:16

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62

Service Request: K1705817

ICP INTERFERENCE CHECK SAMPLE

Sample ID ICSAB

Concentration Units: ug/L

Analyte	Method	Analysis Batch:	Result	True Value	% Rec	% Rec. Limits	Analysis Date
Copper	6010C	551337	454	500	91	80-120	06/27/17 09:18
Zinc	6010C	551337	891	1000	89	80-120	06/27/17 09:18

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62

Service Request: K1705817

POST SPIKE SAMPLE RECOVERY

Concentration Units: ug/L

Sample ID				Initial Sample Result	Post Spike Result	True Value	% Rec	% Rec. Limits	Analysis Date
Analyte	Method	Analysis Batch:							
K1705946-004A									
Copper	6010C	551337		319	945	625	100	80-120	06/27/17 13:39
Zinc	6010C	551337		356	1510	1250	92	80-120	06/27/17 13:39

Results flagged with a pound (#) indicate the control criteria is not applicable.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62

Service Request: K1705817

ICP SERIAL DILUTIONS

Concentration Units: ug/L

Sample ID				Initial Sample Result	Serial Dilution Result	% Diff	% Diff. Limit	Analysis Date
Analyte	Method	Analysis Batch:						
K1705946-004SDL								
Copper	6010C	551337		319	328	3	10	06/27/17 13:32
Zinc	6010C	551337		356	378	6	10	06/27/17 13:32

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62

Service Request: K1705817

Detection Limits

Matrix: Sediment

Analyte	Wavelength (nm)	Units	MRL	MDL	Method
Copper	3273	ug/L	4	1.5	6010C
Zinc	2062	ug/L	5	1	6010C

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62

Service Request: K1705817

ICP Linear Range (Quarterly)

Instrument: K-ICP-AES-03

Analyte	Concentration (ug/L)	Method
Copper 3273	90000	6010C
Zinc 2062	18000	6010C

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62

Service Request: K1705817

Analysis Run Log

Instrument ID: K-ICP-AES-03

Analytical BatchID: 551337

Sample	Dilution Factor	Date/Time	Cu	Zn
ZZZZZZ	1	06/27/17 08:33		
ZZZZZZ	1	06/27/17 08:35		
ZZZZZZ	1	06/27/17 08:38		
ZZZZZZ	1	06/27/17 08:43		
ICV	1	06/27/17 08:46	X	X
ICB	1	06/27/17 08:48	X	X
LLICV	1	06/27/17 08:51	X	X
ZZZZZZ	1	06/27/17 08:53		
ZZZZZZ	0.5	06/27/17 08:56		
ZZZZZZ	1	06/27/17 09:00		
CCVA1	1	06/27/17 09:07	X	X
CCB	1	06/27/17 09:13	X	X
ICSA	1	06/27/17 09:16	X	X
ICSAB	1	06/27/17 09:18	X	X
ZZZZZZ	1	06/27/17 09:21		
ZZZZZZ	1	06/27/17 09:42		
ZZZZZZ	1	06/27/17 09:44		
ZZZZZZ	1	06/27/17 09:47		
ZZZZZZ	1	06/27/17 09:49		
ZZZZZZ	1	06/27/17 09:52		
ZZZZZZ	1	06/27/17 09:55		
ZZZZZZ	1	06/27/17 09:57		
ZZZZZZ	1	06/27/17 10:00		
ZZZZZZ	1	06/27/17 10:03		
ZZZZZZ	1	06/27/17 10:05		
CCVA	1	06/27/17 10:08	X	X
CCB	1	06/27/17 10:11	X	X
ZZZZZZ	5	06/27/17 10:13		
ZZZZZZ	5	06/27/17 10:16		
ZZZZZZ	5	06/27/17 10:18		
ZZZZZZ	5	06/27/17 10:21		
ZZZZZZ	5	06/27/17 10:24		
ZZZZZZ	5	06/27/17 10:26		
ZZZZZZ	5	06/27/17 10:29		
ZZZZZZ	5	06/27/17 10:32		
ZZZZZZ	5	06/27/17 10:34		
ZZZZZZ	5	06/27/17 10:37		

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62

Service Request: K1705817

Analysis Run Log

Instrument ID: K-ICP-AES-03

Analytical BatchID: 551337

Sample	Dilution Factor	Date/Time	Cu	Zn
ZZZZZZ	1	06/27/17 10:40		
CCVA	1	06/27/17 10:43	X	X
CCB	1	06/27/17 10:45	X	X
LLCCV	1	06/27/17 10:48	X	X
ZZZZZZ	1	06/27/17 10:54		
ZZZZZZ	5	06/27/17 10:57		
ZZZZZZ	5	06/27/17 11:00		
ZZZZZZ	5	06/27/17 11:03		
ZZZZZZ	5	06/27/17 11:06		
ZZZZZZ	5	06/27/17 11:08		
ZZZZZZ	5	06/27/17 11:11		
ZZZZZZ	5	06/27/17 11:14		
ZZZZZZ	5	06/27/17 11:16		
ZZZZZZ	5	06/27/17 11:19		
ZZZZZZ	5	06/27/17 11:22		
ZZZZZZ	1	06/27/17 11:25		
CCVA	1	06/27/17 11:27	X	X
CCB	1	06/27/17 11:30	X	X
ZZZZZZ	5	06/27/17 11:32		
ZZZZZZ	2	06/27/17 11:36		
ZZZZZZ	2	06/27/17 11:39		
ZZZZZZ	2	06/27/17 11:42		
ZZZZZZ	10	06/27/17 11:44		
ZZZZZZ	2	06/27/17 11:47		
ZZZZZZ	2	06/27/17 11:49		
ZZZZZZ	2	06/27/17 11:52		
ZZZZZZ	2	06/27/17 11:54		
ZZZZZZ	2	06/27/17 11:57		
ZZZZZZ	1	06/27/17 11:59		
CCVA	1	06/27/17 12:02	X	X
CCB	1	06/27/17 12:04	X	X
LLCCV	1	06/27/17 12:07	X	X
ZZZZZZ	2	06/27/17 12:10		
ZZZZZZ	2	06/27/17 12:13		
ZZZZZZ	2	06/27/17 12:20		
ZZZZZZ	2	06/27/17 12:23		
ZZZZZZ	2	06/27/17 12:25		

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62

Service Request: K1705817

Analysis Run Log

Instrument ID: K-ICP-AES-03

Analytical BatchID: 551337

Sample	Dilution Factor	Date/Time	Cu	Zn
ZZZZZZ	2	06/27/17 12:28		
ZZZZZZ	2	06/27/17 12:31		
KQ1708279-02MB	2	06/27/17 12:33	X	X
KQ1708279-01LCS	2	06/27/17 12:37	X	X
ZZZZZZ	2	06/27/17 12:40		
ZZZZZZ	1	06/27/17 12:42		
CCVA	1	06/27/17 12:45	X	X
CCB	1	06/27/17 12:47	X	X
ZZZZZZ	2	06/27/17 12:50		
ZZZZZZ	2	06/27/17 12:53		
K1705817-001	2	06/27/17 12:55	X	X
K1705817-002	2	06/27/17 12:58	X	X
K1705817-003	2	06/27/17 13:00	X	X
K1705817-004	2	06/27/17 13:03	X	X
K1705817-005	2	06/27/17 13:05	X	X
K1705817-006	2	06/27/17 13:08	X	X
K1705817-007	2	06/27/17 13:11	X	X
ZZZZZZ	2	06/27/17 13:13		
ZZZZZZ	1	06/27/17 13:16		
CCVA	1	06/27/17 13:19	X	X
CCB	1	06/27/17 13:21	X	X
ZZZZZZ	2	06/27/17 13:24		
ZZZZZZ	2	06/27/17 13:26		
ZZZZZZ	2	06/27/17 13:29		
K1705946-004SDL	10	06/27/17 13:32	X	X
K1705946-004DUP	2	06/27/17 13:34	X	X
K1705946-004MS	2	06/27/17 13:37	X	X
K1705946-004PS	2	06/27/17 13:39	X	X
ZZZZZZ	2	06/27/17 13:42		
ZZZZZZ	2	06/27/17 13:44		
ZZZZZZ	2	06/27/17 13:47		
ZZZZZZ	1	06/27/17 13:52		
CCVA	1	06/27/17 13:55	X	X
CCB	1	06/27/17 13:57	X	X
LLCCV	1	06/27/17 14:00	X	X
ZZZZZZ	5	06/27/17 14:03		
ZZZZZZ	5	06/27/17 14:05		

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Al 167.079 {502}	☒	1	Fe	0.000833	0.000000	No
Al 394.401 { 85}	☒	None				
Sb 206.833 {463}	☒	4	Cr	0.016054	0.000000	No
			Fe	-0.000037	0.000000	No
			Mo	0.000488	0.000000	No
			Ti	0.000603	0.000000	No
Sb 217.581 {455}	☒	4	Cu	-0.000990	0.000000	No
			Fe	-0.000951	0.000000	No
			Mn	-0.000745	0.000000	No
			V	0.002186	0.000000	No
As 189.042 {478}	☒	5	Al	0.000041	0.000000	No
			Cr	0.000477	0.000000	No
			Mn	-0.000266	0.000000	No
			Mo	0.001196	0.000000	No
			Fe	-0.000029	0.000000	No
Ba 455.403 { 74}	☒	None				
Be 234.861 {144}	☒	3	Fe	0.000008	0.000000	No
			Mn	-0.000058	0.000000	No
			Mo	-0.000392	0.000000	No
B 249.678 {135}	☒	4	Co	0.002863	0.000000	No
			Fe	-0.000682	0.000000	No
			Mo	-0.001636	0.000000	No
			V	-0.000450	0.000000	No
Cd 214.438 {457}	☒	2	Al	-0.000005	0.000000	No
			Fe	0.000028	0.000000	No
Cd 226.502 {449}	☒	2	Fe	0.000133	0.000000	No
			Ti	0.000128	0.000000	No
Ca 315.887 {107}	☒	None				
Ca 393.366 { 86}	☒	1	Fe	0.000130	0.000000	No
Cr 267.716 {126}	☒	3	Cd	-0.000118	0.000000	No
			Mn	0.000260	0.000000	No
			Fe	0.000026	0.000000	No
Co 228.616 {447}	☒	4	Ba	-0.000098	0.000000	No
			Mo	-0.001099	0.000000	No
			Ni	0.000115	0.000000	No
			Ti	0.002559	0.000000	No
Co 230.786 {446}	☒	5	Al	-0.000006	0.000000	No
			Cr	-0.000188	0.000000	No
			Fe	0.000031	0.000000	No
			Mo	0.000224	0.000000	No
			Ni	0.000132	0.000000	No
Cu 224.700 {450}	☒	6	Co	0.000140	0.000000	No
			Fe	0.000305	0.000000	No
			Pb	0.001810	0.000000	No
			Mo	0.001663	0.000000	No
			Ni	-0.004632	0.000000	No
			Ti	0.000391	0.000000	No
Cu 327.396 {103}	☒	5	Ca	0.000016	0.000000	No
			Co	0.000273	0.000000	No
			Mo	-0.000211	0.000000	No
			Ti	0.000145	0.000000	No
			Fe	0.000025	0.000000	No
Fe 259.940 {130}	☒	None				
Pb 220.353 {453}	☒	6	Al	-0.000083	0.000000	No
			Cu	0.000295	0.000000	No
			Mo	-0.000599	0.000000	No
			Ni	0.000228	0.000000	No
			Si	0.000124	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Fe	0.000051	0.000000	No
Li 670.784 { 50}	☒	None				
Mg 279.079 {121}	☒	None				
Mg 279.553 {121}	☒	1	Fe	0.000137	0.000000	No
Mg 285.213 {118}	☒	None				
Mn 257.610 {131}	☒	1	Fe	0.000014	0.000000	No
Mn 260.569 {129}	☒	None				
Mo 202.030 {467}	☒	1	Fe	-0.000021	0.000000	No
Ni 221.647 {452}	☒	6	Cr	-0.000539	0.000000	No
			Co	-0.000167	0.000000	No
			Cu	-0.000056	0.000000	No
			Si	0.000558	0.000000	No
			Ti	-0.000654	0.000000	No
			Fe	0.000034	0.000000	No
Ni 231.604 {446}	☒	1	Co	-0.000186	0.000000	No
P 178.284 {489}	☒	None				
P 214.914 {457}	☒	6	Al	-0.000826	0.000000	No
			Cd	-0.001386	0.000000	No
			Cu	0.005306	0.000000	No
			Fe	0.000669	0.000000	No
			Mo	0.009817	0.000000	No
			V	-0.001756	0.000000	No
K 766.490 { 44}	☒	None				
Se 196.090 {472}	☒	1	Fe	-0.000090	0.000000	No
Si 251.611 {134}	☒	1	Mo	0.008004	0.000000	No
Ag 328.068 {103}	☒	2	Mn	0.000146	0.000000	No
			Fe	-0.000001	0.000000	No
Na 589.592 { 57}	☒	None				
Sr 407.771 { 83}	☒	None				
Ti 190.856 {477}	☒	5	Cr	0.000283	0.000000	No
			Co	0.003057	0.000000	No
			Mn	0.000688	0.000000	No
			Ti	-0.000474	0.000000	No
			V	0.000383	0.000000	No
Sn 189.989 {477}	☒	None				
Ti 336.121 {100}	☒	2	Ni	0.000108	0.000000	No
			Si	0.000021	0.000000	No
V 292.402 {115}	☒	6	Cr	-0.005445	0.000000	No
			Cu	-0.000055	0.000000	No
			Mn	-0.001374	0.000000	No
			Mo	-0.000084	0.000000	No
			Ti	0.000398	0.000000	No
			Fe	-0.000013	0.000000	No
Zn 206.200 {463}	☒	3	Cr	-0.000124	0.000000	No
			Fe	0.000001	0.000000	No
			Mo	0.000326	0.000000	No
Zn 213.856 {458}	☒	3	Cu	0.001201	0.000000	No
			Fe	0.000114	0.000000	No
			Ni	0.005255	0.000000	No
Y 224.306 {450}* Y 360.073 { 94}* Y 360.073 { 94}2* In 230.606 {446} Bi 223.061 {451}	☒ ☒ ☒ ☒ ☒	None None None None 4	Cr Co Cu V	0.001080 -0.009626 -0.002768 -0.000476	0.000000 0.000000 0.000000 0.000000	No No No No No
S 182.034 {485}	☒	2	Mn	0.003127	0.000000	No

	Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
				Mo	0.000981	0.000000	No



Raw Data

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com



Total Solids

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Benchsheet

Service Request #: K1705817, KQ1707522, K1705946

Run #:

549028

Test: PSEP TS

Balance ID:

K-BALANCE-50

Method: PSEP TS

Pan ID:	Lab Code:	Tare (g)	Wet Wt. (g)	Tare + Dry Wt. (g)	Dry Weight (g)	% Total Solids	RPD
	K1705817-001	1.266	10.591	2.518	1.25	11.8	
	K1705817-002	1.256	15.050	10.580	9.32	62.0	
	K1705817-002DUP	1.261	17.127	12.319	11.1	64.6	4
	K1705817-002TRP	1.264	15.074	11.212	9.95	66.0	6
	K1705817-003	1.253	10.931	4.266	3.01	27.6	
	K1705817-004	1.265	13.317	4.741	3.48	26.1	
	K1705817-005	1.251	10.482	4.180	2.93	27.9	
	K1705817-006	1.261	8.746	3.470	2.21	25.3	
	K1705817-007	1.267	11.824	4.014	2.75	23.2	
	K1705946-001	1.266	10.983	3.727	2.46	22.4	
	K1705946-002	1.265	12.205	6.291	5.03	41.2	
	K1705946-003	1.269	9.021	3.709	2.44	27.0	
	K1705946-004	1.267	11.291	4.392	3.13	27.7	
	K1705946-004DUP	1.252	10.005	4.003	2.75	27.5	<1
	K1705946-004TRP	1.269	10.030	4.070	2.80	27.9	<1
	K1705946-005	1.262	10.316	3.617	2.36	22.8	
	K1705946-006	1.280	9.842	3.656	2.38	24.1	
	K1705946-007	1.271	11.127	4.482	3.21	28.9	

Oven ID	Temp In	Temp Out	Date In	Time In	Date Out	Time Out	Thermometer ID
Oven1	K-Oven-07	105	105	6/9/2017	16:47	6/12/2017	07:43

	Cal EQID	Cal Start Value	Cal End Value	Start Date	Start Time	End Date	End Time
Calibration1	K-BALANCE-50	1.000, 99.998	0.998, 99.999	6/9/2017	09:51	6/9/2017	16:47
Calibration2	K-BALANCE-50	1.000, 100.000	1.000, 99.999	6/12/2017	07:59	6/12/2017	08:02

Comments: DJM Weight set serial No. 42868. Reviewed by SC 6/12/17



General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Work Request # K1705808, 5817, 5946
Tier: IV IV IV
Date Analyzed: 6/29/17
Analyst: AB Run # 552009
Analysis: TOC Soil / ASTM

**DATA QUALITY REPORT
INORGANICS**

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

- | | | |
|-----|---|--|
| 1. | Is the method name and number correct and appropriate? | <u>yes/no/NA</u> |
| 2. | Holding times met for all analyses and for all samples? | <u>yes/no/NA</u> <i>received past hold</i> |
| 3. | Are calculations correct? | <u>yes/no/NA</u> |
| 4. | Is the reporting basis correct? (Dry Weight) | <u>yes/no/NA</u> |
| 5. | All quality control criteria met? | <u>yes/no</u> |
| 6. | Is the calibration curve correlation coefficient ≥ 0.995 ? | <u>yes/no/NA</u> |
| 7. | MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency? | <u>yes/no/NA</u> |
| 8. | Are ICVs, CCVs, and CCBs all within acceptance limits? | <u>yes/no/NA</u> |
| 9. | Are results for methods blanks all ND? | <u>yes/no/NA</u> |
| 10. | Are all QC samples within acceptance criteria?
(LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.) | <u>yes/no/NA</u> |
| 11. | Are all exceptions explained? | <u>yes/no/NA</u> |
| 12. | Have all applicable service requests been reviewed? | <u>yes/no/NA</u> |
| 13. | Are all samples labeled correctly? | <u>yes/no/NA</u> |
| 14. | Have all instructions on the service request been followed?
(e.g. Special MRLs, QC on a specific sample, Form V) | <u>yes/no/NA</u> |
| 15. | Are detection limits and units reported correctly? | <u>yes/no/NA</u> |
| 16. | Is the unused space on the benchsheet crossed out? | <u>yes/no/NA</u> |
| 17. | Was analysis turned in by the due date? (n-2) (If not record SR#) | <u>yes/no/NA</u> <i>Late</i> |

COMMENTS:

Final Approved by:  Date: 6/30/17
DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-02				Analyst: DBRADBURY		Analysis Lot: 552009		Method/Testcode: ASTM D4129-05 Modified/TOC						
Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	POL	% Rec	% RSD	Date Analyzed	QC? Tier
KI705808-021	Carbon, Total Organic (TOC)	N/A		Sediment	2.99 Percent	40.6 mg	2.99 Percent	1	0.020	0.050			6/29/17 18:00	N IV
KI705808-022	Carbon, Total Organic (TOC)	N/A		Sediment	4.45 Percent	40.5 mg	4.45 Percent	1	0.020	0.050			6/29/17 18:00	N IV
KI705808-023	Carbon, Total Organic (TOC)	N/A		Sediment	3.04 Percent	40 mg	3.04 Percent	1	0.020	0.050			6/29/17 18:00	N IV
KI705817-001	Carbon, Total Organic (TOC)	N/A		Sediment	3.72 Percent	40.8 mg	3.72 Percent	1	0.020	0.050			6/29/17 18:00	N IV
KI705817-002	Carbon, Total Organic (TOC)	N/A		Sediment	0.59 Percent	40.2 mg	0.593 Percent	1	0.020	0.050			6/29/17 18:00	N IV
KI705817-003	Carbon, Total Organic (TOC)	N/A		Sediment	3.60 Percent	40.1 mg	3.60 Percent	1	0.020	0.050			6/29/17 18:00	N IV
KI705817-004	Carbon, Total Organic (TOC)	N/A		Sediment	3.34 Percent	40.6 mg	3.34 Percent	1	0.020	0.050			6/29/17 18:00	N IV
KI705817-005	Carbon, Total Organic (TOC)	N/A		Sediment	3.50 Percent	40.8 mg	3.50 Percent	1	0.020	0.050			6/29/17 18:00	N IV
KI705817-006	Carbon, Total Organic (TOC)	N/A		Sediment	4.11 Percent	40 mg	4.11 Percent	1	0.020	0.050			6/29/17 18:00	N IV
KI705817-007	Carbon, Total Organic (TOC)	N/A		Sediment	4.44 Percent	40 mg	4.44 Percent	1	0.020	0.050			6/29/17 18:00	N IV
KI705946-001	Carbon, Total Organic (TOC)	N/A		Sediment	3.78 Percent	40.1 mg	3.78 Percent	1	0.020	0.050			6/29/17 18:00	N IV
KI705946-002	Carbon, Total Organic (TOC)	N/A		Sediment	2.73 Percent	40.8 mg	2.73 Percent	1	0.020	0.050			6/29/17 18:00	N IV
KI705946-003	Carbon, Total Organic (TOC)	N/A		Sediment	3.30 Percent	40 mg	3.30 Percent	1	0.020	0.050			6/29/17 18:00	N IV
KI705946-004	Carbon, Total Organic (TOC)	N/A		Sediment	3.23 Percent	40.4 mg	3.23 Percent	1	0.020	0.050			6/29/17 18:00	N IV
KI705946-005	Carbon, Total Organic (TOC)	N/A		Sediment	3.89 Percent	40.3 mg	3.89 Percent	1	0.020	0.050			6/29/17 18:00	N IV
KI705946-006	Carbon, Total Organic (TOC)	N/A		Sediment	3.88 Percent	40.7 mg	3.88 Percent	1	0.020	0.050			6/29/17 18:00	N IV
KI705946-007	Carbon, Total Organic (TOC)	N/A		Sediment	3.54 Percent	40.5 mg	3.54 Percent	1	0.020	0.050			6/29/17 18:00	N IV
KQI708801-01	Carbon, Total Organic (TOC)	DUP	KI705946-001	Sediment	3.78 Percent	40.3 mg	3.78 Percent	1	0.020	0.050		<1	6/29/17 18:00	N IV
KQI708801-02	Carbon, Total Organic (TOC)	MS	KI705946-001	Sediment	7.76 Percent	20.3 mg	7.76 Percent	1	0.020	0.050	96		6/29/17 18:00	N IV
KQI708801-03	Carbon, Total Organic (TOC)	DMS	KI705946-001	Sediment	7.57 Percent	20.3 mg	7.57 Percent	1	0.020	0.050	96	<1	6/29/17 18:00	N IV
KQI708801-04	Carbon, Total Organic (TOC)	LCS		Sediment	0.57 Percent	50.7 mg	0.572 Percent	1	0.020	0.050	95		6/29/17 18:00	N IV
KQI708801-05	Carbon, Total Organic (TOC)	MB		Sediment	0.00 Percent	50 mg	0.050 Percent	1	0.020	0.050			6/29/17 18:00	N IV
KQI708801-06	Carbon, Total Organic (TOC)	SRM		Sediment	2.94 Percent	30.6 mg	2.94 Percent	1	0.020	0.050	98		6/29/17 18:00	N IV

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-TOC-02

Analyst: DBRADBURY

Analysis Lot:

552009

Method/Testcode: ASTM D4129-05 Modified/TOC

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC? Tier
KQ1708873-01	Carbon, Total Organic (TOC)	CCV		Sediment	19.55 Percent	11.2 mg	19.6 Percent	1			98		6/29/17 18:00	N IV
KQ1708873-02	Carbon, Total Organic (TOC)	CCV		Sediment	19.92 Percent	12.7 mg	19.9 Percent	1			100		6/29/17 18:00	N IV
KQ1708873-03	Carbon, Total Organic (TOC)	CCV		Sediment	19.86 Percent	11.4 mg	19.9 Percent	1			99		6/29/17 18:00	N IV
KQ1708873-04	Carbon, Total Organic (TOC)	CCV		Sediment	19.91 Percent	12.3 mg	19.9 Percent	1			100		6/29/17 18:00	N IV
KQ1708873-05	Carbon, Total Organic (TOC)	CCB		Sediment	0.00 Percent	50 mg	0.050 Percent	U	0.020	0.050			6/29/17 18:00	N IV
KQ1708873-06	Carbon, Total Organic (TOC)	CCB		Sediment	0.00 Percent	50 mg	0.050 Percent	U	0.020	0.050			6/29/17 18:00	N IV
KQ1708873-07	Carbon, Total Organic (TOC)	CCB		Sediment	0.00 Percent	50 mg	0.050 Percent	U	0.020	0.050			6/29/17 18:00	N IV
KQ1708873-08	Carbon, Total Organic (TOC)	CCB		Sediment	0.00 Percent	50 mg	0.050 Percent	U	0.020	0.050			6/29/17 18:00	N IV

AB 6/30/17

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Run # 552009

Method: ASTM D4129-82M (Combustion/Coulometric)
Matrix: Soil / Dry Weight Basis

(1 of 2)

R:\WET\ANALYSES\TOC\TEMPLATE\TOCsoil_LIMS 011612

Acid Purge Time: 1 minute	Reading Time: 5 minutes	TOC % = $\frac{(\text{Net Reading})(\mu\text{g } 0.1)}{\text{mg Sample Injected}}$
LCS: ERA Cat#: 542 Lot#: D092-542 ID#: TOCS/1-17-H TV = 0.603%C %REC = 95		
CCV : Urea	EMD (Lot # 1964C506) ID#: TOCS/1-18-K TV = 20.0%C	
CCV1 = 98	CCV2 = 100	CCV3 = 99
HCl: 10% ID#TOC/2-81-AA	Balance: K-BALANCE-38	
Oven ID# K-OVEN-01	Thermometer ID# K31386	

$$\text{K1705946-001msd} = 4.0\text{mg} \times 20 / 20.3 = 3.94 \quad \% \text{ REC} = 96$$

SRM: NIST 1941b, TOCS/1-17-C, TV 2.99% % REC = 98

Analyzed By:	AB	Date:	6/29/17	18:00
Reveiwed By:		Date:		

552009

Method: ASTM D4129-82M (Combustion/Coulometric)

Matrix: Soil / Dry Weight Basis

6. f. 2)

Acid Purge Time: 1 minute Reading Time: 5 minutes TOC % = $\frac{(\text{Net Reading})(\mu\text{g } 0.1)}{\text{mg Sample Injected}}$

CCV4 = 100 CCV5 = 0

Comments :

		date	time
Analyzed By:	AB	6/29/17	18:00
Reveiwed By:		6/30/17	

TOC Soil Benchsheet

Sample #	mg Sample	Reading	Date Baked	Baseline
CCV-1	11.2	2198.7	%REC=98	8.9
CCB-1	50.0	10.1		9.0
LCS	50.7	298.8	%REC=95	8.6
MB	50.0	8.9		AVG
SRM	30.6	908.2	%REC=98	8.8
K1705946-001	40.1	1523.6	6/9/2017	
K1705946-001d	40.3	1530.7	6/9/2017	
K1705946-001ms	20.3	1583.8	6/9/2017	
K1705946-001msd	20.3	1545.2	6/9/2017	
K1705946-002	40.8	1120.7	6/9/2017	
K1705946-003	40.0	1327.5	6/9/2017	
K1705946-004	40.4	1312.4	6/9/2017	
CCV-2	12.7	2538.8	%REC=100	
CCB-2	50.0	9.2		
K1705946-005	40.3	1575.5	6/9/2017	
K1705946-006	40.7	1589.8	6/9/2017	
K1705946-007	40.5	1440.7	6/9/2017	
K1705817-001	40.8	1527.3	6/9/2017	
K1705817-002	40.2	247.0	6/9/2017	
K1705817-003	40.1	1452.1	6/9/2017	
K1705817-004	40.6	1364.3	6/9/2017	
K1705817-005	40.8	1437.3	6/9/2017	
K1705817-006	40.0	1654.7	6/9/2017	
K1705817-007	40.0	1783.9	6/9/2017	
CCV-3	11.4	2273.1	%REC=99	
CCB-3	50.0	9.7		
K1705808-021	40.6	1221.2	6/8/2017	
K1705808-022	40.5	1811.8	6/8/2017	
K1705808-023	40.0	1224.5	6/8/2017	
CCV-4	12.3	2457.9	%REC=100	
CCB-4	50.0	10.1		

AB 6/30/17

Service Request #: K1705808, 5817, 5946Date Weighed: 6/29/17 AB

Big dish

Prep Run # 291898Run # 552009

Sample ID:	5946-5	-6		
Wgt. mg:	40.3	40.7		
Sample ID:	-7	5817-1	-2	
Wgt. mg:	40.5	40.8	40.2	
Sample ID:	-3	-4	-5	-6
Wgt. mg:	40.1	40.6	40.8	40.0
Sample ID:	-7	5808-21	-22	-23
Wgt. mg:	40.0	40.6	40.5	40.0
Sample ID:				
Wgt. mg:				
Sample ID:				
Wgt. mg:				
Sample ID:				
Wgt. mg:				
Sample ID:				
Wgt. mg:				
Sample ID:				
Wgt. mg:				
Sample ID:				
Wgt. mg:				

Little dish

Sample ID:	LCS	MB	
Wgt. mg:	50.7		
Sample ID:	SRM	5946-1	
Wgt. mg:	30.6	40.1	
Sample ID:	-1d	-1ms	
Wgt. mg:	40.3	20.3	
Sample ID:	-1MSD	-2	
Wgt. mg:	20.3	40.8	
Sample ID:	-3	-4	
Wgt. mg:	40.0	40.4	

This form is intended to work as a map for sample layout.
 The weights may not correspond to final weights on the run.
 Weights can change due to boat breakage, machine problems etc...

Work Request # (Original) 5817

Tier: _____

Date Analyzed: 6/15/17

Analyst: TR / CML

Analysis: GS

549864

**DATA QUALITY REPORT
INORGANICS**

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1. Is the method name and number correct and appropriate? yes/no/NA
2. Holding times met for all analyses and for all samples? yes/no/NA
3. Are calculations correct? yes/no/NA
4. Is the reporting basis correct (Dry Weight)? yes/no/NA
5. All quality control criteria met? yes/no/NA
 - a. Is the calibration curve correlation coefficient ≥ 0.995 ? yes/no/NA
 - b. MBs, CCVs, CCBs, LCSs, Dups, and Spikes analyzed at proper frequency? yes/no/NA
 - c. Are ICVs, CCVs, and CCBs, all within acceptance limits? yes/no/NA
 - d. Are results for method blanks all ND? yes/no/NA
 - e. Are all QC samples within acceptance criteria?
(LCS %Rec, MS/DMS %Rec, DUP or MS/DMS RPDs, etc.) yes/no/NA
 - f. Are all exceptions explained? yes/no/NA
6. Are all service requests that apply attached? yes/no/NA
7. Are all samples labeled correctly? yes/no/NA
8. Have all instructions on the service request been followed?
(e.g. Special MRLs, QC on a specific sample) yes/no/NA
9. Are detection limits and units reported correctly? yes/no/NA
10. Are proper Analytical Batch stickers included on report? yes/no/NA
11. Is the unused space on the benchsheet crossed out? yes/no/NA
12. Was analysis turned in by the due date (n-2)? If not, record SR#. yes/no/NA

COMMENTS:

Final Approval By: [Signature] Date: 6/22/17

DQREPORT

ALS ENVIRONMENTAL

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K1705817
Sample #: K1705817-001

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Sample Name: CV62SED-51
Date Collected: 3/30/2017
Date Received: 6/7/2017
Date Analyzed: 6/15/2017

I. Sieving Operation

Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	0.0000	0.0000
V.C. Sand, 1.00 mm (g)	0.0023	0.0190
C. Sand, 0.500 mm (g)	0.0083	0.0686
M. Sand, 0.250 mm (g)	0.0161	0.1331
F. Sand, 0.125 mm (g)	0.0350	0.2893
V.F. Sand, 0.0625 mm (g)	0.0852	0.7041
S/C <0.0625 mm (g)	0.0014	0.0116

Total (g) Recov'd	0.1483
Total (%) Recov'd	98.3

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	107.6116
Grams Beaker (Tare)	107.4607
Grams Gravel/Sand	0.1509

I. Sample Preparation

Grams As Received Sample	51.4760
Percent (%) Solids	12.1
Grams Oven Dried Sample	6.2286

III. Determination of Silt/Clay Fraction

Temperature °C.: 20 Time Start: 1100 Time Finish: 1302
Date Start: 6/19/2017 Date Finish: 6/19/2017

Thermometer ID# c65669

	Silt/Clay Fraction	Clay Fraction
Total Volume of Sample (mls)	1000	1000
Amount of Dispersant	10	10
Volume of Aliquot (mls)	20	20
Grams Sample, Dispersant & Tare	34.3648	39.8895
Grams of Tare	34.2284	39.8482
Grams of Dispersant Correction	0.0022	0.0022
Grams of Sample	0.1342	0.0391
Total Grams Sample X 50	6.7100	1.9550

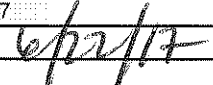
Balance ID# K-Balance-35

Reagent: Grain\1-26- F

Analyst: EL/CML

Date Completed: 6/20/2017

Reviewed by: 

Date Reviewed: 

K1705817wet.e11

COLUMBIA ANALYTICAL SERVICES, INC.

Now Part of ALS Group

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K1705817
Sample #: K1705817-002

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Sample Name: CV62SED-52
Date Collected: 3/30/2017
Date Received: 6/7/2017
Date Analyzed: 6/15/2017

I. Sieving Operation

Sieve #	
Gravel 2.00 mm (g)	10
V.C. Sand, 1.00 mm (g)	18
C. Sand, 0.500 mm (g)	35
M. Sand, 0.250 mm (g)	60
F. Sand, 0.125 mm (g)	120
V.F. Sand, 0.0625 mm (g)	230
S/C <0.0625 mm (g)	Pan

Weight (g)

18.2902
2.8312
2.6811
2.1604
0.4700
0.5206
0.0180

As Rec'd (g)

36.7273
5.6851
5.3837
4.3382
0.9438
1.0454
0.0361

Total (g) Recov'd	26.9715
Total (%) Recov'd	100.0

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	131.9033
Grams Beaker (Tare)	104.9259
Grams Gravel/Sand	26.9774

I. Sample Preparation

Grams As Received Sample	42.6830
Percent (%) Solids	49.8
Grams Oven Dried Sample	30.4378

% solids was re-analyzed using only samples passing #
100% solids was applied for the gravel/rocks left on the

III. Determination of Silt/Clay Fraction

Temperature °C.:

22

Time Start:

1100

Time Finish:

1302

Date Start:

6/19/2017

Date Finish:

6/19/2017

Thermometer ID#

c65669

Silt/Clay Fraction

Clay Fraction

Total Volume of Sample (mls)
Amount of Dispersant
Volume of Aliquot (mls)
Grams Sample, Dispersant & Tare
Grams of Tare
Grams of Dispersant Correction
Grams of Sample
Total Grams Sample X 50

1000
10
20
39.9268
39.8625
0.0022
0.0621
3.1050

1000
10
20
41.1762
41.1541
0.0022
0.0199
0.9950

Analyst: EL/CML

Reviewed by:

Date Completed: 6/20/2017

Date Reviewed:

K1705817wet.e11

COLUMBIA ANALYTICAL SERVICES, INC.

Now Part of ALS Group

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K1705817
Sample #: K1705817-003

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Sample Name: CV62SED-53
Date Collected: 3/30/2017
Date Received: 6/7/2017
Date Analyzed: 6/15/2017

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	2.2412	9.8298
V.C. Sand, 1.00 mm (g)	18	0.3434	1.5061
C. Sand, 0.500 mm (g)	35	0.1651	0.7241
M. Sand, 0.250 mm (g)	60	0.1517	0.6654
F. Sand, 0.125 mm (g)	120	0.1963	0.8610
V.F. Sand, 0.0625 mm (g)	230	0.2539	1.1136
S/C <0.0625 mm (g)	Pan	0.0145	0.0636

Total (g) Recov'd	3.3661
Total (%) Recov'd	97.4

II. Dry Sieving of Gravel/Sand	
Grams Gravel/Sand & Beaker	108.1326
Grams Beaker (Tare)	104.6749
Grams Gravel/Sand	3.4577

I. Sample Preparation

Grams As Received Sample	51.4200
Percent (%) Solids	22.8
Grams Oven Dried Sample	11.7238

III. Determination of Silt/Clay Fraction

Temperature °C.: 22 Time Start: 1100 Time Finish: 1302
Date Start: 6/19/2017 Date Finish: 6/19/2017

Thermometer ID#	c65669	Silt/Clay Fraction	Clay Fraction
Total Volume of Sample (mls)		1000	1000
Amount of Dispersant		10	10
Volume of Aliquot (mls)		20	20
Grams Sample, Dispersant & Tare		30.9122	40.3555
Grams of Tare		30.7262	40.3002
Grams of Dispersant Correction		0.0022	0.0022
Grams of Sample		0.1838	0.0531
Total Grams Sample X 50		9.1900	2.6550

Analyst: EL/CML
Reviewed by: 

Date Completed: 6/20/2017
Date Reviewed: 

COLUMBIA ANALYTICAL SERVICES, INC.

Now Part of ALS Group

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K1705817
Sample #: K1705817-004

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Sample Name: CV62SED-54
Date Collected: 3/30/2017
Date Received: 6/7/2017
Date Analyzed: 6/15/2017

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	0.1541	0.5904
V.C. Sand, 1.00 mm (g)	18	0.0415	0.1590
C. Sand, 0.500 mm (g)	35	0.0258	0.0989
M. Sand, 0.250 mm (g)	60	0.0210	0.0805
F. Sand, 0.125 mm (g)	120	0.0301	0.1153
V.F. Sand, 0.0625 mm (g)	230	0.0986	0.3778
S/C <0.0625 mm (g)	Pan	0.0019	0.0073

Total (g) Recov'd	0.3730
Total (%) Recov'd	95.7

II. Dry Sieving of Gravel/Sand	
Grams Gravel/Sand & Beaker	119.3357
Grams Beaker (Tare)	118.9461
Grams Gravel/Sand	0.3896

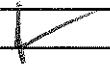
I. Sample Preparation

Grams As Received Sample	40.9030
Percent (%) Solids	26.1
Grams Oven Dried Sample	10.6757

III. Determination of Silt/Clay Fraction

Temperature °C.: 22 **Time Start:** 1100 **Time Finish:** 1302
Date Start: 6/19/2017 **Date Finish:** 6/19/2017

Thermometer ID#	c65669	Silt/Clay Fraction	Clay Fraction
Total Volume of Sample (mls)		1000	1000
Amount of Dispersant		10	10
Volume of Aliquot (mls)		20	20
Grams Sample, Dispersant & Tare		41.9648	34.0754
Grams of Tare		41.7497	34.0213
Grams of Dispersant Correction		0.0022	0.0022
Grams of Sample		0.2129	0.0519
Total Grams Sample X 50		10.6450	2.5950

Analyst: EL/CML
Reviewed by: 

Date Completed: 6/20/2017
Date Reviewed: 

COLUMBIA ANALYTICAL SERVICES, INC.

Now Part of ALS Group

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K1705817
Sample #: K1705817-005

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Sample Name: CV62SED-55
Date Collected: 3/30/2017
Date Received: 6/7/2017
Date Analyzed: 6/15/2017

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	0.1230	0.4409
V.C. Sand, 1.00 mm (g)	18	0.0414	0.1484
C. Sand, 0.500 mm (g)	35	0.0415	0.1487
M. Sand, 0.250 mm (g)	60	0.0380	0.1362
F. Sand, 0.125 mm (g)	120	0.1306	0.4681
V.F. Sand, 0.0625 mm (g)	230	0.2998	1.0746
S/C <0.0625 mm (g)	Pan	0.0001	0.0004

Total (g) Recov'd	0.6744
Total (%) Recov'd	101.0

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	100.3490
Grams Beaker (Tare)	99.6811
Grams Gravel/Sand	0.6679

I. Sample Preparation

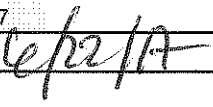
Grams As Received Sample	36.4870
Percent (%) Solids	27.9
Grams Oven Dried Sample	10.1799

III. Determination of Silt/Clay Fraction

Temperature °C.: 22 Time Start: 1100 Time Finish: 1302
Date Start: 6/19/2017 Date Finish: 6/19/2017

Thermometer ID#	c65669	Silt/Clay Fraction	Clay Fraction
Total Volume of Sample (mls)		1000	1000
Amount of Dispersant		10	10
Volume of Aliquot (mls)		20	20
Grams Sample, Dispersant & Tare		40.4454	42.6509
Grams of Tare		40.2504	42.5925
Grams of Dispersant Correction		0.0022	0.0022
Grams of Sample		0.1928	0.0562
Total Grams Sample X 50		9.6400	2.8100

Analyst: EL/CML
Reviewed by: 

Date Completed: 6/20/2017
Date Reviewed: 

K1705817wet.el1

COLUMBIA ANALYTICAL SERVICES, INC.

Now Part of ALS Group

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K1705817
Sample #: K1705817-006

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Sample Name: CV62SED-56
Date Collected: 3/30/2017
Date Received: 6/7/2017
Date Analyzed: 6/15/2017

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	1.1346	4.4846
V.C. Sand, 1.00 mm (g)	18	0.1587	0.6273
C. Sand, 0.500 mm (g)	35	0.0846	0.3344
M. Sand, 0.250 mm (g)	60	0.0554	0.2190
F. Sand, 0.125 mm (g)	120	0.0529	0.2091
V.F. Sand, 0.0625 mm (g)	230	0.1375	0.5435
S/C <0.0625 mm (g)	Pan	0.0017	0.0067

Total (g) Recov'd	1.6254
Total (%) Recov'd	97.6

II. Dry Sieving of Gravel/Sand	
Grams Gravel/Sand & Beaker	120.2015
Grams Beaker (Tare)	118.5362
Grams Gravel/Sand	1.6653

I. Sample Preparation

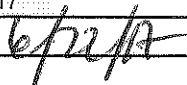
Grams As Received Sample	46.3920
Percent (%) Solids	25.3
Grams Oven Dried Sample	11.7372

III. Determination of Silt/Clay Fraction

Temperature °C.: 22 **Time Start:** 1100 **Time Finish:** 1302
Date Start: 6/19/2017 **Date Finish:** 6/19/2017

Thermometer ID#	c65669	Silt/Clay Fraction	Clay Fraction
Total Volume of Sample (mls)		1000	1000
Amount of Dispersant		10	10
Volume of Aliquot (mls)		20	20
Grams Sample, Dispersant & Tare		31.5229	31.7379
Grams of Tare		31.3192	31.6721
Grams of Dispersant Correction		0.0022	0.0022
Grams of Sample		0.2015	0.0636
Total Grams Sample X 50		10.0750	3.1800

Analyst: EL/CML
Reviewed by: 

Date Completed: 6/20/2017
Date Reviewed: 

COLUMBIA ANALYTICAL SERVICES, INC.

Now Part of ALS Group

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K1705817
Sample #: K1705817-007

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Sample Name: CV62SED-57
Date Collected: 3/30/2017
Date Received: 6/7/2017
Date Analyzed: 6/15/2017

I. Sieving Operation	Sieve #	Weight (g)	As Rec'd (g)
Gravel 2.00 mm (g)	10	0.9713	4.1866
V.C. Sand, 1.00 mm (g)	18	0.4572	1.9707
C. Sand, 0.500 mm (g)	35	0.1967	0.8478
M. Sand, 0.250 mm (g)	60	0.1052	0.4534
F. Sand, 0.125 mm (g)	120	0.1055	0.4547
V.F. Sand, 0.0625 mm (g)	230	0.1609	0.6935
S/C <0.0625 mm (g)	Pan	0.0057	0.0246

Total (g) Recov'd	2.0025
Total (%) Recov'd	95.1

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	104.7117
Grams Beaker (Tare)	102.6057
Grams Gravel/Sand	2.1060

I. Sample Preparation

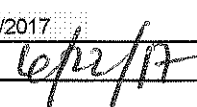
Grams As Received Sample	51.1300
Percent (%) Solids	23.2
Grams Oven Dried Sample	11.8622

III. Determination of Silt/Clay Fraction

Temperature °C.: 22 Time Start: 1100 Time Finish: 1302
Date Start: 6/19/2017 Date Finish: 6/19/2017

Thermometer ID#	c65669	Silt/Clay Fraction	Clay Fraction
Total Volume of Sample (mls)		1000	1000
Amount of Dispersant		10	10
Volume of Aliquot (mls)		20	20
Grams Sample, Dispersant & Tare		34.7559	41.1028
Grams of Tare		34.5378	41.0330
Grams of Dispersant Correction		0.0022	0.0022
Grams of Sample		0.2159	0.0676
Total Grams Sample X 50		10.7950	3.3800

Analyst: EL/CML
Reviewed by: 

Date Completed: 6/20/2017
Date Reviewed: 

COLUMBIA ANALYTICAL SERVICES, INC.

Now Part of ALS Group

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K1705817
Sample #: K1705957-001

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Sample Name: Batch QC
Date Collected: NA
Date Received: NA
Date Analyzed: 6/15/2017

I. Sieving Operation

	Sieve #
Gravel 2.00 mm (g)	10
V.C. Sand, 1.00 mm (g)	18
C. Sand, 0.500 mm (g)	35
M. Sand, 0.250 mm (g)	60
F. Sand, 0.125 mm (g)	120
V.F. Sand, 0.0625 mm (g)	230
S/C <0.0625 mm (g)	Pan

Weight (g)

3.2052
1.7238
1.9564
2.6061
1.8035
0.7798
0.0305

As Rec'd (g)

6.6775
3.5913
4.0758
5.4294
3.7573
1.6246
0.0635

Total (g) Recov'd	12.1053
Total (%) Recov'd	99.0

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	115.9598
Grams Beaker (Tare)	103.7370
Grams Gravel/Sand	12.2228

I. Sample Preparation

Grams As Received Sample	33.3090
Percent (%) Solids	48.0
Grams Oven Dried Sample	15.9883

III. Determination of Silt/Clay Fraction

Temperature °C.:

22

Time Start:

1100

Time Finish:

1302

Date Start:

6/19/2017

Date Finish:

6/19/2017

Thermometer ID#

c65669

Silt/Clay Fraction

Clay Fraction

Total Volume of Sample (mls)
Amount of Dispersant
Volume of Aliquot (mls)
Grams Sample, Dispersant & Tare
Grams of Tare
Grams of Dispersant Correction
Grams of Sample
Total Grams Sample X 50

1000
10
20
40.9568
40.8786
0.0022
0.0760
3.8000

1000
10
20
40.9536
40.9496
0.0022
0.0018
0.0900

Analyst: EL/CML

Reviewed by:

Date Completed: 6/20/2017

Date Reviewed:

K1705817wet.el1

COLUMBIA ANALYTICAL SERVICES, INC.

Now Part of ALS Group

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K1705817
Sample #: K1705957-001DUP

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Sample Name: Batch QC
Date Collected: NA
Date Received: NA
Date Analyzed: 6/15/2017

I. Sieving Operation

	Sieve #
Gravel 2.00 mm (g)	10
V.C. Sand, 1.00 mm (g)	18
C. Sand, 0.500 mm (g)	35
M. Sand, 0.250 mm (g)	60
F. Sand, 0.125 mm (g)	120
V.F. Sand, 0.0625 mm (g)	230
S/C <0.0625 mm (g)	Pan

Weight (g)

2.5957
2.0262
2.2510
3.0722
2.3106
0.7566
0.0146

As Rec'd (g)

5.4077
4.2213
4.6896
6.4004
4.8138
1.5763
0.0304

Total (g) Recov'd	13.0269
Total (%) Recov'd	98.5

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	132.9451
Grams Beaker (Tare)	119.7176
Grams Gravel/Sand	13.2275

I. Sample Preparation

Grams As Received Sample	37.4700
Percent (%) Solids	48.0
Grams Oven Dried Sample	17.9856

III. Determination of Silt/Clay Fraction

Temperature °C.:

22

Time Start:

1100

Time Finish:

1302

Date Start:

6/19/2017

Date Finish:

6/19/2017

Thermometer ID#

c65669

Silt/Clay Fraction

1000
10
20
42.0307
41.9428
0.0022
0.0857
4.2850

Clay Fraction

1000
10
20
34.1906
34.1843
0.0022
0.0041
0.2050

Total Volume of Sample (mls)
Amount of Dispersant
Volume of Aliquot (mls)
Grams Sample, Dispersant & Tare
Grams of Tare
Grams of Dispersant Correction
Grams of Sample
Total Grams Sample X 50

Analyst: EL/CML

Reviewed by:

Date Completed: 6/20/2017

Date Reviewed:

K1705817wet.el1

COLUMBIA ANALYTICAL SERVICES, INC.

Now Part of ALS Group

Method: PSEP Particle Size
Puget Sound Protocol

Service Request #: K1705817
Sample #: K1705957-001TPR

Client: SPAWAR Systems Center San Diego
Project: Mooring G - Kitsap Bremerton/CV62
Sample Matrix: Sediment

Sample Name: Batch QC
Date Collected: NA
Date Received: NA
Date Analyzed: 6/15/2017

I. Sieving Operation

	Sieve #
Gravel 2.00 mm (g)	10
V.C. Sand, 1.00 mm (g)	18
C. Sand, 0.500 mm (g)	35
M. Sand, 0.250 mm (g)	60
F. Sand, 0.125 mm (g)	120
V.F. Sand, 0.0625 mm (g)	230
S/C <0.0625 mm (g)	Pan

Weight (g)

2.9219
2.0585
2.4534
3.3632
1.8415
0.8262
0.0149

As Rec'd (g)

6.0873
4.2885
5.1113
7.0067
3.8365
1.7213
0.0310

Total (g) Recov'd	13.4796
Total (%) Recov'd	99.2

II. Dry Sieving of Gravel/Sand

Grams Gravel/Sand & Beaker	115.2452
Grams Beaker (Tare)	101.6625
Grams Gravel/Sand	13.5827

I. Sample Preparation

Grams As Received Sample	36.4370
Percent (%) Solids	48.0
Grams Oven Dried Sample	17.4898

III. Determination of Silt/Clay Fraction

Temperature °C.:

22

Time Start:

1100

Time Finish:

1302

Date Start:

6/19/2017

Date Finish:

6/19/2017

Thermometer ID#

c65669

Silt/Clay Fraction

Clay Fraction

Total Volume of Sample (mls)
Amount of Dispersant
Volume of Aliquot (mls)
Grams Sample, Dispersant & Tare
Grams of Tare
Grams of Dispersant Correction
Grams of Sample
Total Grams Sample X 50

1000
10
20
41.1026
41.0173
0.0022
0.0831
4.1550

1000
10
20
33.3374
33.3308
0.0022
0.0044
0.2200

Analyst: EL/CML

Reviewed by:

Date Completed: 6/20/2017

Date Reviewed:

K1705817wet.el1

Service Request #: K1303304 Method: EPA METHOD 160.3 MODIFIED
Analysis For: Total Solids

Oven Temp : 105 Time In : 6/20/2017 14:05 Time Out : 1301 6/21/2017
Thermometer ID# _____

* hard to homogenize -the sample settles fast and is heterogenous. No rocks over the #10 sieve were used in the recent solids analysis.

$$\bar{X} = \text{RPD} =$$

Analyst: el	6/20/2017
Reviewed By: 	Date: 6/22/17

5817, 5957TS.xls



Metals

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Preparation Information Benchsheet

Prep Run: 291187 **Prep Workflow:** MetDigSICP **Status:** Prepped **Prep Date:** 06/09/2017 00:00
Team: Metals **Prep Method:** EPA 3050B **Current Step:** Digestion **Due Date:** 06/24/2017
Analyst: APosey **Rush/NPDES:** N/A **Hold Date:** 06/11/2017

Lab Code	Client ID	Bottle #	Initial Amt	Initial Basis	Final Volume	Spike Amt	Spike ID	Comments
KQ1708279-02	Method Blank		1.00 g		100 mL			10% HNO ₃ , 10%HCl; APOSEY K-Balance-48
KQ1708279-01	Lab Control Sample		1.03 g		100 mL	1 g	171958	10% HNO ₃ , 10%HCl; APOSEY K-Balance-48
K1705808-021	CV62AVS-21	.01	2.829 g	As Received.	100 mL			10% HNO ₃ , 10%HCl; APOSEY K-Balance-48
K1705808-022	CV62AVS-22	.01	2.788 g	As Received.	100 mL			10% HNO ₃ , 10%HCl; APOSEY K-Balance-48
K1705808-023	CV62AVS-23	.01	2.707 g	As Received.	100 mL			10% HNO ₃ , 10%HCl; APOSEY K-Balance-48
K1705817-001	CV62SED-51	.02	3.009 g	As Received.	100 mL			10% HNO ₃ , 10%HCl; APOSEY K-Balance-48
K1705817-002	CV62SED-52	.02	1.737 g	As Received.	100 mL			10% HNO ₃ , 10%HCl; APOSEY K-Balance-48
K1705817-003	CV62SED-53	.02	3.079 g	As Received.	100 mL			10% HNO ₃ , 10%HCl; APOSEY K-Balance-48
K1705817-004	CV62SED-54	.02	2.496 g	As Received.	100 mL			10% HNO ₃ , 10%HCl; APOSEY K-Balance-48
K1705817-005	CV62SED-55	.02	2.238 g	As Received.	100 mL			10% HNO ₃ , 10%HCl; APOSEY K-Balance-48
K1705817-006	CV62SED-56	.02	2.814 g	As Received.	100 mL			10% HNO ₃ , 10%HCl; APOSEY K-Balance-48
K1705817-007	CV62SED-57	.02	2.784 g	As Received.	100 mL			10% HNO ₃ , 10%HCl; APOSEY K-Balance-48
K1705946-001	CV62SED-01	.01	1.465 g	As Received.	100 mL			10% HNO ₃ , 10%HCl; APOSEY K-Balance-48
K1705946-002	CV62SED-02	.01	1.341 g	As Received.	100 mL			10% HNO ₃ , 10%HCl; APOSEY K-Balance-48
K1705946-003	CV62SED-03	.01	1.499 g	As Received.	100 mL			10% HNO ₃ , 10%HCl; APOSEY K-Balance-48
K1705946-004	CV62SED-04	.01	1.575 g	As Received.	100 mL			10% HNO ₃ , 10%HCl; APOSEY K-Balance-48
K1705946-004: KQ1708279-03	Duplicate	.01	1.449 g	As Received.	100 mL			10% HNO ₃ , 10%HCl; APOSEY K-Balance-48
K1705946-004: KQ1708279-04	Matrix Spike	.01	1.513 g	As Received.	100 mL	2 mL 1 mL 1 mL 1 mL	180475 181009 181197 181490	10% HNO ₃ , 10%HCl; APOSEY K-Balance-48
K1705946-005	CV62SED-05	.01	1.655 g	As Received.	100 mL			10% HNO ₃ , 10%HCl; APOSEY K-Balance-48
K1705946-006	CV62SED-06	.01	1.453 g	As Received.	100 mL			10% HNO ₃ , 10%HCl; APOSEY K-Balance-48
K1705946-007	CV62SED-07	.01	1.358 g	As Received.	100 mL			10% HNO ₃ , 10%HCl; APOSEY K-Balance-48

21 Total Samples consisting of 17 Client Samples, 2 Client QC Samples, 2 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

Name	Type	ID	Expires	Name	Type	ID	Expires
K-MET SOIL CRM	Spike	171958	4/30/2018	K-MET SS4	Spike	181490	8/15/2017
K-MET SS1	Spike	180475	7/12/2017	K-MET SS5	Spike	181197	11/6/2017
K-MET SS3	Spike	181009	1/6/2018				

Preparation Materials

Step	Name	ID	Step	Name	ID
All	Teflon Chips	80163	All	K-MET 100ml Centrifuge Tube	180880
All	K-MET H2O2	175797	All	K-MET HNO3 Hg	181999
All	K-MET HCL	176575			

Preparation Hardware / Equipment

Step	Name	Property	Value		Step	Name	Property	Value	
Digestion	K-Balance-02	Date Checked	6/12/17		Digestion	K-BlockDigester-02	Observed Temperature	95.0	deg C
Digestion	K-BlockDigester-02	Corrected Temperature	95.0	deg C	Digestion	K-BlockDigester-02	Thermometer ID 6403817		NONE
Digestion	K-BlockDigester-02	Correction Factor	0.0	deg C	Digestion	K-BlockDigester-02	Thermometer Location	25	NONE

Preparation Steps

Step	Started	Finished	By	Assisted By	Training?	Comments
Weigh	09-JUN-17 00:00	09-JUN-17 00:00	APosey		N	
Digestion	22-JUN-17 10:40	22-JUN-17 12:25	AURBAN		N	

Comments

First reflux on at 1040 off at 1055. Second reflux on at 1100 off at 1130. HCl reflux on at 1210 off at 1225.

Review

Reviewed by: *7* Date: 6/22/17

METALS SPIKING SOLUTIONS CONCENTRATIONS FORM

Solution Name	Element	mLs of 1000ppm Solution	Final Volume	Solution Conc. mg/L	Enter mls Added
K-MET SS1 *** Add after HNO3 and before ALS-89 when making the solution	HNO3	50.0	1000ml	-	
	Al	100*	1000ml	200	
	Ag	100*	1000ml	5	
	Ba	100*	1000ml	100	
	Be	100*	1000ml	5	
	Cd	100*	1000ml	5	
	Co	100*	1000ml	50	
	Cr	100*	1000ml	20	
	Cu	100*	1000ml	25	
	Fe	100*	1000ml	100	
	Pb	100*	1000ml	50	
	Mn	100*	1000ml	50	
	Ni	100*	1000ml	50	
	Sb***	50	1000ml	50	
	V	100*	1000ml	50	
	Zn	100*	1000ml	50	
K-MET SS2	HNO3	25.0	500ml	-	
	As	2.0	500ml	4	
	Cd	2.0	500ml	4	
	Pb	2.0	500ml	4	
	Se	2.0	500ml	4	
	Tl	2.0	500ml	4	
K-MET SS3	HNO3	25.0	500ml	-	
	As	50.0	500ml	100	
	Se	50.0	500ml	100	
	Tl	10.0	500ml	20	
	Hg	6	500	12	
K-MET SS4	HNO3	25	500ml	-	
	B	25	500ml	50	
	Mo	50	500ml	100	
K-MET SS5	HNO3	10.0	200ml	-	
	K**	20	200ml	1000	
	Na**	20	200ml	1000	
	Mg**	20	200ml	1000	
	Ca**	20	200ml	1000	

K-MET QCP-CICV-1	Ca, Mg, Na, K	no dilution	-	2500	
	Al, Ba	no dilution	-	1000	
	Fe	no dilution	-	500	
	Co, Mn, Ni, V, Zn	no dilution	-	250	
	Cu, Ag	no dilution	-	125	
	Cr	no dilution	-	100	
	Be	no dilution	-	25	
K-MET QCP-CICV-3	As, Pb, Se, Tl	no dilution	-	500	
	Cd	no dilution	-	250	

* Denotes volume of mixed stock standard.

** Denotes 10,000 ppm individual stock standards.

Standard	mls of standard	ppm	Logbook #	Exp. Date

1040-1045 55
1100-1130
1210-1228

Preparation Information Benchsheet

Prep Run: 290182 **Prep Workflow:** MetDigSICP **Status:** Draft **Prep Date:** 06/12/2017 09:03
Team: Metals **Prep Method:** EPA 3050B **Current Step:** Weigh **Due Date:** 06/16/2017
Analyst: AURBAN **Rush/NPDES:** N/A **Hold Date:** 06/11/2017

B02(25)

Lab Code	Client Sample	Batch	Weight	Volume	Concentration	Prep Date	Prep Time	Prep User	Prep Status
KQ1707601-02	Method Blank		1 g	1.00					
KQ1707601-01	Lab Control Sample		1 g	1.03				1 g	171958
K1705808-021	CV62AVS-21	.01	1 g						
K1705808-022	CV62AVS-22	.01	1 g						
K1705808-023	CV62AVS-23	.01	1 g						
K1705817-001	CV62SED-51	.02	1 g						
K1705817-002	CV62SED-52	.02	1 g						
K1705817-003	CV62SED-53	.02	1 g						
K1705817-004	CV62SED-54	.02	1 g						
K1705817-005	CV62SED-55	.02	1 g						
K1705817-006	CV62SED-56	.02	1 g						
K1705817-007	CV62SED-57	.02	1 g						
K1705946-001	CV62SED-01	.01	1 g						
K1705946-002	CV62SED-02	.01	1 g						
K1705946-003	CV62SED-03	.01	1 g						
K1705946-004	CV62SED-04	.01	1 g						
K1705946-004: KQ1707601-03	Duplicate	.01	1 g						
K1705946-004: KQ1707601-04	Matrix Spike	.01	1 g					2 mL 1 mL 1 mL 1 mL	180475 181009 181197 181490
K1705946-005	CV62SED-05	.01	1 g						
K1705946-006	CV62SED-06	.01	1 g						
K1705946-007	CV62SED-07	.01	1 g						

21 Total Samples consisting of 17 Client Samples, 2 Client QC Samples, 2 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

Pre-Prep Information Benchsheet

Prep Run #: 290124

Prep Method:

Team:

Prep Due Date: Jun-20-2017

#	Lab Code	Bottle	Test Name	Weight	Sample Comments	Test Comments
1	K1705946-001	.01	Metals T	1.465g		Prep Comments: DMADDDEN K-Balance-50
2	K1705946-002	.01	Metals T	1.341g	A lot of shells!	Prep Comments: DMADDDEN K-Balance-50
3	K1705946-003	.01	Metals T	1.499g		Prep Comments: DMADDDEN K-Balance-50
4	K1705946-004	.01	Metals T	1.575g		Prep Comments: DMADDDEN K-Balance-50
5	K1705946-004 DUP	.01	Metals T	1.449g		
6	KQ1707571-.01	.01	Metals T	1.513g		
7	KQ1707571-.02	.01	Metals T	1.655g		Prep Comments: DMADDDEN K-Balance-50
8	K1705946-006	.01	Metals T	1.453g		Prep Comments: DMADDDEN K-Balance-50
9	K1705946-007	.01	Metals T	1.358g		Prep Comments: DMADDDEN K-Balance-50

Relinquished By:

Don

Date/Time:

6/11/17 17:00

Received By:

Don

Date/Time:

6/12/17 831

Lot # 6/10/38

Pre-Prep Information Benchsheet

Prep Run #: 290096

Prep Method:

Team:

Prep Due Date: Jun-16-2017

#	Lab Code	Bottle	Test Name	Weight	Sample Comments	Test Comments
1	K1705817-001	.02	Metals T	3.009g	Very high moisture content!	PrepComments:DMADDEN K-Balance-50
2	K1705817-002	.02	Metals T	1.737g	A lot standing water, shells and rocks.	PrepComments:DMADDEN K-Balance-50
3	K1705817-002 DUP	.02	Metals T	1.816g		
4	K1705817-002 MS	.02	Metals T	1.631g		
5	K1705817-003	.02	Metals T	3.079g	Very high moisture content!	PrepComments:DMADDEN K-Balance-50
6	K1705817-004	.02	Metals T	2.496g	Very high moisture content!	PrepComments:DMADDEN K-Balance-50
7	K1705817-005	.02	Metals T	2.238g	Very high moisture content!	PrepComments:DMADDEN K-Balance-50
8	K1705817-006	.02	Metals T	2.814g	Very high moisture content!	PrepComments:DMADDEN K-Balance-50
9	K1705817-007	.02	Metals T	2.784g	Very high moisture content!	PrepComments:DMADDEN K-Balance-50

Relinquished By: <i>Qu</i>	Date/Time: 6/17 11:05	Received By: <i>Qu</i>	Date/Time: 6/17 11:53
----------------------------	-----------------------	------------------------	-----------------------

Preparation Information Benchsheet

Prep Run: 290182 **Prep Workflow:** MetDigSICP **Status:** Prepped
Team: Metals **Prep Method:** EPA 3050B **Current Step:** Digestion
Analyst: AURBAN **Rush/NPDES:** N/A

Prep Date: 06/09/2017
00:00

Due Date: 06/23/2017

Hold Date: 06/11/2017

Lab Code	Client ID	Bottle #	Initial Amt	Initial Basis	Final Volume	Spike Amt	Spike ID	Comments
KQ1707601-02	Method Blank		1.000 g	As Received.	100 mL			10% HNO3, 10%HCl; APOSEY K-Balance-48
KQ1707601-02.R01	Method Blank		1.000 g		mL			10% HNO3, 10%HCl; APOSEY K-Balance-48
KQ1707601-01.R01	Lab Control Sample		1.03 g		mL	1 g	171958	10% HNO3, 10%HCl; APOSEY K-Balance-48
KQ1707601-01	Lab Control Sample		1.03 g	As Received.	100 mL	1 g	171958	10% HNO3, 10%HCl; APOSEY K-Balance-48
K1705808-021.R01	CV62AVS-21	.01	2.829 g		mL			10% HNO3, 10%HCl; APOSEY K-Balance-48
K1705808-022.R01	CV62AVS-22	.01	2.788 g		mL			10% HNO3, 10%HCl; APOSEY K-Balance-48
K1705808-023.R01	CV62AVS-23	.01	2.707 g		mL			10% HNO3, 10%HCl; APOSEY K-Balance-48
K1705817-001.R01	CV62SED-51	.02	3.009 g		mL			10% HNO3, 10%HCl; APOSEY K-Balance-48
K1705817-002.R01	CV62SED-52	.02	1.737 g		mL			10% HNO3, 10%HCl; APOSEY K-Balance-48
K1705817-003.R01	CV62SED-53	.02	3.079 g		mL			10% HNO3, 10%HCl; APOSEY K-Balance-48
K1705817-004.R01	CV62SED-54	.02	2.496 g		mL			10% HNO3, 10%HCl; APOSEY K-Balance-48
K1705817-005.R01	CV62SED-55	.02	2.238 g		mL			10% HNO3, 10%HCl; APOSEY K-Balance-48
K1705817-006.R01	CV62SED-56	.02	2.814 g		mL			10% HNO3, 10%HCl; APOSEY K-Balance-48
K1705817-007.R01	CV62SED-57	.02	2.784 g		mL			10% HNO3, 10%HCl; APOSEY K-Balance-48
K1705946-001.R01	CV62SED-01	.01	1.465 g		mL			10% HNO3, 10%HCl; APOSEY K-Balance-48
K1705946-002.R01	CV62SED-02	.01	1.341 g		mL			10% HNO3, 10%HCl; APOSEY K-Balance-48
K1705946-003.R01	CV62SED-03	.01	1.499 g		mL			10% HNO3, 10%HCl; APOSEY K-Balance-48
K1705946-004.R01	CV62SED-04	.01	1.575 g		mL			10% HNO3, 10%HCl; APOSEY K-Balance-48
K1705946-004: KQ1707601-03	Duplicate	.01	1.449 g	As Received.	100 mL			10% HNO3, 10%HCl; APOSEY K-Balance-48
K1705946-004: KQ1707601-03.R01	Duplicate	.01	1.449 g		mL			10% HNO3, 10%HCl; APOSEY K-Balance-48
K1705946-004: KQ1707601-04.R01	Matrix Spike	.01	1.513 g		mL	2 mL 1 mL 1 mL 1 mL	180475 181009 181197 181490	10% HNO3, 10%HCl; APOSEY K-Balance-48
K1705946-004: KQ1707601-04	Matrix Spike	.01	1.513 g	As Received.	100 mL	2 mL 1 mL 1 mL 1 mL	180475 181009 181197 181490	10% HNO3, 10%HCl; APOSEY K-Balance-48
K1705946-005.R01	CV62SED-05	.01	1.655 g		mL			10% HNO3, 10%HCl; APOSEY

1011

							K-Balance-48
K1705946-006.R01	CV62SED-06	.01	1.453 g		mL		10% HNO3, 10%HCl; APOSEY K-Balance-48
K1705946-007.R01	CV62SED-07	.01	1.358 g		mL		10% HNO3, 10%HCl; APOSEY K-Balance-48

25 Total Samples consisting of 17 Client Samples, 4 Client QC Samples, 4 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

Name	Type	ID	Expires	Name	Type	ID	Expires
K-MET SOIL CRM	Spike	171958	4/30/2018	K-MET SS4	Spike	181490	8/15/2017
K-MET SS1	Spike	180475	7/12/2017	K-MET SS5	Spike	181197	11/6/2017
K-MET SS3	Spike	181009	1/6/2018				

Preparation Materials

Step	Name	ID	Step	Name	ID
All	Teflon Chips	80163	All	K-MET 100ml Centrifuge Tube	180880
All	K-MET HNO3	179179	All	K-MET HCl Hg	180888

Preparation Hardware / Equipment

Step	Name	Property	Value	Step	Name	Property	Value
Weigh	K-Balance-02	Date Checked	6/12/17	Weigh	K-BlockDigester-02	Observed Temperature	95.0 deg C
Weigh	K-BlockDigester-02	Corrected Temperature	95.0 deg C	Weigh	K-BlockDigester-02	Thermometer ID 6403817	NONE
Weigh	K-BlockDigester-02	Correction Factor	0.0 deg C	Weigh	K-BlockDigester-02	Thermometer Location	25 NONE

Preparation Steps

Step	Started	Finished	By	Assisted By	Training?	Comments
Weigh	09-JUN-17 00:00	09-JUN-17 00:00	AURBAN		N	
Digestion	12-JUN-17 10:40	12-JUN-17 12:25	AURBAN		N	

Comments

First reflux on at 1040 off at 1055. Second reflux on at 1100 off at 1130. HCl reflux on at 1210 off at 1225.

Review

Reviewed by: _____ Date: _____

Service Request # K1705923, K1705784 (TCLP), K1705808 (021-023), K1705817, K1705946, K1706097 (001,004-011 TCLP)

Instrument ID# K-ICP-AES-03

Calibration 062717AICP03

ALS LIMS Run # 551337

ICP-OES Data Review Form

	Yes	No
1. Appropriate standardization completed	<u>X</u>	<u> </u>
2. ICV within control limits	<u>X</u>	<u> </u>
3. CCV's in control	<u>X</u>	<u> </u>
4. ICB/CCB's below MRL	<u>X</u>	<u> </u>
4. LLICV standard analyzed and in control	<u>X</u>	<u> </u>
5. ICS standards within 20% of true value	<u>X</u>	<u> </u>
7. All analytes within instrument linear range	<u>X</u>	<u> </u>
7. Adequate rinse out time allowed	<u>X</u>	<u> </u>
8. Was the run terminated? If so, why.	<u> </u>	<u>X</u>

See Benchsheet exception report for sample batch QC information.
Comments: NR Si after 14:00; after 14:37 NR Mg2790, Mg2852, Mn2605

Primary Review by AFM Date 6/27/17

Secondary Review by qu Date 6/28/17

Data Review Form

Instrument ID#:

K-ICP-AES-03

DataFile Name:

R:\ICP\WIP\DATA\K-ICP-AES-03 (6500)\062717A\ICP03.txt

RUNNO:

551337

K1705784

No exceptions to report.

K1705808

No exceptions to report.

K1705817

No exceptions to report.

K1705923

KQ1708022-03MB - Metals T - 6010C

MB Evaluation

6010C/Metals T - Al1670 - Result: 14.2 MRL: 10

6010C/Metals T - Ca3933 - Result: 22.1 MRL: 20

Samples 20X

K1705946

No exceptions to report.

K1706097

K1706097-001MS - Metals TCLP - 6010C

MS Recovery

6010C/Metals TCLP - Ba4554 - Recovery: 1 Limits: 75 - 125 - PS OK.

6010C/Metals TCLP - Pb2203 - Recovery: 57 Limits: 75 - 125

6010C/Metals TCLP - Ag3280 - Recovery: 5 Limits: 75 - 125 - PS OK

Positive for sulfates.

Primary Approver: _____

Secondary Approver: _____

[Signature]

6/27/17

[Signature]

Sample Name: BLK Acquired: 6/27/2017 8:33:26 Type: Cal
Method: 2017A-ICP-03(v156) Mode: IR Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: INT.STD.ICP16-63-F

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.0005	-34.36	1.342	1.987	.0129	-8.1416	-10.49
Stddev	.0001	3.12	.339	.650	.0002	1.5676	2.84
%RSD	10.58	9.081	25.29	32.75	1.677	19.254	27.10
#1	-.0005	-32.15	1.102	2.447	.0130	-9.2500	-12.50
#2	-.0006	-36.56	1.582	1.527	.0127	-7.0331	-8.480
Elem	Cd2144	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.0001	-.0002	.0015	.0141	.0000	.0002	-.0003
Stddev	.0003	.0000	.0004	.0003	.000	.0000	.0000
%RSD	218.4	16.49	28.83	1.840	133.7	9.428	14.92
#1	-.0003	-.0003	.0012	.0143	.0000	.0002	-.0003
#2	.0001	-.0002	.0017	.0139	.0000	.0002	-.0004
Elem	Cu3273	Fe2599	Pb2203	Li6707	Mg2790	Mg2795	Mg2852
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-223.9	.0002	.0000	-19.14	-.0002	.0007	-6.725
Stddev	3.9	.0001	.000	7.41	.0001	.0002	1.308
%RSD	1.739	53.55	517.0	38.72	40.32	34.43	19.45
#1	-221.1	.0003	.0001	-24.38	-.0003	.0008	-5.800
#2	-226.6	.0001	-.0001	-13.90	-.0002	.0005	-7.650
Elem	Mn2576	Mn2605	Mo2020	Ni2216	P_1782	K_7664	Se1960
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00002	.0000	.0006	.0008	.0000	-18.19	.4276
Stddev	.00004	.000	.0001	.0002	.000	9.57	.7952
%RSD	197.25	45.69	16.52	25.03	470.8	52.62	186.0
#1	-.00001	.0000	.0005	.0006	-.0001	-11.42	.9899
#2	.00005	.0000	.0007	.0009	.0000	-24.95	-.1347

Sample Name: BLK Acquired: 6/27/2017 8:33:26 Type: Cal
 Method: 2017A-ICP-03(v156) Mode: IR Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: INT.STD.ICP16-63-F

Elem	Si2516	Ag3280	Na5895	Sr4077	Ti1908	Sn1899	Ti3361
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.775	-20.36	-87.91	-.00482	-.0002	.0000	.0012
Stddev	.077	12.61	2.49	.00089	.0001	.000	.0000
%RSD	4.316	61.91	2.830	18.384	60.14	19.24	2.772

#1	1.721	-11.45	-86.15	-.00544	-.0001	.0000	.0012
#2	1.829	-29.28	-89.67	-.00419	-.0002	.0000	.0012

Elem	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.0002	.0000	2.132	.0009	-1.203
Stddev	.0000	.0001	.757	.0002	.058
%RSD	13.79	1607.	35.50	25.98	4.800

#1	.0002	.0001	2.668	.0011	-1.244
#2	.0002	-.0001	1.597	.0008	-1.162

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4593.2	142930.	8595.4
Stddev	5.7	779.	52.2
%RSD	.12340	.54537	.60750

#1	4597.2	142380.	8558.5
#2	4589.2	143480.	8632.3

ARM 6/27/17

Sample Name: STD A Acquired: 6/27/2017 8:35:54 Type: Cal
Method: 2017A-ICP-03(v156) Mode: IR Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: ICP16-64-A

Elem	Al1670	Sb2068	Be2348	B_2496	Cd2144	Cd2265	Ca3933	Cr2677
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.1144	209.3	22967.	2032.	1.339	1.070	12.27	.0416
Stddev	.0000	.6	35.	11.	.000	.002	.05	.0000
%RSD	.0344	.2634	.15355	.5226	.0035	.1786	.4086	.1064
#1	.1145	208.9	22942.	2025.	1.339	1.072	12.24	.0416
#2	.1144	209.7	22992.	2040.	1.339	1.069	12.31	.0416
Elem	Co2307	Cu2247	Cu3273	Pb2203	Mg2795	Mn2576	Mo2020	Ni2216
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.4373	.2527	8745.	.0867	1.899	.27861	.3156	.4322
Stddev	.0001	.0003	47.	.0002	.013	.00020	.0001	.0003
%RSD	.0254	.1076	.5386	.2454	.6626	.07077	.0170	.0778
#1	.4372	.2525	8712.	.0866	1.890	.27875	.3155	.4325
#2	.4374	.2529	8779.	.0869	1.908	.27847	.3156	.4320
Elem	Se1960	Ag3280	Tl1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	145.2	8565.	.0633	.0714	.1968	.0526	.3513	4848.
Stddev	.4	62.	.0002	.0002	.0002	.0001	.0003	15.
%RSD	.2520	.7277	.2374	.2594	.1093	.0970	.0798	.3102
#1	144.9	8521.	.0632	.0715	.1969	.0526	.3515	4837.
#2	145.4	8610.	.0634	.0713	.1966	.0526	.3511	4858.
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4578.3	141630.	8511.2					
Stddev	8.8	472.	159.0					
%RSD	.19319	.33301	1.8685					
#1	4572.0	141290.	8623.6					
#2	4584.5	141960.	8398.7					

Sample Name: STD B Acquired: 6/27/2017 8:38:15 Type: Cal
Method: 2017A-ICP-03(v156) Mode: IR Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: ICP16-63-A

Elem	Al3944	As1890	Ba4554	Ca3158	Fe2599	Li6707	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	118700.	529.5	87.78	1.354	1.893	13190.	.2266
Stddev	2063.	.2	.98	.000	.003	80.	.0011
%RSD	1.738	.0371	1.113	.0229	.1744	.6061	.4909
#1	117200.	529.6	88.47	1.354	1.890	13140.	.2258
#2	120200.	529.3	87.09	1.353	1.895	13250.	.2274
Elem	Mg2852	Mn2605	P_1782	K_7664	Si2516	Na5895	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	34340.	.0269	1.087	8217.	5405.	26290.	17.197
Stddev	218.	.0000	.002	74.	28.	232.	.022
%RSD	.6343	.0505	.1422	.8991	.5196	.8812	.12862
#1	34180.	.0269	1.088	8165.	5385.	26130.	17.181
#2	34490.	.0269	1.086	8269.	5425.	26460.	17.213
Elem	Bi2230	S_1820					
Units	Cts/S	Cts/S					
Avg	.2909	318.8					
Stddev	.0010	.9					
%RSD	.3359	.2850					
#1	.2916	318.2					
#2	.2902	319.5					
Int. Std.	Y_2243	Y_3600	Y_3600-2				
Units	Cts/S	Cts/S	Cts/S				
Avg	4514.4	138830.	8565.5				
Stddev	2.0	710.	50.9				
%RSD	.04387	.51144	.59477				
#1	4513.0	138320.	8529.5				
#2	4515.8	139330.	8601.5				

Sample Name: ICVB Acquired: 6/27/2017 8:43:19 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: ICP16-66-A

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9671	1.022	-.0003	-.0012	.0003	.00011	2.058	-.0002
Stddev	.0001	.002	.0013	.0016	.0000	.00008	.002	.0001
%RSD	.0106	.1834	463.1	134.5	6.589	74.643	.0970	35.64

#1	.9671	1.021	.0006	-.0001	.0003	.00005	2.057	-.0001
#2	.9672	1.024	-.0012	-.0023	.0003	.00016	2.060	-.0002

Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	5.081	5.000	.0012	.0002	-.0003	.0004	10.25
Stddev	.0000	.018	.002	.0003	.0001	.0002	.0007	.07
%RSD	1011.	.3637	.0468	29.13	27.50	63.16	184.4	.7277

#1	.0000	5.068	5.002	.0014	.0003	-.0002	-.0001	10.19
#2	.0000	5.094	4.999	.0009	.0002	-.0004	.0008	10.30

Check ?	None	None	Chk Pass	None	None	None	None	None
Value								
Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005	2.032	4.946	4.914	5.048	9.7856	10.04	-.0001
Stddev	.0007	.034	.071	.004	.082	.0024	.15	.0001
%RSD	140.8	1.660	1.436	.0726	1.625	.02497	1.511	218.4

#1	.0010	2.008	4.896	4.911	4.990	9.7873	9.935	-.0002
#2	.0000	2.056	4.997	4.916	5.106	9.7839	10.15	.0000

Check ?	None	Chk Pass	None	Chk Pass	None	None	Chk Pass	None
Value								
Range								

Sample Name: ICVB Acquired: 6/27/2017 8:43:19 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: ICP16-66-A

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	5.020	.0368	.0035	5.074	-.0013	14.31	2.0300
Stddev	.0000	.028	.0192	.0014	.067	.0004	.21	.0095
%RSD	13.85	.5512	52.11	39.49	1.325	28.98	1.499	.46606

#1	-.0002	5.040	.0504	.0025	5.026	-.0010	14.16	2.0233
#2	-.0002	5.000	.0232	.0045	5.121	-.0015	14.46	2.0367

Check ?	None	Chk Pass	None	None	Chk Pass	None	None	Chk Pass
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0033	4.871	-.0001	-.0049	.0000	.0002	5.171	4.962
Stddev	.0011	.003	.0001	.0001	.0001	.0002	.013	.010
%RSD	32.01	.0510	186.8	2.139	504.3	74.37	.2561	.2017

#1	.0041	4.873	-.0001	-.0049	-.0001	.0001	5.181	4.955
#2	.0026	4.869	.0000	-.0050	.0001	.0004	5.162	4.969

Check ?	None	Chk Pass	None	None	None	None	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4558.3	139240.	8581.5
Stddev	1.4	360.	77.8
%RSD	.03018	.25873	.90691

#1	4559.3	139490.	8526.5
#2	4557.4	138980.	8636.6

Sample Name: ICV Acquired: 6/27/2017 8:46:01 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: ICP16-62-G

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.284	4.813	2.447	2.483	5.067	.12323	.0046	1.225
Stddev	.002	.102	.000	.000	.008	.00108	.0016	.000
%RSD	.0403	2.119	.0005	.0108	.1641	.87850	35.75	.0342
#1	4.286	4.885	2.447	2.483	5.061	.12399	.0058	1.224
#2	4.283	4.741	2.447	2.482	5.073	.12246	.0034	1.225
Check ? Value Range	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.227	12.65	12.08	.5003	1.228	.6072	.5999	2.532
Stddev	.000	.06	.31	.0050	.002	.0018	.0069	.003
%RSD	.0297	.4558	2.553	.9938	.1325	.3000	1.146	.1262
#1	1.227	12.69	12.29	.4968	1.227	.6085	.6047	2.534
#2	1.227	12.61	11.86	.5039	1.229	.6060	.5950	2.530
Check ? Value Range	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.388	.0012	12.48	11.74	12.14	1.2338	1.237	.5150
Stddev	.003	.0016	.04	.14	.04	.0040	.006	.0019
%RSD	.1342	141.2	.3402	1.235	.3089	.31989	.4958	.3622
#1	2.386	.0023	12.51	11.85	12.12	1.2310	1.232	.5137
#2	2.390	.0000	12.45	11.64	12.17	1.2366	1.241	.5163
Check ? Value Range	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass

Sample Name: ICV Acquired: 6/27/2017 8:46:01 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: ICP16-62-G

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.222	.0019	12.46	2.407	-.0023	.5977	12.28	.00038
Stddev	.002	.0013	.03	.007	.0017	.0042	.04	.00009
%RSD	.1246	65.41	.2250	.2862	74.20	.6985	.3074	23.039
#1	1.221	.0028	12.44	2.412	-.0011	.6007	12.26	.00032
#2	1.223	.0010	12.48	2.403	-.0035	.5948	12.31	.00045

Check ?	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.391	.0032	2.033	1.265	1.230	1.212	.0022	.0007
Stddev	.003	.0002	.000	.001	.003	.003	.0030	.0017
%RSD	.1281	7.821	.0011	.0612	.2318	.2210	135.4	227.8
#1	2.393	.0030	2.033	1.265	1.232	1.214	.0043	-.0005
#2	2.389	.0034	2.033	1.266	1.228	1.210	.0001	.0019

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4509.5	138350.	8362.9
Stddev	7.3	918.	52.9
%RSD	.16103	.66350	.63267
#1	4514.7	139000.	8325.5
#2	4504.4	137700.	8400.3

Sample Name: ICB Acquired: 6/27/2017 8:48:27 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	-.0010	.0002	.0039	.0005	-.00011	.0026	.0001
Stddev	.0002	.0008	.0023	.0000	.0001	.00003	.0006	.0001
%RSD	42.54	86.81	997.5	.4858	20.67	27.575	21.60	212.0
#1	.0007	-.0004	-.0014	.0039	.0006	-.00013	.0030	.0001
#2	.0004	-.0016	.0019	.0039	.0004	-.00009	.0022	.0000
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								
Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	-.0037	.0011	-.0001	.0001	.0002	.0006	.0001
Stddev	.0001	.0101	.0004	.0000	.0003	.0004	.0000	.0026
%RSD	184.6	274.5	34.97	56.89	364.4	239.2	2.352	1778.
#1	.0001	-.0108	.0014	-.0001	-.0001	-.0001	.0006	-.0017
#2	.0000	.0035	.0009	.0000	.0003	.0004	.0006	.0020
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								
Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	-.0007	-.0098	.0010	.0017	.00014	-.0007	.0027
Stddev	.0001	.0008	.0159	.0005	.0021	.00004	.0014	.0007
%RSD	77.49	112.9	161.1	49.60	123.6	27.684	199.1	24.71
#1	.0000	-.0013	-.0210	.0013	.0032	.00012	-.0017	.0031
#2	-.0001	-.0001	.0014	.0006	.0002	.00017	.0003	.0022
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
High Limit								
Low Limit								

Sample Name: ICB Acquired: 6/27/2017 8:48:27 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	-.0008	.0084	.0063	-.0052	-.0002	.0268	.00014
Stddev	.0001	.0000	.0292	.0005	.0040	.0008	.0100	.00002
%RSD	73.67	1.641	348.8	7.807	77.87	304.4	37.37	16.215
#1	-.0001	-.0008	-.0123	.0059	-.0080	.0003	.0339	.00016
#2	-.0002	-.0008	.0290	.0066	-.0023	-.0008	.0197	.00013

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0013	.0005	.0005	.0004	-.0001	-.0001	-.0004	.0002
Stddev	.0002	.0009	.0000	.0001	.0001	.0000	.0001	.0023
%RSD	13.50	184.0	6.749	26.90	50.78	81.49	34.38	1391.
#1	.0012	.0011	.0005	.0003	-.0001	-.0001	-.0004	-.0014
#2	.0015	-.0002	.0005	.0005	-.0002	.0000	-.0003	.0018

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4546.1	140800.	8340.3
Stddev	22.7	774.	22.9
%RSD	.49940	.54941	.27498
#1	4530.0	140250.	8324.1
#2	4562.1	141340.	8356.5

Sample Name: LLICV Acquired: 6/27/2017 8:51:03 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: ICP16-64-F 0.5/50mL

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0104	.0111	.0237	.0088	.0040	.00099	.0215	.0010
Stddev	.0001	.0025	.0004	.0009	.0001	.00002	.0001	.0000
%RSD	.9187	22.92	1.552	10.13	3.509	1.6942	.3411	1.595
#1	.0105	.0129	.0235	.0082	.0039	.00100	.0215	.0010
#2	.0103	.0093	.0240	.0094	.0041	.00098	.0214	.0010

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011	.0155	.0206	.0040	.0022	.0044	.0039	.0210
Stddev	.0000	.0058	.0001	.0003	.0002	.0006	.0006	.0060
%RSD	3.708	37.56	.6986	6.236	8.972	13.06	14.37	28.65
#1	.0011	.0114	.0205	.0042	.0020	.0048	.0043	.0168
#2	.0012	.0196	.0207	.0039	.0023	.0040	.0035	.0253

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0095	.0201	-.0007	.0050	.0043	.00108	.0016	.0048
Stddev	.0003	.0001	.0250	.0001	.0004	.00008	.0019	.0005
%RSD	2.933	.3676	3823.	1.884	9.966	7.3898	117.9	10.31
#1	.0093	.0200	.0170	.0050	.0040	.00114	.0030	.0045
#2	.0096	.0201	-.0183	.0051	.0046	.00103	.0003	.0052

Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value								
Range								

Sample Name: LLICV Acquired: 6/27/2017 8:51:03 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: ICP16-64-F 0.5/50mL

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0039	.0395	.1862	.0248	.2102	.0037	.2249	.00108
Stddev	.0002	.0010	.0348	.0002	.0002	.0003	.0255	.00004
%RSD	4.084	2.529	18.69	1.000	.1018	9.134	11.34	3.4661
#1	.0040	.0402	.2109	.0246	.2100	.0039	.2429	.00110
#2	.0038	.0388	.1616	.0250	.2103	.0035	.2068	.00105

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0113	.0206	.0021	.0040	.0037	.0040	.0212	.0419
Stddev	.0014	.0001	.0000	.0002	.0000	.0001	.0008	.0009
%RSD	12.27	.6264	.4685	5.699	.1892	1.291	3.937	2.136
#1	.0103	.0205	.0021	.0042	.0037	.0040	.0218	.0425
#2	.0123	.0207	.0022	.0039	.0038	.0040	.0206	.0413

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4591.5	142930.	8475.8
Stddev	2.5	752.	45.4
%RSD	.05452	.52620	.53580
#1	4593.3	142400.	8508.0
#2	4589.7	143460.	8443.7

Sample Name: LLICV Acquired: 6/27/2017 8:53:39 Type: QC
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP16-64-F 0.5/50mL RERUN

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0100	.0092	.0195	.0102	.0039	.00105	.0223	.0009
Stddev	.0006	.0026	.0007	.0011	.0001	.00003	.0005	.0000
%RSD	6.106	27.80	3.344	11.24	2.760	2.5601	2.214	2.220
#1	.0096	.0074	.0200	.0094	.0040	.00106	.0220	.0009
#2	.0105	.0110	.0191	.0110	.0039	.00103	.0227	.0009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value Range								
Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010	.0211	.0204	.0040	.0018	.0042	.0044	.0195
Stddev	.0002	.0022	.0000	.0001	.0001	.0001	.0000	.0017
%RSD	19.58	10.61	.2360	2.620	4.129	3.439	.4462	8.817
#1	.0009	.0195	.0205	.0041	.0019	.0043	.0044	.0183
#2	.0012	.0226	.0204	.0039	.0018	.0041	.0044	.0207
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value Range								
Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0099	.0208	.0112	.0049	.0045	.00097	.0013	.0039
Stddev	.0006	.0006	.0372	.0001	.0015	.00002	.0007	.0003
%RSD	6.126	2.811	331.6	1.281	34.09	1.5997	50.66	8.176
#1	.0094	.0212	-.0151	.0048	.0034	.00098	.0018	.0037
#2	.0103	.0204	.0376	.0049	.0055	.00096	.0009	.0041
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value Range								

Agan 6/27/17

Sample Name: LLICV Acquired: 6/27/2017 8:53:39 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: ICP16-64-F 0.5/50mL RERUN

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0038	.0391	.1894	.0218	.2023	.0036	.2228	.00108
Stddev	.0003	.0011	.0002	.0003	.0090	.0002	.0109	.00013
%RSD	7.696	2.845	.0861	1.283	4.454	4.633	4.881	12.423

#1	.0040	.0399	.1895	.0216	.2087	.0035	.2151	.00099
#2	.0036	.0384	.1893	.0220	.1959	.0038	.2305	.00118

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0115	.0205	.0021	.0038	.0039	.0040	.0231	.0404
Stddev	.0013	.0002	.0000	.0004	.0002	.0001	.0020	.0008
%RSD	11.50	.7351	.4416	9.820	5.331	1.784	8.731	1.879

#1	.0125	.0204	.0021	.0036	.0037	.0040	.0245	.0399
#2	.0106	.0206	.0021	.0041	.0040	.0041	.0216	.0409

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4607.7	142690.	8505.5
Stddev	9.3	255.	32.7
%RSD	.20257	.17864	.38467

#1	4601.1	142510.	8482.4
#2	4614.3	142870.	8528.7

ARM 6/27/17

Sample Name: LLICV,0.5 Acquired: 6/27/2017 8:56:14 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: ICP16-64-F 1/50mL

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0210	.0232	.0419	.0215	.0081	.00211	.0426	.0020
Stddev	.0004	.0001	.0020	.0018	.0001	.00005	.0001	.0000
%RSD	1.774	.5897	4.872	8.561	1.505	2.1379	.3196	1.911
#1	.0212	.0233	.0434	.0228	.0082	.00214	.0425	.0020
#2	.0207	.0231	.0405	.0202	.0080	.00208	.0427	.0020
Check ? Value Range	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0021	.0418	.0411	.0080	.0042	.0088	.0082	.0404
Stddev	.0001	.0069	.0002	.0006	.0001	.0001	.0009	.0004
%RSD	3.237	16.42	.5579	7.015	2.325	1.416	10.98	1.070
#1	.0021	.0369	.0413	.0076	.0043	.0089	.0076	.0401
#2	.0022	.0466	.0409	.0084	.0041	.0087	.0088	.0407
Check ? Value Range	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0207	.0438	.0091	.0101	.0102	.00206	.0020	.0080
Stddev	.0006	.0017	.0055	.0001	.0008	.00005	.0004	.0000
%RSD	2.815	3.873	60.01	.5884	7.902	2.6662	21.15	.0250
#1	.0202	.0450	.0053	.0101	.0096	.00210	.0023	.0080
#2	.0211	.0426	.0130	.0101	.0107	.00202	.0017	.0080
Check ? Value Range	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass

ARM 6/27/17

Sample Name: LLICV,0.5 Acquired: 6/27/2017 8:56:14 Type: QC
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP16-64-F 1/50mL

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0077	.0830	.4083	.0406	.4151	.0088	.4336	.00199
Stddev	.0003	.0003	.0039	.0006	.0096	.0004	.0096	.00002
%RSD	4.480	.3533	.9547	1.387	2.314	5.064	2.211	.91628

#1	.0075	.0828	.4056	.0410	.4083	.0091	.4404	.00197
#2	.0080	.0833	.4111	.0402	.4219	.0085	.4268	.00200

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0212	.0424	.0039	.0079	.0075	.0081	.0445	.0827
Stddev	.0000	.0009	.0001	.0005	.0000	.0001	.0002	.0049
%RSD	.1221	2.181	1.751	6.574	.5652	.9883	.4404	5.883

#1	.0212	.0418	.0040	.0082	.0076	.0081	.0447	.0861
#2	.0212	.0431	.0039	.0075	.0075	.0080	.0444	.0792

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4608.7	144280.	8634.7
Stddev	.4	484.	35.3
%RSD	.00940	.33554	.40840

#1	4608.4	143940.	8659.7
#2	4609.0	144620.	8609.8

ARM 6/27/17

Sample Name: CCVB1 Acquired: 6/27/2017 9:00:30 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.383	10.45	-.0015	1.026	10.17	.00002	.0001	.0000
Stddev	.004	.07	.0011	.001	.13	.00006	.0006	.000
%RSD	.0495	.6686	71.89	.1343	1.240	249.98	687.9	437.0

#1	7.387	10.50	-.0005	1.026	10.02	.00003	-.0003	.0000
#2	7.381	10.45	-.0021	1.026	10.11	.00010	-.0001	.0000
#3	7.379	10.35	-.0007	1.024	10.28	.00002	.0010	.0001
#4	7.385	10.49	-.0028	1.028	10.26	-.00005	-.0002	-.0001

Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None	None	None
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	10.06	9.768	-.0001	.0003	.0000	-.0009	10.17
Stddev	.0001	.14	.061	.0005	.0003	.001	.0007	.12
%RSD	238.9	1.406	.6256	387.1	97.09	2243.	83.14	1.224

#1	-.0001	9.959	9.791	-.0005	.0008	.0007	-.0009	10.09
#2	.0001	9.927	9.783	-.0007	.0001	-.0002	-.0008	10.05
#3	.0000	10.23	9.679	.0005	.0003	-.0002	.0000	10.32
#4	.0001	10.10	9.819	.0001	.0001	-.0003	-.0018	10.23

Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass
Value								
Range								

Sample Name: CCVB1 Acquired: 6/27/2017 9:00:30 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011	1.033	10.11	9.537	10.22	.99012	1.011	-.0004
Stddev	.0011	.013	.16	.102	.07	.00410	.009	.0001
%RSD	98.49	1.230	1.619	1.069	.6536	.41424	.8458	33.77

#1	.0024	1.022	10.03	9.470	10.16	.98919	1.008	-.0002
#2	.0016	1.027	9.923	9.440	10.17	.98811	1.005	-.0003
#3	.0005	1.051	10.27	9.663	10.30	.99614	1.024	-.0005
#4	-.0001	1.034	10.23	9.573	10.23	.98706	1.008	-.0004

Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None
Value								
Range								

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0004	10.15	10.19	.0008	10.21	-.0006	10.29	.99794
Stddev	.0001	.01	.05	.0018	.05	.0007	.06	.01062
%RSD	32.25	.1065	.5190	232.8	.4538	129.7	.5970	1.0638

#1	-.0006	10.14	10.13	-.0019	10.16	-.0010	10.23	.98940
#2	-.0002	10.15	10.15	.0013	10.18	-.0009	10.27	.99029
#3	-.0004	10.16	10.25	.0021	10.26	.0005	10.37	1.0122
#4	-.0005	10.17	10.21	.0016	10.22	-.0009	10.27	.99989

Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
Value								
Range								

Sample Name: CCVB1 Acquired: 6/27/2017 9:00:30 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	-.0002	.0001	-.0003	.0002	.0002	1.033	1.013
Stddev	.0002	.0010	.0001	.0001	.0001	.0000	.006	.005
%RSD	36.38	646.0	56.39	42.35	49.98	30.21	.5502	.5079

#1	.0004	-.0012	.0002	-.0001	.0001	.0002	1.026	1.006
#2	.0008	.0010	.0001	-.0004	.0001	.0002	1.031	1.011
#3	.0008	.0004	.0000	-.0004	.0001	.0001	1.037	1.015
#4	.0005	-.0008	.0001	-.0003	.0003	.0001	1.038	1.018

Check ?	None	None	None	None	None	None	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4566.2	141620.	8678.6
Stddev	7.8	740.	67.1
%RSD	.17071	.52239	.77261

#1	4571.4	141340.	8693.1
#2	4572.4	142350.	8767.5
#3	4555.4	140710.	8623.7
#4	4565.4	142080.	8630.0

Sample Name: CCVA1 Acquired: 6/27/2017 9:07:16 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2522	.2674	.2558	.2577	.2580	.25464	.2559	.2507
Stddev	.0004	.0035	.0037	.0027	.0015	.00098	.0020	.0004
%RSD	.1389	1.295	1.447	1.058	.6005	.38529	.7802	.1511

#1	.2522	.2671	.2527	.2565	.2569	.25510	.2577	.2510
#2	.2527	.2627	.2565	.2589	.2599	.25336	.2532	.2508
#3	.2519	.2691	.2533	.2546	.2565	.25446	.2572	.2501
#4	.2519	.2707	.2608	.2608	.2586	.25564	.2557	.2507

Check ?	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2512	.5046	.5029	.2515	.2510	.2509	.2558	.2595
Stddev	.0007	.0128	.0003	.0010	.0008	.0008	.0018	.0029
%RSD	.2940	2.527	.0565	.4148	.3192	.3090	.7175	1.107

#1	.2519	.5151	.5025	.2507	.2518	.2507	.2552	.2571
#2	.2511	.5067	.5032	.2527	.2504	.2515	.2535	.2587
#3	.2503	.5104	.5031	.2520	.2502	.2499	.2569	.2637
#4	.2517	.4862	.5029	.2506	.2515	.2514	.2575	.2587

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value								
Range								

Sample Name: CCVA1 Acquired: 6/27/2017 9:07:16 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2503	-.0002	.2624	.2513	.2538	.25043	.2473	.2527
Stddev	.0010	.0005	.0193	.0009	.0015	.00096	.0033	.0010
%RSD	.3959	189.8	7.354	.3499	.6063	.38176	1.342	.3823

#1	.2493	-.0009	.2770	.2517	.2534	.24948	.2451	.2525
#2	.2510	-.0001	.2633	.2515	.2545	.25164	.2505	.2529
#3	.2497	.0002	.2742	.2500	.2556	.24990	.2499	.2516
#4	.2513	-.0002	.2348	.2521	.2520	.25070	.2439	.2539

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	Chk Pass
Value								
Range								

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2511	.0012	2.515	.2548	.1308	.2579	.2660	.00008
Stddev	.0005	.0012	.029	.0010	.0103	.0010	.0061	.00009
%RSD	.2015	102.1	1.167	.3840	7.853	.3883	2.292	108.90

#1	.2518	.0028	2.516	.2561	.1344	.2584	.2619	.00020
#2	.2511	.0011	2.520	.2541	.1425	.2564	.2731	.00003
#3	.2505	-.0002	2.547	.2540	.1280	.2584	.2601	-.00001
#4	.2509	.0011	2.476	.2551	.1182	.2586	.2690	.00012

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	None
Value								
Range								

Sample Name: CCVA1 Acquired: 6/27/2017 9:07:16 Type: QC
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2551	.2522	.2517	.2517	.2486	.2535	.0023	.0009
Stddev	.0018	.0007	.0005	.0011	.0002	.0009	.0010	.0022
%RSD	.7064	.2645	.1856	.4392	.0788	.3472	42.24	240.2

#1	.2565	.2516	.2516	.2502	.2485	.2535	.0009	.0008
#2	.2562	.2531	.2512	.2519	.2485	.2537	.0026	-.0006
#3	.2525	.2524	.2523	.2518	.2488	.2523	.0026	.0041
#4	.2551	.2518	.2517	.2529	.2488	.2544	.0030	-.0006

Check ? Value Range	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
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Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4600.7	142910.	8515.8
Stddev	4.0	310.	49.3
%RSD	.08660	.21720	.57925

#1	4599.6	142930.	8511.4
#2	4599.6	142490.	8554.4
#3	4597.3	142960.	8549.8
#4	4606.5	143250.	8447.7

Sample Name: CCB Acquired: 6/27/2017 9:13:25 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	-.0011	.0005	-.0002	.0001	.00004	.0006	-.0001
Stddev	.0003	.0020	.0060	.0010	.0001	.00011	.0009	.0001
%RSD	240.8	173.5	1317.	434.2	104.3	278.53	143.9	69.86

#1	.0004	.0003	-.0038	.0005	.0002	-.00004	.0013	-.0001
#2	-.0001	-.0025	.0047	-.0009	.0000	.00011	.0000	-.0002

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0014	.0003	.0002	.0000	-.0002	.0003	-.0040
Stddev	.0000	.0048	.0000	.0004	.0001	.0002	.0009	.0028
%RSD	91.16	352.3	8.165	264.1	643.3	98.41	338.7	70.27

#1	.0000	-.0020	.0003	.0004	-.0001	-.0001	.0009	-.0020
#2	.0001	.0048	.0003	-.0001	.0001	-.0003	-.0004	-.0060

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0006	-.0020	.0151	.0000	.0004	-.00003	-.0006	.0008
Stddev	.0001	.0007	.0181	.0000	.0000	.00004	.0010	.0002
%RSD	11.39	35.71	120.2	32.46	4.714	123.61	162.2	26.43

#1	-.0007	-.0015	.0279	.0000	.0004	.00000	.0001	.0010
#2	-.0006	-.0025	.0023	.0000	.0005	-.00005	-.0013	.0007

Check ?	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass
High Limit								
Low Limit								

Sample Name: CCB Acquired: 6/27/2017 9:13:25 Type: QC
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	.0017	-.0311	.0012	-.0065	-.0001	.0161	.00003
Stddev	.0004	.0010	.0091	.0002	.0034	.0009	.0103	.00004
%RSD	160.1	59.17	29.08	12.66	52.29	1198.	64.17	131.24
#1	.0000	.0024	-.0375	.0013	-.0041	.0006	.0234	.00000
#2	-.0006	.0010	-.0247	.0011	-.0090	-.0007	.0088	.00006

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	.0000	.0001	.0002	.0000	-.0001	-.0006	.0017
Stddev	.0007	.001	.0001	.0005	.0000	.0001	.0014	.0021
%RSD	95.40	12510.	57.72	295.5	97.59	91.51	228.2	125.3
#1	.0012	-.0008	.0001	-.0002	.0000	.0000	-.0015	.0002
#2	.0002	.0007	.0001	.0005	.0000	-.0002	.0004	.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_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4605.5	143390.	8575.6
Stddev	4.0	210.	25.0
%RSD	.08610	.14655	.29179
#1	4608.3	143540.	8593.3
#2	4602.7	143240.	8558.0

Sample Name: ICSA Acquired: 6/27/2017 9:16:01 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: ICP16-55-D

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.99	398.3	.0067	.0178	.0004	.00007	-.0012	-.0007
Stddev	.03	4.3	.0006	.0075	.0000	.00005	.0008	.0000
%RSD	.1422	1.087	9.111	42.43	2.940	70.502	68.16	4.194

#1	21.01	395.3	.0072	.0231	.0004	.00003	-.0018	-.0007
#2	20.97	401.4	.0063	.0124	.0004	.00010	-.0006	-.0007

Check ?	None	None	None	None	None	None	None	None
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0012	471.9	*****	-.0039	-.0056	-.0054	-.0058	186.0
Stddev	.0002	1.9	-----	.0012	.0006	.0004	.0001	1.0
%RSD	14.40	.4117	-----	30.31	10.15	7.757	1.399	.5567

#1	-.0013	470.5	-----	-.0031	-.0052	-.0057	-.0059	185.3
#2	-.0011	473.2	-----	-.0047	-.0060	-.0051	-.0058	186.7

Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass
Value								
Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0034	.0028	508.5	*****	411.3	-.01683	-.0074	-.0007
Stddev	.0019	.0007	3.8	-----	2.1	.00012	.0014	.0001
%RSD	56.24	24.39	.7413	-----	.5167	.71875	18.28	13.75

#1	-.0020	.0033	505.8	-----	412.8	-.01674	-.0083	-.0007
#2	-.0047	.0023	511.2	-----	409.8	-.01691	-.0064	-.0006

Check ?	None	None	Chk Pass	None	None	None	None	None
Value								
Range								

Sample Name: ICSA Acquired: 6/27/2017 9:16:01 Type: QC
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP16-55-D

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0029	.0024	-.0676	.0007	.0094	-.0002	.0186	.00444
Stddev	.0005	.0022	.0153	.0009	.0098	.0000	.0005	.00015
%RSD	15.53	92.70	22.62	131.9	104.3	14.52	2.699	3.3841

#1	-.0026	.0008	-.0568	.0013	.0163	-.0002	.0189	.00433
#2	-.0032	.0039	-.0784	.0000	.0025	-.0002	.0182	.00454

Check ?	None	None	None	None	None	None	None	None
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0026	.0022	-.0011	.0013	.0006	-.0018	.0134	.0087
Stddev	.0016	.0004	.0001	.0006	.0003	.0003	.0031	.0038
%RSD	59.90	16.67	9.657	42.94	51.59	17.29	22.88	44.08

#1	.0037	.0024	-.0011	.0017	.0004	-.0016	.0155	.0060
#2	.0015	.0019	-.0010	.0009	.0008	-.0020	.0112	.0114

Check ?	None	None	None	None	None	None	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4067.3	124820.	8223.0
Stddev	4.0	274.	34.2
%RSD	.09912	.21982	.41587

#1	4064.5	124630.	8247.1
#2	4070.2	125020.	8198.8

Sample Name: ICSAB Acquired: 6/27/2017 9:18:51 Type: QC
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: ICP16-60-D

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.01	403.9	.8628	.0174	.5134	.46481	.0003	.9033
Stddev	.05	1.5	.0002	.0003	.0017	.00166	.0028	.0018
%RSD	.2295	.3666	.0279	1.559	.3286	.35780	811.1	.2040
#1	21.05	404.9	.8630	.0176	.5146	.46599	-.0016	.9046
#2	20.98	402.8	.8627	.0172	.5122	.46364	.0023	.9020
Check ?	None	None	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass
Value								
Range								
Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8952	478.1	*****	.4790	.4426	.4470	.4538	188.4
Stddev	.0019	1.2	-----	.0003	.0000	.0018	.0004	.0
%RSD	.2145	.2610	-----	.0584	.0047	.3959	.0917	.0033
#1	.8966	477.2	-----	.4788	.4426	.4483	.4541	188.4
#2	.8939	479.0	-----	.4792	.4426	.4458	.4535	188.4
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								
Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8580	.0013	517.0	*****	402.6	.45544	.5075	-.0004
Stddev	.0005	.0022	1.1	-----	4.8	.00005	.0041	.0006
%RSD	.0575	165.1	.2136	-----	1.198	.01194	.8053	158.7
#1	.8584	.0029	517.8	-----	399.2	.45548	.5103	.0000
#2	.8577	-.0002	516.2	-----	406.0	.45540	.5046	-.0009
Check ?	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	None
Value								
Range								

Sample Name: ICSAB Acquired: 6/27/2017 9:18:51 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: ICP16-60-D

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8725	.0010	-.0391	.0004	.0026	.9121	.0289	.00453
Stddev	.0015	.0052	.0021	.0026	.0063	.0011	.0092	.00012
%RSD	.1753	533.3	5.445	602.5	242.9	.1243	31.88	2.7187

#1	.8736	.0046	-.0376	.0023	-.0019	.9113	.0354	.00444
#2	.8714	-.0027	-.0406	-.0014	.0070	.9129	.0224	.00461

Check ?	Chk Pass	None	None	None	None	Chk Pass	None	None
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0024	.0021	-.0010	.5102	.8910	.8446	.0123	.0079
Stddev	.0021	.0001	.0001	.0018	.0041	.0002	.0020	.0017
%RSD	85.21	4.931	7.950	.3527	.4560	.0272	15.98	21.03

#1	.0010	.0020	-.0009	.5115	.8939	.8448	.0109	.0068
#2	.0039	.0022	-.0011	.5089	.8881	.8445	.0136	.0091

Check ?	None	None	None	Chk Pass	Chk Pass	Chk Pass	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4055.7	124270.	8260.4
Stddev	6.3	134.	37.3
%RSD	.15591	.10796	.45143

#1	4051.2	124370.	8286.8
#2	4060.2	124180.	8234.0

Sample Name: Fe 200 ppm Acquired: 6/27/2017 9:21:27 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: AM 062717A 0.2/10mL MET2-94-L

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0367	-.0028	.0015	.0013	.00048	-.0084	.0000
Stddev	.003	.0026	.0022	.0019	.0001	.00003	.0024	.000
%RSD	588000.	6.971	78.27	130.0	5.515	5.5081	28.73	36.49
#1	.0018	.0385	-.0012	.0029	.0012	.00050	-.0102	.0000
#2	-.0018	.0349	-.0043	.0001	.0013	.00047	-.0067	.0000

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0420	.0186	.0006	.0012	.0000	-.0003	F 198.0
Stddev	.0002	.0300	.0303	.0007	.0002	.0004	.0000	.3
%RSD	1342000.	71.54	162.5	117.5	16.36	12470.	11.05	.1499
#1	-.0002	.0208	-.0028	.0010	.0011	-.0002	-.0004	197.8
#2	.0002	.0632	.0400	.0001	.0013	.0003	-.0003	198.2

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
High Limit								.0200
Low Limit								-.0200

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0015	-.0028	.0376	.0000	.0463	.00039	-.0029	-.0012
Stddev	.0012	.0017	.0562	.0302	.0303	.00003	.0009	.0001
%RSD	76.69	60.88	149.7	869e15	65.40	6.5054	32.44	6.954
#1	-.0023	-.0016	-.0022	-.0213	.0249	.00037	-.0036	-.0012
#2	-.0007	-.0040	.0773	.0213	.0678	.00040	-.0022	-.0011

Check ?	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass
High Limit								
Low Limit								

Sample Name: Fe 200 ppm Acquired: 6/27/2017 9:21:27 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: AM 062717A 0.2/10mL MET2-94-L

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0017	.0116	-.0934	-.0023	-.0198	.0000	.0168	.00004
Stddev	.0002	.0024	.0433	.0009	.0017	.0000	.0164	.00004
%RSD	11.04	20.38	46.40	39.37	8.750	226.3	97.54	99.679
#1	.0016	.0132	-.1240	-.0029	-.0186	.0000	.0052	.00001
#2	.0019	.0099	-.0627	-.0016	-.0210	.0000	.0283	.00007

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009	.0013	.0000	.0002	.0009	.0016	.0085	.0312
Stddev	.0003	.0012	.000	.0000	.0000	.0001	.0051	.0031
%RSD	36.59	86.79	2157.	20.32	4.388	3.901	60.72	10.04
#1	.0011	.0022	-.0001	.0002	.0009	.0015	.0121	.0290
#2	.0006	.0005	.0001	.0002	.0009	.0016	.0048	.0334

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4564.2	141880.	8535.5
Stddev	8.2	207.	52.0
%RSD	.18010	.14602	.60935
#1	4570.1	142030.	8498.7
#2	4558.4	141740.	8572.2

Sample Name: KQ1708022-03 Acquired: 6/27/2017 9:42:04 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: AM 062717A K1705923-MB

Elem	* Al1670	Sb2068	As1890	Ba4554	Be2348	B ₂₄₉₆	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0142	.0014	.0010	-.0001	.00002	.0010	.0000	.0002

#1	.0140	.0004	.0017	-.0001	-.00002	.0009	-.0001	.0002
#2	.0144	.0023	.0003	-.0002	.00006	.0011	.0000	.0002

Elem	* Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe ₂₅₉₉	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0221	-.0003	.0002	.0005	.0005	-.0041	.0009	.0017

#1	.0221	-.0004	-.0002	.0008	.0002	-.0007	.0004	.0018
#2	.0221	-.0001	.0005	.0003	.0009	-.0075	.0014	.0016

Elem	* Mg ₂₇₉₅	Mn2576	Mo2020	Ni2216	P ₁₇₈₂	K ₇₆₆₄	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012	-.00001	-.0005	.0000	.0098	-.0018	-.0006	.0519

#1	.0013	-.00002	-.0007	.0000	.0115	-.0189	-.0005	.0618
#2	.0011	.00000	-.0003	.0001	.0081	.0153	-.0007	.0420

Elem	Ag3280	* Na ₅₈₉₅	Sr4077	* Tl1908	Sn1899	* Ti3361	* V ₂₉₂₄	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0216	.00020	.0007	.0004	.0000	-.0005	-.0001

#1	.0000	.0153	.00018	.0004	.0003	-.0001	-.0006	-.0001
#2	.0003	.0278	.00022	.0010	.0005	.0001	-.0004	-.0001

Elem	Zn2138	Bi2230	S ₁₈₂₀
Units	ppm	ppm	ppm
Avg	.0001	-.0013	-.0028

#1	.0001	-.0014	-.0043
#2	.0000	-.0012	-.0014

Int. Std.	Y ₂₂₄₃	Y ₃₆₀₀	Y ₃₆₀₀₋₂
Units	Cts/S	Cts/S	Cts/S
Avg	4594.7	143150.	8536.6

#1	4597.9	143190.	8498.4
#2	4591.4	143110.	8574.9

* - Bomb digest, limited volume,
 All samples are 20X.
 ABM 6/27/17

Sample Name: KQ1708022-01 Acquired: 6/27/2017 9:44:40 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: AM 062717A K1705923-LCSW

Elem	Al [✓] 3944	Sb2068	As1890	Ba4554	Be2348	B [✓] _2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.947	F 2.459	2.520	5.152	.12590	.4904	1.235	1.230
#1	4.951	2.458	2.521	5.169	.12601	.4903	1.235	1.232
#2	4.943	2.460	2.520	5.135	.12578	.4904	1.235	1.229
Elem	Ca [✓] 3158	Cr2677	Co2307	Cu2247	Cu3273	Fe [✓] 2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.76	.5025	1.235	.6093	.6125	2.540	2.422	-.0017
#1	12.76	.5010	1.235	.6092	.6126	2.543	2.416	-.0033
#2	12.76	.5041	1.234	.6095	.6123	2.536	2.428	.0000
Elem	Mg [✓] 2852	Mn2576	Mo2020	Ni2216	P_1782	K [✓] _7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.33	1.2397	1.003	1.222	.0058	12.54	2.441	.0927
#1	12.33	1.2399	1.001	1.222	.0045	12.50	2.429	.0903
#2	12.34	1.2395	1.004	1.222	.0070	12.59	2.453	.0950
Elem	Ag3280	Na [✓] 5895	Sr4077	Tl1908	Sn1899	Ti [✓] 3361	V [✓] _2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6117	12.50	.00030	2.409	-.0003	9.929	1.274	1.242
#1	.6099	12.50	.00018	2.409	.0001	9.882	1.272	1.242
#2	.6135	12.50	.00041	2.408	-.0007	9.977	1.276	1.241
Elem	Zn2138	Bi2230	S_ [✓] 1820					
Units	ppm	ppm	ppm					
Avg	1.229	.0012	.0008					
#1	1.226	-.0002	-.0001					
#2	1.231	.0026	.0017					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4557.4	139660.	8377.2					
#1	4551.3	139940.	8366.9					
#2	4563.5	139390.	8387.5					

Sample Name: KQ1708022-02 Acquired: 6/27/2017 9:47:11 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: AM 062717A K1705923-DLCSW

Elem	Al [✓] 3944	Sb2068	As1890	Ba4554	Be2348	B [✓] _2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.986	F 2.463	2.519	5.164	.12725	.4957	1.239	1.230
#1	5.012	2.458	2.505	5.164	.12764	.4980	1.238	1.228
#2	4.959	2.468	2.532	5.163	.12685	.4934	1.241	1.232
Elem	Ca [✓] 3158	Cr2677	Co2307	Cu2247	Cu3273	Fe [✓] 2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.79	.5077	1.243	.6120	.6156	2.547	2.447	.0001
#1	12.80	.5074	1.242	.6107	.6178	2.548	2.453	.0005
#2	12.78	.5081	1.244	.6134	.6135	2.546	2.441	-.0003
Elem	Mg [✓] 2852	Mn2576	Mo2020	Ni2216	P_1782	K [✓] _7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.34	1.2440	1.011	1.226	.0098	12.63	2.439	.0488
#1	12.28	1.2425	1.009	1.224	.0094	12.59	2.439	.0432
#2	12.39	1.2454	1.014	1.228	.0102	12.67	2.440	.0543
Elem	Ag3280	Na [✓] 5895	Sr4077	Tl1908	Sn1899	Ti [✓] 3361	V [✓] _2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6165	12.54	.00033	2.423	.0001	9.989	1.282	1.253
#1	.6167	12.50	.00031	2.424	.0005	9.946	1.281	1.252
#2	.6164	12.58	.00036	2.421	-.0003	10.03	1.283	1.254
Elem	Zn2138	Bi2230	S_ [✓] 1820					
Units	ppm	ppm	ppm					
Avg	1.230	.0017	.0004					
#1	1.227	.0033	-.0014					
#2	1.233	.0000	.0022					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4534.8	139660.	8406.6					
#1	4530.7	139820.	8367.0					
#2	4539.0	139490.	8446.2					

Sample Name: K1705923-001 Acquired: 6/27/2017 9:49:42 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: AM 062717A

Elem	✓ Al1670	Sb2068	As1890	Ba4554	Be2348	✓ B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8582	.0024	.0085	.0394	-.00005	.0867	.0002	.0007
#1	.8586	.0010	.0088	.0425	.00006	.0860	.0002	.0007
#2	.8578	.0038	.0083	.0362	-.00016	.0874	.0002	.0006
Elem	✓ Ca3158	Cr2677	Co2307	Cu2247	Cu3273	✓ Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	50.88	.0016	.0015	.0022	.0030	1.441	.0079	.0043
#1	54.52	.0016	.0014	.0022	.0028	1.547	.0078	.0041
#2	47.23	.0016	.0016	.0022	.0032	1.336	.0081	.0046
Elem	✓ Mg2852	Mn2576	Mo2020	Ni2216	P_1782	✓ K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.91	.10036	.0062	.0010	.2733	7.414	.0110	83.30
#1	18.16	.10042	.0068	.0004	.2775	7.538	.0093	84.51
#2	17.66	.10030	.0056	.0016	.2692	7.291	.0127	82.08
Elem	Ag3280	✓ Na5895	Sr4077	Tl1908	Sn1899	✓ Ti3361	✓ V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	39.68	.34885	.0004	-.0002	.0302	.0320	.0074
#1	.0011	40.15	.37357	-.0007	-.0009	.0303	.0323	.0074
#2	.0006	39.22	.32413	.0016	.0004	.0300	.0318	.0074
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.0078	.0032	7.087					
#1	.0078	.0037	7.081					
#2	.0078	.0028	7.093					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4522.7	140400.	8137.4					
#1	4522.1	140210.	7657.9					
#2	4523.3	140590.	8616.9					

Sample Name: K1705923-002 Acquired: 6/27/2017 9:52:23 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: AM 062717A

Elem	Al1670 ✓	Sb2068	As1890	Ba4554	Be2348	B_2496 ✓	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9885	-.0003	.0039	.0357	-.00007	.0917	.0004	.0009
#1	.9899	.0001	.0029	.0357	-.00009	.0913	.0004	.0008
#2	.9872	-.0007	.0050	.0357	-.00006	.0921	.0004	.0011
Elem	Ca3158 ✓	Cr2677	Co2307	Cu2247	Cu3273	Fe2599 ✓	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	48.04	.0014	.0013	.0026	.0040	1.476	.0077	.0054
#1	47.97	.0011	.0011	.0026	.0047	1.472	.0065	.0061
#2	48.11	.0016	.0014	.0026	.0033	1.480	.0088	.0046
Elem	Mg2852 ✓	Mn2576	Mo2020	Ni2216	P_1782	K_7664 ✓	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.31	.11758	.0022	.0031	.3305	7.582	.0022	88.01
#1	17.29	.11778	.0020	.0027	.3299	7.552	.0019	87.94
#2	17.34	.11737	.0023	.0034	.3312	7.613	.0025	88.08
Elem	Ag3280	Na5895 ✓	Sr4077	Tl1908	Sn1899	Ti3361 ✓	V_2924 ✓	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	35.79	.33133	.0002	-.0004	.0326	.0335	.0098
#1	.0004	35.80	.33122	-.0012	.0000	.0329	.0332	.0099
#2	.0003	35.79	.33143	.0017	-.0008	.0324	.0337	.0097
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.0102	.0052	6.028					
#1	.0103	.0059	6.036					
#2	.0101	.0046	6.020					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4492.0	138950.	8504.6					
#1	4494.4	138900.	8485.7					
#2	4489.5	139000.	8523.4					

Sample Name: K1705923-003 Acquired: 6/27/2017 9:55:05 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: AM 062717A

Elem	Al [✓] 1670	Sb2068	As1890	Ba4554	Be2348	B [✓] _2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6777	-.0021	.0064	.0332	-.00004	.0827	.0001	.0006
#1	.6776	-.0021	.0082	.0330	-.00002	.0821	.0001	.0007
#2	.6779	-.0020	.0047	.0334	-.00005	.0834	.0002	.0006
Elem	Ca [✓] 3158	Cr2677	Co2307	Cu2247	Cu3273	Fe [✓] 2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	48.72	.0013	.0009	.0015	.0024	1.062	.0086	.0035
#1	48.66	.0018	.0008	.0012	.0025	1.058	.0092	.0033
#2	48.78	.0009	.0010	.0017	.0023	1.067	.0080	.0038
Elem	Mg [✓] 2852	Mn2576	Mo2020	Ni2216	P_1782	K [✓] _7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.38	.07574	.0017	.0035	.2510	7.597	.0034	87.07
#1	18.41	.07582	.0017	.0038	.2500	7.600	.0024	87.25
#2	18.35	.07567	.0017	.0033	.2520	7.594	.0044	86.89
Elem	Ag3280	Na [✓] 5895	Sr4077	Tl1908	Sn1899	Ti [✓] 3361	V [✓] _2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	37.09	.33469	-.0012	-.0004	.0211	.0321	.0081
#1	.0008	37.06	.33497	-.0014	-.0002	.0210	.0319	.0081
#2	.0006	37.13	.33442	-.0011	-.0006	.0213	.0323	.0081
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.0085	.0034	6.325					
#1	.0087	.0062	6.310					
#2	.0084	.0005	6.340					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4491.8	140490.	8649.9					
#1	4490.6	140370.	8644.5					
#2	4493.0	140600.	8655.3					

Sample Name: K1705923-004 Acquired: 6/27/2017 9:57:46 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: AM 062717A

Elem	✓ Al1670	Sb2068	As1890	Ba4554	Be2348	✓ B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3805	-.0034	.0033	.0188	-.00001	.0817	.0001	.0005
#1	.3784	-.0028	.0019	.0188	-.00004	.0807	.0002	.0005
#2	.3826	-.0040	.0046	.0189	.00002	.0826	.0001	.0006
Elem	✓ Ca3158	Cr2677	Co2307	Cu2247	Cu3273	✓ Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	36.28	.0011	.0012	-.0004	.0015	.5721	.0092	.0064
#1	36.33	.0008	.0012	-.0004	.0013	.5703	.0099	.0056
#2	36.22	.0014	.0013	-.0004	.0017	.5739	.0084	.0072
Elem	✓ Mg2852	Mn2576	Mo2020	Ni2216	P_1782	✓ K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.26	.04803	.0014	.0022	.3165	7.669	.0026	85.56
#1	15.15	.04799	.0012	.0027	.3130	7.642	.0016	85.15
#2	15.37	.04806	.0017	.0016	.3200	7.696	.0036	85.98
Elem	Ag3280	✓ Na5895	Sr4077	Tl1908	Sn1899	✓ Ti3361	✓ V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0026	31.67	.25206	-.0015	-.0001	.0112	.0581	.0033
#1	.0027	31.56	.25219	-.0020	-.0004	.0114	.0583	.0031
#2	.0025	31.78	.25193	-.0010	.0003	.0110	.0578	.0035
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.0037	.0045	2.091					
#1	.0038	.0047	2.093					
#2	.0036	.0044	2.089					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4477.1	139410.	8572.9					
#1	4486.9	139170.	8568.5					
#2	4467.3	139650.	8577.2					

Sample Name: K1705923-005 Acquired: 6/27/2017 10:00:28 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: AM 062717A

Elem	Al1670 ✓	Sb2068	As1890	Ba4554	Be2348	B_2496 ✓	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4191	-.0027	.0039	.0274	-.00001	.0975	.0002	.0006
#1	.4193	-.0030	.0030	.0274	-.00004	.0972	.0002	.0006
#2	.4188	-.0025	.0049	.0275	.00002	.0978	.0002	.0007
Elem	Ca3158 ✓	Cr2677	Co2307	Cu2247	Cu3273	Fe2599 ✓	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	42.37	.0014	.0011	.0006	.0021	.6404	.0091	.0067
#1	42.35	.0015	.0010	.0005	.0028	.6348	.0096	.0070
#2	42.39	.0013	.0012	.0007	.0013	.6460	.0087	.0065
Elem	Mg2852 ✓	Mn2576	Mo2020	Ni2216	P_1782	K_7664 ✓	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.94	.06655	.0013	.0010	.3427	8.807	.0003	87.97
#1	15.90	.06636	.0009	.0009	.3442	8.853	-.0008	87.82
#2	15.99	.06674	.0016	.0010	.3413	8.760	.0014	88.13
Elem	Ag3280	Na5895 ✓	Sr4077	Tl1908	Sn1899	Ti3361 ✓	V_2924 ✓	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0005	45.84	.27233	-.0004	.0010	.0113	.0576	.0042
#1	-.0004	45.84	.27259	-.0005	.0007	.0113	.0579	.0040
#2	-.0006	45.84	.27208	-.0003	.0013	.0113	.0572	.0044
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.0048	.0071	13.47					
#1	.0047	.0057	13.46					
#2	.0049	.0084	13.48					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4497.3	139420.	8571.9					
#1	4499.7	139550.	8574.4					
#2	4494.8	139290.	8569.5					

Sample Name: K1705923-006 Acquired: 6/27/2017 10:03:11 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: AM 062717A

Elem	Al [✓] 1670	Sb2068	As1890	Ba4554	Be2348	B [✓] _2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8222	-.0010	.0029	.0526	.00006	.0562	.0000	.0003
#1	.8191	-.0004	.0033	.0528	.00007	.0568	.0000	.0004
#2	.8252	-.0016	.0025	.0524	.00005	.0556	-.0001	.0003
Elem	Ca [✓] 3158	Cr2677	Co2307	Cu2247	Cu3273	Fe [✓] 2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	49.80	.0019	.0018	.0055	.0048	2.421	.0021	-.0003
#1	49.71	.0019	.0017	.0051	.0037	2.419	.0027	.0011
#2	49.88	.0019	.0019	.0059	.0060	2.423	.0015	-.0018
Elem	Mg [✓] 2852	Mn2576	Mo2020	Ni2216	P_1782	K [✓] _7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.89	.17513	-.0003	-.0004	.1450	3.530	.0006	28.25
#1	17.97	.17482	-.0004	-.0007	.1433	3.512	-.0009	28.27
#2	17.82	.17544	-.0003	.0000	.1467	3.548	.0020	28.22
Elem	Ag3280	Na [✓] 5895	Sr4077	Tl1908	Sn1899	Ti [✓] 3361	V [✓] _2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	28.15	.33042	-.0007	-.0003	.0266	.0104	.0069
#1	.0001	28.20	.33018	-.0007	-.0002	.0265	.0110	.0067
#2	-.0005	28.11	.33065	-.0007	-.0004	.0267	.0098	.0071
Elem	Zn2138	Bi2230	S_ [✓] 1820					
Units	ppm	ppm	ppm					
Avg	.0072	.0012	1.763					
#1	.0072	.0002	1.766					
#2	.0071	.0021	1.760					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4631.7	142790.	8700.6					
#1	4647.3	142970.	8715.1					
#2	4616.1	142610.	8686.1					

Sample Name: CCVB Acquired: 6/27/2017 10:05:53 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.416	10.37	.0015	1.013	10.12	.00003	.0008	-.0001
Stddev	.012	.02	.0029	.002	.14	.00005	.0019	.0000
%RSD	.1580	.1517	194.0	.1834	1.349	155.44	242.4	27.75

#1	7.424	10.36	-.0006	1.011	10.22	.00000	-.0006	-.0001
#2	7.408	10.38	.0036	1.014	10.03	.00006	.0022	-.0001

Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None	None	None
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	10.09	9.723	-.0001	.0004	-.0003	.0004	10.10
Stddev	.000	.02	.220	.0004	.0000	.0008	.0006	.01
%RSD	420.4	.2103	2.266	370.2	8.831	231.5	135.3	.1069

#1	-.0001	10.10	9.878	-.0004	.0004	-.0009	.0000	10.11
#2	.0000	10.07	9.567	.0002	.0004	.0002	.0009	10.09

Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass
Value								
Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	1.001	10.05	9.713	9.943	.99889	.9952	-.0001
Stddev	.0001	.001	.02	.007	.023	.00222	.0076	.0000
%RSD	38.94	.0985	.2124	.0686	.2288	.22260	.7628	13.57

#1	.0001	1.000	10.03	9.709	9.927	.99732	.9899	-.0001
#2	.0002	1.001	10.06	9.718	9.959	1.0005	1.001	-.0001

Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None
Value								
Range								

Sample Name: CCVB Acquired: 6/27/2017 10:05:53 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	10.04	10.08	.0005	10.08	-.0011	10.06	1.0001
Stddev	.0001	.03	.06	.0021	.01	.0004	.02	.0007
%RSD	40.28	.2848	.6246	433.7	.1316	33.01	.1815	.06761

#1	-.0002	10.06	10.04	-.0010	10.07	-.0008	10.05	1.0006
#2	-.0004	10.02	10.13	.0019	10.09	-.0013	10.07	.99967

Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0004	.0002	.0001	.0000	.0002	1.020	1.008
Stddev	.0005	.0004	.0001	.0000	.000	.0001	.002	.001
%RSD	1041.	116.5	57.05	8.398	594.5	47.72	.1581	.1172

#1	.0004	.0007	.0001	.0001	.0001	.0001	1.021	1.009
#2	-.0003	.0001	.0003	.0001	-.0002	.0003	1.018	1.007

Check ?	None	None	None	None	None	None	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4581.6	141120.	8566.4
Stddev	1.4	90.	26.7
%RSD	.02972	.06406	.31144

#1	4580.6	141180.	8547.6
#2	4582.6	141050.	8585.3

Sample Name: CCVA Acquired: 6/27/2017 10:08:39 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2540	.2612	.2521	.2535	.2590	.25318	.2524	.2509
Stddev	.0021	.0023	.0011	.0009	.0013	.00062	.0019	.0000
%RSD	.8118	.8698	.4473	.3465	.5188	.24382	.7346	.0050

#1	.2554	.2628	.2529	.2541	.2580	.25361	.2537	.2509
#2	.2525	.2596	.2513	.2528	.2599	.25274	.2511	.2509

Check ?	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2504	.5171	.5115	.2490	.2506	.2506	.2530	.2531
Stddev	.0006	.0154	.0153	.0008	.0001	.0004	.0004	.0068
%RSD	.2284	2.982	2.994	.3396	.0252	.1659	.1756	2.705

#1	.2500	.5062	.5006	.2496	.2507	.2504	.2527	.2483
#2	.2508	.5280	.5223	.2484	.2506	.2509	.2533	.2579

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value								
Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2509	-.0016	.2608	.2573	.2548	.25110	.2475	.2495
Stddev	.0011	.0002	.0260	.0053	.0065	.00116	.0016	.0008
%RSD	.4506	11.68	9.975	2.060	2.558	.46169	.6574	.3172

#1	.2501	-.0017	.2424	.2535	.2502	.25028	.2487	.2490
#2	.2517	-.0014	.2792	.2610	.2594	.25192	.2464	.2501

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	Chk Pass
Value								
Range								

Sample Name: CCVA Acquired: 6/27/2017 10:08:39 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2499	.0024	2.511	.2512	.1647	.2520	.2732	.00023
Stddev	.0007	.0005	.013	.0036	.0281	.0003	.0159	.00025
%RSD	.2691	21.63	.5245	1.437	17.07	.1004	5.804	109.29

#1	.2504	.0028	2.501	.2486	.1449	.2522	.2620	.00005
#2	.2495	.0021	2.520	.2537	.1846	.2518	.2844	.00041

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	None
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2526	.2493	.2503	.2502	.2505	.2521	.0006	.0036
Stddev	.0018	.0021	.0008	.0002	.0001	.0000	.0012	.0010
%RSD	.7028	.8240	.3249	.0661	.0520	.0082	184.6	27.21

#1	.2513	.2479	.2508	.2503	.2506	.2521	-.0002	.0043
#2	.2538	.2508	.2497	.2501	.2504	.2521	.0014	.0029

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4601.0	142410.	8505.5
Stddev	1.7	139.	1.1
%RSD	.03702	.09727	.01321

#1	4602.2	142310.	8506.3
#2	4599.8	142510.	8504.7

Sample Name: CCB Acquired: 6/27/2017 10:11:01 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	-.0005	.0006	.0009	.0002	-.00005	.0011	-.0001
Stddev	.0001	.0006	.0020	.0002	.0000	.00002	.0009	.0000
%RSD	73.66	120.4	315.4	23.76	12.14	38.477	78.74	21.80

#1	.0002	-.0009	-.0008	.0008	.0002	-.00004	.0017	-.0001
#2	.0001	-.0001	.0020	.0011	.0002	-.00007	.0005	-.0002

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	-.0035	.0014	-.0003	.0002	.0003	-.0003	-.0017
Stddev	.0001	.0078	.0003	.0004	.0000	.0002	.0003	.0006
%RSD	81.95	225.1	20.75	134.0	7.091	61.10	116.3	37.19

#1	.0001	.0021	.0016	-.0006	.0002	.0004	-.0001	-.0012
#2	.0000	-.0090	.0012	.0000	.0002	.0002	-.0005	-.0021

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	-.0041	-.0219	.0003	-.0004	-.00002	.0004	.0010
Stddev	.0003	.0014	.0278	.0002	.0015	.00001	.0009	.0002
%RSD	121.9	34.71	127.1	52.35	353.6	30.286	245.3	19.72

#1	.0000	-.0051	-.0022	.0005	-.0015	-.00003	.0010	.0012
#2	.0004	-.0031	-.0415	.0002	.0007	-.00002	-.0003	.0009

Check ?	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass
High Limit								
Low Limit								

Sample Name: CCB Acquired: 6/27/2017 10:11:01 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0004	.0007	-.0225	.0023	.0033	-.0003	.0039	.00003
Stddev	.0000	.0016	.0368	.0002	.0032	.0001	.0053	.00008
%RSD	7.977	217.5	163.6	10.74	95.99	19.41	136.3	259.38

#1	-.0004	.0018	-.0486	.0021	.0056	-.0003	.0001	.00009
#2	-.0004	-.0004	.0035	.0024	.0011	-.0003	.0077	-.00003

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012	.0004	.0000	-.0003	.0000	.0000	-.0002	-.0012
Stddev	.0011	.0005	.0001	.0004	.0001	.0001	.0006	.0013
%RSD	86.27	105.1	637.0	150.1	1536.	1309.	339.8	105.1

#1	.0020	.0001	.0001	.0000	-.0001	.0000	.0002	-.0003
#2	.0005	.0008	-.0001	-.0006	.0001	.0000	-.0006	-.0021

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4596.4	143400.	8477.0
Stddev	1.0	86.	3.9
%RSD	.02282	.05968	.04588

#1	4595.6	143460.	8479.7
#2	4597.1	143340.	8474.2

Sample Name: KQ1707721-02 Acquired: 6/27/2017 10:13:41 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: E Sample Type:
Comment: AM 062717A 1/5 E K1705784-MB

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0039	.0004	.0008	.0105	-.00005	.0230	-.0001	.0001
#1	.0039	.0000	.0005	.0104	-.00005	.0234	-.0002	.0001
#2	.0038	.0008	.0012	.0105	-.00005	.0227	.0000	.0001
Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4204	-.0008	.0001	.0003	-.0009	.0013	-.0002	.0005
#1	.4195	-.0007	.0001	.0000	-.0012	.0022	.0003	.0004
#2	.4213	-.0009	.0001	.0006	-.0006	.0004	-.0007	.0006
Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0426	.00005	.0003	.0007	.0068	.0877	.0035	.0397
#1	.0426	.00005	.0003	.0009	.0062	.0845	.0052	.0357
#2	.0426	.00004	.0003	.0004	.0075	.0908	.0018	.0438
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0004	425.7	.00067	-.0003	.0028	-.0010	.0000	.0034
#1	-.0004	423.8	.00078	.0009	.0019	-.0009	-.0002	.0034
#2	-.0004	427.5	.00056	-.0016	.0036	-.0012	.0002	.0034
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.0033	.0018	.0079					
#1	.0033	.0015	.0062					
#2	.0033	.0021	.0096					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4315.3	131900.	8465.8					
#1	4309.9	131900.	8470.3					
#2	4320.7	131900.	8461.3					

Sample Name: KQ1707721-01 Acquired: 6/27/2017 10:16:22 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: E Sample Type:
Comment: AM 062717A 1/5 E K1705784-LCSE

Elem Units Avg	Al1670 ppm .0052	Sb2068 ppm -.0067	As1890 ppm .9600	Ba4554 ppm 1.972	Be2348 ppm .00004	B_2496 ppm .0224	Cd2144 ppm .1896	Cd2265 ppm .1890
#1	.0055	-.0058	.9580	1.973	.00006	.0223	.1895	.1889
#2	.0049	-.0076	.9619	1.972	.00003	.0225	.1897	.1892
Elem Units Avg	Ca3933 ppm .4740	Cr2677 ppm .9550	Co2307 ppm .0002	Cu2247 ppm .1842	Cu3273 ppm .1791	Fe2599 ppm .0146	Pb2203 ppm .8865	Li6707 ppm .0023
#1	.4958	.9559	.0001	.1837	.1781	.0202	.8856	.0028
#2	.4522	.9540	.0002	.1847	.1800	.0091	.8873	.0017
Elem Units Avg	Mg2795 ppm .0731	Mn2576 ppm .00016	Mo2020 ppm -.0001	Ni2216 ppm .1852	P_1782 ppm .0098	K_7664 ppm .1171	Se1960 ppm .1814	Si2516 ppm .0727
#1	.0872	.00014	-.0001	.1855	.0110	.0831	.1825	.0932
#2	.0591	.00017	.0000	.1848	.0086	.1512	.1803	.0522
Elem Units Avg	Ag3280 ppm .1796	Na5895 ppm 431.9	Sr4077 ppm .00096	Tl1908 ppm .0010	Sn1899 ppm .0022	Ti3361 ppm -.0010	V_2924 ppm -.0025	Zn2062 ppm 1.898
#1	.1786	430.4	.00113	-.0011	.0028	-.0009	-.0027	1.900
#2	.1806	433.4	.00079	.0031	.0015	-.0011	-.0022	1.896
Elem Units Avg	Zn2138 ppm 1.809	Bi2230 ppm -.0012	S_1820 ppm .0069					
#1	1.809	-.0005	.0076					
#2	1.808	-.0019	.0062					
Int. Std. Units Avg	Y_2243 Cts/S 4330.8	Y_3600 Cts/S 132360.	Y_3600-2 Cts/S 8520.2					
#1	4330.1	132070.	8486.4					
#2	4331.5	132650.	8554.1					

Sample Name: K1705784-001 Acquired: 6/27/2017 10:18:56 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: E Sample Type:
Comment: AM 062717A 1/5 E

Elem Units Avg	Al1670 ppm .0058	Sb2068 ppm -.0015	As1890 ppm .0048	Ba4554 ppm .0205	Be2348 ppm .00008	B_2496 ppm .0217	Cd2144 ppm .0000	Cd2265 ppm .0000
#1	.0061	-.0020	.0057	.0209	.00002	.0213	-.0001	.0000
#2	.0055	-.0010	.0039	.0201	.00013	.0221	.0000	.0000
Elem Units Avg	Ca3933 ppm 2.367	Cr2677 ppm .0026	Co2307 ppm .0001	Cu2247 ppm .0011	Cu3273 ppm .0002	Fe2599 ppm .6033	Pb2203 ppm .0014	Li6707 ppm -.0001
#1	2.371	.0025	.0005	.0010	.0003	.6040	.0014	-.0012
#2	2.364	.0027	-.0003	.0013	.0002	.6026	.0013	.0011
Elem Units Avg	Mg2795 ppm .6507	Mn2576 ppm .01448	Mo2020 ppm .0003	Ni2216 ppm .0011	P_1782 ppm .0118	K_7664 ppm .2453	Se1960 ppm .0018	Si2516 ppm .3645
#1	.6527	.01448	.0005	.0013	.0134	.2436	.0009	.3608
#2	.6486	.01448	.0001	.0010	.0103	.2470	.0027	.3683
Elem Units Avg	Ag3280 ppm .0000	Na5895 ppm 415.6	Sr4077 ppm .00445	Tl1908 ppm -.0013	Sn1899 ppm .0031	Ti3361 ppm -.0010	V_2924 ppm .0004	Zn2062 ppm .0064
#1	.0004	416.7	.00440	-.0013	.0025	-.0010	.0002	.0062
#2	-.0003	414.4	.00451	-.0014	.0037	-.0010	.0005	.0065
Elem Units Avg	Zn2138 ppm .0061	Bi2230 ppm .0001	S_1820 ppm .0685					
#1	.0060	.0001	.0704					
#2	.0062	.0001	.0666					
Int. Std. Units Avg	Y_2243 Cts/S 4346.6	Y_3600 Cts/S 132130.	Y_3600-2 Cts/S 8454.1					
#1	4322.3	131930.	8398.2					
#2	4370.9	132330.	8510.0					

Sample Name: KQ1707721-03 Acquired: 6/27/2017 10:21:37 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 5 Test Type: E Sample Type:
 Comment: AM 062717A 1/5 E K1705784-001D

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0043	-.0010	.0033	.0198	.00005	.0246	-.0001	.0001
#1	.0041	-.0012	.0019	.0197	.00009	.0248	.0000	.0000
#2	.0044	-.0007	.0046	.0200	.00002	.0245	-.0001	.0002
Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.335	.0028	.0001	.0011	-.0003	.5747	.0013	-.0001
#1	2.346	.0028	.0001	.0008	-.0001	.5764	.0009	-.0016
#2	2.323	.0029	.0002	.0014	-.0005	.5730	.0017	.0015
Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6381	.01426	.0000	.0014	.0103	.3090	.0016	.4147
#1	.6386	.01432	-.0002	.0014	.0104	.3356	.0016	.4088
#2	.6377	.01421	.0001	.0013	.0102	.2824	.0016	.4207
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	421.6	.00425	.0011	.0026	-.0008	.0005	.0066
#1	.0004	420.9	.00434	.0015	.0018	-.0008	.0006	.0065
#2	-.0007	422.3	.00416	.0006	.0034	-.0007	.0004	.0067
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.0063	-.0017	.0695					
#1	.0062	-.0016	.0712					
#2	.0063	-.0018	.0677					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4407.0	134140.	8725.8					
#1	4393.6	134280.	8731.0					
#2	4420.5	134010.	8720.5					

Sample Name: KQ1707721-04 Acquired: 6/27/2017 10:24:18 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: E Sample Type:
Comment: AM 062717A 1/5 E K1705784-001S

Elem	Al1670	Sb2068	As1890	Ba4554 [✓]	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0048	-.0047	.9641	1.970	-.00004	.0259	.1884	.1873
#1	.0046	-.0037	.9626	1.969	.00003	.0258	.1881	.1874
#2	.0050	-.0058	.9656	1.971	-.00011	.0260	.1888	.1873
Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.374	.9584	.0002	.1812	.1825	.5994	.8760	.0027
#1	2.372	.9618	.0002	.1803	.1836	.5993	.8776	.0038
#2	2.376	.9550	.0001	.1822	.1815	.5994	.8744	.0015
Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6555	.01454	.0003	.1843	.0077	.2451	.1799	.4087
#1	.6551	.01457	.0003	.1845	.0088	.2318	.1805	.4132
#2	.6560	.01452	.0004	.1842	.0067	.2584	.1794	.4043
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1831	441.8	.00445	.0017	.0024	-.0009	-.0030	1.885
#1	.1845	439.6	.00446	.0022	.0023	-.0009	-.0029	1.884
#2	.1817	443.9	.00445	.0011	.0024	-.0010	-.0031	1.886
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	1.819	-.0009	.0659					
#1	1.820	.0005	.0657					
#2	1.818	-.0022	.0660					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4398.4	135570.	8803.9					
#1	4399.6	135710.	8814.5					
#2	4397.2	135430.	8793.3					

Sample Name: K1705784-001A Acquired: 6/27/2017 10:26:56 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: E Sample Type:
Comment: AM 062717A 1/5 E A=0.1/10mL MET3-1-A

Elem	Al1670	Sb2068	As1890	Ba4554 ✓	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0080	-.0284	4.983	10.01	.00006	.0242	.9673	.9682
#1	.0080	-.0253	4.991	9.929	.00008	.0253	.9676	.9684
#2	.0079	-.0315	4.975	10.10	.00003	.0230	.9671	.9680
Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.364	4.955	.0002	.9389	.9393	.5924	4.509	-.0025
#1	2.367	4.953	.0000	.9404	.9455	.5945	4.514	-.0040
#2	2.362	4.957	.0004	.9374	.9332	.5902	4.504	-.0011
Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6371	.01417	.0005	.9507	.0105	.2295	.9401	.3814
#1	.6353	.01410	.0004	.9518	.0124	.2484	.9460	.3838
#2	.6388	.01425	.0007	.9497	.0086	.2106	.9341	.3790
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9480	426.2	.00453	.0003	.0014	-.0009	-.0153	9.526
#1	.9563	418.6	.00452	.0014	.0013	-.0009	-.0152	9.526
#2	.9398	433.7	.00454	-.0008	.0016	-.0009	-.0154	9.526
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	>4.500	.0017	.0711					
#1	8.972	.0017	.0688					
#2	8.932	.0017	.0734					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4390.4	135300.	8753.8					
#1	4395.2	136030.	8741.2					
#2	4385.7	134570.	8766.5					

Sample Name: K1705784-002 Acquired: 6/27/2017 10:29:33 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: E Sample Type:
Comment: AM 062717A 1/5 E

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0048	.0014	.0047	.0148	.00001	.0165	.0000	.0001
#1	.0049	-.0020	.0053	.0146	-.00002	.0158	.0001	.0001
#2	.0048	.0049	.0040	.0149	.00003	.0171	.0000	.0001
Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.177	.0032	.0003	.0010	-.0003	.5083	.0017	-.0009
#1	2.172	.0035	.0001	.0011	-.0007	.5098	.0013	.0002
#2	2.181	.0030	.0006	.0009	.0002	.5067	.0020	-.0020
Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6310	.01208	.0001	.0014	.0084	.2426	.0061	.3727
#1	.6315	.01212	.0001	.0014	.0110	.2262	.0080	.3672
#2	.6304	.01204	.0001	.0014	.0059	.2591	.0042	.3782
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	442.3	.00277	.0001	.0032	-.0011	.0009	.0049
#1	-.0001	442.4	.00277	.0000	.0021	-.0012	.0007	.0051
#2	-.0001	442.2	.00278	.0002	.0043	-.0010	.0011	.0047
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.0048	-.0002	.0745					
#1	.0048	-.0007	.0769					
#2	.0048	.0004	.0722					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4420.6	136940.	8808.1					
#1	4420.2	136690.	8817.6					
#2	4421.1	137190.	8798.6					

Sample Name: K1705784-003 Acquired: 6/27/2017 10:32:14 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 5 Test Type: E Sample Type:
 Comment: AM 062717A 1/5 E

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0057	.0019	.0052	.0248	.00000	.0194	-.0001	.0001
#1	.0059	.0023	.0050	.0249	.00001	.0190	-.0001	.0001
#2	.0055	.0015	.0053	.0248	-.00001	.0198	-.0001	.0001
Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.343	.0022	.0001	.0011	-.0004	.5025	.0170	-.0003
#1	2.320	.0019	.0001	.0009	-.0008	.5042	.0160	.0007
#2	2.367	.0026	.0001	.0012	.0001	.5007	.0181	-.0014
Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6666	.01138	.0002	.0013	.0086	.2470	.0031	.4531
#1	.6642	.01142	.0000	.0011	.0076	.2871	.0036	.4574
#2	.6690	.01134	.0004	.0015	.0095	.2069	.0026	.4488
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	442.2	.00949	.0002	.0020	-.0005	.0003	.0089
#1	-.0006	444.2	.00949	.0001	.0025	-.0005	-.0007	.0089
#2	.0002	440.3	.00949	.0002	.0015	-.0006	.0014	.0089
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.0084	.0004	.0562					
#1	.0085	.0010	.0559					
#2	.0084	-.0002	.0566					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4413.7	136040.	8716.3					
#1	4414.3	136370.	8751.0					
#2	4413.1	135710.	8681.6					

Sample Name: K1705784-004 Acquired: 6/27/2017 10:34:58 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 5 Test Type: E Sample Type:
 Comment: AM 062717A 1/5 E

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0116	-.0002	.0039	.0166	.00000	.0195	-.0002	.0001

#1	.0113	-.0001	.0024	.0166	-.00002	.0196	-.0002	.0001
#2	.0119	-.0003	.0055	.0166	.00001	.0194	-.0001	.0001

Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.397	.0030	.0002	.0011	.0006	.5648	.0016	-.0005

#1	2.390	.0034	.0004	.0009	.0005	.5594	.0019	-.0001
#2	2.404	.0027	.0001	.0014	.0006	.5702	.0013	-.0010

Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7026	.01220	.0002	.0015	.0093	.2233	.0026	.3979

#1	.7009	.01235	.0000	.0015	.0091	.2094	.0020	.3983
#2	.7044	.01205	.0003	.0015	.0095	.2371	.0032	.3974

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	445.1	.00451	.0006	.0018	-.0008	.0006	.0061

#1	-.0004	446.9	.00449	.0011	.0014	-.0007	.0008	.0062
#2	-.0002	443.3	.00452	.0002	.0022	-.0009	.0005	.0060

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.0059	.0001	.0507

#1	.0060	.0002	.0504
#2	.0057	.0000	.0511

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4406.3	134440.	8734.1

#1	4415.9	134420.	8752.9
#2	4396.7	134470.	8715.3

Sample Name: K1705784-005 Acquired: 6/27/2017 10:37:45 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: E Sample Type:
Comment: AM 062717A 1/5 E

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0051	-.0026	.0032	.0180	-.00009	.0242	.0000	.0000
#1	.0054	-.0021	.0033	.0182	-.00010	.0239	-.0001	.0000
#2	.0048	-.0031	.0031	.0178	-.00007	.0244	.0000	.0000
Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.461	.0024	.0004	.0021	.0007	.4586	.0029	.0079
#1	3.525	.0028	.0003	.0023	.0009	.4571	.0022	.0071
#2	3.396	.0020	.0005	.0019	.0005	.4601	.0035	.0088
Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4717	.01378	-.0001	.0015	.0077	.1060	.0005	.4463
#1	.4743	.01375	-.0001	.0014	.0077	.0660	.0000	.4374
#2	.4690	.01380	-.0001	.0016	.0076	.1461	.0010	.4551
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0006	425.3	.01012	.0005	.0025	-.0010	.0001	.1518
#1	-.0005	424.2	.01011	.0002	.0028	-.0011	.0002	.1518
#2	-.0007	426.3	.01014	.0007	.0022	-.0010	.0000	.1518
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.1471	.0108	.0326					
#1	.1472	.0088	.0299					
#2	.1469	.0128	.0352					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4414.6	135490.	8628.5					
#1	4410.1	135520.	8550.4					
#2	4419.2	135470.	8706.6					

Sample Name: CCVB Acquired: 6/27/2017 10:40:32 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.225	10.32	-.0001	1.032	10.18	.00001	.0004	-.0001
Stddev	.016	.02	.0014	.001	.03	.00002	.0005	.0000
%RSD	.2253	.2082	2460.	.1385	.2554	158.53	103.2	21.46

#1	7.236	10.34	-.0011	1.031	10.20	.00000	.0008	-.0001
#2	7.213	10.31	.0009	1.033	10.16	.00002	.0001	-.0001

Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None	None	None
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	9.962	9.718	.0000	.0003	.0005	.0005	10.02
Stddev	.0001	.028	.113	.000	.0004	.0000	.0002	.01
%RSD	78.05	.2793	1.159	2174.	113.5	1.158	45.84	.1419

#1	.0001	9.982	9.638	.0002	.0006	.0005	.0007	10.01
#2	.0000	9.943	9.797	-.0002	.0001	.0005	.0003	10.03

Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass
Value								
Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	1.044	9.972	9.526	10.28	.97804	.9851	-.0008
Stddev	.0003	.003	.017	.098	.04	.00024	.0007	.0001
%RSD	33.62	.2918	.1718	1.030	.4201	.02460	.0715	8.796

#1	.0009	1.046	9.984	9.457	10.31	.97787	.9856	-.0009
#2	.0006	1.042	9.960	9.596	10.25	.97821	.9846	-.0008

Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None
Value								
Range								

Sample Name: CCVB Acquired: 6/27/2017 10:40:32 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0005	9.925	10.50	.0016	10.25	-.0001	10.50	.99483
Stddev	.0002	.037	.07	.0008	.00	.0001	.07	.00158
%RSD	47.87	.3712	.6414	50.04	.0230	148.8	.6364	.15900

#1	-.0007	9.951	10.55	.0010	10.26	-.0002	10.55	.99594
#2	-.0003	9.899	10.45	.0021	10.25	.0000	10.46	.99371

Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012	.0008	.0001	-.0003	.0000	.0002	1.009	1.026
Stddev	.0009	.0002	.0002	.0005	.000	.0001	.004	.001
%RSD	69.61	27.83	141.5	189.0	561.1	30.43	.3876	.0706

#1	.0018	.0006	.0000	-.0006	.0001	.0003	1.012	1.025
#2	.0006	.0009	.0002	.0001	-.0002	.0002	1.006	1.026

Check ?	None	None	None	None	None	None	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4707.5	146760.	8891.7
Stddev	1.2	49.	32.9
%RSD	.02531	.03350	.37034

#1	4706.7	146730.	8915.0
#2	4708.4	146790.	8868.5

Sample Name: CCVA Acquired: 6/27/2017 10:43:18 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2503	.2630	.2604	.2633	.2574	.25748	.2585	.2493
Stddev	.0001	.0040	.0006	.0015	.0001	.00099	.0009	.0003
%RSD	.0391	1.527	.2336	.5621	.0290	.38342	.3419	.1206

#1	.2504	.2602	.2608	.2644	.2575	.25678	.2579	.2491
#2	.2503	.2658	.2599	.2623	.2574	.25818	.2591	.2495

Check ?	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2505	.4956	.5028	.2489	.2501	.2497	.2608	.2562
Stddev	.0005	.0001	.0007	.0004	.0002	.0011	.0014	.0022
%RSD	.1926	.0254	.1433	.1800	.0785	.4521	.5274	.8746

#1	.2508	.4957	.5033	.2486	.2503	.2489	.2598	.2578
#2	.2501	.4955	.5023	.2493	.2500	.2505	.2618	.2546

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value								
Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2513	-.0019	.2746	.2484	.2631	.24877	.2494	.2490
Stddev	.0005	.0011	.0291	.0003	.0015	.00010	.0016	.0000
%RSD	.2183	56.93	10.58	.1308	.5530	.04101	.6446	.0133

#1	.2509	-.0027	.2541	.2486	.2641	.24884	.2506	.2489
#2	.2517	-.0011	.2951	.2482	.2620	.24870	.2483	.2490

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	Chk Pass
Value								
Range								

Sample Name: CCVA Acquired: 6/27/2017 10:43:18 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2500	.0029	2.666	.2578	.1288	.2615	.3395	.00009
Stddev	.0002	.0015	.027	.0019	.0073	.0016	.0058	.00003
%RSD	.0640	50.11	1.007	.7276	5.689	.6130	1.710	37.419

#1	.2499	.0019	2.685	.2565	.1339	.2603	.3436	.00006
#2	.2502	.0040	2.647	.2591	.1236	.2626	.3354	.00011

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	None
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2529	.2500	.2492	.2494	.2473	.2576	-.0006	-.0011
Stddev	.0013	.0008	.0005	.0006	.0006	.0003	.0013	.0009
%RSD	.5267	.3137	.2142	.2521	.2411	.1003	214.3	86.79

#1	.2539	.2506	.2489	.2489	.2478	.2578	-.0015	-.0017
#2	.2520	.2495	.2496	.2498	.2469	.2575	.0003	-.0004

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4719.6	147410.	8912.9
Stddev	1.3	386.	9.9
%RSD	.02837	.26211	.11153

#1	4718.6	147140.	8919.9
#2	4720.5	147680.	8905.9

Sample Name: CCB Acquired: 6/27/2017 10:45:41 Type: QC
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0044	.0043	.0017	-.0001	.00017	.0005	-.0001
Stddev	.0003	.0031	.0007	.0028	.0002	.00001	.0015	.0001
%RSD	136.7	70.59	16.95	169.7	231.1	6.4134	286.1	112.6
#1	.0000	.0022	.0038	.0036	-.0002	.00016	.0016	.0000
#2	.0004	.0066	.0048	-.0003	.0001	.00017	-.0005	-.0001

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0011	.0007	.0001	.0002	.0005	.0001	-.0021
Stddev	.0001	.0010	.0000	.0002	.0000	.0002	.0000	.0021
%RSD	56.97	84.64	2.852	335.3	7.871	37.52	18.91	100.5
#1	.0003	.0005	.0007	-.0001	.0002	.0003	.0001	-.0035
#2	.0001	.0018	.0007	.0002	.0002	.0006	.0001	-.0006

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	-.0033	-.0315	.0001	-.0003	.00072	.0000	.0008
Stddev	.0012	.0005	.0081	.0000	.0001	.00034	.000	.0002
%RSD	1860.	16.19	25.80	56.03	40.41	47.454	3106.	28.27
#1	-.0008	-.0029	-.0372	.0001	-.0004	.00048	-.0001	.0009
#2	.0009	-.0037	-.0257	.0000	-.0002	.00096	.0001	.0006

Check ?	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass
High Limit								
Low Limit								

Sample Name: CCB Acquired: 6/27/2017 10:45:41 Type: QC
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0023	-.0312	.0017	.0060	-.0002	.0526	.00002
Stddev	.000	.0000	.0140	.0018	.0055	.0000	.0038	.00001
%RSD	2737.	.1379	44.82	101.2	91.14	8.482	7.144	33.630

#1	-.0001	.0023	-.0410	.0005	.0021	-.0002	.0553	.00001
#2	.0001	.0023	-.0213	.0030	.0099	-.0003	.0500	.00002

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	.0010	.0001	.0001	-.0002	.0000	-.0001	.0009
Stddev	.0011	.0004	.0003	.0008	.0001	.0000	.0016	.0014
%RSD	152.4	39.80	221.6	701.0	37.38	143.2	1441.	153.4

#1	.0015	.0007	-.0001	.0007	-.0003	.0001	-.0012	-.0001
#2	-.0001	.0012	.0004	-.0005	-.0002	.0000	.0010	.0019

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4715.5	147540.	8836.8
Stddev	5.4	300.	14.0
%RSD	.11432	.20342	.15877

#1	4719.3	147320.	8826.9
#2	4711.7	147750.	8846.7

Sample Name: LLCCV Acquired: 6/27/2017 10:48:30 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0106	.0109	.0205	.0113	.0040	.00103	.0205	.0009
Stddev	.0004	.0016	.0018	.0014	.0001	.00002	.0009	.0000
%RSD	3.879	14.89	8.713	12.27	1.350	1.9271	4.432	5.517

#1	.0109	.0097	.0218	.0123	.0041	.00101	.0198	.0009
#2	.0103	.0120	.0192	.0103	.0040	.00104	.0211	.0009

Check ? Value Range	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
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Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011	F .0137	.0204	.0034	.0022	.0046	.0050	.0192
Stddev	.0001	.0003	.0001	.0004	.0002	.0000	.0007	.0020
%RSD	8.997	2.470	.3868	10.94	8.691	1.027	14.80	10.21

#1	.0010	.0139	.0203	.0031	.0023	.0046	.0055	.0206
#2	.0012	.0134	.0204	.0036	.0021	.0047	.0045	.0178

Check ? Value Range	Chk Pass	Chk Fail .0200 -30.00%	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
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Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0112	.0205	.0094	.0049	.0051	.00104	.0017	.0041
Stddev	.0002	.0027	.0223	.0000	.0028	.00002	.0014	.0004
%RSD	1.444	13.16	237.1	.4638	54.61	2.1672	79.33	9.662

#1	.0111	.0186	.0251	.0048	.0070	.00103	.0027	.0043
#2	.0113	.0224	-.0064	.0049	.0031	.00106	.0008	.0038

Check ? Value Range	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass
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Sample Name: LLCCV Acquired: 6/27/2017 10:48:30 Type: QC
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0038	.0399	.2064	.0206	.2135	.0039	F .2702	.00107
Stddev	.0001	.0010	.0264	.0029	.0133	.0004	.0028	.00005
%RSD	1.884	2.516	12.79	13.94	6.206	10.57	1.029	4.4426
#1	.0039	.0406	.2251	.0226	.2042	.0042	.2722	.00104
#2	.0038	.0392	.1878	.0186	.2229	.0036	.2683	.00110
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
Value							.2000	
Range							30.00%	

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0120	.0214	.0021	.0040	.0038	.0040	.0222	.0406
Stddev	.0014	.0006	.0003	.0005	.0002	.0001	.0020	.0023
%RSD	11.38	2.588	12.50	12.44	4.380	2.122	9.118	5.550
#1	.0130	.0218	.0019	.0036	.0039	.0040	.0236	.0422
#2	.0111	.0210	.0022	.0043	.0037	.0041	.0208	.0390
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4701.2	147160.	8918.0
Stddev	33.9	553.	3.6
%RSD	.72045	.37573	.04047
#1	4677.3	147560.	8920.5
#2	4725.2	146770.	8915.4

* - See rerun

ARM 6/27/17

Sample Name: LLCCV Acquired: 6/27/2017 10:54:45 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: RERUN

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0108	.0071	.0192	F .0141	.0042	.00099	.0201	.0010
Stddev	.0002	.0012	.0005	.0013	.0001	.00009	.0001	.0000
%RSD	1.418	17.38	2.722	9.518	1.437	8.9658	.4339	2.789

#1	.0107	.0080	.0196	.0131	.0041	.00093	.0200	.0010
#2	.0109	.0062	.0189	.0150	.0042	.00105	.0201	.0009

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value				.0100				
Range				30.00%				

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011	.0231	.0209	.0033	.0022	.0042	.0046	.0219
Stddev	.0000	.0053	.0001	.0003	.0000	.0000	.0001	.0034
%RSD	1.752	23.01	.3129	8.953	.6678	.6691	1.577	15.48

#1	.0010	.0268	.0210	.0031	.0022	.0042	.0046	.0195
#2	.0011	.0193	.0209	.0036	.0023	.0042	.0045	.0243

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0098	.0182	.0338	.0049	.0039	.00101	-.0001	.0038
Stddev	.0005	.0004	.0299	.0002	.0015	.00001	.0004	.0001
%RSD	4.621	2.168	88.49	4.694	37.19	1.1887	400.4	3.216

#1	.0101	.0185	.0549	.0051	.0050	.00102	-.0004	.0039
#2	.0095	.0179	.0126	.0048	.0029	.00101	.0002	.0037

Check ?	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass
Value								
Range								

Sample Name: LLCCV Acquired: 6/27/2017 10:54:45 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: RERUN

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0039	.0411	.1993	.0193	.2047	.0041	.2341	.00105
Stddev	.0001	.0036	.0104	.0024	.0136	.0002	.0179	.00009
%RSD	2.483	8.827	5.220	12.48	6.666	4.948	7.626	8.6422
#1	.0039	.0436	.2067	.0210	.1950	.0043	.2215	.00098
#2	.0038	.0385	.1920	.0176	.2143	.0040	.2467	.00111

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0105	.0216	.0019	.0040	.0039	.0040	.0204	.0395
Stddev	.0004	.0010	.0001	.0000	.0001	.0001	.0023	.0005
%RSD	3.409	4.426	8.009	.0584	3.620	2.799	11.47	1.179
#1	.0103	.0223	.0018	.0040	.0040	.0041	.0187	.0392
#2	.0108	.0210	.0020	.0040	.0038	.0039	.0220	.0398

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4626.9	143330.	8449.3
Stddev	9.1	581.	20.5
%RSD	.19612	.40543	.24238
#1	4620.5	142920.	8434.9
#2	4633.3	143740.	8463.8

Sample Name: K1705784-006 Acquired: 6/27/2017 10:57:58 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: E Sample Type:
Comment: AM 062717A 1/5 E

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0050	-.0002	.0009	.2191	-.00001	.0307	-.0001	.0001

#1	.0049	.0010	.0043	.2166	-.00001	.0300	-.0001	.0001
#2	.0051	-.0014	-.0025	.2216	-.00002	.0315	-.0001	.0001

Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.700	.0020	.0005	.0036	.0028	.4891	.0481	.0000

#1	2.645	.0020	.0007	.0036	.0027	.4868	.0463	-.0007
#2	2.754	.0019	.0003	.0035	.0029	.4914	.0499	.0007

Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6029	.01341	.0000	.0020	.0071	.3240	.0026	.4568

#1	.5947	.01345	.0000	.0019	.0050	.3152	.0037	.4563
#2	.6111	.01336	.0000	.0020	.0091	.3329	.0016	.4573

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	424.1	.17402	.0013	.0032	-.0009	.0005	.0392

#1	-.0002	420.2	.17134	.0014	.0035	-.0009	.0005	.0394
#2	.0002	427.9	.17671	.0011	.0028	-.0009	.0006	.0389

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.0380	.0068	.0308

#1	.0379	.0064	.0318
#2	.0381	.0072	.0299

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4406.7	135600.	8439.2

#1	4412.6	135580.	8508.9
#2	4400.7	135630.	8369.5

Sample Name: K1705784-007 Acquired: 6/27/2017 11:00:44 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: E Sample Type:
Comment: AM 062717A 1/5 E

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0079	.0007	-.0019	.0162	.00001	.0179	-.0001	.0001
#1	.0075	.0017	-.0028	.0164	.00003	.0175	-.0001	.0001
#2	.0082	-.0004	-.0011	.0159	.00000	.0183	-.0001	.0001
Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.158	.0018	.0001	.0023	.0014	.4598	.0144	-.0003
#1	2.154	.0014	-.0001	.0024	.0015	.4577	.0135	-.0004
#2	2.162	.0021	.0003	.0021	.0012	.4618	.0152	-.0002
Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6215	.01038	-.0003	.0014	.0044	.2019	.0006	.3938
#1	.6231	.01041	-.0001	.0012	.0045	.1748	-.0008	.3991
#2	.6198	.01034	-.0004	.0016	.0044	.2289	.0020	.3885
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	420.7	.00362	.0002	.0026	-.0009	.0008	.0099
#1	-.0003	419.7	.00365	.0000	.0029	-.0009	.0003	.0098
#2	-.0004	421.8	.00360	.0004	.0024	-.0010	.0013	.0100
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.0095	.0013	.2376					
#1	.0095	-.0015	.2367					
#2	.0095	.0041	.2384					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4403.6	135220.	8577.2					
#1	4401.5	135050.	8592.7					
#2	4405.8	135380.	8561.7					

Sample Name: K1705784-008 Acquired: 6/27/2017 11:03:26 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: E Sample Type:
Comment: AM 062717A 1/5 E

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0055	.0003	.0037	.1412	.00004	.0183	.0000	.0002
#1	.0053	.0021	.0022	.1413	.00006	.0173	.0000	.0002
#2	.0057	-.0015	.0051	.1412	.00003	.0193	-.0001	.0001
Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.229	.0023	.0002	.0012	-.0002	.4388	.0022	.0004
#1	2.234	.0025	.0003	.0011	.0001	.4436	.0023	.0010
#2	2.225	.0021	.0001	.0012	-.0005	.4340	.0021	-.0002
Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6471	.01120	.0001	.0012	.0088	1.209	.0001	.3826
#1	.6476	.01114	.0002	.0010	.0087	1.219	.0017	.3770
#2	.6466	.01127	.0000	.0014	.0089	1.199	-.0015	.3883
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	>450.0	.00342	.0009	.0020	-.0009	.0001	.0063
#1	.0001	458.7	.00350	-.0001	.0021	-.0009	.0005	.0064
#2	-.0006	455.7	.00334	.0020	.0018	-.0008	-.0003	.0062
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.0059	.0006	.2472					
#1	.0059	.0003	.2488					
#2	.0059	.0008	.2456					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4413.3	136030.	8912.2					
#1	4422.4	136670.	8885.8					
#2	4404.2	135390.	8938.7					

Sample Name: K1705784-009 Acquired: 6/27/2017 11:06:06 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: E Sample Type:
Comment: AM 062717A 1/5 E

Elem	Al1670	Sb2068	As1890	Ba [✓] 4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0067	-.0020	.0006	.0142	-.00002	.0157	.0000	.0000

#1	.0066	-.0014	.0006	.0141	.00001	.0154	.0000	.0000
#2	.0068	-.0026	.0006	.0144	-.00005	.0159	-.0001	.0001

Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.120	.0022	.0001	.0015	.0008	.4821	.0006	-.0010

#1	2.125	.0023	.0001	.0019	.0015	.4819	.0007	-.0009
#2	2.116	.0021	.0000	.0011	.0000	.4824	.0005	-.0011

Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5988	.00956	-.0003	.0018	.0035	.2149	.0006	.3838

#1	.5999	.00959	-.0005	.0022	.0031	.1918	.0017	.3811
#2	.5977	.00953	-.0001	.0014	.0039	.2381	-.0006	.3866

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0006	443.4	.00291	.0008	.0023	-.0009	.0003	.0045

#1	-.0009	445.2	.00295	-.0001	.0028	-.0009	.0003	.0045
#2	-.0004	441.6	.00288	.0018	.0018	-.0008	.0003	.0044

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.0041	.0006	.0557

#1	.0041	-.0001	.0541
#2	.0041	.0013	.0572

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4367.6	133120.	8528.2

#1	4364.9	132780.	8533.2
#2	4370.4	133470.	8523.2

Sample Name: K1705784-010 Acquired: 6/27/2017 11:08:47 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: E Sample Type:
Comment: AM 062717A 1/5 E

Elem Units Avg	Al1670 ppm .0084	Sb2068 ppm .0002	As1890 ppm .0011	Ba4554 ppm .0131	Be2348 ppm -.00004	B_2496 ppm .0230	Cd2144 ppm .0000	Cd2265 ppm .0000
#1	.0084	.0011	.0010	.0129	-.00002	.0230	.0000	.0001
#2	.0084	-.0007	.0013	.0133	-.00006	.0229	.0000	-.0001
Elem Units Avg	Ca3933 ppm 2.413	Cr2677 ppm .0024	Co2307 ppm .0002	Cu2247 ppm .0008	Cu3273 ppm .0003	Fe2599 ppm .4789	Pb2203 ppm .0042	Li6707 ppm -.0004
#1	2.392	.0027	.0000	.0008	.0001	.4783	.0051	-.0003
#2	2.434	.0021	.0003	.0007	.0006	.4795	.0034	-.0005
Elem Units Avg	Mg2795 ppm .7021	Mn2576 ppm .01109	Mo2020 ppm .0001	Ni2216 ppm .0011	P_1782 ppm .0067	K_7664 ppm .2719	Se1960 ppm -.0004	Si2516 ppm .4310
#1	.7023	.01111	.0002	.0011	.0069	.2434	.0013	.4293
#2	.7019	.01108	.0001	.0012	.0065	.3004	-.0021	.4328
Elem Units Avg	Ag3280 ppm -.0004	Na5895 ppm 438.9	Sr4077 ppm .00450	Tl1908 ppm .0006	Sn1899 ppm .0027	Ti3361 ppm -.0009	V_2924 ppm .0003	Zn2062 ppm .0044
#1	-.0002	435.1	.00455	.0007	.0019	-.0009	.0001	.0045
#2	-.0006	442.8	.00444	.0005	.0035	-.0008	.0005	.0043
Elem Units Avg	Zn2138 ppm .0040	Bi2230 ppm .0001	S_1820 ppm .0487					
#1	.0040	-.0010	.0474					
#2	.0040	.0011	.0500					
Int. Std. Units Avg	Y_2243 Cts/S 4433.8	Y_3600 Cts/S 135040.	Y_3600-2 Cts/S 8686.1					
#1	4444.6	135220.	8694.4					
#2	4423.0	134870.	8677.7					

Sample Name: K1705784-011 Acquired: 6/27/2017 11:11:34 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: E Sample Type:
Comment: AM 062717A 1/5 E

Elem Units Avg	Al1670 ppm .0095	Sb2068 ppm -.0001	As1890 ppm .0001	Ba4554 ppm .0164	Be2348 ppm .00002	B_2496 ppm .0198	Cd2144 ppm -.0001	Cd2265 ppm .0000
#1	.0096	.0010	.0008	.0163	.00001	.0205	.0000	.0001
#2	.0095	-.0012	-.0007	.0165	.00003	.0191	-.0001	.0000
Elem Units Avg	Ca3933 ppm 2.331	Cr2677 ppm .0025	Co2307 ppm .0000	Cu2247 ppm .0013	Cu3273 ppm .0006	Fe2599 ppm .4932	Pb2203 ppm .0227	Li6707 ppm .0006
#1	2.316	.0026	.0002	.0014	.0007	.4942	.0228	-.0013
#2	2.345	.0023	-.0003	.0011	.0004	.4921	.0227	.0025
Elem Units Avg	Mg2795 ppm .6554	Mn2576 ppm .02739	Mo2020 ppm .0001	Ni2216 ppm .0014	P_1782 ppm .0098	K_7664 ppm .2638	Se1960 ppm -.0028	Si2516 ppm .4581
#1	.6544	.02738	.0001	.0016	.0106	.2625	-.0030	.4609
#2	.6564	.02741	.0002	.0013	.0089	.2650	-.0025	.4552
Elem Units Avg	Ag3280 ppm .0001	Na5895 ppm 439.3	Sr4077 ppm .00432	Tl1908 ppm .0004	Sn1899 ppm .0032	Ti3361 ppm -.0007	V_2924 ppm .0004	Zn2062 ppm .0061
#1	-.0004	436.7	.00430	-.0004	.0041	-.0007	.0005	.0064
#2	.0006	442.0	.00434	.0011	.0024	-.0008	.0003	.0058
Elem Units Avg	Zn2138 ppm .0059	Bi2230 ppm -.0006	S_1820 ppm .3223					
#1	.0059	.0009	.3275					
#2	.0059	-.0020	.3171					
Int. Std. Units Avg	Y_2243 Cts/S 4453.4	Y_3600 Cts/S 136320.	Y_3600-2 Cts/S 8680.6					
#1	4428.0	135950.	8678.3					
#2	4478.9	136700.	8683.0					

Sample Name: K1705784-012 Acquired: 6/27/2017 11:14:17 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: E Sample Type:
Comment: AM 062717A 1/5 E

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0160	-.0034	.0029	.0156	-.00004	.0168	.0000	.0002
#1	.0159	-.0011	.0036	.0156	-.00006	.0171	.0000	.0003
#2	.0161	-.0056	.0021	.0156	-.00003	.0164	-.0001	.0001
Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.029	.0020	.0003	.0010	-.0004	.3745	.0014	-.0007
#1	2.025	.0021	.0004	.0013	-.0004	.3739	.0009	-.0017
#2	2.032	.0019	.0003	.0008	-.0004	.3751	.0019	.0003
Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5559	.00921	-.0002	.0011	.0088	.2529	.0006	.3259
#1	.5569	.00913	-.0003	.0015	.0079	.2653	-.0006	.3274
#2	.5550	.00929	-.0001	.0008	.0098	.2404	.0018	.3243
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	409.5	.00399	-.0005	.0022	-.0011	-.0002	.0033
#1	-.0002	409.7	.00396	.0000	.0019	-.0011	.0001	.0035
#2	-.0004	409.3	.00402	-.0009	.0025	-.0011	-.0005	.0031
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.0030	.0001	.0521					
#1	.0030	.0010	.0486					
#2	.0029	-.0008	.0556					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4434.6	137200.	8714.2					
#1	4429.9	137460.	8685.0					
#2	4439.2	136950.	8743.5					

Sample Name: K1705784-013 Acquired: 6/27/2017 11:16:59 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: E Sample Type:
Comment: AM 062717A 1/5 E

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0549	-.0005	.0035	.0134	-.00001	.0203	-.0001	.0000
#1	.0552	-.0028	.0012	.0133	-.00001	.0195	-.0001	.0001
#2	.0546	.0018	.0058	.0135	-.00001	.0210	-.0001	-.0001
Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.259	.0019	.0004	.0010	-.0005	.4612	.0016	-.0025
#1	2.275	.0018	.0004	.0006	-.0005	.4659	.0018	-.0049
#2	2.244	.0020	.0005	.0015	-.0005	.4566	.0014	.0000
Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6229	.01168	-.0003	.0014	.0098	.2060	.0008	.3455
#1	.6244	.01171	-.0002	.0016	.0087	.2125	.0012	.3443
#2	.6213	.01165	-.0005	.0012	.0109	.1994	.0005	.3466
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0004	432.9	.00356	.0003	.0030	-.0011	.0006	.0061
#1	-.0005	434.6	.00362	.0002	.0022	-.0010	.0011	.0063
#2	-.0003	431.1	.00351	.0004	.0038	-.0011	.0002	.0060
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.0059	-.0005	.1025					
#1	.0058	-.0010	.0988					
#2	.0059	.0000	.1062					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4436.8	136050.	8683.3					
#1	4435.3	135990.	8668.5					
#2	4438.3	136100.	8698.0					

Sample Name: K1705784-014 Acquired: 6/27/2017 11:19:40 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: E Sample Type:
Comment: AM 062717A 1/5 E

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0200	-.0014	.0025	.0121	.00007	.0197	-.0001	-.0001
#1	.0200	.0000	.0026	.0119	.00006	.0196	-.0001	-.0001
#2	.0200	-.0027	.0023	.0123	.00008	.0198	-.0001	.0000
Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.126	.0025	-.0001	.0008	.0001	.4635	.0005	-.0001
#1	2.124	.0026	.0000	.0009	-.0005	.4631	.0011	.0008
#2	2.128	.0024	-.0002	.0006	.0007	.4640	-.0001	-.0009
Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6035	.00988	-.0003	.0010	.0078	.2099	.0019	.3361
#1	.6026	.00991	-.0003	.0007	.0100	.2209	.0020	.3370
#2	.6043	.00986	-.0003	.0013	.0057	.1988	.0019	.3352
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0004	421.8	.00393	.0003	.0021	-.0010	.0006	.0039
#1	-.0007	419.4	.00397	-.0001	.0020	-.0012	.0004	.0041
#2	-.0002	424.2	.00390	.0007	.0021	-.0009	.0007	.0038
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.0037	-.0005	.0394					
#1	.0037	-.0007	.0402					
#2	.0037	-.0003	.0387					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4371.3	134120.	8533.1					
#1	4373.0	133960.	8545.1					
#2	4369.7	134290.	8521.0					

Sample Name: K1705784-015 Acquired: 6/27/2017 11:22:21 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: E Sample Type:
Comment: AM 062717A 1/5 E

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0336	-.0006	-.0015	.0156	-.00007	.0211	-.0001	.0001
#1	.0337	-.0023	-.0018	.0157	-.00002	.0206	-.0001	.0000
#2	.0335	.0012	-.0011	.0154	-.00012	.0216	-.0001	.0001
Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.356	.0021	.0002	.0010	.0003	.5397	.0140	-.0021
#1	2.354	.0022	.0002	.0005	-.0002	.5395	.0148	-.0017
#2	2.359	.0020	.0002	.0015	.0009	.5400	.0133	-.0025
Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6605	.01287	-.0001	.0013	.0076	.2169	.0012	.3461
#1	.6595	.01281	-.0001	.0012	.0077	.2333	.0014	.3453
#2	.6614	.01292	.0000	.0013	.0075	.2005	.0009	.3469
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	408.3	.00313	.0000	.0032	-.0009	.0006	.0041
#1	-.0002	405.4	.00312	-.0001	.0037	-.0009	.0004	.0039
#2	-.0002	411.3	.00313	.0000	.0027	-.0009	.0008	.0043
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.0040	-.0002	.0903					
#1	.0040	.0004	.0923					
#2	.0040	-.0007	.0882					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4347.9	134310.	8407.1					
#1	4350.8	134370.	8398.4					
#2	4345.0	134250.	8415.7					

Sample Name: CCVB Acquired: 6/27/2017 11:25:03 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.437	10.24	-.0009	1.022	10.25	-.00003	-.0002	.0000
Stddev	.013	.10	.0010	.003	.05	.00001	.0005	.000
%RSD	.1772	.9352	110.4	.3131	.5069	27.699	335.7	84.43

#1	7.428	10.31	-.0016	1.020	10.29	-.00003	.0002	.0000
#2	7.446	10.17	-.0002	1.025	10.21	-.00004	-.0005	-.0001

Check ? Value Range	None	Chk Pass	None	Chk Pass	Chk Pass	None	None	None
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Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	10.13	9.870	-.0003	.0002	.0000	.0006	10.03
Stddev	.000	.01	.009	.0001	.0002	.000	.0001	.01
%RSD	59.95	.0771	.0938	54.26	93.35	4862.	21.05	.1445

#1	.0000	10.13	9.877	-.0002	.0001	.0001	.0005	10.02
#2	-.0001	10.12	9.864	-.0004	.0004	-.0001	.0007	10.04

Check ? Value Range	None	Chk Pass	None	None	None	None	None	Chk Pass
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Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	1.015	9.913	9.461	9.907	1.0045	.9735	-.0006
Stddev	.0014	.009	.031	.117	.038	.0057	.0001	.0002
%RSD	231.0	.9022	.3168	1.237	.3805	.56994	.0101	30.77

#1	-.0004	1.021	9.936	9.378	9.934	1.0005	.9735	-.0007
#2	.0016	1.008	9.891	9.544	9.881	1.0086	.9734	-.0005

Check ? Value Range	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None
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Sample Name: CCVB Acquired: 6/27/2017 11:25:03 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0004	10.12	10.35	.0009	9.867	-.0002	10.25	1.0147
Stddev	.0000	.01	.05	.0021	.005	.0001	.05	.0013
%RSD	2.533	.0584	.5189	240.3	.0485	47.08	.4397	.12378

#1	-.0004	10.13	10.39	.0024	9.871	-.0003	10.28	1.0139
#2	-.0004	10.12	10.31	-.0006	9.864	-.0001	10.22	1.0156

Check ? Value Range	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
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Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0016	.0001	.0003	.0000	.0001	.0002	1.017	1.004
Stddev	.0002	.0001	.0002	.000	.0001	.0001	.001	.000
%RSD	11.51	211.8	55.20	1411.	106.7	27.19	.1257	.0240

#1	.0014	.0000	.0004	.0002	.0000	.0002	1.018	1.004
#2	.0017	.0002	.0002	-.0003	.0002	.0003	1.017	1.004

Check ? Value Range	None	None	None	None	None	None	Chk Pass	Chk Pass
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Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4607.1	141930.	8582.7
Stddev	7.7	526.	39.9
%RSD	.16627	.37041	.46456

#1	4612.5	142300.	8610.9
#2	4601.7	141560.	8554.5

Sample Name: CCVA Acquired: 6/27/2017 11:27:50 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2522	.2578	.2564	.2603	.2624	.25212	.2514	.2500
Stddev	.0003	.0036	.0014	.0033	.0045	.00138	.0022	.0010
%RSD	.1258	1.411	.5461	1.270	1.726	.54562	.8613	.3985

#1	.2524	.2604	.2554	.2627	.2656	.25309	.2529	.2507
#2	.2520	.2552	.2574	.2580	.2592	.25114	.2498	.2493

Check ? Value Range	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
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Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2515	.5133	.5064	.2530	.2498	.2509	.2544	.2550
Stddev	.0014	.0137	.0086	.0004	.0005	.0016	.0014	.0046
%RSD	.5740	2.667	1.695	.1578	.1925	.6332	.5627	1.823

#1	.2526	.5229	.5124	.2533	.2502	.2520	.2554	.2582
#2	.2505	.5036	.5003	.2527	.2495	.2497	.2534	.2517

Check ? Value Range	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
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Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2492	-.0020	.2305	.2519	.2532	.25297	.2420	.2499
Stddev	.0018	.0020	.0154	.0045	.0065	.00014	.0011	.0008
%RSD	.7384	99.57	6.668	1.799	2.566	.05618	.4624	.3272

#1	.2505	-.0006	.2196	.2551	.2578	.25308	.2412	.2504
#2	.2479	-.0034	.2414	.2487	.2486	.25287	.2428	.2493

Check ? Value Range	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	Chk Pass
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Sample Name: CCVA Acquired: 6/27/2017 11:27:50 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2504	.0001	2.600	.2550	.1257	.2552	.3620	.00051
Stddev	.0008	.0008	.002	.0026	.0131	.0023	.0402	.00063
%RSD	.3361	550.1	.0634	1.021	10.42	.8902	11.10	124.70

#1	.2510	-.0004	2.599	.2568	.1350	.2568	.3904	.00095
#2	.2498	.0007	2.601	.2532	.1165	.2536	.3336	.00006

Check ? Value Range	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	None
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Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2520	.2512	.2493	.2502	.2474	.2554	.0004	.0006
Stddev	.0004	.0007	.0010	.0006	.0005	.0005	.0017	.0008
%RSD	.1596	.2741	.4187	.2541	.2177	.2128	411.5	133.8

#1	.2517	.2517	.2485	.2497	.2478	.2558	-.0008	.0000
#2	.2523	.2507	.2500	.2506	.2470	.2550	.0016	.0011

Check ? Value Range	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
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Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4671.8	143970.	8570.4
Stddev	8.4	784.	69.8
%RSD	.17920	.54435	.81492

#1	4665.9	144520.	8619.8
#2	4677.7	143420.	8521.0

Sample Name: CCB Acquired: 6/27/2017 11:30:12 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	.0001	-.0002	.0011	.0001	.00001	.0001	-.0001
Stddev	.0001	.0005	.0016	.0012	.0001	.00007	.0025	.0000
%RSD	23.62	863.2	1050.	106.6	55.48	942.26	3892.	25.74
#1	.0003	.0004	-.0013	.0019	.0001	-.00004	.0019	-.0001
#2	.0005	-.0003	.0010	.0003	.0002	.00006	-.0017	-.0001

Check ? High Limit Low Limit	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
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Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	-.0044	.0005	.0000	.0000	-.0001	.0003	-.0034
Stddev	.0000	.0005	.0000	.001	.000	.0003	.0003	.0016
%RSD	923.1	11.31	4.719	1424.	520.5	382.0	134.0	47.86
#1	.0000	-.0048	.0005	.0004	.0000	-.0003	.0000	-.0023
#2	.0000	-.0041	.0005	-.0005	-.0001	.0001	.0005	-.0046

Check ? High Limit Low Limit	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
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Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0011	-.0032	-.0114	.0001	-.0012	-.00001	.0005	.0009
Stddev	.0006	.0019	.0217	.0000	.0002	.00010	.0004	.0003
%RSD	53.67	61.07	190.4	23.51	17.46	1533.1	71.06	37.73
#1	-.0015	-.0018	.0039	.0001	-.0013	-.00008	.0008	.0011
#2	-.0007	-.0045	-.0267	.0001	-.0010	.00007	.0003	.0006

Check ? High Limit Low Limit	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass
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Sample Name: CCB Acquired: 6/27/2017 11:30:12 Type: QC
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	.0003	.0031	.0006	-.0012	-.0005	.0591	.00005
Stddev	.0000	.0003	.0225	.0000	.0003	.0003	.0040	.00001
%RSD	14.39	84.72	733.7	2.818	27.13	63.40	6.797	13.719

#1	-.0001	.0005	-.0129	.0006	-.0009	-.0007	.0619	.00005
#2	-.0001	.0001	.0190	.0006	-.0014	-.0003	.0562	.00006

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	.0005	.0001	-.0002	.0000	.0000	-.0006	-.0045
Stddev	.0007	.0007	.0001	.0000	.000	.000	.0020	.0008
%RSD	116.6	132.5	118.5	6.089	424.5	314.4	352.3	18.14

#1	.0010	.0010	.0001	-.0003	.0000	.0000	.0008	-.0050
#2	.0001	.0000	.0000	-.0002	-.0001	-.0001	-.0020	-.0039

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4673.0	145800.	8628.7
Stddev	2.6	405.	8.6
%RSD	.05632	.27794	.09936

#1	4674.8	145510.	8634.7
#2	4671.1	146080.	8622.6

Sample Name: K1705784-016 Acquired: 6/27/2017 11:32:51 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 5 Test Type: E Sample Type:
 Comment: AM 062717A 1/5 E

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1422	-.0011	.0027	14.30	.00003	.0644	-.0001	.0002
#1	.1428	-.0027	.0011	14.36	.00010	.0635	-.0001	.0003
#2	.1416	.0005	.0043	14.24	-.00003	.0654	-.0001	.0001
Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.088	.0008	.0004	.0009	-.0006	.4241	.0008	-.0037
#1	2.085	.0007	.0004	.0010	-.0005	.4223	.0006	-.0040
#2	2.091	.0010	.0003	.0009	-.0007	.4259	.0010	-.0035
Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0897	.00929	.0042	.0015	.0035	.1035	-.0002	.6406
#1	.0901	.00930	.0044	.0014	.0027	.0963	.0010	.6293
#2	.0893	.00928	.0039	.0017	.0042	.1107	-.0014	.6520
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	422.6	.10141	.0001	.0019	-.0005	.0001	.0028
#1	-.0007	421.9	.10150	.0001	.0019	-.0005	.0001	.0027
#2	.0006	423.2	.10131	.0002	.0019	-.0004	.0001	.0029
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.0027	-.0014	.0174					
#1	.0028	-.0009	.0127					
#2	.0026	-.0018	.0220					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4411.8	135960.	8657.3					
#1	4399.4	135450.	8622.8					
#2	4424.2	136480.	8691.9					

Sample Name: KQ1708277-02 Acquired: 6/27/2017 11:36:59 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 062717A 1/2 K1705808-MB

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0104	.0000	-.0008	.0003	-.00011	.0008	-.0001	.0000

#1	.0105	.0021	-.0018	.0002	-.00002	.0000	-.0001	-.0001
#2	.0104	-.0020	.0001	.0005	-.00019	.0017	-.0001	.0001

Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0063	.0002	.0003	F .1212	F .1314	.0031	.0041	-.0013

#1	.0063	.0002	.0002	.1212	.1311	.0056	.0039	.0003
#2	.0063	.0002	.0003	.1211	.1318	.0006	.0043	-.0030

Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0013	.00011	-.0001	.0018	.0106	-.0119	.0007	.0096

#1	.0013	.00008	-.0001	.0018	.0102	-.0290	.0006	.0172
#2	.0014	.00014	-.0002	.0019	.0110	.0051	.0009	.0021

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0969	.00009	.0004	.0087	.0001	.0000	F .0673

#1	.0003	.1127	.00005	.0006	.0084	.0002	.0003	.0670
#2	-.0002	.0811	.00013	.0002	.0089	.0001	-.0004	.0676

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	F .0697	-.0013	.0028

See vroom

#1	.0696	-.0023	.0033
#2	.0698	-.0004	.0024

AM 6/27/17

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4739.5	150000.	8862.3

#1	4737.6	149610.	8900.0
#2	4741.4	150380.	8824.7

Sample Name: KQ1708277-01 Acquired: 6/27/2017 11:39:35 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 2 Test Type: Sample Type:
 Comment: AM 062717A 1/2 K1705808-LCSS

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	32.54	.3893	.5265	1.634	.34774	.6876	.7467	.7438

#1	32.39	.3879	.5270	1.631	.34723	.6839	.7454	.7418
#2	32.69	.3907	.5259	1.636	.34826	.6914	.7481	.7458

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	33.15	.9206	.8303	.5239	.5772	64.63	.6304	.0339

#1	33.22	.9193	.8299	.5228	.5739	64.63	.6283	.0321
#2	33.08	.9219	.8308	.5251	.5806	64.63	.6325	.0357

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.27	2.0403	.8771	.7600	3.070	12.80	.7473	17.87

#1	13.16	2.0357	.8750	.7588	3.062	12.72	.7456	17.74
#2	13.37	2.0450	.8791	.7612	3.079	12.89	.7490	17.99

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2127	14.51	.44174	.8947	.5248	1.988	.4899	.9316

#1	.2123	14.41	.44277	.8929	.5234	1.988	.4902	.9285
#2	.2131	14.61	.44071	.8965	.5263	1.988	.4895	.9348

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.9645	-.0089	.6583

#1	.9639	-.0080	.6628
#2	.9652	-.0097	.6539

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4778.3	148770.	9050.2

#1	4783.4	148490.	9010.8
#2	4773.3	149050.	9089.6

*Samples to re-digest
due to MS failure.*

AB on 6/27/17

Sample Name: K1705808-001 Acquired: 6/27/2017 11:42:00 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 2 Test Type: Sample Type:
 Comment: AM 062717A 1/2

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	37.35	.0014	.0290	.1119	.00080	.1255	.0057	.0056
#1	37.33	.0019	.0247	.1118	.00078	.1263	.0056	.0057
#2	37.36	.0010	.0333	.1119	.00081	.1247	.0057	.0055
Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.87	.1039	.0160	.4544	.4973	53.40	.1383	.0420
#1	20.89	.1035	.0158	.4546	.4972	53.45	.1381	.0404
#2	20.85	.1042	.0161	.4543	.4973	53.36	.1385	.0436
Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.07	.53879	.0148	.0766	1.974	8.947	.0068	15.28
#1	25.15	.53970	.0150	.0769	1.980	8.933	.0055	15.34
#2	25.00	.53788	.0146	.0764	1.968	8.961	.0080	15.23
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	87.43	.18748	.0025	.0181	1.925	.1040	.4753
#1	.0003	87.63	.18764	.0022	.0183	1.927	.1040	.4749
#2	.0009	87.22	.18732	.0028	.0179	1.922	.1040	.4756
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.4885	.0049	29.08					
#1	.4881	.0052	29.07					
#2	.4889	.0046	29.10					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4681.4	145910.	9106.7					
#1	4679.8	145570.	9110.4					
#2	4683.1	146250.	9103.1					

Batch to re-digest.

ARM 6/27/17

Sample Name: K1705808-001L Acquired: 6/27/2017 11:44:35 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 10 Test Type: Sample Type:
 Comment: AM 062717A 1/10

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.862	.0000	.0059	.0231	.00020	.0280	.0012	.0012
#1	7.892	.0003	.0046	.0232	.00019	.0282	.0012	.0012
#2	7.833	-.0004	.0072	.0230	.00022	.0277	.0012	.0013
Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.337	.0212	.0033	.0962	.1024	11.20	.0301	.0058
#1	4.377	.0211	.0033	.0964	.1024	11.24	.0297	.0079
#2	4.297	.0213	.0033	.0959	.1025	11.15	.0305	.0036
Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.773	.11383	.0029	.0164	.4123	1.782	.0027	3.054
#1	4.766	.11376	.0029	.0163	.4135	1.774	.0021	3.029
#2	4.780	.11389	.0028	.0165	.4110	1.791	.0033	3.078
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	17.38	.03871	.0009	.0041	.3914	.0216	.1013
#1	-.0001	17.26	.03894	.0006	.0039	.3919	.0218	.1013
#2	.0005	17.50	.03849	.0011	.0044	.3909	.0214	.1013
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.1040	-.0003	6.114					
#1	.1039	-.0007	6.109					
#2	.1041	.0002	6.119					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4707.8	146810.	8826.0					
#1	4703.5	147170.	8780.6					
#2	4712.2	146450.	8871.3					

ARM 6/27/17

Sample Name: KQ1708277-03 Acquired: 6/27/2017 11:47:00 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 062717A 1/2 K1705808-001D

Elem Units Avg	Al3944 ppm 37.82	Sb2068 ppm .0001	As1890 ppm .0288	Ba4554 ppm .1049	Be2348 ppm .00082	B_2496 ppm .1301	Cd2144 ppm .0057	Cd2265 ppm .0057
#1	37.79	-.0008	.0306	.1049	.00084	.1308	.0056	.0058
#2	37.86	.0009	.0270	.1049	.00080	.1295	.0058	.0057
Elem Units Avg	Ca3158 ppm 22.91	Cr2677 ppm .1090	Co2307 ppm .0160	Cu2247 ppm .4297	Cu3273 ppm .4724	Fe2599 ppm 54.72	Pb2203 ppm .1541	Li6707 ppm .0413
#1	22.91	.1092	.0160	.4296	.4725	54.86	.1539	.0412
#2	22.90	.1088	.0160	.4297	.4724	54.58	.1544	.0415
Elem Units Avg	Mg2852 ppm 25.76	Mn2576 ppm .55633	Mo2020 ppm .0134	Ni2216 ppm .0817	P_1782 ppm 2.051	K_7664 ppm 9.216	Se1960 ppm .0051	Si2516 ppm 14.96
#1	25.67	.55726	.0135	.0816	2.047	9.153	.0049	14.92
#2	25.85	.55540	.0134	.0817	2.055	9.279	.0054	15.00
Elem Units Avg	Ag3280 ppm .0010	Na5895 ppm 90.52	Sr4077 ppm .19819	Tl1908 ppm .0021	Sn1899 ppm .0171	Ti3361 ppm 1.946	V_2924 ppm .1069	Zn2062 ppm .4769
#1	.0009	90.11	.19847	.0022	.0168	1.945	.1074	.4779
#2	.0011	90.93	.19792	.0021	.0173	1.946	.1063	.4759
Elem Units Avg	Zn2138 ppm .4911	Bi2230 ppm .0029	S_1820 ppm 30.06					
#1	.4899	.0027	30.01					
#2	.4923	.0030	30.10					
Int. Std. Units Avg	Y_2243 Cts/S 4689.6	Y_3600 Cts/S 145840.	Y_3600-2 Cts/S 9114.9					
#1	4688.2	145610.	9062.1					
#2	4691.0	146070.	9167.7					

ARM 6/27/17

Sample Name: KQ1708277-04 Acquired: 6/27/2017 11:49:34 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 2 Test Type: Sample Type:
 Comment: AM 062717A 1/2 K1705808-001S

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	39.94	.1681	.5176	1.128	.05026	.3537	.0544	.0543

#1	39.84	.1695	.5183	1.130	.05010	.3535	.0558	.0561
#2	40.04	.1667	.5170	1.126	.05042	.3539	.0530	.0526

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.28	.3039	.5117	.6934	.7279	55.04	.6222	.0439

#1	24.29	.3033	.5262	.7129	.7278	55.04	.6403	.0441
#2	24.27	.3044	.4973	.6739	.7279	55.05	.6041	.0437

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	30.27	1.0181	.5249	.5782	2.053	14.08	.4411	12.61

#1	30.22	1.0173	.5383	.5934	2.104	14.05	.4411	12.60
#2	30.31	1.0189	.5116	.5629	2.002	14.11	.4411	12.61

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0487	93.61	.18721	.0891	.0175	1.957	.6033	.9771

#1	.0485	93.41	.18719	.0919	.0172	1.957	.6025	1.006
#2	.0488	93.80	.18723	.0863	.0178	1.958	.6041	.9479

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.9609	.0029	28.91

#1	.9663	.0007	29.11
#2	.9554	.0050	28.71

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4502.6	144690.	9080.7

#1	4407.5	144470.	9054.9
#2	4597.6	144920.	9106.4

ARM 6/27/17

Sample Name: K1705808-001A Acquired: 6/27/2017 11:52:00 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 2 Test Type: Sample Type:
 Comment: AM 062717A 1/2 A=0.05/10mL CICV1,3+Sb 100ppm

Elem Units Avg	Al3944 ppm 41.59	Sb2068 ppm .4765	As1890 ppm 2.482	Ba4554 ppm 5.020	Be2348 ppm .11929	B_2496 ppm .1243	Cd2144 ppm 1.143	Cd2265 ppm 1.146
#1	41.70	.4743	2.485	5.015	.11945	.1239	1.143	1.145
#2	41.49	.4786	2.480	5.026	.11913	.1247	1.143	1.147
Elem Units Avg	Ca3158 ppm 32.85	Cr2677 ppm .5738	Co2307 ppm 1.151	Cu2247 ppm 1.009	Cu3273 ppm 1.094	Fe2599 ppm 55.82	Pb2203 ppm 2.352	Li6707 ppm .0449
#1	32.83	.5721	1.150	1.009	1.098	55.93	2.353	.0438
#2	32.87	.5755	1.151	1.008	1.089	55.72	2.351	.0459
Elem Units Avg	Mg2852 ppm 36.96	Mn2576 ppm 1.6995	Mo2020 ppm .0128	Ni2216 ppm 1.195	P_1782 ppm 1.998	K_7664 ppm 21.69	Se1960 ppm 2.195	Si2516 ppm 15.19
#1	37.10	1.6948	.0131	1.193	2.001	21.76	2.194	15.23
#2	36.83	1.7042	.0126	1.198	1.994	21.63	2.195	15.16
Elem Units Avg	Ag3280 ppm .5799	Na5895 ppm 99.47	Sr4077 ppm .19007	Tl1908 ppm 2.133	Sn1899 ppm .0183	Ti3361 ppm 1.921	V_2924 ppm 1.305	Zn2062 ppm 1.578
#1	.5815	99.82	.19011	2.136	.0186	1.921	1.305	1.579
#2	.5783	99.12	.19003	2.129	.0180	1.920	1.306	1.577
Elem Units Avg	Zn2138 ppm 1.607	Bi2230 ppm .0070	S_1820 ppm 28.77					
#1	1.607	.0072	28.80					
#2	1.607	.0069	28.74					
Int. Std. Units Avg	Y_2243 Cts/S 4642.3	Y_3600 Cts/S 143950.	Y_3600-2 Cts/S 9003.0					
#1	4646.2	144420.	9022.3					
#2	4638.3	143470.	8983.7					

AFM 6/27/17

Sample Name: K1705808-002 Acquired: 6/27/2017 11:54:25 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 062717A 1/2

Elem Units Avg	Al3944 ppm 54.99	Sb2068 ppm .0023	As1890 ppm .0499	Ba4554 ppm .1659	Be2348 ppm .00115	B_2496 ppm .1527	Cd2144 ppm .0075	Cd2265 ppm .0076
#1	54.74	-.0005	.0505	.1646	.00116	.1516	.0076	.0076
#2	55.24	.0052	.0494	.1671	.00115	.1538	.0075	.0076
Elem Units Avg	Ca3158 ppm 25.79	Cr2677 ppm .2019	Co2307 ppm .0246	Cu2247 ppm .9588	Cu3273 ppm 1.052	Fe2599 ppm 82.25	Pb2203 ppm .2400	Li6707 ppm .0661
#1	25.90	.2023	.0246	.9585	1.052	82.37	.2387	.0666
#2	25.69	.2015	.0245	.9590	1.052	82.12	.2414	.0655
Elem Units Avg	Mg2852 ppm 32.05	Mn2576 ppm .85857	Mo2020 ppm .0163	Ni2216 ppm .1200	P_1782 ppm 2.728	K_7664 ppm 11.35	Se1960 ppm .0094	Si2516 ppm 13.13
#1	32.20	.85960	.0166	.1201	2.725	11.42	.0121	13.16
#2	31.89	.85755	.0160	.1199	2.731	11.28	.0067	13.09
Elem Units Avg	Ag3280 ppm .0016	Na5895 ppm 79.36	Sr4077 ppm .22689	Tl1908 ppm .0011	Sn1899 ppm .0256	Ti3361 ppm 2.943	V_2924 ppm .1644	Zn2062 ppm .9321
#1	.0011	79.63	.22698	.0004	.0256	2.938	.1646	.9326
#2	.0020	79.09	.22681	.0018	.0255	2.947	.1641	.9316
Elem Units Avg	Zn2138 ppm .9621	Bi2230 ppm .0061	S_1820 ppm 41.09					
#1	.9611	.0047	41.07					
#2	.9631	.0076	41.11					
Int. Std. Units Avg	Y_2243 Cts/S 4697.0	Y_3600 Cts/S 143990.	Y_3600-2 Cts/S 9062.8					
#1	4696.4	143960.	9099.2					
#2	4697.7	144030.	9026.4					

Sample Name: K1705808-003 Acquired: 6/27/2017 11:57:04 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 2 Test Type: Sample Type:
 Comment: AM 062717A 1/2

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	60.99	.0029	.0527	.1683	.00119	.1524	.0078	.0081

#1	61.84	.0008	.0536	.1690	.00118	.1534	.0079	.0080
#2	60.14	.0050	.0517	.1676	.00120	.1514	.0078	.0081

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.33	.1897	.0268	.7339	.8149	89.24	.2709	.0713

#1	24.31	.1892	.0270	.7344	.8178	89.34	.2729	.0729
#2	24.35	.1902	.0266	.7334	.8121	89.14	.2688	.0697

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	32.69	.91009	.0176	.1288	2.768	11.31	.0068	13.41

#1	32.92	.90803	.0179	.1286	2.765	11.41	.0070	13.46
#2	32.45	.91214	.0173	.1289	2.770	11.20	.0067	13.36

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0025	62.10	.21455	.0004	.0264	3.256	.1811	.9131

#1	.0024	62.57	.21443	.0002	.0269	3.261	.1819	.9136
#2	.0027	61.63	.21467	.0006	.0259	3.252	.1802	.9126

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.9423	.0064	43.15

#1	.9431	.0063	43.24
#2	.9415	.0065	43.06

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4695.1	145410.	9089.6

#1	4697.1	145660.	9131.1
#2	4693.1	145160.	9048.2

Am 6/27/17

Sample Name: CCVB Acquired: 6/27/2017 11:59:45 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.284	10.42	.0009	1.037	10.07	.00002	-.0001	.0000
Stddev	.018	.02	.0010	.004	.01	.00002	.0005	.000
%RSD	.2412	.1448	109.6	.4010	.0819	92.867	609.9	26.06

#1	7.297	10.43	.0016	1.034	10.07	.00003	-.0005	.0000
#2	7.272	10.41	.0002	1.040	10.06	.00001	.0003	.0000

Check ? Value Range	None	Chk Pass	None	Chk Pass	Chk Pass	None	None	None
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Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	9.953	9.775	-.0002	.0003	.0001	.0003	9.931
Stddev	.0001	.026	.073	.0000	.0002	.0004	.0000	.026
%RSD	1370.	.2613	.7446	17.29	60.05	581.6	12.34	.2659

#1	.0001	9.934	9.724	-.0001	.0005	-.0002	.0003	9.949
#2	-.0001	9.971	9.827	-.0002	.0002	.0004	.0003	9.912

Check ? Value Range	None	Chk Pass	None	None	None	None	None	Chk Pass
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Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0016	1.046	9.917	9.425	10.11	.98667	.9722	-.0003
Stddev	.0007	.006	.053	.073	.06	.00044	.0051	.0002
%RSD	42.46	.6254	.5366	.7751	.5648	.04488	.5224	57.21

#1	.0011	1.051	9.955	9.374	10.15	.98698	.9758	-.0002
#2	.0020	1.041	9.880	9.477	10.06	.98636	.9686	-.0004

Check ? Value Range	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None
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Sample Name: CCVB Acquired: 6/27/2017 11:59:45 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0006	9.971	10.45	.0010	10.05	-.0008	10.49	.99969
Stddev	.0004	.018	.02	.0015	.06	.0003	.04	.00083
%RSD	66.83	.1777	.2385	157.7	.6449	35.14	.3410	.08299

#1	-.0009	9.958	10.47	-.0001	10.09	-.0010	10.52	.99911
#2	-.0003	9.983	10.43	.0020	10.00	-.0006	10.47	1.0003

Check ? Value Range	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
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Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	.0004	.0012	-.0003	.0001	.0003	1.003	1.026
Stddev	.0013	.0008	.0000	.0005	.0002	.0001	.001	.004
%RSD	181.0	214.8	1.917	162.0	177.6	24.15	.1345	.3503

#1	.0016	-.0002	.0012	-.0007	.0000	.0003	1.004	1.024
#2	-.0002	.0009	.0012	.0000	.0003	.0004	1.002	1.029

Check ? Value Range	None	None	None	None	None	None	Chk Pass	Chk Pass
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Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4715.7	146200.	8805.0
Stddev	8.1	2.	3.6
%RSD	.17178	.00162	.04100

#1	4710.0	146200.	8807.6
#2	4721.5	146200.	8802.5

Sample Name: CCVA Acquired: 6/27/2017 12:02:32 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2538	.2688	.2584	.2601	.2594	.25757	.2589	.2499
Stddev	.0011	.0005	.0009	.0016	.0002	.00085	.0005	.0003
%RSD	.4205	.1902	.3567	.6222	.0752	.32864	.1876	.1257

#1	.2546	.2685	.2591	.2590	.2592	.25817	.2586	.2497
#2	.2531	.2692	.2578	.2612	.2595	.25697	.2593	.2502

Check ? Value Range	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
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Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2501	.4991	.5025	.2509	.2501	.2499	.2600	.2534
Stddev	.0003	.0035	.0006	.0007	.0005	.0002	.0002	.0004
%RSD	.1394	.7042	.1131	.2881	.1997	.0696	.0742	.1691

#1	.2504	.4966	.5029	.2504	.2498	.2500	.2601	.2531
#2	.2499	.5016	.5021	.2514	.2505	.2498	.2598	.2537

Check ? Value Range	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
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Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2492	-.0035	.2700	.2482	.2542	.25030	.2414	.2493
Stddev	.0011	.0003	.0139	.0002	.0025	.00076	.0004	.0004
%RSD	.4422	8.529	5.146	.0885	.9774	.30519	.1697	.1538

#1	.2484	-.0033	.2602	.2483	.2560	.24976	.2417	.2495
#2	.2500	-.0037	.2798	.2480	.2524	.25084	.2411	.2490

Check ? Value Range	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	Chk Pass
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Sample Name: CCVA Acquired: 6/27/2017 12:02:32 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2498	.0011	2.637	.2598	.1295	.2595	.3142	.00009
Stddev	.0001	.0031	.023	.0012	.0057	.0002	.0026	.00013
%RSD	.0553	273.9	.8779	.4712	4.434	.0840	.8382	150.98

#1	.2497	.0033	2.620	.2607	.1335	.2597	.3123	-.00001
#2	.2499	-.0011	2.653	.2590	.1254	.2594	.3160	.00018

Check ? Value Range	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	None
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Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2520	.2505	.2507	.2500	.2481	.2579	.0001	-.0013
Stddev	.0006	.0003	.0003	.0008	.0001	.0004	.0032	.0029
%RSD	.2431	.1106	.1315	.3036	.0408	.1622	4413.	224.4

#1	.2525	.2503	.2510	.2495	.2482	.2576	.0023	-.0033
#2	.2516	.2507	.2505	.2506	.2481	.2582	-.0022	.0008

Check ? Value Range	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
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Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4735.2	146730.	8731.7
Stddev	6.2	379.	7.6
%RSD	.12989	.25832	.08728

#1	4730.8	147000.	8737.1
#2	4739.5	146470.	8726.3

Sample Name: CCB Acquired: 6/27/2017 12:04:54 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0013	-.0013	.0016	.0000	.0001	.00006	.0007	.0000
Stddev	.0003	.0010	.0009	.003	.0001	.00009	.0003	.000
%RSD	24.34	80.03	55.89	8268.	80.44	167.97	49.31	32.32
#1	.0011	-.0006	.0009	-.0019	.0002	-.00001	.0004	.0000
#2	.0015	-.0020	.0022	.0018	.0001	.00012	.0009	-.0001

Check ? High Limit Low Limit	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
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Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0017	.0007	-.0004	.0002	.0004	.0006	.0007
Stddev	.0000	.0054	.0000	.0000	.0001	.0006	.0014	.0041
%RSD	3.332	321.8	1.176	3.267	46.35	143.2	219.2	601.9
#1	.0001	-.0021	.0007	-.0004	.0003	.0000	-.0003	-.0022
#2	.0001	.0055	.0007	-.0004	.0002	.0009	.0016	.0036

Check ? High Limit Low Limit	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
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Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0004	-.0058	-.0036	.0003	.0011	.00002	.0015	.0009
Stddev	.0001	.0005	.0258	.0001	.0021	.00004	.0001	.0001
%RSD	13.82	8.189	714.9	26.69	187.3	213.96	3.751	5.809
#1	-.0004	-.0062	-.0219	.0002	-.0004	.00005	.0015	.0009
#2	-.0005	-.0055	.0146	.0003	.0026	-.00001	.0014	.0008

Check ? High Limit Low Limit	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass
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Sample Name: CCB Acquired: 6/27/2017 12:04:54 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	.0007	.0097	.0036	-.0030	-.0003	.0284	-.00001
Stddev	.0000	.0011	.0490	.0002	.0044	.0002	.0028	.00004
%RSD	12.47	151.8	503.9	4.591	146.1	70.28	9.969	325.49

#1	-.0003	.0015	-.0249	.0034	-.0062	-.0005	.0264	.00002
#2	-.0003	-.0001	.0444	.0037	.0001	-.0002	.0304	-.00004

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	.0003	.0002	-.0001	.0000	.0000	-.0027	.0016
Stddev	.0003	.0010	.0000	.0000	.000	.000	.0005	.0016
%RSD	102.9	299.9	26.61	16.60	1271.	192.9	18.86	95.57

#1	-.0004	.0010	.0002	-.0001	.0001	.0000	-.0031	.0005
#2	-.0001	-.0004	.0001	-.0002	-.0001	.0000	-.0024	.0027

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4743.8	148060.	8761.5
Stddev	.9	204.	16.4
%RSD	.01901	.13769	.18771

#1	4744.5	148210.	8749.9
#2	4743.2	147920.	8773.1

Sample Name: LLCCV Acquired: 6/27/2017 12:07:47 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0103	.0104	.0216	.0117	.0040	.00105	.0213	.0009
Stddev	.0005	.0009	.0008	.0010	.0003	.00013	.0015	.0000
%RSD	4.978	8.952	3.869	8.538	6.808	12.168	6.811	3.917

#1	.0099	.0110	.0210	.0124	.0038	.00096	.0203	.0009
#2	.0107	.0097	.0222	.0110	.0042	.00115	.0223	.0009

Check ? Value Range	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
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Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010	F .0123	.0205	.0035	.0021	.0046	.0046	.0182
Stddev	.0001	.0021	.0000	.0001	.0000	.0004	.0004	.0017
%RSD	7.002	17.22	.0282	4.238	.2999	8.400	7.817	9.060

#1	.0010	.0108	.0204	.0036	.0021	.0049	.0044	.0194
#2	.0011	.0138	.0205	.0034	.0021	.0044	.0049	.0171

Check ? Value Range	Chk Pass	Chk Fail .0200 -30.00%	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
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Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0100	.0205	-.0213	.0050	.0041	.00095	.0006	.0037
Stddev	.0017	.0021	.0179	.0000	.0022	.00001	.0011	.0004
%RSD	16.93	10.10	83.94	.5814	52.66	1.4135	201.0	9.774

#1	.0088	.0219	-.0087	.0050	.0026	.00096	-.0002	.0040
#2	.0112	.0190	-.0340	.0050	.0056	.00094	.0013	.0035

Check ? Value Range	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass
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Sample Name: LLCCV Acquired: 6/27/2017 12:07:47 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0038	.0420	.1898	.0230	.2038	.0042	.2384	.00107
Stddev	.0002	.0008	.0227	.0011	.0030	.0003	.0135	.00004
%RSD	4.558	1.908	11.97	4.779	1.454	7.013	5.643	4.1846
#1	.0039	.0426	.2059	.0223	.2059	.0044	.2289	.00110
#2	.0037	.0414	.1738	.0238	.2017	.0040	.2479	.00104

Check ? Value Range	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
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Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0105	.0214	.0020	.0037	.0040	.0040	.0206	.0420
Stddev	.0003	.0015	.0000	.0001	.0002	.0001	.0004	.0002
%RSD	3.052	7.128	.6817	3.093	3.776	2.508	1.793	.5849
#1	.0102	.0224	.0021	.0038	.0041	.0040	.0208	.0418
#2	.0107	.0203	.0020	.0036	.0039	.0041	.0203	.0422

Check ? Value Range	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
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Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4771.6	149050.	8839.0
Stddev	.2	571.	20.1
%RSD	.00376	.38282	.22770
#1	4771.5	149450.	8824.8
#2	4771.7	148650.	8853.2

Sample Name: KQ1708277-02 Acquired: 6/27/2017 12:10:59 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 2 Test Type: Sample Type:
 Comment: AM 062717A 1/2 K1705808-MB RERUN

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0099	.0001	-.0013	.0000	-.00003	.0000	-.0001	.0001
#1	.0099	.0001	.0013	.0000	-.00017	-.0012	-.0001	.0001
#2	.0098	.0002	-.0038	.0000	.00010	.0012	-.0001	.0000
Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0060	.0004	.0003	F .1206	F .1313	.0064	.0047	-.0028
#1	.0060	.0003	.0002	.1205	.1307	.0078	.0041	-.0024
#2	.0060	.0005	.0003	.1207	.1318	.0050	.0052	-.0031
Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0014	.00006	-.0002	.0023	.0109	-.0074	.0020	.0113
#1	.0015	.00002	-.0002	.0020	.0101	.0483	.0010	.0198
#2	.0014	.00009	-.0003	.0026	.0117	-.0631	.0029	.0029
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0332	.00011	-.0014	.0097	.0000	-.0001	F .0676
#1	.0004	.0395	.00017	-.0027	.0102	-.0001	-.0003	.0675
#2	.0000	.0269	.00006	-.0001	.0093	.0000	.0002	.0677
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	F .0698	.0003	.0015					
#1	.0698	.0006	.0046					
#2	.0699	.0000	-.0017					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4764.2	150210.	8898.1					
#1	4762.3	149920.	8895.6					
#2	4766.0	150500.	8900.6					

Second failure for Mg.
 Samples send to re-digest.
 ARm 6/27/17

Sample Name: K1705808-004 Acquired: 6/27/2017 12:13:37 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 2 Test Type: Sample Type:
 Comment: AM 062717A 1/2

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	64.73	.0016	.0490	.1761	.00133	.1584	.0080	.0079

#1	64.98	.0021	.0479	.1764	.00135	.1580	.0081	.0079
#2	64.49	.0011	.0500	.1757	.00132	.1589	.0080	.0079

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.06	.1861	.0280	.7419	.8264	94.10	.2712	.0773

#1	26.14	.1860	.0282	.7404	.8257	94.07	.2711	.0782
#2	25.98	.1862	.0279	.7435	.8272	94.14	.2712	.0764

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	35.36	.93178	.0235	.1360	2.804	12.09	.0037	15.28

#1	35.22	.93393	.0239	.1359	2.800	12.04	.0046	15.21
#2	35.50	.92962	.0232	.1360	2.808	12.13	.0027	15.35

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0023	67.42	.22348	.0020	.0259	3.431	.1919	.8571

#1	.0027	67.06	.22361	.0018	.0261	3.428	.1916	.8570
#2	.0019	67.79	.22334	.0022	.0256	3.434	.1921	.8572

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.8849	.0080	46.39

#1	.8850	.0078	46.37
#2	.8849	.0082	46.41

AKM 6/27/17

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4706.5	146270.	9186.8

#1	4705.0	145900.	9157.9
#2	4708.0	146640.	9215.6

Sample Name: K1705808-005 Acquired: 6/27/2017 12:20:33 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 2 Test Type: Sample Type:
 Comment: AM 062717A 1/2

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	71.91	.0034	.0571	.1888	.00156	.1659	.0083	.0085

#1	71.90	.0038	.0574	.1889	.00165	.1675	.0082	.0087
#2	71.91	.0030	.0567	.1886	.00146	.1643	.0083	.0084

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	28.90	.2136	.0317	.8603	.9535	106.6	.3241	.0846

#1	28.85	.2127	.0319	.8613	.9566	106.2	.3228	.0831
#2	28.95	.2144	.0315	.8593	.9503	106.9	.3254	.0862

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	38.35	1.1124	.0191	.1499	3.070	12.90	.0057	15.19

#1	38.38	1.1077	.0188	.1503	3.082	12.93	.0094	15.23
#2	38.33	1.1171	.0194	.1495	3.058	12.86	.0021	15.16

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0030	64.94	.25114	.0019	.0301	3.800	.2109	1.004

#1	.0029	65.03	.25156	.0016	.0302	3.811	.2111	1.003
#2	.0032	64.85	.25073	.0022	.0299	3.789	.2107	1.005

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	1.034	.0098	51.98

#1	1.034	.0093	51.91
#2	1.034	.0102	52.06

AFM 6/27/17

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4687.7	144930.	9033.0

#1	4678.4	145400.	9072.4
#2	4697.0	144460.	8993.7

Sample Name: K1705808-006 Acquired: 6/27/2017 12:23:13 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 2 Test Type: Sample Type:
 Comment: AM 062717A 1/2

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	58.29	.0027	.0511	.1760	.00123	.1508	.0075	.0075

#1	58.19	.0026	.0508	.1764	.00120	.1521	.0074	.0075
#2	58.39	.0028	.0513	.1755	.00126	.1495	.0076	.0076

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.89	.1827	.0267	.8582	.9341	89.39	.2679	.0690

#1	26.98	.1822	.0268	.8588	.9332	89.58	.2675	.0678
#2	26.80	.1833	.0265	.8577	.9350	89.19	.2682	.0701

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	34.07	.92891	.0148	.1302	2.784	11.15	.0059	12.74

#1	34.15	.92749	.0147	.1304	2.787	11.12	.0058	12.76
#2	33.99	.93033	.0149	.1300	2.780	11.19	.0059	12.71

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0018	71.71	.24248	.0019	.0267	3.207	.1765	.8925

#1	.0021	71.83	.24345	.0013	.0272	3.210	.1763	.8923
#2	.0015	71.59	.24150	.0026	.0262	3.204	.1768	.8927

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.9080	.0060	43.01

#1	.9086	.0068	43.02
#2	.9075	.0051	43.00

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4642.8	142690.	8862.2

#1	4644.7	142280.	8854.5
#2	4640.9	143090.	8870.0

Am 6/27/17

Sample Name: K1705808-007 Acquired: 6/27/2017 12:25:52 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 2 Test Type: Sample Type:
 Comment: AM 062717A 1/2

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	92.92	.0132	.0620	.4936	.00111	.0898	.0054	.0054

#1	93.45	.0132	.0623	.4933	.00109	.0905	.0055	.0055
#2	92.38	.0132	.0618	.4940	.00112	.0890	.0053	.0053

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	>900.0	.4785	.0495	.8036	.8342	126.8	3.093	.0678

#1	1050.	.4797	.0496	.8048	.8343	126.8	3.090	.0680
#2	1044.	.4773	.0495	.8025	.8340	126.8	3.096	.0677

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	36.72	1.7617	.0129	.2484	3.727	8.262	.0013	8.047

#1	36.64	1.7645	.0126	.2488	3.726	8.220	.0017	8.056
#2	36.80	1.7590	.0131	.2479	3.728	8.305	.0009	8.039

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0017	48.50	3.9007	-.0009	.0350	2.351	.1840	2.229

#1	.0017	48.31	3.8927	-.0014	.0355	2.355	.1847	2.229
#2	.0018	48.69	3.9087	-.0004	.0345	2.347	.1834	2.230

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	2.240	.0089	22.69

#1	2.241	.0088	22.68
#2	2.238	.0089	22.71

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4273.2	131680.	8584.0

#1	4273.3	131440.	8557.8
#2	4273.0	131920.	8610.3

Am 6/27/17

Sample Name: K1705808-008 Acquired: 6/27/2017 12:28:33 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 062717A 1/2

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	146.3	.0064	.0548	.5507	.00169	.0662	.0038	.0038
#1	147.5	.0072	.0565	.5510	.00183	.0653	.0038	.0040
#2	145.2	.0055	.0531	.5503	.00156	.0671	.0038	.0037
Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	254.1	.6082	.0612	1.786	1.960	167.6	.8489	.0837
#1	253.7	.6073	.0610	1.786	1.965	167.4	.8479	.0837
#2	254.5	.6091	.0614	1.785	1.954	167.9	.8500	.0838
Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	42.79	1.7713	.0106	1.570	3.794	8.690	-.0013	7.298
#1	42.78	1.7698	.0105	1.570	3.799	8.688	-.0005	7.284
#2	42.80	1.7727	.0106	1.570	3.789	8.692	-.0020	7.312
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012	28.77	1.2447	.0027	.0352	2.837	.2315	2.603
#1	.0011	28.75	1.2440	.0034	.0360	2.839	.2315	2.599
#2	.0013	28.79	1.2455	.0020	.0344	2.835	.2315	2.607
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	2.664	.0122	14.91					
#1	2.668	.0120	14.93					
#2	2.661	.0123	14.89					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4538.5	140180.	8943.7					
#1	4541.7	140280.	8942.6					
#2	4535.3	140090.	8944.8					

ARM 6/27/17

Sample Name: K1705808-009 Acquired: 6/27/2017 12:31:05 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 062717A 1/2

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	43.47	.0023	.0369	.1470	.00093	.1810	.0157	.0157

#1	43.60	.0003	.0343	.1470	.00098	.1801	.0157	.0157
#2	43.33	.0043	.0394	.1471	.00087	.1819	.0158	.0158

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	267.6	.1213	.0194	10.17	11.05	68.88	.1510	.0587

#1	267.5	.1211	.0198	10.18	11.09	69.01	.1503	.0591
#2	267.8	.1216	.0191	10.17	11.01	68.75	.1516	.0582

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	33.83	.68637	.0258	.0984	3.073	10.67	.0028	14.98

#1	33.98	.68342	.0256	.0986	3.078	10.66	.0029	15.05
#2	33.69	.68932	.0260	.0983	3.069	10.67	.0027	14.92

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	105.1	1.1577	.0011	.0287	2.201	.1673	4.037

#1	.0009	105.5	1.1569	.0016	.0290	2.200	.1686	4.035
#2	.0007	104.6	1.1586	.0007	.0283	2.201	.1660	4.039

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	4.087	.0073	41.28

#1	4.091	.0097	41.32
#2	4.082	.0050	41.25

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4501.9	140440.	8848.9

#1	4502.4	140860.	8849.2
#2	4501.5	140020.	8848.5

Agm 6/27/17

Sample Name: KQ1708279-02 Acquired: 6/27/2017 12:33:37 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 062717A 1/2 K1705808-MB

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0111	.0014	-.0020	.0001	-.00009	.0006	-.0002	-.0001

#1	.0131	-.0003	-.0034	-.0002	-.00007	.0012	-.0001	-.0001
#2	.0092	.0032	-.0007	.0003	-.00010	.0001	-.0002	.0000

Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0290	.0002	.0001	.0024	.0023	F .0567	-.0007	-.0007

#1	.0321	.0001	.0002	.0022	.0028	.0558	-.0016	-.0009
#2	.0260	.0002	.0001	.0025	.0019	.0576	.0002	-.0005

Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0033	.00039	-.0004	.0002	.0072	-.0206	.0033	.0013

#1	.0036	.00041	-.0006	.0004	.0074	-.0379	.0032	-.0021
#2	.0029	.00038	-.0003	.0001	.0071	-.0033	.0035	.0048

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0004	.0413	.00015	-.0001	.0073	.0007	-.0001	.0023

#1	-.0004	.0461	.00021	-.0002	.0074	.0007	.0001	.0025
#2	-.0005	.0366	.00009	-.0001	.0072	.0007	-.0002	.0022

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.0028	-.0016	.0080

#1	.0029	-.0013	.0110
#2	.0026	-.0019	.0049

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4746.9	148880.	8766.7

#1	4738.5	149020.	8784.9
#2	4755.3	148740.	8748.4

Sample Name: KQ1708279-01 Acquired: 6/27/2017 12:37:40 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 062717A 1/2 K1705808-LCSW

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	33.74	.3761	.5363	1.615	.34186	.6848	.7135	.7156

#1	33.76	.3750	.5370	1.610	.34209	.6872	.7142	.7165
#2	33.73	.3772	.5357	1.620	.34163	.6824	.7127	.7147

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	32.66	.9133	.8024	.5191	.5761	68.24	.6315	.0352

#1	32.60	.9144	.8020	.5196	.5767	68.11	.6320	.0331
#2	32.72	.9122	.8028	.5186	.5755	68.36	.6309	.0374

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.08	1.9910	.8552	.7359	3.135	12.95	.7461	18.63

#1	13.07	1.9932	.8550	.7367	3.150	12.96	.7446	18.65
#2	13.09	1.9888	.8554	.7350	3.120	12.95	.7475	18.61

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2106	13.48	.43316	.8464	.5174	1.992	.4856	.9167

#1	.2108	13.49	.43262	.8461	.5184	1.992	.4872	.9170
#2	.2104	13.47	.43370	.8468	.5163	1.992	.4840	.9164

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.9571	-.0092	.6411

#1	.9561	-.0110	.6398
#2	.9582	-.0074	.6424

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4781.6	149090.	9086.9

#1	4773.2	149210.	9121.6
#2	4789.9	148960.	9052.2

Sample Name: K1705808-021 Acquired: 6/27/2017 12:40:07 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 062717A 1/2

Elem Units Avg	Al3944 ppm 51.75	Sb2068 ppm .0009	As1890 ppm .0466	Ba4554 ppm .1397	Be2348 ppm .00127	B_2496 ppm .1359	Cd2144 ppm .0080	Cd2265 ppm .0083
#1	51.97	.0000	.0461	.1399	.00120	.1371	.0079	.0083
#2	51.53	.0018	.0470	.1396	.00134	.1347	.0081	.0082
Elem Units Avg	Ca3158 ppm 388.0	Cr2677 ppm .1472	Co2307 ppm .0229	Cu2247 ppm 1.702	Cu3273 ppm 1.845	Fe2599 ppm 77.13	Pb2203 ppm .2091	Li6707 ppm .0700
#1	389.1	.1477	.0232	1.704	1.850	77.40	.2098	.0721
#2	387.0	.1468	.0226	1.701	1.839	76.86	.2085	.0679
Elem Units Avg	Mg2852 ppm 32.84	Mn2576 ppm .83279	Mo2020 ppm .0273	Ni2216 ppm .1115	P_1782 ppm 3.358	K_7664 ppm 10.88	Se1960 ppm .0073	Si2516 ppm 16.18
#1	32.78	.83133	.0275	.1121	3.359	10.85	.0083	16.13
#2	32.91	.83426	.0270	.1110	3.358	10.91	.0062	16.24
Elem Units Avg	Ag3280 ppm .0015	Na5895 ppm 68.02	Sr4077 ppm 3.3393	Tl1908 ppm .0017	Sn1899 ppm .0274	Ti3361 ppm 2.767	V_2924 ppm .2121	Zn2062 ppm .9021
#1	.0018	67.91	3.3458	.0015	.0278	2.759	.2115	.9022
#2	.0012	68.14	3.3328	.0019	.0270	2.774	.2126	.9019
Elem Units Avg	Zn2138 ppm .9323	Bi2230 ppm .0081	S_1820 ppm 38.73					
#1	.9318	.0085	38.76					
#2	.9327	.0076	38.70					
Int. Std. Units Avg	Y_2243 Cts/S 4485.9	Y_3600 Cts/S 139860.	Y_3600-2 Cts/S 8987.7					
#1	4485.1	140380.	8944.7					
#2	4486.7	139350.	9030.7					

Sample Name: CCVB Acquired: 6/27/2017 12:42:44 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.344	10.38	-.0044	1.039	10.21	.00001	.0004	-.0001
Stddev	.013	.00	.0020	.001	.04	.00003	.0003	.0000
%RSD	.1762	.0334	45.51	.1263	.3959	601.11	82.45	18.67

#1	7.353	10.38	-.0059	1.040	10.24	.00003	.0006	-.0001
#2	7.335	10.38	-.0030	1.038	10.18	-.00002	.0001	-.0001

Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None	None	None
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	9.952	9.760	-.0001	.0007	.0005	.0002	9.924
Stddev	.0001	.018	.016	.0003	.0001	.0003	.0001	.011
%RSD	213.9	.1838	.1608	196.0	10.03	64.30	69.60	.1107

#1	.0000	9.965	9.771	-.0003	.0006	.0003	.0001	9.932
#2	.0001	9.939	9.749	.0001	.0007	.0007	.0003	9.917

Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass
Value								
Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	1.040	9.814	9.311	10.06	.98740	.9682	.0003
Stddev	.0004	.009	.089	.028	.01	.00849	.0002	.0001
%RSD	382.9	.8693	.9082	.2980	.0567	.86008	.0251	42.34

#1	.0002	1.033	9.877	9.331	10.06	.98140	.9681	.0004
#2	-.0004	1.046	9.751	9.291	10.05	.99341	.9684	.0002

Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None
Value								
Range								

Sample Name: CCVB Acquired: 6/27/2017 12:42:44 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	10.06	10.50	.0012	10.03	-.0005	10.43	1.0035
Stddev	.0001	.01	.03	.0003	.04	.0002	.02	.0010
%RSD	29.71	.1137	.2642	22.79	.4347	29.94	.1708	.09966

#1	-.0004	10.07	10.48	.0010	10.06	-.0004	10.42	1.0042
#2	-.0003	10.06	10.52	.0014	10.000	-.0007	10.44	1.0028

Check ? Value Range	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
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Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	.0006	.0011	-.0005	.0001	.0004	1.011	1.031
Stddev	.0021	.0009	.0001	.0002	.0001	.0000	.000	.005
%RSD	310.5	136.9	12.28	43.98	54.99	8.122	.0131	.4897

#1	-.0008	.0000	.0012	-.0004	.0002	.0004	1.011	1.035
#2	.0022	.0013	.0010	-.0007	.0001	.0003	1.011	1.028

Check ? Value Range	None	None	None	None	None	None	Chk Pass	Chk Pass
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Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4698.6	145800.	8813.2
Stddev	10.4	1263.	28.0
%RSD	.22165	.86597	.31742

#1	4691.2	146690.	8793.4
#2	4705.9	144900.	8833.0

Sample Name: CCVA Acquired: 6/27/2017 12:45:30 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2552	.2706	.2593	.2612	.2602	.25686	.2575	.2505
Stddev	.0000	.0015	.0004	.0016	.0006	.00068	.0001	.0004
%RSD	.0176	.5724	.1478	.6021	.2441	.26482	.0578	.1475

#1	.2552	.2717	.2596	.2624	.2598	.25638	.2574	.2508
#2	.2552	.2695	.2590	.2601	.2607	.25734	.2577	.2502

Check ? Value Range	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
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Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2532	.5015	.5099	.2520	.2502	.2518	.2624	.2541
Stddev	.0000	.0043	.0005	.0004	.0007	.0005	.0002	.0012
%RSD	.0072	.8498	.0963	.1771	.2764	.1825	.0663	.4852

#1	.2532	.5045	.5103	.2517	.2507	.2521	.2626	.2532
#2	.2532	.4985	.5096	.2523	.2497	.2515	.2623	.2549

Check ? Value Range	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
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Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2474	-.0012	.2590	.2483	.2543	.25184	.2398	.2525
Stddev	.0025	.0008	.0058	.0006	.0004	.00054	.0040	.0005
%RSD	1.015	69.62	2.238	.2462	.1527	.21262	1.669	.1863

#1	.2492	-.0006	.2549	.2488	.2540	.25147	.2370	.2528
#2	.2456	-.0017	.2631	.2479	.2546	.25222	.2426	.2522

Check ? Value Range	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	Chk Pass
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Sample Name: CCVA Acquired: 6/27/2017 12:45:30 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2528	.0023	2.613	.2573	.1220	.2618	.2821	.00021
Stddev	.0003	.0008	.000	.0017	.0030	.0003	.0115	.00002
%RSD	.1135	37.15	.0027	.6467	2.475	.1157	4.086	9.7475

#1	.2526	.0017	2.612	.2561	.1198	.2616	.2740	.00019
#2	.2530	.0029	2.613	.2585	.1241	.2621	.2903	.00022

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	None
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2533	.2504	.2493	.2500	.2469	.2574	-.0003	.0017
Stddev	.0008	.0013	.0004	.0004	.0002	.0008	.0003	.0020
%RSD	.3158	.5153	.1743	.1527	.0772	.3181	89.01	112.5

#1	.2538	.2495	.2490	.2498	.2470	.2580	-.0005	.0004
#2	.2527	.2513	.2496	.2503	.2467	.2568	-.0001	.0031

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4704.3	146940.	8655.2
Stddev	4.8	165.	13.5
%RSD	.10147	.11201	.15552

#1	4707.7	147050.	8664.7
#2	4701.0	146820.	8645.6

Sample Name: CCB Acquired: 6/27/2017 12:47:53 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	.0003	-.0004	-.0002	.0000	.00003	.0001	-.0001
Stddev	.0001	.0002	.0022	.0008	.000	.00002	.0008	.0000
%RSD	14.54	70.44	550.6	383.1	2359.	71.696	584.1	61.37

#1	.0006	.0004	.0012	.0004	-.0001	.00002	.0007	-.0001
#2	.0007	.0001	-.0019	-.0008	.0001	.00005	-.0004	.0000

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	-.0006	.0017	-.0006	.0001	.0005	.0002	-.0008
Stddev	.0000	.0016	.0000	.0005	.0003	.0001	.0002	.0009
%RSD	40.82	273.5	.0360	87.70	274.8	20.76	105.2	117.0

#1	.0000	-.0017	.0017	-.0002	.0003	.0005	.0000	-.0001
#2	.0001	.0005	.0017	-.0009	-.0001	.0004	.0003	-.0015

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0012	.0001	.0135	.0002	.0001	.00003	.0000	.0011
Stddev	.0006	.0013	.0000	.0001	.0010	.00003	.0015	.0000
%RSD	45.11	1654.	.0001	29.27	1358.	105.26	21660.	.7151

#1	-.0016	.0010	.0135	.0002	-.0006	.00005	-.0010	.0011
#2	-.0008	-.0009	.0135	.0003	.0008	.00001	.0011	.0011

Check ?	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass
High Limit								
Low Limit								

Sample Name: CCB Acquired: 6/27/2017 12:47:53 Type: QC
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	.0001	-.0265	.0026	-.0011	-.0002	.0108	.00004
Stddev	.0001	.0010	.0235	.0003	.0003	.0005	.0130	.00003
%RSD	69.27	1732.	88.68	9.855	30.47	252.0	119.5	66.264

#1	-.0002	-.0007	-.0099	.0028	-.0008	.0002	.0017	.00002
#2	-.0001	.0008	-.0432	.0025	-.0013	-.0005	.0200	.00006

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	.0005	.0000	.0000	-.0002	.0000	-.0002	.0007
Stddev	.0016	.0003	.000	.0004	.0001	.0000	.0001	.0021
%RSD	255.0	54.76	1203.	884.9	62.76	236.9	51.97	296.4

#1	-.0005	.0007	.0001	.0003	-.0003	.0000	-.0001	-.0008
#2	.0017	.0003	-.0001	-.0002	-.0001	.0000	-.0003	.0022

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4709.6	146860.	8662.2
Stddev	11.8	110.	.0
%RSD	.25156	.07509	.00031

#1	4718.0	146780.	8662.2
#2	4701.3	146940.	8662.2

Sample Name: K1705808-022 Acquired: 6/27/2017 12:50:31 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 2 Test Type: Sample Type:
 Comment: AM 062717A 1/2

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	62.40	.0007	.0465	.1429	.00129	.1368	.0087	.0090

#1	62.23	-.0007	.0461	.1426	.00129	.1365	.0087	.0091
#2	62.58	.0021	.0470	.1431	.00130	.1370	.0086	.0089

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	217.2	.1676	.0267	1.473	1.620	89.56	.2203	.0775

#1	217.4	.1681	.0269	1.475	1.615	89.72	.2197	.0771
#2	217.1	.1671	.0266	1.470	1.624	89.39	.2208	.0780

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	35.05	.91521	.0312	.1280	3.306	12.37	.0062	16.46

#1	35.03	.91643	.0316	.1279	3.320	12.29	.0055	16.42
#2	35.07	.91399	.0309	.1280	3.292	12.45	.0070	16.50

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0017	55.58	2.0884	.0012	.0265	3.268	.2502	.9463

#1	.0015	55.50	2.0876	.0012	.0269	3.269	.2505	.9465
#2	.0019	55.67	2.0893	.0012	.0261	3.268	.2500	.9461

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.9887	.0074	42.33

#1	.9882	.0078	42.21
#2	.9893	.0070	42.44

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4564.3	141700.	9041.5

#1	4559.3	141350.	9007.0
#2	4569.3	142050.	9076.0

Sample Name: K1705808-023 Acquired: 6/27/2017 12:53:07 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 062717A 1/2

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	56.31	.0001	.0483	.1431	.00123	.1488	.0083	.0084

#1	55.84	.0000	.0479	.1432	.00124	.1496	.0083	.0082
#2	56.79	.0002	.0486	.1431	.00122	.1480	.0083	.0085

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	486.0	.1607	.0254	.7048	.7681	86.27	.2039	.0774

#1	486.4	.1604	.0254	.7041	.7671	86.47	.2034	.0794
#2	485.6	.1610	.0255	.7055	.7690	86.06	.2045	.0753

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	37.14	.93823	.0367	.1241	3.306	11.69	.0054	16.36

#1	37.31	.93716	.0367	.1244	3.320	11.74	.0046	16.38
#2	36.97	.93929	.0367	.1239	3.292	11.64	.0063	16.34

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012	70.23	3.8492	.0006	.0256	2.939	.2380	.6992

#1	.0014	70.51	3.8563	.0012	.0256	2.933	.2375	.6964
#2	.0010	69.94	3.8421	-.0001	.0257	2.945	.2385	.7019

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.7300	.0069	43.92

#1	.7313	.0080	43.97
#2	.7288	.0057	43.87

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4467.0	139250.	9071.0

#1	4473.3	139360.	9096.2
#2	4460.7	139130.	9045.8

Sample Name: K1705817-001 Acquired: 6/27/2017 12:55:43 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 062717A 1/2

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	30.45	.0003	.0231	.0839	.00056	.1233	.0042	.0042

#1	30.46	.0007	.0211	.0834	.00067	.1223	.0042	.0044
#2	30.43	.0000	.0251	.0843	.00045	.1243	.0041	.0041

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.62	.0842	.0124	.3866	.4267	43.87	.1093	.0358

#1	16.57	.0841	.0123	.3864	.4270	43.66	.1100	.0366
#2	16.66	.0843	.0126	.3868	.4264	44.07	.1086	.0350

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	27.79	.41666	.0100	.0610	1.710	9.024	.0032	13.34

#1	27.78	.41699	.0104	.0612	1.712	9.017	.0050	13.38
#2	27.80	.41634	.0097	.0608	1.708	9.032	.0015	13.30

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009	129.8	.18218	.0011	.0180	1.725	.0873	.3693

#1	.0012	130.0	.18168	.0018	.0180	1.725	.0871	.3692
#2	.0006	129.7	.18267	.0004	.0179	1.725	.0874	.3695

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.3817	.0033	27.72

#1	.3821	.0022	27.68
#2	.3813	.0045	27.77

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4667.9	145230.	9009.3

#1	4665.4	145220.	9061.8
#2	4670.5	145250.	8956.8

Sample Name: K1705817-002 Acquired: 6/27/2017 12:58:21 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 062717A 1/2

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	49.38	.1276	.0326	.3129	.00103	.0353	.0032	.0031

#1	49.21	.1288	.0357	.3129	.00093	.0342	.0032	.0031
#2	49.55	.1265	.0295	.3128	.00113	.0364	.0031	.0032

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	302.4	.6523	.0437	.4043	.4413	113.4	.4206	.0519

#1	301.9	.6536	.0438	.4038	.4400	113.5	.4193	.0547
#2	302.8	.6510	.0435	.4047	.4427	113.2	.4219	.0490

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	29.98	1.2394	.0160	.9904	2.176	5.796	.0032	8.047

#1	30.09	1.2454	.0160	.9873	2.172	5.788	.0033	8.057
#2	29.88	1.2334	.0160	.9934	2.179	5.803	.0031	8.038

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0016	23.79	2.0948	.0020	.0150	1.904	.1457	1.317

#1	.0012	23.83	2.0906	.0021	.0153	1.901	.1457	1.318
#2	.0021	23.75	2.0989	.0019	.0147	1.906	.1457	1.316

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	1.347	.0075	14.78

#1	1.347	.0094	14.79
#2	1.346	.0056	14.77

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4502.6	141550.	9030.5

#1	4512.1	141060.	9024.0
#2	4493.1	142030.	9037.1

Sample Name: K1705817-003 Acquired: 6/27/2017 13:00:49 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 2 Test Type: Sample Type:
 Comment: AM 062717A 1/2

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	50.04	-.0031	.0420	.1629	.00109	.1964	.0106	.0106

#1	50.48	-.0046	.0441	.1634	.00102	.1966	.0106	.0106
#2	49.61	-.0015	.0400	.1624	.00116	.1961	.0107	.0107

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	78.73	.1319	.0215	2.991	3.307	73.92	.1702	.0635

#1	78.94	.1325	.0218	2.989	3.320	73.93	.1708	.0635
#2	78.52	.1313	.0212	2.993	3.293	73.91	.1697	.0635

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	38.23	.72416	.0314	.1051	3.139	12.52	.0052	15.53

#1	37.91	.72426	.0313	.1056	3.131	12.44	.0026	15.44
#2	38.55	.72406	.0315	.1046	3.147	12.61	.0079	15.62

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012	132.6	.58925	.0027	.0260	2.632	.1838	1.333

#1	.0014	131.7	.59032	.0030	.0252	2.639	.1838	1.330
#2	.0009	133.6	.58818	.0025	.0267	2.624	.1838	1.335

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	1.373	.0061	45.41

#1	1.373	.0062	45.45
#2	1.374	.0060	45.36

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4608.5	144280.	9073.5

#1	4608.7	144460.	9009.1
#2	4608.4	144100.	9138.0

Sample Name: K1705817-004 Acquired: 6/27/2017 13:03:19 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 062717A 1/2

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	60.94	.0012	.0467	.4456	.00129	.1774	.0062	.0062

#1	60.77	.0018	.0458	.4452	.00126	.1779	.0062	.0061
#2	61.12	.0007	.0477	.4459	.00132	.1770	.0062	.0062

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	48.24	.1722	.0612	.4931	.5508	92.28	.1866	.0779

#1	48.22	.1719	.0610	.4937	.5530	92.10	.1849	.0795
#2	48.26	.1726	.0614	.4925	.5486	92.47	.1882	.0762

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	41.24	.87315	.0213	.1342	2.965	12.80	.0065	14.75

#1	41.04	.87004	.0211	.1342	2.968	12.78	.0061	14.69
#2	41.43	.87626	.0215	.1342	2.961	12.82	.0069	14.81

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0025	103.1	.27186	.0004	.0240	3.486	.1836	3.909

#1	.0027	102.8	.27196	-.0007	.0232	3.485	.1848	3.903
#2	.0022	103.4	.27175	.0014	.0247	3.487	.1825	3.915

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	4.023	.0057	49.46

#1	4.030	.0065	49.52
#2	4.016	.0048	49.39

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4664.4	144570.	9158.9

#1	4670.1	145120.	9154.4
#2	4658.8	144030.	9163.5

Sample Name: K1705817-005 Acquired: 6/27/2017 13:05:57 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 062717A 1/2

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	58.14	.0033	.0380	.1540	.00133	.1673	.0081	.0082

#1	58.50	.0016	.0387	.1542	.00136	.1688	.0081	.0083
#2	57.78	.0051	.0373	.1537	.00131	.1658	.0081	.0082

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.95	.1588	.0241	1.209	1.348	83.57	.1986	.0728

#1	26.99	.1616	.0239	1.208	1.352	83.45	.1989	.0738
#2	26.92	.1560	.0244	1.211	1.344	83.69	.1983	.0719

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	35.76	.84930	.0354	.1186	2.800	12.13	.0063	15.15

#1	35.50	.86428	.0354	.1187	2.800	12.03	.0058	15.07
#2	36.02	.83432	.0354	.1185	2.799	12.22	.0068	15.23

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0018	94.26	.23705	.0015	.0232	3.132	.2208	.7551

#1	.0024	93.62	.23758	.0011	.0234	3.194	.2255	.7538
#2	.0012	94.91	.23652	.0019	.0231	3.071	.2161	.7565

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.7822	.0056	45.75

#1	.7825	.0052	45.82
#2	.7819	.0061	45.67

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4682.5	142320.	9130.4

#1	4685.2	140120.	9080.6
#2	4679.8	144520.	9180.1

Sample Name: K1705817-006 Acquired: 6/27/2017 13:08:37 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 062717A 1/2

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	64.33	.0006	.0422	.1355	.00130	.1661	.0090	.0091

#1	64.69	.0001	.0400	.1359	.00128	.1655	.0090	.0090
#2	63.96	.0010	.0445	.1351	.00132	.1668	.0090	.0092

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	41.33	.1692	.0266	2.181	2.414	89.30	.2176	.0760

#1	41.52	.1688	.0266	2.183	2.416	89.80	.2185	.0764
#2	41.15	.1696	.0266	2.180	2.412	88.81	.2167	.0756

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	34.67	.85782	.0343	.1278	3.072	12.55	.0079	14.51

#1	34.85	.85487	.0341	.1279	3.070	12.61	.0109	14.57
#2	34.49	.86077	.0344	.1278	3.073	12.50	.0050	14.45

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010	72.92	.37661	.0015	.0248	3.289	.2585	1.010

#1	.0012	73.09	.37759	.0019	.0242	3.285	.2591	1.010
#2	.0008	72.75	.37563	.0010	.0255	3.293	.2579	1.009

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	1.045	.0067	42.99

#1	1.045	.0059	42.99
#2	1.045	.0074	42.99

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4652.8	143760.	9046.3

#1	4656.2	143990.	9037.7
#2	4649.4	143520.	9054.9

Sample Name: K1705817-007 Acquired: 6/27/2017 13:11:15 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 062717A 1/2

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	61.18	.0044	.0416	.1550	.00124	.1777	.0088	.0088

#1	61.32	.0023	.0452	.1544	.00135	.1782	.0087	.0087
#2	61.03	.0065	.0381	.1556	.00113	.1772	.0089	.0088

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	27.48	.1620	.0258	.7619	.8573	85.78	.2084	.0702

#1	27.51	.1622	.0256	.7619	.8540	85.79	.2078	.0693
#2	27.44	.1618	.0259	.7620	.8606	85.77	.2090	.0710

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	34.23	.80881	.0372	.1232	3.128	12.13	.0070	15.54

#1	34.11	.80954	.0374	.1234	3.130	12.10	.0061	15.52
#2	34.34	.80808	.0371	.1230	3.125	12.15	.0079	15.56

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0021	78.42	.25431	.0016	.0239	3.066	.2439	.7094

#1	.0019	78.09	.25453	.0016	.0237	3.068	.2442	.7095
#2	.0024	78.75	.25410	.0017	.0242	3.065	.2435	.7092

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.7430	.0056	43.63

#1	.7448	.0053	43.71
#2	.7412	.0058	43.55

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4695.4	145700.	9035.5

#1	4700.9	145280.	9017.1
#2	4689.9	146110.	9054.0

Sample Name: K1705946-001 Acquired: 6/27/2017 13:13:54 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 062717A 1/2

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	31.34	.0008	.0217	.1013	.00060	.1021	.0045	.0044

#1	31.30	-.0004	.0226	.1007	.00063	.1023	.0045	.0045
#2	31.39	.0021	.0209	.1020	.00057	.1019	.0045	.0044

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.03	.0860	.0131	.3000	.3281	46.37	.1065	.0340

#1	15.03	.0865	.0131	.3011	.3270	46.25	.1064	.0352
#2	15.04	.0854	.0132	.2989	.3292	46.48	.1066	.0328

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.73	.43058	.0139	.0684	1.577	7.019	.0024	14.40

#1	20.62	.43111	.0141	.0688	1.583	7.009	.0044	14.35
#2	20.83	.43004	.0138	.0681	1.571	7.028	.0004	14.45

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0013	66.43	.14357	.0007	.0151	1.690	.0907	.3751

#1	.0012	66.20	.14355	.0012	.0148	1.687	.0900	.3759
#2	.0013	66.66	.14359	.0001	.0154	1.693	.0914	.3743

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.3910	.0025	24.33

#1	.3916	.0032	24.37
#2	.3905	.0018	24.29

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4696.3	145270.	8934.1

#1	4698.9	145160.	8941.0
#2	4693.8	145380.	8927.3

Sample Name: CCVB Acquired: 6/27/2017 13:16:33 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.260	10.53	.0000	1.043	10.19	-.00002	-.0005	-.0001
Stddev	.019	.01	.001	.000	.04	.00002	.0005	.0001
%RSD	.2574	.0666	25240.	.0088	.3812	76.276	104.6	61.28

#1	7.273	10.52	-.0008	1.043	10.16	-.00001	-.0001	.0000
#2	7.246	10.53	.0008	1.043	10.22	-.00003	-.0008	-.0001

Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None	None	None
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	10.00	9.865	.0001	.0002	.0001	.0006	9.979
Stddev	.0001	.02	.051	.0003	.0001	.0001	.0002	.005
%RSD	117.2	.2384	.5114	186.2	34.68	72.43	42.53	.0473

#1	.0000	10.02	9.901	.0000	.0002	.0001	.0004	9.976
#2	-.0001	9.987	9.830	.0003	.0001	.0002	.0007	9.983

Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass
Value								
Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	1.040	9.891	9.350	10.14	.98414	.9615	-.0005
Stddev	.0010	.003	.004	.039	.01	.00159	.0017	.0002
%RSD	7717.	.2464	.0458	.4155	.0688	.16178	.1749	44.80

#1	.0008	1.038	9.888	9.323	10.14	.98527	.9627	-.0006
#2	-.0007	1.042	9.894	9.378	10.13	.98302	.9603	-.0003

Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None
Value								
Range								

Sample Name: CCVB Acquired: 6/27/2017 13:16:33 Type: QC
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0005	10.01	10.56	.0013	10.04	-.0007	10.50	1.0035
Stddev	.0001	.01	.09	.0021	.01	.0001	.01	.0013
%RSD	13.09	.1289	.8253	159.3	.0946	14.32	.1165	.12454

#1	-.0004	10.02	10.50	-.0002	10.03	-.0007	10.49	1.0026
#2	-.0005	10.00	10.63	.0028	10.05	-.0008	10.51	1.0044

Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012	.0003	.0011	-.0004	.0001	.0003	1.014	1.044
Stddev	.0001	.0004	.0003	.0005	.0003	.0001	.001	.001
%RSD	9.507	166.6	27.54	136.7	210.5	28.46	.1315	.0538

#1	.0012	.0000	.0009	-.0007	.0004	.0004	1.015	1.043
#2	.0011	.0006	.0014	.0000	-.0001	.0003	1.013	1.044

Check ?	None	None	None	None	None	None	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4735.0	146930.	8800.6
Stddev	8.2	121.	38.4
%RSD	.17248	.08247	.43651

#1	4729.2	146840.	8773.4
#2	4740.7	147010.	8827.7

Sample Name: CCVA Acquired: 6/27/2017 13:19:19 Type: QC
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2530	.2712	.2617	.2624	.2604	.25991	.2594	.2509
Stddev	.0005	.0053	.0025	.0030	.0002	.00047	.0003	.0005
%RSD	.1787	1.960	.9562	1.148	.0815	.18171	.1173	.2088

#1	.2533	.2674	.2635	.2603	.2603	.25957	.2592	.2512
#2	.2527	.2749	.2599	.2645	.2606	.26024	.2596	.2505

Check ?	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2512	.4999	.5082	.2506	.2508	.2507	.2626	.2585
Stddev	.0007	.0018	.0009	.0006	.0011	.0008	.0009	.0010
%RSD	.2752	.3690	.1771	.2293	.4256	.3251	.3337	.3849

#1	.2517	.5012	.5089	.2510	.2516	.2512	.2620	.2592
#2	.2508	.4986	.5076	.2502	.2501	.2501	.2633	.2578

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value								
Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2496	-.0027	.2407	.2480	.2606	.25024	.2435	.2510
Stddev	.0001	.0002	.0173	.0012	.0004	.00015	.0004	.0000
%RSD	.0577	6.022	7.204	.4691	.1681	.05946	.1818	.0050

#1	.2495	-.0028	.2284	.2472	.2609	.25013	.2432	.2510
#2	.2497	-.0025	.2529	.2488	.2602	.25034	.2438	.2510

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	Chk Pass
Value								
Range								

Sample Name: CCVA Acquired: 6/27/2017 13:19:19 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2516	.0006	2.650	.2608	.1307	.2635	.2905	.00021
Stddev	.0009	.0014	.022	.0015	.0087	.0006	.0102	.00006
%RSD	.3526	217.9	.8368	.5786	6.660	.2180	3.514	27.402

#1	.2522	-.0003	2.634	.2597	.1368	.2631	.2978	.00025
#2	.2509	.0016	2.665	.2618	.1245	.2639	.2833	.00017

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	None
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2529	.2529	.2499	.2502	.2475	.2595	.0009	.0062
Stddev	.0006	.0020	.0001	.0004	.0003	.0000	.0011	.0003
%RSD	.2400	.7779	.0475	.1680	.1211	.0129	111.4	4.422

#1	.2533	.2515	.2498	.2505	.2477	.2595	.0002	.0060
#2	.2524	.2543	.2500	.2499	.2473	.2596	.0017	.0064

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4745.1	148160.	8820.8
Stddev	10.4	379.	.4
%RSD	.21917	.25583	.00455

#1	4737.7	147890.	8821.1
#2	4752.4	148420.	8820.5

Sample Name: CCB Acquired: 6/27/2017 13:21:41 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	-.0005	.0007	.0011	-.0002	.00008	.0001	.0000
Stddev	.0002	.0001	.0001	.0013	.0000	.00003	.0007	.0000
%RSD	35.12	19.47	19.32	122.0	10.75	36.081	498.1	72.81

#1	.0005	-.0006	.0006	.0001	-.0002	.00006	.0006	.0000
#2	.0008	-.0005	.0008	.0020	-.0002	.00010	-.0003	.0000

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0011	.0010	.0000	-.0001	.0002	.0001	.0003
Stddev	.000	.0129	.0000	.001	.0001	.0007	.0004	.0026
%RSD	46.94	1153.	2.556	1447.	134.5	336.9	549.3	1018.

#1	.0000	.0103	.0010	-.0004	.0000	-.0003	-.0002	.0021
#2	.0000	-.0080	.0010	.0003	-.0002	.0007	.0003	-.0016

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	-.0010	.0134	.0003	-.0001	-.00003	.0001	.0009
Stddev	.0009	.0017	.0346	.0000	.0004	.00002	.0005	.0003
%RSD	165.0	177.7	258.5	7.216	297.0	75.206	397.8	31.20

#1	.0012	.0002	-.0111	.0003	-.0005	-.00001	-.0002	.0011
#2	-.0001	-.0022	.0379	.0003	.0002	-.00004	.0005	.0007

Check ?	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass
High Limit								
Low Limit								

Sample Name: CCB Acquired: 6/27/2017 13:21:41 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0022	-.0079	.0011	-.0008	-.0002	.0232	.00009
Stddev	.0005	.0025	.0264	.0011	.0012	.0005	.0020	.00003
%RSD	1892.	115.2	333.2	97.89	150.8	222.9	8.678	34.025

#1	-.0003	.0004	.0108	.0004	.0001	-.0006	.0217	.00011
#2	.0004	.0040	-.0266	.0019	-.0016	.0001	.0246	.00007

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0003	.0003	-.0003	.0000	-.0001	.0003	.0027
Stddev	.0004	.0001	.0001	.0002	.0001	.0001	.0004	.0013
%RSD	280.4	52.86	24.46	54.28	248.8	72.96	134.5	47.29

#1	-.0001	.0004	.0002	-.0004	.0000	.0000	.0000	.0018
#2	.0004	.0002	.0003	-.0002	.0001	-.0001	.0006	.0036

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4732.4	148680.	8796.7
Stddev	.9	217.	51.4
%RSD	.01810	.14590	.58429

#1	4731.8	148520.	8760.3
#2	4733.0	148830.	8833.0

Sample Name: K1705946-002 Acquired: 6/27/2017 13:24:20 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 2 Test Type: Sample Type:
 Comment: AM 062717A 1/2

Elem Units Avg	Al3944 ppm 28.46	Sb2068 ppm .0026	As1890 ppm .0317	Ba4554 ppm .1542	Be2348 ppm .00060	B_2496 ppm .0990	Cd2144 ppm .0042	Cd2265 ppm .0044
#1	28.53	.0009	.0303	.1540	.00059	.0986	.0042	.0045
#2	28.38	.0042	.0331	.1545	.00060	.0994	.0042	.0043
Elem Units Avg	Ca3158 ppm 102.1	Cr2677 ppm .0973	Co2307 ppm .0171	Cu2247 ppm .4303	Cu3273 ppm .4708	Fe2599 ppm 52.10	Pb2203 ppm .1465	Li6707 ppm .0353
#1	102.3	.0968	.0168	.4299	.4715	52.24	.1472	.0356
#2	102.0	.0978	.0173	.4307	.4700	51.96	.1459	.0349
Elem Units Avg	Mg2852 ppm 19.40	Mn2576 ppm .44744	Mo2020 ppm .0102	Ni2216 ppm .0674	P_1782 ppm 1.652	K_7664 ppm 6.288	Se1960 ppm .0027	Si2516 ppm 14.21
#1	19.38	.44828	.0101	.0674	1.652	6.303	.0048	14.17
#2	19.42	.44660	.0102	.0673	1.652	6.273	.0006	14.24
Elem Units Avg	Ag3280 ppm .0006	Na5895 ppm 56.94	Sr4077 ppm .41206	Tl1908 ppm .0006	Sn1899 ppm .0166	Ti3361 ppm 1.671	V_2924 ppm .1002	Zn2062 ppm 1.159
#1	.0003	56.85	.41216	-.0001	.0160	1.668	.0998	1.160
#2	.0008	57.03	.41195	.0012	.0173	1.674	.1007	1.159
Elem Units Avg	Zn2138 ppm 1.205	Bi2230 ppm .0050	S_1820 ppm 29.40					
#1	1.204	.0041	29.40					
#2	1.206	.0059	29.40					
Int. Std. Units Avg	Y_2243 Cts/S 4627.8	Y_3600 Cts/S 143860.	Y_3600-2 Cts/S 9052.6					
#1	4623.6	143790.	9011.9					
#2	4632.0	143920.	9093.2					

Sample Name: K1705946-003 Acquired: 6/27/2017 13:26:54 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 062717A 1/2

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	37.13	.0002	.0271	.1012	.00076	.1078	.0043	.0046

#1	37.10	.0015	.0271	.1010	.00072	.1092	.0043	.0046
#2	37.16	-.0011	.0272	.1013	.00081	.1064	.0044	.0046

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.68	.0994	.0155	.3306	.3650	56.48	.1307	.0417

#1	18.65	.0991	.0155	.3304	.3636	56.34	.1308	.0416
#2	18.71	.0997	.0156	.3308	.3664	56.61	.1306	.0417

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.13	.56116	.0100	.0760	1.885	7.845	.0071	12.61

#1	23.32	.56361	.0101	.0765	1.884	7.934	.0069	12.74
#2	22.94	.55871	.0100	.0756	1.886	7.756	.0074	12.48

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0021	65.84	.16616	.0015	.0167	1.983	.1116	.4098

#1	.0017	66.31	.16621	.0017	.0173	1.980	.1112	.4105
#2	.0024	65.38	.16611	.0013	.0161	1.986	.1119	.4091

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.4270	.0049	30.28

#1	.4267	.0047	30.28
#2	.4273	.0050	30.28

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4691.2	146270.	9000.2

#1	4686.0	145960.	9082.6
#2	4696.3	146580.	8917.9

Sample Name: K1705946-004 Acquired: 6/27/2017 13:29:29 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 062717A 1/2

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	40.03	-.0006	.0284	.1060	.00079	.1145	.0041	.0042
#1	40.08	-.0004	.0298	.1063	.00076	.1149	.0040	.0041
#2	39.98	-.0009	.0270	.1057	.00081	.1142	.0041	.0043
Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.93	.1120	.0168	.2920	.3187	59.48	.1170	.0488
#1	18.94	.1153	.0168	.2919	.3198	59.48	.1174	.0481
#2	18.92	.1087	.0167	.2922	.3176	59.48	.1165	.0495
Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.19	.57261	.0113	.0814	2.088	8.517	.0029	14.20
#1	25.20	.57288	.0112	.0813	2.085	8.573	.0006	14.20
#2	25.18	.57234	.0114	.0815	2.090	8.461	.0052	14.19
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	69.69	.17188	.0014	.0165	2.220	.1159	.3559
#1	.0007	69.69	.17201	.0026	.0158	2.221	.1158	.3564
#2	.0008	69.69	.17176	.0003	.0171	2.219	.1159	.3553
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.3684	.0044	31.15					
#1	.3684	.0045	31.19					
#2	.3683	.0043	31.12					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4661.4	144550.	8954.5					
#1	4661.9	144750.	8969.5					
#2	4660.8	144340.	8939.6					

Sample Name: K1705946-004L Acquired: 6/27/2017 13:32:03 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 10 Test Type: Sample Type:
Comment: AM 062717A 1/10

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.430	-.0020	.0055	.0215	.00023	.0240	.0008	.0008

#1	8.420	-.0015	.0039	.0217	.00016	.0248	.0008	.0008
#2	8.440	-.0024	.0071	.0212	.00029	.0231	.0008	.0008

Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.838	.0225	.0037	.0611	.0656	12.36	.0245	.0088

#1	3.824	.0223	.0037	.0616	.0654	12.36	.0252	.0087
#2	3.853	.0226	.0037	.0606	.0657	12.36	.0238	.0088

Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.790	.11976	.0021	.0173	.4357	1.672	.0022	2.838

#1	4.778	.11977	.0022	.0175	.4382	1.672	.0028	2.824
#2	4.802	.11976	.0020	.0171	.4331	1.671	.0015	2.851

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	13.90	.03496	-.0002	.0038	.4454	.0235	.0756

#1	.0001	13.99	.03485	-.0013	.0044	.4451	.0233	.0757
#2	.0000	13.81	.03508	.0008	.0032	.4456	.0236	.0754

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.0788	-.0007	6.576

#1	.0788	.0004	6.569
#2	.0788	-.0018	6.584

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4722.6	146600.	8812.2

#1	4714.5	146390.	8829.9
#2	4730.7	146800.	8794.6

Sample Name: KQ1708279-03 Acquired: 6/27/2017 13:34:37 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 062717A 1/2 K1705946-004D

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	37.14	.0006	.0247	.0926	.00069	.1060	.0037	.0039

#1	37.14	-.0003	.0234	.0926	.00070	.1058	.0038	.0039
#2	37.13	.0015	.0259	.0927	.00069	.1061	.0037	.0039

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.91	.0966	.0152	.2570	.2840	54.78	.1067	.0438

#1	20.87	.0963	.0152	.2583	.2849	54.65	.1077	.0453
#2	20.96	.0970	.0153	.2556	.2830	54.92	.1057	.0423

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.08	.52559	.0102	.0742	1.941	7.842	.0038	14.82

#1	23.07	.52464	.0101	.0745	1.950	7.820	.0032	14.79
#2	23.09	.52654	.0102	.0738	1.932	7.864	.0045	14.84

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	64.06	.16671	-.0003	.0159	2.017	.1048	.3398

#1	.0005	64.09	.16609	-.0001	.0149	2.012	.1051	.3400
#2	.0009	64.03	.16732	-.0005	.0168	2.021	.1046	.3396

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.3553	.0041	28.94

#1	.3560	.0045	28.94
#2	.3546	.0037	28.94

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4687.5	145950.	8986.6

#1	4682.1	146600.	8992.5
#2	4693.0	145290.	8980.7

Sample Name: KQ1708279-04 Acquired: 6/27/2017 13:37:13 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 062717A 1/2 K1705946-004S

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	42.30	.1666	.5350	1.159	.05206	.3452	.0516	.0521
#1	42.35	.1700	.5316	1.163	.05243	.3474	.0517	.0519
#2	42.26	.1631	.5384	1.155	.05169	.3430	.0516	.0522
Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.86	.3032	.5061	.5128	.5701	58.05	.5745	.0454
#1	21.90	.3039	.5072	.5134	.5731	58.19	.5774	.0460
#2	21.82	.3024	.5049	.5123	.5670	57.90	.5715	.0447
Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	29.81	1.0364	.5089	.5609	1.978	13.68	.4586	11.89
#1	29.87	1.0324	.5081	.5614	1.983	13.68	.4577	11.90
#2	29.74	1.0403	.5097	.5604	1.973	13.69	.4595	11.89
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0521	72.84	.16407	.0923	.0160	2.251	.6337	.8076
#1	.0522	72.99	.16364	.0931	.0167	2.255	.6363	.8094
#2	.0520	72.70	.16450	.0916	.0154	2.247	.6310	.8058
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.8351	.0036	29.03					
#1	.8344	.0039	29.02					
#2	.8358	.0033	29.05					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4662.8	145250.	9015.3					
#1	4653.9	145870.	8989.2					
#2	4671.6	144640.	9041.4					

Sample Name: K1705946-004A Acquired: 6/27/2017 13:39:39 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 062717A 1/2 A=0.05/10mL CICV1,3+Sb 100ppm

Elem Units Avg	Al3944 ppm 44.72	Sb2068 ppm .4851	As1890 ppm 2.511	Ba4554 ppm 5.178	Be2348 ppm .12396	B_2496 ppm .1144	Cd2144 ppm 1.161	Cd2265 ppm 1.172
#1	44.82	.4875	2.508	5.188	.12367	.1139	1.159	1.173
#2	44.62	.4827	2.514	5.169	.12425	.1149	1.162	1.172
Elem Units Avg	Ca3158 ppm 31.31	Cr2677 ppm .5991	Co2307 ppm 1.204	Cu2247 ppm .8746	Cu3273 ppm .9450	Fe2599 ppm 62.34	Pb2203 ppm 2.341	Li6707 ppm .0467
#1	31.34	.5964	1.203	.8747	.9477	62.43	2.339	.0468
#2	31.27	.6019	1.206	.8745	.9423	62.24	2.342	.0466
Elem Units Avg	Mg2852 ppm 38.21	Mn2576 ppm 1.7729	Mo2020 ppm .0130	Ni2216 ppm 1.262	P_1782 ppm 2.132	K_7664 ppm 21.97	Se1960 ppm 2.206	Si2516 ppm 14.34
#1	37.98	1.7754	.0131	1.261	2.138	21.77	2.204	14.26
#2	38.45	1.7704	.0128	1.262	2.127	22.18	2.209	14.43
Elem Units Avg	Ag3280 ppm .6015	Na5895 ppm 83.66	Sr4077 ppm .17249	Tl1908 ppm 2.167	Sn1899 ppm .0173	Ti3361 ppm 2.232	V_2924 ppm 1.376	Zn2062 ppm 1.507
#1	.5990	83.16	.17243	2.168	.0172	2.226	1.370	1.505
#2	.6040	84.16	.17255	2.166	.0174	2.238	1.381	1.510
Elem Units Avg	Zn2138 ppm 1.533	Bi2230 ppm .0066	S_1820 ppm 31.07					
#1	1.533	.0028	31.09					
#2	1.532	.0103	31.06					
Int. Std. Units Avg	Y_2243 Cts/S 4595.2	Y_3600 Cts/S 143350.	Y_3600-2 Cts/S 8944.4					
#1	4596.6	143580.	8864.1					
#2	4593.9	143110.	9024.6					

Sample Name: K1705946-005 Acquired: 6/27/2017 13:42:03 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 062717A 1/2

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	34.17	-.0021	.0227	.0786	.00063	.1152	.0040	.0041
#1	33.83	.0014	.0222	.0784	.00067	.1143	.0039	.0042
#2	34.50	-.0055	.0231	.0788	.00059	.1161	.0040	.0041
Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.93	.0863	.0140	.4154	.4570	49.39	.0958	.0391
#1	17.95	.0867	.0141	.4161	.4539	49.40	.0953	.0405
#2	17.90	.0859	.0138	.4147	.4601	49.37	.0964	.0377
Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.62	.46108	.0181	.0659	1.766	7.747	.0102	13.88
#1	22.54	.46191	.0183	.0658	1.772	7.726	.0112	13.83
#2	22.69	.46025	.0179	.0661	1.759	7.768	.0092	13.93
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	73.62	.16074	-.0001	.0140	1.826	.1098	.3308
#1	.0005	73.31	.16073	.0006	.0144	1.826	.1090	.3306
#2	.0001	73.94	.16075	-.0009	.0137	1.825	.1105	.3309
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.3445	.0043	25.72					
#1	.3448	.0046	25.71					
#2	.3442	.0040	25.72					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4680.3	145250.	8896.1					
#1	4676.1	144350.	8853.2					
#2	4684.5	146160.	8939.0					

Sample Name: K1705946-006 Acquired: 6/27/2017 13:44:39 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 062717A 1/2

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	33.13	.0014	.0182	.0803	.00061	.1050	.0039	.0040
#1	32.83	.0017	.0179	.0802	.00053	.1048	.0040	.0041
#2	33.43	.0010	.0184	.0804	.00069	.1052	.0039	.0040
Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.31	.0819	.0134	.2713	.2988	46.45	.0913	.0374
#1	15.31	.0821	.0135	.2708	.2970	46.44	.0916	.0378
#2	15.31	.0816	.0133	.2717	.3007	46.46	.0910	.0371
Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.33	.43357	.0187	.0638	1.719	7.375	.0062	14.10
#1	21.33	.43575	.0186	.0637	1.717	7.389	.0084	14.09
#2	21.34	.43139	.0187	.0639	1.722	7.360	.0039	14.11
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009	66.75	.14460	.0020	.0150	1.749	.1040	.3277
#1	.0008	66.72	.14445	.0017	.0155	1.746	.1042	.3279
#2	.0010	66.79	.14474	.0022	.0146	1.752	.1037	.3275
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.3413	.0017	24.97					
#1	.3409	.0021	24.96					
#2	.3417	.0014	24.99					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4681.6	145560.	8994.3					
#1	4675.5	145080.	8997.8					
#2	4687.8	146050.	8990.8					

Sample Name: K1705946-007 Acquired: 6/27/2017 13:47:17 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 2 Test Type: Sample Type:
 Comment: AM 062717A 1/2

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	39.36	-.0011	.0282	.0909	.00078	.1079	.0046	.0047

#1	39.28	-.0020	.0271	.0908	.00068	.1064	.0046	.0047
#2	39.43	-.0002	.0292	.0909	.00089	.1095	.0046	.0047

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.24	.1012	.0158	.3631	.4042	54.93	.1308	.0453

#1	17.23	.1007	.0159	.3623	.4035	54.99	.1303	.0456
#2	17.26	.1017	.0156	.3639	.4050	54.88	.1313	.0451

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.12	.53756	.0137	.0759	1.762	7.898	.0047	14.78

#1	23.16	.53634	.0139	.0756	1.760	7.920	.0060	14.81
#2	23.08	.53878	.0136	.0762	1.765	7.875	.0033	14.74

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012	60.13	.15306	.0022	.0177	2.016	.1159	.4217

#1	.0012	60.20	.15311	.0024	.0165	2.017	.1161	.4223
#2	.0013	60.05	.15301	.0020	.0189	2.015	.1158	.4211

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.4415	.0047	28.74

#1	.4407	.0056	28.66
#2	.4424	.0039	28.82

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4704.7	146500.	9072.9

#1	4700.6	146490.	9089.6
#2	4708.7	146520.	9056.2

Sample Name: CCVB Acquired: 6/27/2017 13:52:14 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.318	10.67	-.0003	1.056	10.40	.00007	.0012	.0000
Stddev	.034	.06	.0015	.000	.08	.00001	.0005	.000
%RSD	.4596	.5362	532.9	.0140	.7641	8.6842	37.16	226.0

#1	7.342	10.71	-.0013	1.057	10.45	.00007	.0015	.0000
#2	7.294	10.63	.0008	1.056	10.34	.00008	.0009	-.0001

Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None	None	None
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	10.18	9.988	-.0002	.0002	.0004	-.0004	10.23
Stddev	.0001	.04	.131	.0002	.0003	.0003	.0001	.06
%RSD	166.6	.4138	1.315	82.07	105.8	70.31	13.09	.6228

#1	.0000	10.21	10.08	-.0001	.0001	.0002	-.0005	10.27
#2	.0001	10.15	9.895	-.0003	.0004	.0007	-.0004	10.18

Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass
Value								
Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0018	1.035	10.05	9.474	9.993	.99261	.9542	-.0004
Stddev	.0008	.001	.04	.030	.002	.00320	.0017	.0004
%RSD	43.37	.0669	.4361	.3184	.0209	.32215	.1803	96.13

#1	.0024	1.035	10.08	9.496	9.994	.99487	.9554	-.0007
#2	.0013	1.036	10.01	9.453	9.991	.99035	.9530	-.0001

Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None
Value								
Range								

Sample Name: CCVB Acquired: 6/27/2017 13:52:14 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0006	10.17	10.52	.0015	9.846	-.0006	10.41	1.0270
Stddev	.0001	.00	.02	.0008	.010	.0003	.01	.0011
%RSD	16.32	.0406	.1692	49.57	.1029	44.61	.0797	.10458

#1	-.0005	10.17	10.51	.0021	9.854	-.0004	10.40	1.0262
#2	-.0007	10.16	10.54	.0010	9.839	-.0008	10.41	1.0278

Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0013	.0003	.0005	-.0003	.0001	.0003	1.033	1.055
Stddev	.0015	.0003	.0001	.0006	.0003	.0001	.000	.002
%RSD	117.4	83.89	20.76	216.2	242.2	24.94	.0371	.2128

#1	.0002	.0001	.0005	-.0007	-.0001	.0003	1.032	1.057
#2	.0024	.0005	.0006	.0002	.0004	.0002	1.033	1.054

Check ?	None	None	None	None	None	None	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4685.6	145780.	8459.2
Stddev	10.5	611.	52.5
%RSD	.22485	.41901	.62010

#1	4678.1	146220.	8422.2
#2	4693.0	145350.	8496.3

Sample Name: CCVA Acquired: 6/27/2017 13:55:01 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2540	.2722	.2606	.2654	.2588	.26470	.2669	.2486
Stddev	.0036	.0026	.0033	.0035	.0007	.00248	.0032	.0006
%RSD	1.399	.9581	1.264	1.331	.2649	.93581	1.204	.2532

#1	.2515	.2740	.2629	.2629	.2593	.26646	.2691	.2490
#2	.2566	.2703	.2583	.2679	.2583	.26295	.2646	.2481

Check ?	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2494	.4965	.5042	.2475	.2491	.2485	.2643	.2549
Stddev	.0004	.0008	.0004	.0018	.0004	.0014	.0011	.0040
%RSD	.1798	.1595	.0715	.7241	.1663	.5778	.3995	1.575

#1	.2498	.4971	.5040	.2463	.2494	.2495	.2650	.2578
#2	.2491	.4960	.5045	.2488	.2488	.2475	.2635	.2521

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value								
Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2470	-.0038	.2429	.2435	.2477	.24340	.2284	.2493
Stddev	.0008	.0004	.0348	.0002	.0009	.00255	.0010	.0000
%RSD	.3141	9.115	14.33	.0627	.3711	1.0465	.4476	.0008

#1	.2476	-.0041	.2182	.2434	.2470	.24160	.2291	.2493
#2	.2465	-.0036	.2675	.2436	.2483	.24520	.2277	.2493

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	Chk Pass
Value								
Range								

Sample Name: CCVA Acquired: 6/27/2017 13:55:01 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2502	.0039	2.550	.2586	.1294	.2701	.2863	.00011
Stddev	.0012	.0027	.005	.0014	.0067	.0014	.0037	.00006
%RSD	.4768	67.60	.2085	.5327	5.194	.5266	1.303	54.197

#1	.2510	.0021	2.554	.2596	.1341	.2711	.2836	.00016
#2	.2493	.0058	2.546	.2577	.1246	.2691	.2889	.00007

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	None
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2511	.2495	.2486	.2490	.2450	.2595	-.0012	.0058
Stddev	.0015	.0001	.0003	.0006	.0006	.0004	.0002	.0033
%RSD	.6099	.0282	.1292	.2259	.2642	.1370	13.05	56.69

#1	.2522	.2496	.2488	.2494	.2454	.2593	-.0011	.0035
#2	.2500	.2495	.2483	.2486	.2445	.2598	-.0013	.0081

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4766.6	150420.	8508.0
Stddev	9.0	603.	83.0
%RSD	.18974	.40078	.97570

#1	4760.2	150850.	8566.7
#2	4773.0	150000.	8449.3

Sample Name: CCB Acquired: 6/27/2017 13:57:24 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0022	.0034	.0008	.0003	.0007	.00002	.0002	-.0001
Stddev	.0005	.0035	.0010	.0027	.0001	.00004	.0010	.0000
%RSD	23.96	102.5	138.1	1015.	19.95	212.96	522.4	58.21

#1	.0018	.0009	.0015	.0021	.0006	-.00001	.0009	.0000
#2	.0026	.0059	.0000	-.0016	.0008	.00005	-.0005	-.0001

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	-.0026	.0026	-.0004	.0002	.0004	.0001	.0070
Stddev	.000	.0125	.0015	.0008	.0001	.0000	.0001	.0053
%RSD	96.49	485.6	56.07	177.4	82.30	4.218	137.2	75.65

#1	-.0001	-.0114	.0016	.0001	.0003	.0004	.0000	.0033
#2	.0000	.0063	.0037	-.0010	.0001	.0004	.0002	.0107

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0004	-.0022	.0104	.0025	.0009	.00008	.0005	.0009
Stddev	.0009	.0008	.0226	.0017	.0036	.00011	.0011	.0002
%RSD	245.7	35.31	217.4	67.80	417.2	123.92	209.2	24.98

#1	.0003	-.0027	-.0056	.0013	-.0017	.00001	-.0002	.0011
#2	-.0010	-.0016	.0264	.0037	.0035	.00016	.0013	.0007

Check ?	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass
High Limit								
Low Limit								

Sample Name: CCB Acquired: 6/27/2017 13:57:24 Type: QC
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	.0017	-.0446	.0016	-.0104	-.0002	.0275	.00013
Stddev	.0002	.0008	.0218	.0002	.0077	.0003	.0113	.00003
%RSD	100.1	45.96	48.83	10.15	73.88	184.6	40.91	21.986

#1	-.0001	.0023	-.0292	.0017	-.0158	-.0004	.0196	.00016
#2	-.0004	.0012	-.0600	.0015	-.0050	.0001	.0355	.00011

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0006	.0006	.0002	.0001	.0000	.0001	.0003	.0036
Stddev	.0003	.0015	.0002	.0003	.000	.0000	.0001	.0004
%RSD	59.11	265.8	87.61	638.4	20.38	25.64	52.65	11.09

#1	-.0008	.0016	.0001	-.0002	.0000	.0000	.0004	.0039
#2	-.0003	-.0005	.0003	.0003	.0000	.0001	.0002	.0033

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4752.6	148380.	8418.0
Stddev	9.0	715.	31.5
%RSD	.18990	.48190	.37460

#1	4746.2	148890.	8395.7
#2	4759.0	147880.	8440.3

Sample Name: LLCCV Acquired: 6/27/2017 14:00:10 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0127	.0116	.0211	.0103	.0047	.00106	.0204	.0010
Stddev	.0011	.0003	.0000	.0026	.0000	.00006	.0005	.0000
%RSD	8.923	2.805	.0813	25.26	.3633	5.4480	2.585	2.983

#1	.0136	.0113	.0211	.0121	.0047	.00110	.0200	.0010
#2	.0119	.0118	.0211	.0084	.0047	.00102	.0208	.0009

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011	.0250	.0219	.0036	.0021	.0041	.0044	.0202
Stddev	.0001	.0106	.0001	.0001	.0001	.0002	.0006	.0009
%RSD	6.171	42.27	.3963	2.222	6.496	4.580	12.57	4.560

#1	.0011	.0175	.0219	.0035	.0022	.0042	.0048	.0209
#2	.0010	.0324	.0220	.0036	.0020	.0040	.0041	.0196

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0097	.0170	.0274	.0058	.0046	.00104	.0006	.0039
Stddev	.0000	.0036	.0082	.0002	.0009	.00005	.0013	.0003
%RSD	.3048	21.15	30.06	3.758	19.37	4.8192	227.3	8.187

#1	.0096	.0195	.0216	.0056	.0052	.00108	.0015	.0037
#2	.0097	.0144	.0332	.0059	.0039	.00101	-.0003	.0042

Check ?	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass
Value								
Range								

Sample Name: LLCCV Acquired: 6/27/2017 14:00:10 Type: QC
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0040	.0408	.1653	.0229	.1814	.0042	.2222	.00105
Stddev	.0000	.0023	.0323	.0000	.0040	.0001	.0006	.00007
%RSD	.7185	5.728	19.56	.0430	2.186	1.450	.2697	6.8538

#1	.0040	.0391	.1882	.0229	.1786	.0042	.2227	.00100
#2	.0040	.0424	.1424	.0229	.1842	.0041	.2218	.00110

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0109	.0204	.0022	.0037	.0040	.0041	.0201	.0442
Stddev	.0014	.0003	.0000	.0004	.0001	.0001	.0005	.0030
%RSD	13.06	1.231	2.181	10.35	3.647	2.508	2.732	6.698

#1	.0119	.0202	.0021	.0039	.0039	.0042	.0205	.0463
#2	.0099	.0205	.0022	.0034	.0041	.0040	.0197	.0421

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4730.1	146890.	8099.9
Stddev	20.2	976.	84.4
%RSD	.42719	.66475	1.0417

#1	4744.4	146200.	8040.3
#2	4715.8	147580.	8159.6

Sample Name: KQ1708120-02 Acquired: 6/27/2017 14:03:05 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: E Sample Type:
Comment: AM 062717A 1/5 E K1706097-MB

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0085	-.0007	.0008	.0072	.00001	.0156	-.0001	.0000
#1	.0084	.0000	.0036	.0068	.00006	.0147	-.0002	.0000
#2	.0086	-.0014	-.0020	.0075	-.00004	.0165	-.0001	.0001
Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2198	-.0004	.0000	.0002	.0000	.0091	.0006	-.0001
#1	.2179	-.0004	.0001	.0003	.0001	.0038	-.0006	-.0011
#2	.2217	-.0005	-.0001	.0001	-.0001	.0144	.0018	.0009
Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0285	.00027	.0000	.0005	.0080	.0286	-.0009	.0868
#1	.0267	.00027	-.0001	.0003	.0076	.0225	.0001	.0878
#2	.0302	.00028	.0000	.0007	.0084	.0346	-.0020	.0858
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	289.3	.00049	-.0004	.0021	-.0005	.0000	.0029
#1	.0001	288.5	.00044	.0003	.0031	-.0005	.0001	.0029
#2	-.0004	290.1	.00053	-.0012	.0011	-.0005	-.0001	.0029
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.0030	-.0008	.0193					
#1	.0030	-.0008	.0187					
#2	.0030	-.0008	.0198					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4478.0	137420.	8221.2					
#1	4475.9	137500.	8193.6					
#2	4480.2	137340.	8248.7					

Sample Name: KQ1708120-01 Acquired: 6/27/2017 14:05:47 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: E Sample Type:
Comment: AM 062717A 1/5 E K1706097-LCSE

Elem	Al1670	Sb2068	As1890 ✓	Ba4554 ✓	Be2348	B_2496	Cd2144	Cd2265 ✓
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0092	-.0056	.9751	1.962	-.00010	.0135	.1897	.1896
#1	.0092	-.0042	.9705	1.961	-.00013	.0127	.1895	.1895
#2	.0092	-.0070	.9798	1.964	-.00006	.0143	.1899	.1897
Elem	Ca3933	Cr2677 ✓	Co2307	Cu2247	Cu3273 ✓	Fe2599	Pb2203 ✓	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2140	.9585	.0003	.1838	.1875	-.0006	.8812	.0031
#1	.2136	.9581	.0004	.1837	.1873	.0011	.8809	.0023
#2	.2144	.9589	.0001	.1839	.1877	-.0023	.8815	.0039
Elem	Mg2795	Mn2576	Mo2020	Ni2216 ✓	P_1782	K_7664	Se1960 ✓	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0256	.00020	-.0005	.1850	.0060	.0927	.1844	.0373
#1	.0257	.00014	-.0006	.1845	.0043	.1199	.1822	.0376
#2	.0256	.00026	-.0004	.1854	.0077	.0655	.1867	.0370
Elem	Ag3280 ✓	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062 ✓
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1855	294.2	.00041	.0005	.0009	-.0006	-.0031	1.878
#1	.1859	290.6	.00043	.0005	.0005	-.0006	-.0031	1.877
#2	.1851	297.8	.00039	.0005	.0012	-.0006	-.0032	1.879
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	1.848	-.0007	.0273					
#1	1.845	-.0001	.0265					
#2	1.851	-.0012	.0281					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4498.0	138250.	8410.6					
#1	4490.4	138320.	8392.3					
#2	4505.7	138190.	8428.9					

Sample Name: K1706097-001 Acquired: 6/27/2017 14:08:21 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: E Sample Type:
Comment: AM 062717A 1/5 E

Elem	Al1670	Sb2068	As1890 ✓	Ba4554 ✓	Be2348	B_2496	Cd2144	Cd2265 ✓
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9285	-.0014	.0237	.0153	.00006	.1040	.4034	.3959
#1	.9279	-.0005	.0241	.0149	.00008	.1040	.4035	.3957
#2	.9291	-.0023	.0233	.0157	.00004	.1041	.4034	.3962
Elem	Ca3158	Cr2677 ✓	Co2307	Cu2247	Cu3273 ✓	Fe2599	Pb2203 ✓	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	70.54	.0247	.0026	.0598	.0569	.3070	.2996	.8730
#1	70.61	.0244	.0026	.0602	.0565	.3120	.2987	.8801
#2	70.48	.0250	.0027	.0595	.0573	.3020	.3004	.8660
Elem	Mg2852	Mn2576	Mo2020	Ni2216 ✓	P_1782	K_7664	Se1960 ✓	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	41.63	.09223	.0145	.0211	.1842	46.65	.0013	2.813
#1	41.81	.09189	.0144	.0212	.1866	46.76	.0012	2.816
#2	41.45	.09258	.0146	.0210	.1818	46.55	.0013	2.809
Elem	Ag3280 ✓	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062 ✓
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4969	>450.0	.11297	.0036	.0007	-.0011	.0093	.8022
#1	.4981	2251.	.11297	.0017	.0013	-.0011	.0096	.8029
#2	.4958	2195.	.11297	.0055	.0001	-.0011	.0089	.8014
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.7533	.0020	>450.0					
#1	.7523	.0026	1497.					
#2	.7543	.0014	1496.					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4047.5	120320.	8053.1					
#1	4048.0	120310.	8060.7					
#2	4046.9	120330.	8045.4					

Sample Name: KQ1708120-03 Acquired: 6/27/2017 14:11:01 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: E Sample Type:
Comment: AM 062717A 1/5 E K1706097-001D

Elem	Al1670	Sb2068	As1890 ✓	Ba4554 ✓	Be2348	B_2496	Cd2144	Cd2265 ✓
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8994	-.0003	.0181	.0145	.00008	.1015	.3899	.3832
#1	.8996	-.0031	.0188	.0143	.00011	.1013	.3901	.3839
#2	.8993	.0026	.0174	.0147	.00005	.1017	.3896	.3826
Elem	Ca3158	Cr2677 ✓	Co2307	Cu2247	Cu3273 ✓	Fe2599	Pb2203 ✓	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	67.44	.0238	.0029	.0578	.0541	.2897	.2886	.8493
#1	67.35	.0237	.0027	.0581	.0538	.2855	.2888	.8497
#2	67.53	.0238	.0031	.0575	.0545	.2940	.2884	.8488
Elem	Mg2852	Mn2576	Mo2020	Ni2216 ✓	P_1782	K_7664	Se1960 ✓	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	40.34	.08810	.0144	.0202	.1776	44.81	.0025	2.708
#1	40.41	.08787	.0142	.0205	.1769	44.87	.0020	2.715
#2	40.28	.08834	.0146	.0199	.1784	44.76	.0030	2.701
Elem	Ag3280 ✓	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062 ✓
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5005	>450.0	.10857	.0035	.0030	-.0011	.0080	.7723
#1	.5043	2079.	.10856	.0035	.0027	-.0013	.0073	.7729
#2	.4968	2025.	.10858	.0034	.0033	-.0009	.0086	.7716
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.7176	-.0008	>450.0					
#1	.7177	-.0018	1442.					
#2	.7176	.0002	1443.					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	3996.3	120320.	8032.4					
#1	3993.9	121080.	8033.1					
#2	3998.8	119550.	8031.6					

Sample Name: KQ1708120-04 Acquired: 6/27/2017 14:13:42 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 5 Test Type: E Sample Type:
 Comment: AM 062717A 1/5 E K1706097-001S

Elem	Al1670	Sb2068	As [*] 1890	Ba ^{**} 4554	Be2348	B_2496	Cd2144	Cd2265 [✓]
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8812	-.0062	.9231	.0177	.00022	.1020	.5561	.5479
#1	.8856	-.0063	.9217	.0176	.00041	.1016	.5574	.5495
#2	.8769	-.0061	.9244	.0179	.00004	.1023	.5547	.5463
Elem	Ca3158	Cr [✓] 2677	Co2307	Cu2247	Cu [✓] 3273	Fe2599	Pb ^{***} 2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	65.84	.9449	.0028	.2225	.2170	.2809	.8741	.8236
#1	66.12	.9296	.0028	.2234	.2176	.2830	.8737	.8204
#2	65.55	.9601	.0027	.2216	.2163	.2787	.8744	.8268
Elem	Mg2852	Mn2576	Mo2020	Ni [✓] 2216	P_1782	K_7664	Se [✓] 1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	39.27	.08703	.0138	.1916	.1693	43.70	.1786	2.645
#1	39.10	.08807	.0139	.1922	.1677	43.62	.1766	2.639
#2	39.43	.08599	.0137	.1909	.1709	43.79	.1805	2.651
Elem	Ag [*] 3280	Na5895	Sr4077	Ti1908	Sn1899	Ti3361	V_2924	Zn [✓] 2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5067	>450.0	.09556	.0016	.0008	.0049	.0056	2.548
#1	.5055	2051.	.09567	.0033	.0014	.0107	.0064	2.552
#2	.5079	1964.	.09544	.0000	.0003	-.0009	.0049	2.545
Elem	Zn2138	Bi2230	S_1820	<i>* - Ag failed but PS is okay. ** - Ba ≈ 1%, PS is okay. *** - Pb = 57%. sample positive for sulfates. Aka 6/27/17</i>				
Units	ppm	ppm	ppm					
Avg	2.371	.0016	>450.0					
#1	2.372	.0005	1423.					
#2	2.371	.0027	1422.					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4037.3	122820.	8046.4					
#1	4029.9	123820.	8020.4					
#2	4044.6	121830.	8072.5					

Sample Name: K1706097-001A Acquired: 6/27/2017 14:16:19 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 5 Test Type: E Sample Type:
 Comment: AM 062717A 1/5 E A=0.1/10mL MET3-1-A

Elem Units Avg	Al1670 ppm .9472	Sb2068 ppm -.0382	As1890 ppm 4.622	Ba4554 ppm 8.742	Be2348 ppm .00009	B_2496 ppm .1038	Cd2144 ppm 1.336	Cd2265 ppm 1.316
#1	.9507	-.0380	4.613	8.616	.00012	.1024	1.336	1.316
#2	.9437	-.0383	4.630	8.869	.00006	.1052	1.336	1.317
Elem Units Avg	Ca3158 ppm 72.02	Cr2677 ppm 4.940	Co2307 ppm .0032	Cu2247 ppm .9280	Cu3273 ppm .8704	Fe2599 ppm .3073	Pb2203 ppm 4.079	Li6707 ppm .8549
#1	71.91	4.934	.0030	.9265	.8687	.3064	4.070	.8768
#2	72.13	4.945	.0034	.9294	.8721	.3082	4.089	.8331
Elem Units Avg	Mg2852 ppm 40.81	Mn2576 ppm .09384	Mo2020 ppm .0152	Ni2216 ppm .9225	P_1782 ppm .1882	K_7664 ppm 46.00	Se1960 ppm .9103	Si2516 ppm 2.734
#1	41.68	.09404	.0150	.9227	.1913	46.93	.9042	2.785
#2	39.94	.09365	.0154	.9223	.1851	45.08	.9165	2.683
Elem Units Avg	Ag3280 ppm 1.377	Na5895 ppm >450.0	Sr4077 ppm .11450	Tl1908 ppm .0028	Sn1899 ppm .0006	Ti3361 ppm -.0010	V_2924 ppm -.0067	Zn2062 ppm 10.13
#1	1.374	2052.	.11450	.0018	.0008	-.0010	-.0061	10.13
#2	1.380	2048.	.11450	.0038	.0005	-.0011	-.0073	10.12
Elem Units Avg	Zn2138 ppm >4.500	Bi2230 ppm -.0004	S_1820 ppm >450.0	<i>* - PS = 76%, the sample positive for sulfates.</i> <i>ARM 6/27/17</i>				
#1	8.857	-.0015	1473.					
#2	8.904	.0007	1480.					
Int. Std. Units Avg	Y_2243 Cts/S 3933.2	Y_3600 Cts/S 117490.	Y_3600-2 Cts/S 7678.4					
#1	3928.1	117170.	7821.5					
#2	3938.3	117810.	7535.4					

Sample Name: K1706097-004 Acquired: 6/27/2017 14:19:00 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: E Sample Type:
Comment: AM 062717A 1/5 E

Elem	Al3944	Sb2068	As1890 ✓	Ba4554 ✓	Be2348	B_2496	Cd2144	Cd2265 ✓
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.762	-.0012	.0130	.0155	.00017	.0827	.0237	.0234
#1	5.747	-.0024	.0114	.0138	.00016	.0821	.0235	.0233
#2	5.777	.0000	.0147	.0172	.00018	.0833	.0239	.0235
Elem	Ca3158	Cr2677 ✓	Co2307	Cu2247	Cu3273 ✓	Fe2599	Pb2203 ✓	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.093	.0053	.0022	.0009	-.0001	.9272	.0482	.3861
#1	9.069	.0053	.0021	.0010	.0001	.9289	.0481	.3840
#2	9.117	.0053	.0023	.0008	-.0003	.9255	.0482	.3882
Elem	Mg2852	Mn2576	Mo2020	Ni2216 ✓	P_1782	K_7664	Se1960 ✓	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.61	.06123	.0043	.0106	.1417	15.80	.0039	4.297
#1	10.58	.06144	.0044	.0102	.1417	15.67	.0037	4.293
#2	10.63	.06102	.0043	.0109	.1417	15.93	.0042	4.300
Elem	Ag3280 ✓	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062 ✓
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0226	>450.0	.08975	.0005	.0028	.0110	.0058	.4007
#1	.0229	1768.	.08974	-.0010	.0045	.0110	.0056	.3998
#2	.0224	1750.	.08975	.0021	.0012	.0111	.0059	.4015
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.3672	-.0005	>450.0					
#1	.3679	.0015	1198.					
#2	.3664	-.0025	1193.					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4042.7	121200.	7680.6					
#1	4060.1	120620.	7646.2					
#2	4025.4	121790.	7715.1					

Sample Name: K1706097-005 Acquired: 6/27/2017 14:21:45 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 5 Test Type: E Sample Type:
 Comment: AM 062717A 1/5 E

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0709	-.0009	.0167	.0202	.00008	.6043	.0089	.0090

#1	.0706	-.0027	.0189	.0204	.00012	.6078	.0089	.0091
#2	.0712	.0010	.0146	.0199	.00005	.6008	.0090	.0090

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.60	.0041	.0008	.0361	.0338	.0382	.0122	.3232

#1	18.65	.0045	.0006	.0359	.0335	.0396	.0129	.3254
#2	18.55	.0037	.0010	.0363	.0342	.0368	.0115	.3210

Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.731	.02884	.0176	.0063	1.790	15.93	.0035	9.734

#1	2.745	.02878	.0176	.0065	1.790	15.93	.0047	9.747
#2	2.716	.02890	.0176	.0061	1.790	15.93	.0023	9.721

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0601	>450.0	.06478	-.0001	.0014	.0029	.0184	.2182

#1	.0596	1520.	.06517	.0003	.0017	.0029	.0186	.2180
#2	.0605	1512.	.06440	-.0004	.0012	.0030	.0183	.2184

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.2014	.0021	>450.0

#1	.2007	.0015	965.7
#2	.2021	.0028	971.9

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4076.2	121180.	7603.9

#1	4061.7	121080.	7558.6
#2	4090.7	121280.	7649.3

Sample Name: K1706097-006 Acquired: 6/27/2017 14:24:25 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: E Sample Type:
Comment: AM 062717A 1/5 E

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0742	-.0072	.0567	.0214	-.00002	.0612	.0111	.0110

#1	.0745	-.0037	.0568	.0213	-.00009	.0601	.0111	.0110
#2	.0739	-.0107	.0567	.0216	.00006	.0623	.0111	.0110

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	48.36	.6375	.0009	.0153	.0137	.0438	.0091	.2147

#1	48.13	.6382	.0012	.0159	.0141	.0434	.0096	.2176
#2	48.60	.6369	.0007	.0147	.0132	.0442	.0086	.2118

Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.831	.04097	.0240	.0075	.9613	18.13	-.0013	2.187

#1	7.782	.04087	.0241	.0075	.9591	18.41	-.0029	2.203
#2	7.879	.04107	.0239	.0075	.9636	17.84	.0002	2.172

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0744	>450.0	.36482	.0017	.0013	-.0011	.0342	.1923

#1	.0739	1420.	.36407	.0024	.0012	-.0011	.0339	.1928
#2	.0748	1378.	.36557	.0010	.0014	-.0011	.0345	.1919

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.1782	-.0014	>450.0

#1	.1776	-.0008	899.3
#2	.1789	-.0020	905.3

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4107.8	121600.	7696.9

#1	4091.7	121270.	7806.9
#2	4123.9	121930.	7586.9

Sample Name: K1706097-007 Acquired: 6/27/2017 14:27:06 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: E Sample Type:
Comment: AM 062717A 1/5 E

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9172	-.0002	.0129	.0171	.00004	.1454	.1112	.1091

#1	.9185	.0016	.0158	.0174	.00004	.1462	.1112	.1091
#2	.9159	-.0021	.0099	.0169	.00005	.1446	.1111	.1091

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	28.93	.0219	.0028	.0316	.0274	.2340	.0656	.2616

#1	28.93	.0221	.0029	.0307	.0273	.2356	.0658	.2588
#2	28.93	.0218	.0027	.0326	.0275	.2325	.0654	.2644

Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.28	.11034	.0263	.1293	.0678	29.89	.0000	1.513

#1	11.19	.11041	.0264	.1297	.0680	29.57	.0007	1.508
#2	11.37	.11028	.0262	.1289	.0675	30.22	-.0007	1.518

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0336	>450.0	.07464	.0011	.0007	-.0013	.0078	.2513

#1	.0336	1930.	.07448	.0000	.0014	-.0016	.0081	.2512
#2	.0336	1929.	.07480	.0022	.0001	-.0011	.0076	.2513

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.2180	-.0011	>450.0

#1	.2183	-.0010	1374.
#2	.2177	-.0012	1372.

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	3850.2	113350.	7243.4

#1	3852.2	113530.	7187.2
#2	3848.2	113180.	7299.6

Sample Name: CCVB Acquired: 6/27/2017 14:29:52 Type: QC
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.529	10.19	-.0017	1.010	10.43	-.00001	.0016	.0000
Stddev	.020	.03	.0011	.003	.03	.00000	.0008	.000
%RSD	.2593	.2941	64.00	.2534	.3249	4.6876	51.18	41.64

#1	7.543	10.17	-.0009	1.008	10.40	-.00001	.0022	.0000
#2	7.515	10.21	-.0024	1.011	10.45	-.00001	.0010	-.0001

Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None	None	None
Value Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	10.17	10.02	.0004	.0003	.0005	.0004	10.04
Stddev	.000	.00	.05	.0004	.0004	.0004	.0000	.03
%RSD	709.6	.0284	.4775	94.57	128.1	85.17	4.155	.3317

#1	.0001	10.17	9.983	.0007	.0000	.0002	.0003	10.02
#2	-.0001	10.17	10.05	.0001	.0006	.0007	.0004	10.06

Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass
Value Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010	.9509	9.016	9.406	8.978	1.0006	F .8888	-.0002
Stddev	.0017	.0018	.007	.003	.010	.0039	.0006	.0001
%RSD	180.3	.1849	.0820	.0355	.1151	.38924	.0664	43.29

#1	.0022	.9521	9.011	9.404	8.985	1.0034	.8884	-.0003
#2	-.0003	.9496	9.021	9.408	8.970	.99787	.8893	-.0002

Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Fail	None
Value Range							1.000 -10.44%	

See review
 ARM 6/27/17

Sample Name: CCVB Acquired: 6/27/2017 14:29:52 Type: QC
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	10.21	9.730	.0004	F 8.776	-.0008	10.01	1.0221
Stddev	.000	.00	.015	.0002	.023	.0005	.06	.0011
%RSD	394.9	.0317	.1586	51.43	.2618	63.89	.5525	.10788
#1	.0000	10.21	9.719	.0003	8.793	-.0011	10.05	1.0213
#2	-.0001	10.22	9.740	.0006	8.760	-.0004	9.973	1.0229
Check ?	None	Chk Pass	Chk Pass	None	Chk Fail	None	Chk Pass	Chk Pass
Value					10.00			
Range					-10.44%			

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0015	.0002	.0003	-.0001	.0003	.0003	1.020	F 1.127
Stddev	.0017	.0000	.0001	.0003	.0002	.0000	.002	.007
%RSD	117.3	12.30	25.74	175.3	54.97	7.164	.2391	.6113
#1	.0027	.0002	.0004	.0000	.0004	.0003	1.019	1.132
#2	.0003	.0002	.0003	-.0003	.0002	.0003	1.022	1.122
Check ?	None	None	None	None	None	None	Chk Pass	Chk Fail
Value								1.000
Range								10.44%

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4506.9	138810.	7696.1
Stddev	3.3	603.	65.2
%RSD	.07213	.43456	.84754
#1	4504.6	138380.	7742.3
#2	4509.2	139230.	7650.0

ARM 6/27/17

Sample Name: CCVB Acquired: 6/27/2017 14:32:32 Type: QC
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: RERUN.

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.713	10.33	.0003	1.016	10.46	.00001	.0013	-.0001
Stddev	.002	.06	.0035	.001	.03	.00002	.0005	.0002
%RSD	.0309	.5854	1126.	.1129	.3322	198.76	42.75	162.6
#1	7.715	10.38	.0028	1.017	10.48	.00002	.0009	.0000
#2	7.711	10.29	-.0021	1.015	10.43	.00000	.0017	-.0002
Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None	None	None
Value Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	10.37	10.21	-.0003	.0003	.0006	.0005	10.22
Stddev	.0000	.07	.03	.0003	.0003	.0001	.0002	.05
%RSD	46.47	.6407	.3144	80.48	102.2	17.96	33.75	.4750
#1	.0000	10.41	10.19	-.0001	.0005	.0007	.0006	10.18
#2	.0001	10.32	10.23	-.0005	.0001	.0006	.0004	10.25
Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass
Value Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	.9534	9.515	9.493	9.030	1.0102	.8975	-.0005
Stddev	.0014	.0051	.798	.089	.039	.0191	.0115	.0002
%RSD	221.7	.5325	8.392	.9410	.4319	1.8903	1.282	35.63
#1	-.0004	.9498	8.950	9.557	9.002	1.0237	.9056	-.0006
#2	.0016	.9570	10.08	9.430	9.057	.99667	.8894	-.0004
Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None
Value Range								

Sample Name: CCVB Acquired: 6/27/2017 14:32:32 Type: QC
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: RERUN.

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	10.45	9.808	.0018	F 8.807	-.0008	9.786	1.0463
Stddev	.0003	.03	.018	.0005	.038	.0005	.050	.0036
%RSD	68.33	.2401	.1873	26.19	.4343	62.38	.5053	.34014
#1	.0006	10.47	9.821	.0015	8.780	-.0011	9.751	1.0438
#2	.0002	10.44	9.795	.0022	8.834	-.0004	9.821	1.0488
Check ?	None	Chk Pass	Chk Pass	None	Chk Fail	None	Chk Pass	Chk Pass
Value					10.00			
Range					-10.44%			

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	.0000	.0004	-.0005	.0004	.0002	1.043	1.068
Stddev	.0004	.000	.0004	.0002	.0002	.0001	.008	.008
%RSD	55.80	33260.	94.33	37.09	38.72	46.94	.7648	.7421
#1	.0004	.0002	.0007	-.0004	.0006	.0002	1.049	1.074
#2	.0010	-.0002	.0001	-.0007	.0003	.0003	1.037	1.063
Check ?	None	None	None	None	None	None	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4430.2	137870.	7616.7
Stddev	6.3	1995.	4.3
%RSD	.14306	1.4473	.05589
#1	4425.7	136460.	7619.7
#2	4434.6	139280.	7613.7

* - NR S: after 14:00
 ARUN 6/27/17

Sample Name: CCVA Acquired: 6/27/2017 14:35:16 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2565	.2580	.2494	.2533	.2587	.24609	.2464	.2529
Stddev	.0004	.0018	.0023	.0014	.0017	.00177	.0002	.0003
%RSD	.1684	.7081	.9137	.5517	.6544	.71792	.0941	.1251
#1	.2568	.2592	.2510	.2523	.2599	.24734	.2465	.2526
#2	.2562	.2567	.2478	.2542	.2575	.24484	.2462	.2531

Check ?	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2556	.5199	.5102	.2577	.2493	.2496	.2485	.2555
Stddev	.0005	.0000	.0021	.0004	.0008	.0007	.0021	.0069
%RSD	.2045	.0009	.4049	.1505	.3207	.2722	.8611	2.694
#1	.2560	.5199	.5117	.2574	.2487	.2492	.2500	.2604
#2	.2552	.5199	.5088	.2579	.2498	.2501	.2470	.2507

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value								
Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2450	.0023	.2759	.2414	.2215	.25513	.2188	.2515
Stddev	.0016	.0015	.0278	.0009	.0019	.00112	.0038	.0009
%RSD	.6720	63.79	10.08	.3665	.8386	.43945	1.752	.3703
#1	.2462	.0034	.2955	.2420	.2202	.25434	.2161	.2508
#2	.2439	.0013	.2562	.2408	.2228	.25592	.2215	.2521

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	Chk Pass
Value								
Range								

Sample Name: CCVA Acquired: 6/27/2017 14:35:16 Type: QC
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2545	.0038	2.472	.2525	.1102	.2529	.4313	.00012
Stddev	.0006	.0005	.011	.0005	.0040	.0005	.0126	.00008
%RSD	.2186	12.23	.4492	.2120	3.671	.1965	2.929	61.169
#1	.2541	.0042	2.464	.2521	.1073	.2532	.4402	.00007
#2	.2548	.0035	2.479	.2528	.1130	.2525	.4223	.00018

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	None
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2527	.2530	.2499	.2529	.2479	.2495	.0005	.0655
Stddev	.0010	.0001	.0000	.0008	.0002	.0001	.0005	.0009
%RSD	.3843	.0321	.0121	.2998	.0913	.0270	97.99	1.323
#1	.2520	.2531	.2499	.2535	.2477	.2495	.0008	.0649
#2	.2534	.2530	.2499	.2524	.2480	.2496	.0002	.0661

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4525.6	138820.	7629.7
Stddev	8.5	742.	71.9
%RSD	.18740	.53475	.94243
#1	4531.6	139350.	7578.9
#2	4519.6	138300.	7680.6

Sample Name: CCB Acquired: 6/27/2017 14:37:39 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:

Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	-.0014	.0007	.0012	.0005	-.00004	.0010	-.0001
Stddev	.0002	.0003	.0008	.0008	.0000	.00002	.0001	.0000
%RSD	366.8	23.77	109.2	70.69	6.821	42.636	9.165	22.48
#1	.0001	-.0016	.0013	.0006	.0004	-.00005	.0010	-.0001
#2	-.0002	-.0012	.0002	.0017	.0005	-.00003	.0009	-.0001
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0018	.0007	.0000	.0001	.0002	.0004	.0000
Stddev	.0000	.0005	.0000	.001	.0004	.0005	.0000	.0007
%RSD	153.5	26.96	3.667	1507.	524.1	261.7	5.866	1605.
#1	.0000	.0021	.0007	.0003	.0003	-.0001	.0004	.0005
#2	.0000	.0014	.0008	-.0004	-.0002	.0005	.0005	-.0004
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	-.0002	-.0162	.0002	-.0012	.00002	-.0005	.0008
Stddev	.0029	.0009	.0049	.0001	.0011	.00008	.0016	.0005
%RSD	940.0	584.5	30.14	50.36	92.01	398.64	293.3	61.60
#1	.0017	-.0008	-.0127	.0001	-.0004	-.00003	-.0017	.0012
#2	-.0024	.0005	-.0196	.0002	-.0020	.00007	.0006	.0005
Check ?	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass
High Limit								
Low Limit								

Sample Name: CCB Acquired: 6/27/2017 14:37:39 Type: QC
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	.0005	.0082	.0014	.0003	-.0003	.1554	.00009
Stddev	.0003	.0006	.0098	.0014	.0035	.0001	.0113	.00004
%RSD	103.1	139.6	119.5	105.6	1178.	40.15	7.298	46.619
#1	-.0001	.0009	.0151	.0024	-.0022	-.0002	.1474	.00006
#2	-.0006	.0000	.0013	.0003	.0027	-.0003	.1634	.00012

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0015	.0005	.0001	.0002	-.0002	.0000	.0024	F .0563
Stddev	.0008	.0005	.0000	.0001	.0000	.0001	.0001	.0027
%RSD	51.64	107.9	34.68	56.13	18.10	11680.	4.670	4.740
#1	.0009	.0009	.0001	.0002	-.0001	-.0001	.0025	.0582
#2	.0020	.0001	.0001	.0001	-.0002	.0001	.0023	.0544

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
High Limit								.0400
Low Limit								-.0400

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4503.3	139460.	7611.5
Stddev	4.1	252.	.4
%RSD	.09166	.18092	.00534
#1	4506.2	139640.	7611.8
#2	4500.3	139280.	7611.2

Sample Name: K1706097-008 Acquired: 6/27/2017 14:40:18 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 5 Test Type: E Sample Type:
 Comment: AM 062717A 1/5 E

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	48.15	.0023	.0129	.0076	.00003	.1932	-.0001	.0000

#1	47.70	.0021	.0131	.0077	-.00002	.1916	-.0001	-.0001
#2	48.60	.0026	.0128	.0075	.00007	.1948	-.0002	.0000

Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.713	.0013	.0001	.0005	-.0003	.0008	-.0020	.0266

#1	3.740	.0019	.0004	.0004	-.0007	.0007	-.0014	.0265
#2	3.686	.0008	-.0003	.0006	.0002	.0008	-.0026	.0266

Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0177	.00005	.0388	.0002	.1022	23.78	.0082	.2942

#1	.0178	.00009	.0389	.0000	.1046	23.66	.0078	.2932
#2	.0177	.00001	.0387	.0005	.0998	23.89	.0086	.2952

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0121	>450.0	.00791	.0013	.0004	-.0014	.0091	.0012

#1	.0122	1949.	.00799	.0005	.0010	-.0014	.0097	.0011
#2	.0121	1899.	.00782	.0022	-.0002	-.0015	.0084	.0012

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.0010	-.0011	>450.0

#1	.0010	-.0015	1155.
#2	.0010	-.0006	1156.

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4092.4	119130.	7512.2

#1	4091.7	118310.	7458.1
#2	4093.2	119950.	7566.2

Sample Name: K1706097-009 Acquired: 6/27/2017 14:43:03 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 5 Test Type: E Sample Type:
 Comment: AM 062717A 1/5 E

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1227	.0023	.0115	.0168	.00004	.0946	.0480	.0474
#1	.1227	.0030	.0107	.0169	-.00003	.0943	.0478	.0473
#2	.1227	.0016	.0123	.0167	.00010	.0948	.0481	.0475
Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.34	.0020	.0021	.0012	.0001	.5663	.0331	.4105
#1	24.43	.0019	.0023	.0011	.0001	.5642	.0333	.4097
#2	24.24	.0020	.0019	.0012	.0000	.5684	.0329	.4114
Elem	Mg2852	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.82	.05603	.0062	.0143	1.242	24.50	.0016	3.001
#1	16.81	.05602	.0061	.0145	1.244	24.48	.0007	3.000
#2	16.82	.05604	.0062	.0141	1.239	24.53	.0025	3.002
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0013	>450.0	.08862	.0017	.0005	-.0015	.0061	.2910
#1	.0013	1880.	.08894	.0021	.0002	-.0014	.0062	.2905
#2	.0014	1829.	.08831	.0013	.0007	-.0017	.0060	.2916
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.2605	.0002	>450.0					
#1	.2608	-.0014	1281.					
#2	.2602	.0017	1281.					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	3917.0	115890.	7453.4					
#1	3925.9	116380.	7449.5					
#2	3908.2	115400.	7457.4					

Sample Name: K1706097-010 Acquired: 6/27/2017 14:45:48 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 5 Test Type: E Sample Type:
 Comment: AM 062717A 1/5 E

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2058	.0003	.0072	.0184	.00006	.5069	.0079	.0082

#1	.2064	.0004	.0071	.0185	.00008	.5084	.0079	.0081
#2	.2051	.0003	.0073	.0182	.00004	.5054	.0079	.0083

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.61	.0252	.0012	.0331	.0305	-.0008	.0084	.6009

#1	23.44	.0250	.0016	.0328	.0308	-.0013	.0086	.6049
#2	23.77	.0254	.0008	.0333	.0302	-.0002	.0082	.5969

Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.839	.04191	.0194	.0056	.0812	16.73	.0046	4.777

#1	2.824	.04199	.0192	.0057	.0799	16.78	.0053	4.779
#2	2.855	.04182	.0195	.0054	.0825	16.69	.0039	4.775

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009	>450.0	.20238	-.0001	.0013	.0000	.0501	.1642

#1	.0012	1552.	.20175	.0006	.0010	.0002	.0502	.1645
#2	.0005	1511.	.20301	-.0008	.0016	-.0001	.0501	.1638

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	.1475	.0006	>450.0

#1	.1470	.0000	1006.
#2	.1480	.0012	1009.

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	3975.9	117700.	7402.0

#1	3960.6	118120.	7459.0
#2	3991.1	117270.	7345.0

Sample Name: KQ1708119-02 Acquired: 6/27/2017 14:51:16 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 5 Test Type: E Sample Type:
 Comment: AM 062717A 1/5 E K1706097-MB

Elem	Al1670	Sb2068	As1890 ✓	Ba4554 ✓	Be2348	B_2496	Cd2144	Cd2265 ✓
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0106	.0006	.0027	.0066	-.00006	.0261	.0001	.0002
#1	.0110	.0020	.0035	.0064	-.00010	.0246	.0001	.0003
#2	.0102	-.0009	.0018	.0067	-.00002	.0275	.0001	.0001
Elem	Ca3933	Cr2677 ✓	Co2307	Cu2247	Cu3273 ✓	Fe2599	Pb2203 ✓	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4233	.0000	-.0001	.0007	.0006	-.0055	-.0005	.0012
#1	.4241	.0002	-.0002	.0007	.0003	-.0071	-.0001	.0003
#2	.4224	-.0001	.0001	.0008	.0010	-.0039	-.0010	.0021
Elem	Mg2795	Mn2576	Mo2020	Ni2216 ✓	P_1782	K_7664	Se1960 ✓	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0686	.00021	.0000	.0000	.0082	.1096	.0036	.0182
#1	.0686	.00022	.0000	-.0001	.0093	.1321	.0036	.0179
#2	.0687	.00019	-.0001	.0001	.0071	.0870	.0036	.0185
Elem	Ag3280 ✓	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062 ✓
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	3.676	.00055	.0000	-.0001	.0001	-.0002	.0029
#1	.0000	3.727	.00048	-.0007	.0003	.0001	.0000	.0027
#2	.0008	3.625	.00062	.0007	-.0006	.0001	-.0004	.0031
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.0032	.0009	1.117					
#1	.0033	-.0009	1.129					
#2	.0032	.0027	1.105					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4534.6	139470.	7592.9					
#1	4507.4	139190.	7631.2					
#2	4561.7	139750.	7554.7					

Sample Name: KQ1708119-01 Acquired: 6/27/2017 14:54:08 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: E Sample Type:
Comment: AM 062717A 1/5 E K1706097-LCSE

Elem	Al1670	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0116	.0036	.9643	1.996	.00012	.0297	.1911	.1945

#1	.0114	.0033	.9648	1.993	.00019	.0277	.1912	.1947
#2	.0118	.0039	.9638	1.999	.00005	.0317	.1910	.1944

Elem	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.413	.9849	1.932	.1903	.1990	-.0008	.9383	.0015

#1	2.409	.9856	1.929	.1897	.1996	-.0012	.9377	.0020
#2	2.416	.9841	1.935	.1908	.1983	-.0005	.9389	.0010

Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0716	.00011	2.023	.1977	.0083	.0945	.1889	.0459

#1	.0715	.00009	2.019	.1977	.0075	.0812	.1878	.0510
#2	.0718	.00013	2.027	.1977	.0091	.1078	.1900	.0408

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2027	3.432	.00061	.0009	.0014	.0001	-.0034	1.868

#1	.2030	3.447	.00060	.0010	.0020	.0001	-.0034	1.869
#2	.2023	3.418	.00062	.0007	.0008	.0002	-.0034	1.866

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	1.885	-.0006	1.136

#1	1.878	-.0005	1.137
#2	1.892	-.0007	1.135

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4541.3	142290.	7831.9

#1	4527.8	142280.	7827.6
#2	4554.9	142300.	7836.2

Sample Name: K1706097-002 Acquired: 6/27/2017 14:56:32 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 5 Test Type: E Sample Type:
 Comment: AM 062717A 1/5 E

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.069	-.0017	.0035	.0075	-.00002	.3161	-.0001	.0001
#1	2.065	-.0024	.0042	.0076	.00005	.3159	.0000	.0000
#2	2.074	-.0010	.0028	.0074	-.00009	.3164	-.0002	.0001
Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.73	.0003	.0001	.0007	.0000	.0052	-.0009	.0250
#1	10.72	.0004	-.0001	.0008	.0004	.0100	-.0006	.0231
#2	10.74	.0002	.0002	.0006	-.0005	.0005	-.0012	.0269
Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4206	.00002	.0477	.0000	.0097	20.36	.0076	.0197
#1	.4201	-.00003	.0481	.0001	.0135	20.20	.0080	.0170
#2	.4210	.00008	.0474	.0000	.0059	20.53	.0073	.0224
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	>450.0	.01322	-.0001	.0011	-.0016	.0009	.0021
#1	-.0004	1641.	.01313	-.0002	.0016	-.0018	.0009	.0023
#2	.0001	1634.	.01331	.0001	.0007	-.0015	.0009	.0020
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.0017	-.0001	>450.0					
#1	.0017	.0012	1030.					
#2	.0017	-.0015	1029.					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4044.0	119020.	7434.7					
#1	4048.4	118650.	7407.4					
#2	4039.7	119380.	7462.0					

Sample Name: KQ1708119-03 Acquired: 6/27/2017 14:59:16 Type: Unk
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 5 Test Type: E Sample Type:
Comment: AM 062717A 1/5 E K1706097-002D

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.134	.0007	.0005	.0077	-.00001	.3270	.0002	.0003
#1	2.143	-.0002	-.0021	.0080	.00001	.3279	.0002	.0002
#2	2.126	.0017	.0031	.0075	-.00004	.3262	.0002	.0004
Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.44	.0005	-.0002	.0006	-.0011	-.0019	.0008	.0291
#1	11.39	-.0002	.0000	.0008	-.0017	-.0008	.0001	.0282
#2	11.49	.0012	-.0004	.0004	-.0004	-.0030	.0016	.0300
Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4716	.00033	.0458	-.0002	.0088	21.40	.0060	.0413
#1	.4715	.00031	.0458	-.0005	.0107	21.61	.0094	.0429
#2	.4718	.00035	.0457	.0001	.0069	21.19	.0026	.0396
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0096	>450.0	.01400	.0022	.0004	-.0013	.0012	.0025
#1	.0099	1603.	.01405	.0035	.0005	-.0014	.0009	.0022
#2	.0094	1615.	.01394	.0009	.0002	-.0013	.0015	.0029
Elem	Zn2138	Bi2230	S_1820					
Units	ppm	ppm	ppm					
Avg	.0019	.0018	>450.0					
#1	.0019	.0023	1046.					
#2	.0019	.0012	1054.					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	3926.3	115910.	7352.8					
#1	3898.8	116300.	7454.0					
#2	3953.9	115530.	7251.5					

Sample Name: KQ1708119-04 Acquired: 6/27/2017 15:02:01 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 5 Test Type: E Sample Type:
 Comment: AM 062717A 1/5 E K1706097-002S

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.136	-.0071	.9280	.0230	.00024	.3281	.1926	.1905

#1	2.136	-.0073	.9261	.0230	.00022	.3294	.1927	.1906
#2	2.136	-.0070	.9298	.0230	.00027	.3267	.1925	.1904

Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.52	1.025	1.787	.1757	.1601	-.0018	.5803	.0258

#1	13.55	1.024	1.786	.1759	.1602	-.0015	.5827	.0259
#2	13.50	1.025	1.787	.1755	.1599	-.0021	.5780	.0256

Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4435	.00003	2.067	.1855	.0110	21.57	.1860	.0256

#1	.4458	.00007	2.063	.1858	.0117	21.72	.1857	.0219
#2	.4411	-.00002	2.071	.1853	.0103	21.42	.1863	.0293

Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1742	>450.0	.01420	.0020	.0001	-.0012	-.0021	1.931

#1	.1748	1593.	.01427	.0020	.0004	-.0015	-.0023	1.937
#2	.1736	1603.	.01414	.0020	-.0002	-.0009	-.0019	1.925

Elem	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm
Avg	1.733	.0001	>450.0

#1	1.729	.0011	1064.
#2	1.737	-.0009	1067.

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	3995.2	116710.	7246.7

#1	3984.7	117250.	7254.1
#2	4005.6	116170.	7239.2

* MC for Ba failed, but PS
 is okay.
 ** - See PS.
 ABM 6/27/17

Sample Name: K1706097-002A Acquired: 6/27/2017 15:04:34 Type: Unk
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 5 Test Type: E Sample Type:
 Comment: AM 062717A 1/5 E A=0.1/10mL MET3-1-A

Elem	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.055	-.0422	4.590	8.821	.00000	.3177	.9637	.9554
#1	2.059	-.0418	4.595	8.569	-.00007	.3187	.9692	.9600
#2	2.052	-.0425	4.584	9.073	.00007	.3167	.9583	.9508
Elem	Ca3158	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.02	5.133	.0001	.8894	.8065	-.0003	3.966	.0247
#1	10.99	5.127	.0004	.8916	.8085	-.0002	3.988	.0238
#2	11.05	5.140	-.0002	.8872	.8045	-.0005	3.944	.0256
Elem	Mg2795	Mn2576	Mo2020	Ni2216	P_1782	K_7664	Se1960	Si2516
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4268	.00006	.0494	.9299	.0084	20.43	.8841	.0217
#1	.4250	.00004	.0501	.9347	.0102	21.00	.8855	.0228
#2	.4285	.00008	.0487	.9251	.0066	19.85	.8828	.0207
Elem	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8745	>450.0	.01349	.0004	.0011	-.0015	-.0152	9.604
#1	.8776	1553.	.01352	.0010	.0015	-.0016	-.0149	9.661
#2	.8714	1546.	.01347	-.0002	.0007	-.0014	-.0154	9.547
Elem	Zn2138	Bi2230	S_1820	*- PS = 79%				
Units	ppm	ppm	ppm					
Avg	>4.500	-.0019	>450.0					
#1	8.217	-.0012	1014.					
#2	8.173	-.0027	1011.					
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	3932.7	116420.	7256.5					
#1	3923.9	116780.	7476.9					
#2	3941.5	116060.	7036.1					

Sample Name: CCVB Acquired: 6/27/2017 15:07:15 Type: QC
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.639	10.01	.0004	1.007	10.43	.00005	.0021	.0000
Stddev	.036	.04	.0026	.005	.00	.00003	.0003	.000
%RSD	.4721	.4217	580.4	.5081	.0390	57.494	13.52	2.510
#1	7.614	10.04	-.0014	1.003	10.43	.00003	.0023	.0000
#2	7.665	9.977	.0023	1.011	10.42	.00007	.0019	.0000
Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None	None	None
Value Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	10.35	10.14	.0003	.0004	.0006	.0002	10.00
Stddev	.0001	.05	.02	.0009	.0001	.0000	.0002	.06
%RSD	66.82	.4856	.1775	288.4	27.95	5.552	97.49	.5507
#1	.0001	10.39	10.15	-.0003	.0005	.0007	.0003	10.04
#2	.0000	10.32	10.13	.0010	.0003	.0006	.0001	9.962
Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass
Value Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0015	.9311	F 8.717	9.358	F 8.624	1.0304	F 8.685	.0027
Stddev	.0017	.0086	.021	.036	.091	.0009	.0056	.0002
%RSD	111.8	.9222	.2444	.3887	1.054	.08642	.6498	6.032
#1	.0027	.9250	8.702	9.384	8.559	1.0311	.8645	.0026
#2	.0003	.9372	8.732	9.332	8.688	1.0298	.8725	.0028
Check ?	None	Chk Pass	Chk Fail	None	Chk Fail	None	Chk Fail	None
Value Range			10.00 -10.44%		10.00 -10.44%		1.000 -10.44%	

* - After 14:37 NR
 Mg 2790, Mg 2852 & Mn 2605
 AFM 6/27/17

Sample Name: CCVB Acquired: 6/27/2017 15:07:15 Type: QC
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	10.32	9.898	.0028	F 8.429	-.0001	9.888	1.0538
Stddev	.0000	.00	.069	.0017	.035	.0000	.058	.0029
%RSD	6.560	.0432	.6916	63.08	.4090	32.55	.5911	.28006
#1	.0006	10.32	9.850	.0015	8.405	-.0001	9.846	1.0559
#2	.0005	10.32	9.947	.0040	8.454	-.0001	9.929	1.0517

Check ?	None	Chk Pass	Chk Pass	None	Chk Fail	None	Chk Pass	Chk Pass
Value					10.00			
Range					-10.44%			

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	-.0005	.0001	-.0008	.0003	.0004	1.020	1.088
Stddev	.0000	.0005	.0001	.0006	.0001	.0001	.002	.007
%RSD	7.134	117.6	78.79	79.57	18.55	38.54	.1561	.6856
#1	.0005	-.0001	.0002	-.0003	.0004	.0005	1.019	1.094
#2	.0004	-.0009	.0001	-.0012	.0003	.0003	1.021	1.083

Check ?	None	None	None	None	None	None	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4460.5	135950.	7503.7
Stddev	.6	216.	78.5
%RSD	.01272	.15889	1.0457
#1	4460.9	136110.	7448.3
#2	4460.1	135800.	7559.2

Sample Name: CCVB Acquired: 6/27/2017 15:09:55 Type: QC
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment: *Review*

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.673	10.22	-.0013	1.011	10.30	.00005	-.0001	-.0001
Stddev	.013	.05	.0014	.001	.07	.00011	.0015	.0000
%RSD	.1719	.4938	107.4	.0658	.6722	233.00	1016.	80.05
#1	7.682	10.19	-.0003	1.011	10.35	-.00003	.0009	-.0001
#2	7.664	10.26	-.0023	1.012	10.25	.00013	-.0012	.0000

Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None	None	None
Value Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	10.30	10.22	-.0002	.0002	.0005	.0004	10.01
Stddev	.0001	.01	.05	.0000	.0001	.0005	.0003	.05
%RSD	370.1	.0840	.4497	28.57	55.34	97.94	68.45	.5423
#1	-.0001	10.29	10.19	-.0001	.0003	.0008	.0007	9.967
#2	.0001	10.31	10.25	-.0002	.0001	.0002	.0002	10.04

Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass
Value Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0023	.9380	F 8.842	9.360	F 8.657	1.0223	F .8668	.0010
Stddev	.0007	.0142	.082	.005	.100	.0015	.0122	.0000
%RSD	32.82	1.515	.9289	.0513	1.153	.14983	1.402	4.907
#1	.0028	.9279	8.784	9.356	8.587	1.0234	.8583	.0010
#2	.0017	.9480	8.900	9.363	8.728	1.0212	.8754	.0010

Check ?	None	Chk Pass	Chk Fail	None	Chk Fail	None	Chk Fail	None
Value Range			10.00 -10.44%		10.00 -10.44%		1.000 -10.44%	

ARM 6/27/17

Sample Name: CCVB Acquired: 6/27/2017 15:09:55 Type: QC
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	10.37	9.823	.0023	F 8.428	-.0002	9.642	1.0487
Stddev	.0000	.01	.084	.0011	.052	.0003	.119	.0000
%RSD	7.396	.1227	.8571	50.45	.6121	154.7	1.237	.00019
#1	.0007	10.38	9.763	.0031	8.391	.0000	9.558	1.0487
#2	.0006	10.36	9.883	.0015	8.464	-.0004	9.727	1.0487

Check ?	None	Chk Pass	Chk Pass	None	Chk Fail	None	Chk Pass	Chk Pass
Value					10.00			
Range					-10.44%			

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010	-.0003	.0003	.0000	.0001	.0003	1.029	1.051
Stddev	.0016	.0022	.0001	.0004	.0003	.0001	.004	.004
%RSD	164.1	749.4	31.83	929.6	370.3	16.22	.3370	.3534
#1	-.0002	-.0019	.0004	-.0002	-.0001	.0003	1.026	1.053
#2	.0021	.0013	.0003	.0003	.0003	.0004	1.031	1.048

Check ?	None	None	None	None	None	None	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4456.2	136670.	7471.2
Stddev	6.1	31.	38.4
%RSD	.13685	.02280	.51376
#1	4460.5	136690.	7444.1
#2	4451.9	136650.	7498.3

ARM 6/27/17

Sample Name: CCVA Acquired: 6/27/2017 15:42:15 Type: QC
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2582	.2629	.2540	.2559	.2644	.25091	.2514	.2550
Stddev	.0019	.0016	.0023	.0040	.0005	.00270	.0021	.0005
%RSD	.7319	.5958	.8992	1.562	.1819	1.0763	.8317	.1786

#1	.2595	.2640	.2524	.2531	.2641	.25282	.2528	.2553
#2	.2569	.2618	.2556	.2588	.2648	.24900	.2499	.2546

Check ?	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2581	.5143	.5184	.2610	.2514	.2516	.2526	.2461
Stddev	.0005	.0085	.0026	.0002	.0003	.0011	.0010	.0046
%RSD	.2126	1.649	.5079	.0633	.1085	.4205	.4068	1.871

#1	.2585	.5083	.5165	.2611	.2512	.2523	.2533	.2428
#2	.2577	.5203	.5202	.2608	.2516	.2508	.2519	.2493

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value								
Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2481	-.0007	.2378	.2411	.2169	.25701	.2152	.2545
Stddev	.0026	.0028	.0086	.0014	.0014	.00063	.0007	.0000
%RSD	1.028	428.3	3.612	.5817	.6377	.24483	.3345	.0108

#1	.2499	.0013	.2439	.2401	.2179	.25657	.2147	.2545
#2	.2463	-.0026	.2317	.2421	.2159	.25746	.2157	.2544

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	Chk Pass
Value								
Range								

Sample Name: CCVA Acquired: 6/27/2017 15:42:15 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2568	.0019	2.495	.2541	.1059	.2585	.3106	.00015
Stddev	.0009	.0039	.026	.0032	.0018	.0024	.0006	.00000
%RSD	.3530	205.5	1.043	1.258	1.731	.9384	.2003	1.6294

#1	.2574	.0046	2.513	.2518	.1072	.2602	.3110	.00015
#2	.2561	-.0009	2.476	.2564	.1046	.2568	.3101	.00015

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	None
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2530	.2543	.2534	.2563	.2500	.2525	-.0004	.0324
Stddev	.0003	.0012	.0005	.0007	.0012	.0010	.0008	.0002
%RSD	.1076	.4702	.2058	.2665	.4840	.3994	195.2	.7504

#1	.2532	.2551	.2537	.2568	.2508	.2518	-.0010	.0322
#2	.2528	.2534	.2530	.2558	.2491	.2532	.0002	.0325

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4543.6	139630.	7547.4
Stddev	17.7	596.	70.3
%RSD	.38994	.42663	.93096

#1	4531.1	140050.	7597.1
#2	4556.2	139210.	7497.8

Sample Name: CCB Acquired: 6/27/2017 15:45:01 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	-.0015	-.0016	.0006	.0003	-.00003	.0013	-.0001
Stddev	.0003	.0003	.0006	.0000	.0001	.00007	.0011	.0001
%RSD	98.73	17.59	35.70	2.894	40.76	229.77	78.06	57.59

#1	.0001	-.0016	-.0020	.0006	.0002	-.00008	.0006	-.0001
#2	.0005	-.0013	-.0012	.0006	.0004	.00002	.0021	-.0001

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	-.0038	.0011	-.0006	.0002	.0001	.0008	.0006
Stddev	.000	.0004	.0000	.0004	.0001	.0003	.0007	.0011
%RSD	2284.	11.44	1.572	69.10	37.43	350.9	89.92	178.6

#1	-.0001	-.0041	.0011	-.0009	.0003	-.0001	.0013	.0014
#2	.0000	-.0035	.0011	-.0003	.0002	.0003	.0003	-.0002

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	.0021	-.0030	.0001	.0012	-.00004	-.0006	.0011
Stddev	.0004	.0014	.0166	.0000	.0014	.00009	.0021	.0001
%RSD	336.8	64.43	548.2	22.50	115.2	207.21	333.9	10.54

#1	.0001	.0012	-.0148	.0001	.0021	.00002	.0008	.0012
#2	-.0004	.0031	.0087	.0001	.0002	-.00010	-.0021	.0010

Check ?	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass
High Limit								
Low Limit								

Sample Name: CCB Acquired: 6/27/2017 15:45:01 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0004	-.0002	.0040	.0027	-.0050	-.0007	.0693	.00021
Stddev	.0004	.0000	.0122	.0018	.0069	.0002	.0073	.00004
%RSD	102.3	10.46	303.0	64.79	138.1	33.41	10.51	20.883

#1	-.0001	-.0002	.0126	.0015	-.0001	-.0009	.0641	-.00024
#2	-.0006	-.0002	-.0046	.0040	-.0099	-.0006	.0744	.00018

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	.0000	.0001	.0003	-.0001	.0000	.0001	.0308
Stddev	.0010	.0003	.0001	.0004	.0001	.0000	.0004	.0056
%RSD	126.3	1114.	151.5	117.9	90.12	90.35	708.1	18.12

#1	.0001	-.0002	.0001	.0000	-.0002	.0001	.0003	.0348
#2	.0015	.0002	.0000	.0005	.0000	.0000	-.0002	.0269

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4534.4	140190.	7576.8
Stddev	14.4	742.	21.9
%RSD	.31835	.52917	.28845

#1	4524.2	139660.	7561.3
#2	4544.6	140710.	7592.2

Sample Name: LLCCV Acquired: 6/27/2017 15:48:20 Type: QC
Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0107	.0097	.0221	.0097	.0045	.00097	.0199	.0010
Stddev	.0001	.0004	.0007	.0018	.0003	.00005	.0001	.0000
%RSD	.7387	4.220	3.042	18.18	7.427	4.8570	.4898	1.987

#1	.0108	.0094	.0225	.0110	.0043	.00101	.0200	.0010
#2	.0107	.0100	.0216	.0085	.0048	.00094	.0198	.0010

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012	.0216	.0214	.0036	.0022	.0041	.0051	.0151
Stddev	.0002	.0014	.0001	.0000	.0002	.0003	.0001	.0015
%RSD	13.39	6.576	.3532	.9093	7.593	7.799	1.567	9.712

#1	.0013	.0226	.0213	.0037	.0021	.0043	.0051	.0162
#2	.0010	.0206	.0214	.0036	.0023	.0039	.0050	.0141

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0094	.0191	.0105	.0048	.0025	.00103	.0019	.0041
Stddev	.0003	.0014	.0391	.0002	.0016	.00001	.0013	.0002
%RSD	2.943	7.177	370.9	3.400	63.31	1.3141	70.63	4.961

#1	.0096	.0181	.0381	.0047	.0036	.00104	.0028	.0039
#2	.0092	.0201	-.0171	.0049	.0014	.00102	.0009	.0042

Check ?	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass
Value								
Range								

Sample Name: LLCCV Acquired: 6/27/2017 15:48:20 Type: QC
 Method: 2017A-ICP-03(v156) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 1 Test Type: Sample Type:
 Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0040	.0419	.1961	.0188	.1680	.0039	.2482	.00111
Stddev	.0002	.0035	.0094	.0033	.0012	.0001	.0052	.00013
%RSD	4.436	8.405	4.782	17.34	.7131	1.436	2.112	11.673

#1	.0039	.0444	.1894	.0212	.1671	.0038	.2519	.00102
#2	.0041	.0394	.2027	.0165	.1688	.0039	.2445	.00120

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0104	.0205	.0020	.0039	.0039	.0039	.0216	F .0701
Stddev	.0013	.0003	.0002	.0007	.0001	.0001	.0003	.0017
%RSD	11.99	1.291	7.567	17.16	1.908	2.798	1.403	2.367

#1	.0113	.0203	.0019	.0044	.0039	.0039	.0214	.0689
#2	.0096	.0207	.0021	.0034	.0040	.0040	.0219	.0713

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
Value								.0400
Range								30.00%

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4575.7	141650.	7575.6
Stddev	4.5	399.	5.0
%RSD	.09859	.28142	.06631

#1	4578.9	141930.	7579.1
#2	4572.5	141370.	7572.0

X - NR S after 14:37

ARM 6/27/17