



VIA ELECTRONIC MAIL

June 6, 2023

Ms. Nancy Piperato
Vice President of Finance
Breeze-Eastern LLC
35 Melanie Lane
Whippany, New Jersey 07981

**Subject: Surface Soil Sampling Results in Support of Water Tower Replacement
Former TransTechnology Corporation Facility, Glen Head, New York**

Dear Ms. Piperato:

WSP USA Inc. (WSP) is pleased to present the results of soil sampling activities at the former TransTechnology Corporation (TTC) facility in Glen Head, New York. The soil sampling was performed in support of the water tower replacement activities that were conducted in the southern portion of the site. The Sea Cliff Operations District of New York American Water (NYAW, now owned by Liberty Utilities), maintained a 500,000-gallon elevated steel water tank on a 0.25-acre lot (8 Dumond Place) that adjoins the southwest corner of the former TTC site (Figure 1). The 80-year-old tower reached the end of its service life and was scheduled for abandonment and replacement. Liberty recognized that dismantling the existing structure and replacing it with a new water tower would require use of the adjacent lot (i.e., the former TTC property) for their equipment and materials (the existing tower occupied nearly all the 0.25-acre lot leaving little room for their proposed activities).

Representatives from Liberty requested and, later, received approval from Breeze-Eastern LLC (via an access agreement) to use a portion of the former TTC property for the replacement activities. The plan, as detailed in the access agreement, included the construction of a temporary access road and the establishment of a staging area on the former TTC site adjacent the water tower lot. The staging area¹ was used both as a platform to position a crane that facilitated the in-place disassembly of the tower, and as a temporary lay down area for the components of the existing tower that were dismantled in preparation for transport and offsite disposal. The staging area was also used as an assembly area for the new water tower once the deconstruction activities were complete.

APPROACH

The staging area used by Liberty is L-shaped and includes approximately 20,000 square-feet in the southern portion of the former TTC property between Dumond Place, the water tower lot, and the Long Island Railroad (Figure 1). The staging area established by Liberty is away from the historical manufacturing areas of the site where investigation and post-remediation soil sample results have demonstrated that no significant concentrations of the constituents of concern were present in the surface soil. WSP did not anticipate, based on these data, that Liberty workers (or their subcontractors) would encounter any affected soil associated with the activities at the former TTC facility; however, there was a concern that the abandonment work could adversely impact the soil at the site. Sections of the steel tower being replaced were reportedly coated with lead-containing paint. Disassembly or cutting metal components coated with the paint could have generated fugitive lead emissions (via paint chips or dust) that, in turn, could affect the surface soil in the staging area. Polyethylene sheeting was used to line select portions of the staging area and cover equipment and stockpiled components of the tower when the crew was offsite (i.e., overnight or during periods when the work is suspended). These steps were

¹ Liberty retained D&B Engineers and Architects, P.C., of Woodbury, New York, to develop the staging specification for the tower replacement activities included in the access agreement between Liberty and Breeze-Eastern. WSP incorporated D&B's staging plan specifications into Figure 1.

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performed to minimize the contact of the materials with rainwater and help contain the dust and paint chips; however, the efficacy of these measures in capturing all the potential fugitive lead emissions was unknown.

SCOPE OF WORK

WSP, on behalf of Breeze-Eastern, implemented a soil sampling program to address the concern of the potential release of lead to the site during the water tower replacement activities. The sampling, which included the collection of 10 composite surface soil samples, was conducted both before (5 samples) and after (5 samples) the replacement activities occurred. Soil samples collected in September 2019 were used to assess the concentrations of lead (if any) in the soil within the proposed staging area before Liberty mobilized to the site for the tower work. These data serve as the (lead) baseline against which the post-replacement surface soil samples collected in April 2023 were evaluated. The surface soil sampling results (for lead) were also compared to the *Restricted Residential* Protection of Health soil cleanup objectives (SCOs) presented in New York Codes, Rules, and Regulations Part 375-6.8 (b), which is the appropriate² evaluation criteria for this portion of the site.

All the lead soil sampling work was conducted in accordance with the New York State Department of Environmental Conservation-approved (NYSDEC-approved) *Interim Site Management Plan* (SMP), dated November 9, 2015, and revised September 23, 2022; the NYSDEC's 2010 *Technical Guidance for Site Investigation and Remediation* (DER-10); and WSP's standard operating procedures (SOPs; Enclosure B). The work included the use of the appropriate personal protective equipment and an onsite photoionization detector (to monitor the breathing zone for the presence of volatile organic compounds). The soil sampling activities did not include any intrusive or dust-generating activities and, thus, the community air monitoring program (as specified in the SMP) was not warranted. No soil cuttings, decontamination water, or other investigation-derived wastes were generated during the sampling activities.

The procedures for the proposed pre- and post-replacement soil sampling at the site are presented below.

SOIL SAMPLING METHODS

WSP collected³ composite surface soil samples at five locations within the Liberty staging area at the southern end of the former TTC site. The sample locations, designated SS-100 through SS-104, were selected to provide a representative assessment of baseline and post-replacement lead content of the soil within the designated work area (Figure 1). Surface soil samples SS-100 and SS-101 were used to evaluate the lead content in the northern portion of the staging area with the balance of the surface soil samples used to assess the soil near the midpoint (samples SS-102 and SS-103) and southern sections (SS-104) of the area. The sample locations were measured from fixed points (fencing or other onsite landmarks) during the pre-deconstruction activities to aid in identifying the same approximate locations for the post-replacement sampling. All the surface soil samples were collected from the 0 to 0.5-foot depth interval of the staging area⁴.

The samples, including the appropriate quality control/quality assurance (QA/QC) samples⁵, were collected using single-use (dedicated) stainless-steel hand tools (spoons or trowels), placed in a dedicated stainless-steel mixing bowl, and homogenized in accordance with WSP SOP 9 (Enclosure B). The homogenized samples were then transferred into labeled laboratory-supplied glassware, placed on wet ice (for preservation), and shipped via overnight carrier to SGS Laboratories, Inc., of Dayton, New Jersey, for analysis of lead by U.S. Environmental Protection Agency (EPA) Method 6010/7000 series. The samples were handled and shipped in accordance with WSP's SOP 3.

Analytical laboratory reports for the September 2019 and April 2023 surface soil sampling are presented in Enclosure A. The data were validated in accordance with the EPA's Contract Laboratory Program National Functional Guidelines. Data validation reports are included in Enclosure C.

² The NYSDEC, in a conference call and memorialization email dated March 3, 2017, stated that for post Operable Unit Number 1 closure activities conducted in support of the redevelopment of the property, the relevant evaluation criteria were the current Part 375 criteria (Restricted Residential SCOs for Protection of Public Health for this portion of the parcel [Table 375-6.8(b)]).

³ The pre-replacement field sampling activities were conducted under WSP oversight by Laurel Environmental Geosciences, D.P.C, of Huntington Station, New York, consistent with the previous pre-development activities at the site.

⁴ The staging area specifications developed by D&B Architects include the temporary placement of gravel. The gravel will be removed following the deconstruction activities, as detailed in the access agreement between NYAW and Breeze-Eastern. Post-deconstruction surface soil samples were collected from directly beneath the gravel at the designated sample locations.

⁵ The pre- and post-replacement soil evaluation included the collection of duplicate soil samples in accordance with WSP's SOP 4. See Table 1 and the analytical laboratory reports presented in Enclosure A.



SAMPLING RESULTS

The September 2019 analytical results revealed detections of lead in all five samples (and the duplicate) collected from the pre-replacement staging area. The detections ranged from a low of 12.3 milligrams per kilogram (mg/kg) in sample SS-102 collected near the midpoint of the staging area to 55 mg/kg in sample SS-104 near the southern end of the area (Figure 1; Table 1). The samples collected in April 2023 contained similar concentrations of lead ranging from 10.6 mg/kg in S in sample SS-103 in the middle of the staging area to 46.1 mg/kg in sample SS-101 collected from the northern part of the area. Notably, all the pre-and post-replacement surface soil sample detections were well below the evaluation criterion for lead of 400 mg/kg consistent with the investigation and remediation findings⁶ for soil sampling performed over the entire site. These results indicate that the water tower replacement activities did not release fugitive lead and did not impact the surface soil at the site.

CONCLUSIONS

WSP performed surface soil sampling in a leased portion of the former TTC property near the south end of the site. The work, conducted in support of the abandonment of the existing elevated water tower and its subsequent replacement, was designed to determine if the tank deconstruction activities released lead impacting the surface soil of the site. The results for both the pre-and post-replacement sampling events were consistent with previous findings for the site and, when compared to each other, did not reveal any impact to the surface soil within the staging area. WSP is not recommending any additional follow up sampling activities associated with the tower replacement.

WSP sincerely appreciates the opportunity to provide continued service to Breeze-Eastern on this project. Please do not hesitate to contact me at (315) 374-8494 or John Simon at (202) 505-1906, if you have any questions or comments regarding this report.

Sincerely yours,

David P. Bouchard
Assistant Vice President

DPB:rlo

k:\breeze-eastern\transtechnology\investigation & remediation\water tower support\lead results ltr 060623.doc

Enclosures

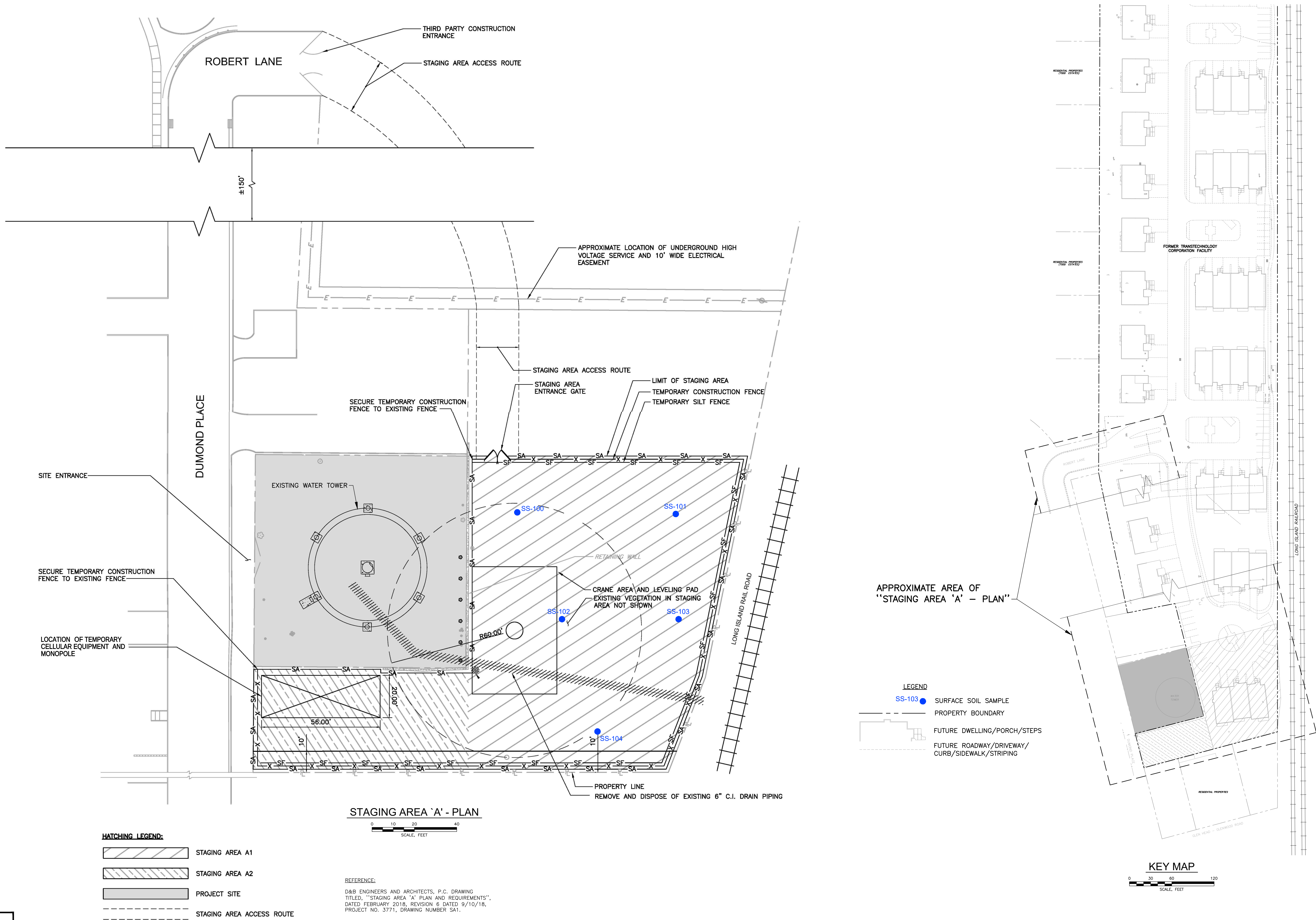
cc: Mr. John Brala, Liberty
Ms. Tara Rutland, New York State Department of Environmental Conservation
Mr. Anthony C. Perretta, New York State Department of Health
Mr. John A. Simon, Gnarus Advisors LLC

⁶ The results of the surface and subsurface soil sampling performed at the site during the soil remediation activities revealed lead amounts ranging from nondetectable concentrations to a high of 55.3 mg/kg, with the majority of the more than 50 samples containing less than 20 mg/kg. See the *Operable Unit No. 1 Remedial Activity Construction Completion Report*, dated November 9, 2015, for additional information.

FIGURE

R:\Shared_GISCAD\CAD\client\Breeze-Eastern\NY-Clean Head\CA0314P0522-D28.dwg 5/26/2019 12:03 PM US201185

D



REVISIONS	
REV	DESCRIPTION
1	ISSUED FOR PERMIT
2	REVISION 6

DATE: _____

SEAL: _____

DRAWN BY: *RE-05/26/2019*

CHECKED: *05/26/2019*

APPROVED: _____

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STAGING AREA AND SURFACE SOIL SAMPLE LOCATIONS

FORMER TRANSTECHNOLOGY CORPORATION FACILITY

PREPARED FOR
BREEZE-EASTERN LLC
WHIPPANY, NEW YORK

WSP USA Inc.
100 SUMMER STREET, 13th FLOOR
BOSTON, MA 02110
TEL: +1 617.426.7330

FIGURE 1

Drawing Number
314P0522-D26

TABLE

Table 1

Surface Soil Sampling Analytical Results - September 2019 and April 2023
Former TransTechnology Corporation Site
Glen Head, New York (a)

Sample ID Date	Criteria (b)	SS-100		SS-101		SS-102		
		9/27/2019	4/28/2023	9/27/2019	4/28/2023	9/27/2019	4/28/2023	4/28/2023 (c)
Lead (mg/kg)	400	14.5	14.6	27.8	46.1	12.3	11.5	14.8

Sample ID Date	Criteria (b)	SS-103			SS-104	
		9/27/2019	9/27/2019 (d)	4/28/2023	9/27/2019	4/28/2023
Lead (mg/kg)	400	45.3	10.6	15.9	55.0	43.8

Notes:

a/ ID = identification; mg/kg = micrograms per kilogram; sample identifications assigned in the field during 2019 include the date appended to the sample location (e.g., SS-100-09272019), which were omitted from the table for simplicity.

b/ Evaluation criteria are the *Restricted Residential* soil cleanup objectives presented in Table 375-6.8(b) of Title 6 New York Codes, Rules and Regulations, Part 375.

c/ A blind duplicate of sample SS-102 (designated as SS-1000) was collected on April 28, 2023.

d/ A duplicate of sample SS-103 (designated as SS-DUPE) was collected on September 27, 2019.

ENCLOSURE A

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

WSP USA Environment & Infrastructure Inc

Former TTC Site, One Robert Lane, Glen Head, NY

314000522.001 TASK 1

SGS Job Number: JD64940

Sampling Date: 04/28/23

Report to:

WSP USA Environment & Infrastructure Inc

David.Bouchard@wsp.com

ATTN: Dave Bouchard

Total number of pages in report: **84**



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

David Chastain
General Manager

Client Service contact: Tammy McCloskey 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA(68-00408), RI, SC, TX, UT, VA, WV

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

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Sample Summary

WSP USA Environment & Infrastructure Inc

Job No: JD64940

Former TTC Site, One Robert Lane, Glen Head, NY
Project No: 314000522.001 TASK 1

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
JD64940-1	04/28/23	12:30 NW	05/03/23	SO	Soil	SS-100
JD64940-2	04/28/23	12:45 NW	05/03/23	SO	Soil	SS-101
JD64940-3	04/28/23	13:00 NW	05/03/23	SO	Soil	SS-102
JD64940-4	04/28/23	09:00 NW	05/03/23	SO	Soil	SS-1000
JD64940-5	04/28/23	13:15 NW	05/03/23	SO	Soil	SS-103
JD64940-6	04/28/23	13:30 NW	05/03/23	SO	Soil	SS-104

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

CASE NARRATIVE / CONFORMANCE SUMMARY

2

Client: WSP USA Environment & Infrastructure Inc

Job No: JD64940

Site: Former TTC Site, One Robert Lane, Glen Head, NY

Report Date 5/17/2023 11:40:49 A

On 05/03/2023, 6 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at SGS North America Inc. (SGS) at a temperature of 4.5 °C. The samples were intact and properly preserved, unless noted below. An SGS Job Number of JD64940 was assigned to the project. The lab sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary.

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

Metals Analysis By Method SW846 6010D

Matrix: SO

Batch ID: MP39408

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD64929-6MS, JD64929-6MSD, JD64929-6SDL were used as the QC samples for the metals analysis.

General Chemistry By Method SM2540 G 18TH ED MOD

Matrix: SO

Batch ID: GN41075

- Sample(s) JD64906-14DUP were used as the QC samples for the Solids, Percent analysis.

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

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

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

Summary of Hits

Job Number: JD64940
Account: WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY
Collected: 04/28/23



Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JD64940-1	SS-100					
Lead		14.6	2.3		mg/kg	SW846 6010D
JD64940-2	SS-101					
Lead		46.1	2.2		mg/kg	SW846 6010D
JD64940-3	SS-102					
Lead		11.5	2.2		mg/kg	SW846 6010D
JD64940-4	SS-1000					
Lead		14.8	2.2		mg/kg	SW846 6010D
JD64940-5	SS-103					
Lead		15.9	2.4		mg/kg	SW846 6010D
JD64940-6	SS-104					
Lead		43.8	2.3		mg/kg	SW846 6010D



Dayton, NJ

Section 4

4

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	SS-100	Date Sampled:	04/28/23
Lab Sample ID:	JD64940-1	Date Received:	05/03/23
Matrix:	SO - Soil	Percent Solids:	90.9
Project:	Former TTC Site, One Robert Lane, Glen Head, NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	14.6	2.3	mg/kg	1	05/04/23	05/05/23 ND	SW846 6010D ¹	SW846 3050B ²

(1) Instrument QC Batch: MA54133
(2) Prep QC Batch: MP39408

RL = Reporting Limit

4.1
4

Report of Analysis

Client Sample ID:	SS-101	Date Sampled:	04/28/23
Lab Sample ID:	JD64940-2	Date Received:	05/03/23
Matrix:	SO - Soil	Percent Solids:	92.6
Project:	Former TTC Site, One Robert Lane, Glen Head, NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	46.1	2.2	mg/kg	1	05/04/23	05/05/23 ND	SW846 6010D ¹	SW846 3050B ²

(1) Instrument QC Batch: MA54133
(2) Prep QC Batch: MP39408

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS-102	Date Sampled:	04/28/23
Lab Sample ID:	JD64940-3	Date Received:	05/03/23
Matrix:	SO - Soil	Percent Solids:	89.8
Project:	Former TTC Site, One Robert Lane, Glen Head, NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	11.5	2.2	mg/kg	1	05/04/23	05/05/23 ND	SW846 6010D ¹	SW846 3050B ²

(1) Instrument QC Batch: MA54133
(2) Prep QC Batch: MP39408

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS-1000	Date Sampled:	04/28/23
Lab Sample ID:	JD64940-4	Date Received:	05/03/23
Matrix:	SO - Soil	Percent Solids:	88.0
Project:	Former TTC Site, One Robert Lane, Glen Head, NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	14.8	2.2	mg/kg	1	05/04/23	05/05/23 ND	SW846 6010D ¹	SW846 3050B ²

(1) Instrument QC Batch: MA54133
(2) Prep QC Batch: MP39408

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS-103	Date Sampled:	04/28/23
Lab Sample ID:	JD64940-5	Date Received:	05/03/23
Matrix:	SO - Soil	Percent Solids:	84.1
Project:	Former TTC Site, One Robert Lane, Glen Head, NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	15.9	2.4	mg/kg	1	05/04/23	05/05/23 ND	SW846 6010D ¹	SW846 3050B ²

(1) Instrument QC Batch: MA54133
(2) Prep QC Batch: MP39408

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS-104	Date Sampled:	04/28/23
Lab Sample ID:	JD64940-6	Date Received:	05/03/23
Matrix:	SO - Soil	Percent Solids:	90.1
Project:	Former TTC Site, One Robert Lane, Glen Head, NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	43.8	2.3	mg/kg	1	05/04/23	05/05/23 ND	SW846 6010D ¹	SW846 3050B ²

(1) Instrument QC Batch: MA54133
(2) Prep QC Batch: MP39408

RL = Reporting Limit

QC Data Summaries

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody



SD

Chain of Custody Form

JD64940
TM-041723-111

Page ___ of ___

WSP Office Address 13530 Dulles Technology Drive, Suite 300 Herndon, Virginia 20171				Requested Analyses & Preservatives								No.								
Project Name Former TransTechnology Corp. Facility		WSP Contact Name David Bouchard		Number of Containers Site-specific VOCs (PCE, TCE, DCE, trans-1,2-DCE, and vinyl chloride) by U.S. EPA Method 8260 Alkalinity by Method 8023B Chloride, nitrate, and sulfate by EPA Method 300 Dissolved gases ethane, methane, and carbon dioxide AM20GAX Sulfide by EPA Method 8450032 P2011 Dissolved organic carbon by EPA Method 8100 LEAD								Laboratory Name & Location SGS DAYTON, NJ								
Project Location Glen Head, New York		WSP Contact E-mail david.bouchard@wsp.com										Laboratory Project Manager								
Project Number & Task 31400522.000 Task 23		WSP Contact Phone (315) 374-8494										Requested Turn-Around-Time ☒ Standard ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ ___ HR								
Sampler(s) Name(s) NATE WINSTON		Sampler(s) Signature(s) 										Sample Comments								
Sample Identification		Matrix	Collection Start* Date Time	Collection Stop* Date Time																
1	SS-100	S	4/23/23 1330	1																
2	SS-101	I	1245	1																
3	SS-102	I	1300	1																
4	SS-1000	I	0900	1																
5	SS-103	I	1315	1																
6	SS-104	I	1330	1																
					WSP Environment & Energy Former TTC Site One Robert Lane, Glen Head, NY TM-041723-111 Please place on the back of original (white copy of this will assist us in processing your samples. Thank You)															
Relinquished By (Signature) 		Date 5/2/23	Time 1750	Received By (Signature) Fed Ex		Date	Time	Shipment Method Fed Ex		Tracking Number(s)										
Relinquished By (Signature) Fed Ex		Date 5/3/23	Time 16:15	Received By (Signature) 		Date	Time	Number of Packages 1		Custody Seal Number(s)										
*Use stop time/date for composite and/or air samples; use only start time/date for all other samples. Matrix: AQ = Aqueous, S = Soil, SE = Sediment, A = Air, W = Wipe, B = Bulk, O = Other (detail in comments)																				

JD64940: Chain of Custody

Page 1 of 3

SGS Sample Receipt Summary

Job Number: JD64940

Client: WSP ENVIRONMENT & ENERGY

Project: FORMER TTC SITE, ONE ROBERT LANE,

Date / Time Received: 5/3/2023 10:15:00 AM

Delivery Method: FED EX

Airbill #'s:

Cooler Temps (Raw Measured) °C: Cooler 1: (4.7);

Cooler Temps (Corrected) °C: Cooler 1: (4.5);

Cooler Security

Y or N

Y or N

- | | | | | | |
|---------------------------|-------------------------------------|--------------------------|-----------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present: | ☒ | ☐ | 3. COC Present: | ☒ | ☐ |
| 2. Custody Seals Intact: | ☒ | ☐ | 4. Smpl Dates/Time OK | ☒ | ☐ |

Cooler Temperature

Y or N

- | | | |
|------------------------------|-------------------------------------|--------------------------|
| 1. Temp criteria achieved: | ☒ | ☐ |
| 2. Cooler temp verification: | IR Gun | |
| 3. Cooler media: | Ice (Bag) | |
| 4. No. Coolers: | 1 | |

Quality Control Preservation

Y or N

N/A

- | | | | |
|---------------------------------|-------------------------------------|--------------------------|-------------------------------------|
| 1. Trip Blank present / cooler: | ☐ | ☐ | ☒ |
| 2. Trip Blank listed on COC: | ☐ | ☐ | ☒ |
| 3. Samples preserved properly: | ☒ | ☐ | |
| 4. VOCs headspace free: | ☐ | ☐ | ☒ |

Sample Integrity - Documentation

Y or N

- | | | |
|--|-------------------------------------|--------------------------|
| 1. Sample labels present on bottles: | ☒ | ☐ |
| 2. Container labeling complete: | ☒ | ☐ |
| 3. Sample container label / COC agree: | ☒ | ☐ |

Sample Integrity - Condition

Y or N

- | | | |
|----------------------------------|-------------------------------------|--------------------------|
| 1. Sample recvd within HT: | ☒ | ☐ |
| 2. All containers accounted for: | ☒ | ☐ |
| 3. Condition of sample: | Intact | |

Sample Integrity - Instructions

Y or N

N/A

- | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Analysis requested is clear: | ☒ | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | ☒ | |
| 3. Sufficient volume recvd for analysis: | ☒ | ☐ | |
| 4. Compositing instructions clear: | ☐ | ☐ | ☒ |
| 5. Filtering instructions clear: | ☐ | ☐ | ☒ |

Test Strip Lot #s: pH 1-12: 231619 pH 12+: 203117A Other: (Specify)

Comments

SM089-03
Rev. Date 12/7/17

JD64940: Chain of Custody

Page 2 of 3

Job Change Order: JD64940

Requested Date:	5/22/2023	Received Date:	5/3/2023
Account Name:	WSP USA Environment & Infrastr	Due Date:	5/22/2023
Project Description:	Former TTC Site, One Robert Lane, Glen Head, NY	Deliverable:	NYASPB
C/O Initiated By:	TAMMY_MC	PM:	TM
		TAT (Days):	2

=====

Sample #: JD64940-all **Dept:**

Client ID: **TAT:** 2

Change: Revise client project/task number to 31.400522.001 TASK 1 and reissue report

Above Changes Per: Dave Bouchard **Date/Time:** 5/22/2023

To Client: This Change Order is confirmation of the revisions, previously discussed with the Client Service Representative.

Page 1 of 1

Internal Sample Tracking Chronicle

WSP USA Environment & Infrastructure Inc

Job No: JD64940

Former TTC Site, One Robert Lane, Glen Head, NY
Project No: 314000522.001 TASK 1

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JD64940-1	Collected: 28-APR-23 12:30	By: NW	Received: 03-MAY-23	By: JK		
SS-100						
JD64940-1	SM2540 G 18TH ED MOD	04-MAY-23 13:40	MK			SOL104
JD64940-1	SW846 6010D	05-MAY-23 22:15	ND	04-MAY-23 RE		PB
JD64940-2	Collected: 28-APR-23 12:45	By: NW	Received: 03-MAY-23	By: JK		
SS-101						
JD64940-2	SM2540 G 18TH ED MOD	04-MAY-23 13:40	MK			SOL104
JD64940-2	SW846 6010D	05-MAY-23 22:20	ND	04-MAY-23 RE		PB
JD64940-3	Collected: 28-APR-23 13:00	By: NW	Received: 03-MAY-23	By: JK		
SS-102						
JD64940-3	SM2540 G 18TH ED MOD	04-MAY-23 13:40	MK			SOL104
JD64940-3	SW846 6010D	05-MAY-23 22:25	ND	04-MAY-23 RE		PB
JD64940-4	Collected: 28-APR-23 09:00	By: NW	Received: 03-MAY-23	By: JK		
SS-1000						
JD64940-4	SM2540 G 18TH ED MOD	04-MAY-23 13:40	MK			SOL104
JD64940-4	SW846 6010D	05-MAY-23 22:41	ND	04-MAY-23 RE		PB
JD64940-5	Collected: 28-APR-23 13:15	By: NW	Received: 03-MAY-23	By: JK		
SS-103						
JD64940-5	SM2540 G 18TH ED MOD	04-MAY-23 13:40	MK			SOL104
JD64940-5	SW846 6010D	05-MAY-23 22:46	ND	04-MAY-23 RE		PB
JD64940-6	Collected: 28-APR-23 13:30	By: NW	Received: 03-MAY-23	By: JK		
SS-104						
JD64940-6	SM2540 G 18TH ED MOD	04-MAY-23 13:40	MK			SOL104
JD64940-6	SW846 6010D	05-MAY-23 22:51	ND	04-MAY-23 RE		PB

SGS Internal Chain of Custody

Page 1 of 2

Job Number: JD64940
Account: WSPERMAW WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY
Received: 05/03/23

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JD64940-1.1	Joshua Reitan	Secured Storage	05/03/23 21:09	Return to Storage
JD64940-1.1	Secured Storage	Dave Hunkele	05/04/23 07:46	Retrieve from Storage
JD64940-1.1	Dave Hunkele	Secured Staging Area	05/04/23 07:46	Return to Storage
JD64940-1.1	Secured Staging Area	Sean Sweeney	05/04/23 08:33	Retrieve from Storage
JD64940-1.1	Sean Sweeney	Secured Storage	05/04/23 14:03	Return to Storage
JD64940-1.1.1	Sean Sweeney	Metals Digestion	05/04/23 13:57	Digestate from JD64940-1.1
JD64940-1.1.1	Metals Digestion	Sean Sweeney	05/04/23 13:58	Digestate from JD64940-1.1
JD64940-1.1.1	Sean Sweeney	Metals Digestate Storage	05/04/23 13:58	Return to Storage
JD64940-2.1	Joshua Reitan	Secured Storage	05/03/23 21:09	Return to Storage
JD64940-2.1	Secured Storage	Dave Hunkele	05/04/23 07:46	Retrieve from Storage
JD64940-2.1	Dave Hunkele	Secured Staging Area	05/04/23 07:46	Return to Storage
JD64940-2.1	Secured Staging Area	Sean Sweeney	05/04/23 08:33	Retrieve from Storage
JD64940-2.1	Sean Sweeney	Secured Storage	05/04/23 14:03	Return to Storage
JD64940-2.1.1	Sean Sweeney	Metals Digestion	05/04/23 13:57	Digestate from JD64940-2.1
JD64940-2.1.1	Metals Digestion	Sean Sweeney	05/04/23 13:58	Digestate from JD64940-2.1
JD64940-2.1.1	Sean Sweeney	Metals Digestate Storage	05/04/23 13:58	Return to Storage
JD64940-3.1	Joshua Reitan	Secured Storage	05/03/23 21:09	Return to Storage
JD64940-3.1	Secured Storage	Dave Hunkele	05/04/23 07:46	Retrieve from Storage
JD64940-3.1	Dave Hunkele	Secured Staging Area	05/04/23 07:46	Return to Storage
JD64940-3.1	Secured Staging Area	Sean Sweeney	05/04/23 08:33	Retrieve from Storage
JD64940-3.1	Sean Sweeney	Secured Storage	05/04/23 14:03	Return to Storage
JD64940-3.1.1	Sean Sweeney	Metals Digestion	05/04/23 13:57	Digestate from JD64940-3.1
JD64940-3.1.1	Metals Digestion	Sean Sweeney	05/04/23 13:58	Digestate from JD64940-3.1
JD64940-3.1.1	Sean Sweeney	Metals Digestate Storage	05/04/23 13:58	Return to Storage
JD64940-4.1	Joshua Reitan	Secured Storage	05/03/23 21:09	Return to Storage
JD64940-4.1	Secured Storage	Dave Hunkele	05/04/23 07:46	Retrieve from Storage
JD64940-4.1	Dave Hunkele	Secured Staging Area	05/04/23 07:46	Return to Storage
JD64940-4.1	Secured Staging Area	Sean Sweeney	05/04/23 08:33	Retrieve from Storage
JD64940-4.1	Sean Sweeney	Secured Storage	05/04/23 14:03	Return to Storage
JD64940-4.1.1	Sean Sweeney	Metals Digestion	05/04/23 13:57	Digestate from JD64940-4.1
JD64940-4.1.1	Metals Digestion	Sean Sweeney	05/04/23 13:58	Digestate from JD64940-4.1
JD64940-4.1.1	Sean Sweeney	Metals Digestate Storage	05/04/23 13:58	Return to Storage
JD64940-5.1	Joshua Reitan	Secured Storage	05/03/23 21:09	Return to Storage
JD64940-5.1	Secured Storage	Dave Hunkele	05/04/23 07:46	Retrieve from Storage
JD64940-5.1	Dave Hunkele	Secured Staging Area	05/04/23 07:46	Return to Storage
JD64940-5.1	Secured Staging Area	Sean Sweeney	05/04/23 08:33	Retrieve from Storage

SGS Internal Chain of Custody

Page 2 of 2

Job Number: JD64940
Account: WSP/EMAW WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY
Received: 05/03/23

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JD64940-5.1	Sean Sweeney	Secured Storage	05/04/23 14:03	Return to Storage
JD64940-5.1.1	Sean Sweeney	Metals Digestion	05/04/23 13:57	Digestate from JD64940-5.1
JD64940-5.1.1	Metals Digestion	Sean Sweeney	05/04/23 13:58	Digestate from JD64940-5.1
JD64940-5.1.1	Sean Sweeney	Metals Digestate Storage	05/04/23 13:58	Return to Storage
JD64940-6.1	Joshua Reitan	Secured Storage	05/03/23 21:09	Return to Storage
JD64940-6.1	Secured Storage	Dave Hunkele	05/04/23 07:46	Retrieve from Storage
JD64940-6.1	Dave Hunkele	Secured Staging Area	05/04/23 07:46	Return to Storage
JD64940-6.1	Secured Staging Area	Sean Sweeney	05/04/23 08:33	Retrieve from Storage
JD64940-6.1	Sean Sweeney	Secured Storage	05/04/23 14:03	Return to Storage
JD64940-6.1.1	Sean Sweeney	Metals Digestion	05/04/23 13:57	Digestate from JD64940-6.1
JD64940-6.1.1	Metals Digestion	Sean Sweeney	05/04/23 13:58	Digestate from JD64940-6.1
JD64940-6.1.1	Sean Sweeney	Metals Digestate Storage	05/04/23 13:58	Return to Storage

Metals Analysis

QC Data Summaries

Includes the following where applicable:

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

SGS Instrument Runlog
Inorganics Analyses

Login Number: JD64940
Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA54133
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
09:54	MA54133-STD1	1		STDA
09:59	MA54133-STD2	1		STDB
10:04	MA54133-ICV1	1		
10:11	MA54133-ICB1	1		
10:16	MA54133-ICCV1	1		
10:21	MA54133-ICCV2	1		
10:37	MA54133-CCB1	1		
10:46	MA54133-CRI1	1		
10:51	MA54133-CRID1	1		
11:00	MA54133-CRI2	1		
11:05	MA54133-ICSA1	1		
11:11	MA54133-ICSAB1	1		
11:16	MA54133-HSTD1	1		
11:21	MA54133-HSTD2	1		
11:26	ZZZZZZ	1		
11:32	ZZZZZZ	1		
11:37	ZZZZZZ	1		
11:42	MA54133-CCV1	1		
11:47	MA54133-CCB2	1		
11:52	MP39401-MB1	1		
11:58	MP39401-B1	1		
12:02	ZZZZZZ	1		
12:07	ZZZZZZ	1		
12:13	ZZZZZZ	1		
12:18	ZZZZZZ	1		
12:23	ZZZZZZ	1		
12:28	ZZZZZZ	1		
12:33	MA54133-CCV2	1		
12:38	MA54133-CCB3	1		
12:43	ZZZZZZ	1		
12:48	ZZZZZZ	1		
12:54	ZZZZZZ	1		
12:59	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JD64940

Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP
Analyst: ND
Parameters: Pb

Date Analyzed: 05/05/23
Run ID: MA54133

Methods: EPA 200.7, SW846 6010D

Time	Sample Description	Dilution Factor	PS Recov	Comments
13:04	ZZZZZZ	1		
13:09	ZZZZZZ	1		
13:14	ZZZZZZ	1		
13:19	ZZZZZZ	1		
13:25	ZZZZZZ	1		
13:30	MA54133-CCV3	1		
13:35	MA54133-CCB4	1		
13:40	ZZZZZZ	1		
13:45	ZZZZZZ	1		
13:50	ZZZZZZ	1		
13:55	MP39402-MB1	1		CCV out
14:01	MP39402-B1	1		CCV out
14:06	MP39402-S1	1		CCV out. S high
14:10	MP39402-S2	1		CCV out. S high
14:15	JD64631-2	1		(sample used for QC only; not part of login JD64940)
14:20	MP39402-SD1	5		CCV out. S high
14:25	MA54133-CCV4	1		
14:30	MA54133-CCB5	1		
14:35	MA54133-CCV5	1		
14:40	MA54133-CCB6	1		
14:46	ZZZZZZ	1		
14:51	ZZZZZZ	1		
14:56	ZZZZZZ	1		
15:01	ZZZZZZ	1		
15:06	ZZZZZZ	1		
15:11	ZZZZZZ	1		
15:16	ZZZZZZ	1		
15:22	ZZZZZZ	1		
15:27	ZZZZZZ	1		
15:32	MA54133-CCV6	1		
15:37	MA54133-CCB7	1		
15:42	MP39425-MB1	1		
15:47	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JD64940
Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA54133
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
15:52	MP39425-S1	1		
15:57	MP39425-S2	1		
16:02	MP39425-B1	1		
16:07	JD65074-3	1		(sample used for QC only; not part of login JD64940)
16:12	MP39425-SD1	5		
16:18	ZZZZZZ	1		
16:23	ZZZZZZ	1		
16:28	ZZZZZZ	1		
16:33	MA54133-CCV7	1		
16:38	MA54133-CCB8	1		
16:43	ZZZZZZ	1		
16:48	ZZZZZZ	1		
16:53	ZZZZZZ	1		
16:59	ZZZZZZ	1		
17:04	ZZZZZZ	1		
17:09	MP39428-MB1	1		
17:14	MP39428-B1	1		
17:19	MP39428-S1	1		FE high
17:24	MP39428-S2	1		FE high
17:29	JD64998-11	1		(sample used for QC only; not part of login JD64940)
17:34	MA54133-CCV8	1		
17:39	MA54133-CCB9	1		
17:44	MP39428-SD1	5		FE high
17:49	MP39428-PS1	1		
17:54	ZZZZZZ	1		
17:59	ZZZZZZ	1		
18:04	ZZZZZZ	1		
18:09	ZZZZZZ	1		
18:14	ZZZZZZ	1		
18:19	ZZZZZZ	1		
18:24	ZZZZZZ	1		
18:30	MA54133-CCV9	1		
18:35	MA54133-CCB10	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JD64940
Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA54133
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
18:40	ZZZZZZ	1		
18:45	ZZZZZZ	1		
18:50	ZZZZZZ	1		
18:55	ZZZZZZ	1		
19:00	ZZZZZZ	1		
19:05	ZZZZZZ	1		
19:10	ZZZZZZ	1		
19:15	ZZZZZZ	1		
19:20	ZZZZZZ	1		
19:26	ZZZZZZ	1		
19:31	MA54133-CCV10	1		
19:35	MA54133-CCB11	1		
19:41	ZZZZZZ	1		
19:46	ZZZZZZ	1		
19:51	MP39414-MB1	1		Zn over RL
19:56	MP39414-LB1	1		
20:01	MP39414-B1	1		Sb, AS low recovery
20:06	MP39414-LS1	1		
20:11	MP39414-S1	1		Ag high
20:16	MP39414-S2	1		Ag high
20:21	JD58095-13P	1		(sample used for QC only; not part of login JD64940)
20:26	MP39414-SD1	5		Ag high
20:35	MA54133-CCV11	1		
20:39	MA54133-CCB12	1		
20:45	MP39408-B1	1		
20:49	MP39408-MB1	1		
20:55	MP39408-S1	1		
21:00	MP39408-S2	1		
21:05	JD64929-6	1		(sample used for QC only; not part of login JD64940)
21:10	MP39408-SD1	5		
21:15	ZZZZZZ	1		
21:20	ZZZZZZ	1		
21:25	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JD64940

Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP
Analyst: ND
Parameters: Pb

Date Analyzed: 05/05/23
Run ID: MA54133

Methods: EPA 200.7, SW846 6010D

Time	Sample Description	Dilution Factor	PS Recov	Comments
21:30	MA54133-CCV12	1		
21:35	MA54133-CCB13	1		
21:40	ZZZZZZ	1		
21:45	ZZZZZZ	1		
21:50	ZZZZZZ	1		
21:55	ZZZZZZ	1		
22:00	ZZZZZZ	1		
22:05	ZZZZZZ	1		
22:10	ZZZZZZ	1		
22:15	JD64940-1	1		
22:20	JD64940-2	1		
22:25	JD64940-3	1		
22:30	MA54133-CCV13	1		
22:35	MA54133-CCB14	1		
22:41	JD64940-4	1		
22:46	JD64940-5	1		
22:51	JD64940-6	1		
----->	Last reportable sample/prep for job JD64940			
22:56	ZZZZZZ	1		
23:01	ZZZZZZ	1		
23:06	ZZZZZZ	1		
23:11	MP39412-B1	1		
23:16	MP39412-MB1	1		
23:21	MP39412-S1	1		
23:26	MP39412-S2	1		
23:30	MA54133-CCV14	1		
23:35	MA54133-CCB15	1		
----->	Last reportable CCB for job JD64940			
23:41	JD64975-1	1		(sample used for QC only; not part of login JD64940)
23:46	MP39412-SD1	5		
23:51	ZZZZZZ	1		
23:56	ZZZZZZ	1		
00:01	ZZZZZZ	1		
00:06	ZZZZZZ	1		
00:11	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JD64940
Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP
Analyst: ND
Parameters: Pb

Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
Run ID: MA54133

Time	Sample Description	Dilution Factor	PS Recov	Comments
00:16	ZZZZZZ	1		
00:21	ZZZZZZ	1		
00:26	ZZZZZZ	1		
00:32	MA54133-CCV15	1		
00:36	MA54133-CCB16	1		
00:42	ZZZZZZ	1		
00:47	ZZZZZZ	1		
00:52	ZZZZZZ	1		
00:57	ZZZZZZ	1		
01:02	ZZZZZZ	1		
01:07	ZZZZZZ	1		
01:12	ZZZZZZ	1		
01:17	ZZZZZZ	1		
01:22	ZZZZZZ	1		
01:28	MA54133-CCV16	1		
01:32	MA54133-CCB17	1		
01:38	ZZZZZZ	1		
01:43	ZZZZZZ	2		
01:48	ZZZZZZ	5		
01:53	ZZZZZZ	5		
01:58	ZZZZZZ	1		
02:04	ZZZZZZ	1		
02:09	ZZZZZZ	1		
02:14	ZZZZZZ	1		
02:20	MA54133-CCV17	1		
02:24	MA54133-CCB18	1		
02:30	MP39424-MB1	1		
02:35	MP39424-B1	1		
02:40	MP39424-S1	1		to rerun, looks misspoured
02:45	MP39424-S2	1		to rerun, looks misspoured
02:49	JD65072-4	1		(sample used for QC only; not part of login JD64940)
02:55	MP39424-SD1	5		to rerun, looks misspoured
03:00	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JD64940
Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
Analyst: ND Run ID: MA54133
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
03:05	ZZZZZZ	1		
03:11	ZZZZZZ	1		
03:16	MA54133-CCV18	1		
03:21	MA54133-CCB19	1		
03:26	ZZZZZZ	1		
03:32	ZZZZZZ	1		
03:37	ZZZZZZ	1		
03:42	ZZZZZZ	1		
03:47	ZZZZZZ	1		
03:53	ZZZZZZ	1		
03:58	ZZZZZZ	1		
04:03	ZZZZZZ	1		
04:08	MA54133-CCV19	1		
04:13	MA54133-CCB20	1		
04:18	ZZZZZZ	1		
04:24	ZZZZZZ	1		
04:29	ZZZZZZ	1		
04:34	ZZZZZZ	1		
04:39	ZZZZZZ	1		
04:44	ZZZZZZ	1		
04:49	ZZZZZZ	1		
04:55	ZZZZZZ	1		
05:00	MA54133-CCV20	1		
05:05	MA54133-CCB21	1		
05:10	MP39430-MB1	1		
05:15	MP39430-B1	1		
05:20	MP39430-S1	1		needs post spike
05:25	MP39430-S2	1		
05:30	JD65071-49	1		(sample used for QC only; not part of login JD64940)
05:35	MP39430-SD1	5		
05:40	ZZZZZZ	1		
05:45	ZZZZZZ	1		
05:50	MA54133-CCV21	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JD64940

Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP
Analyst: ND
Parameters: Pb

Date Analyzed: 05/05/23
Run ID: MA54133

Methods: EPA 200.7, SW846 6010D

Time	Sample Description	Dilution Factor	PS Recov	Comments
05:55	MA54133-CCB22	1		
06:00	ZZZZZZ	1		
06:05	ZZZZZZ	1		
06:10	ZZZZZZ	1		
06:15	ZZZZZZ	1		
06:20	ZZZZZZ	1		
06:25	ZZZZZZ	1		
06:30	ZZZZZZ	1		
06:35	MA54133-CCV22	1		
06:40	MA54133-CCB23	1		
06:46	ZZZZZZ	1		
06:51	ZZZZZZ	1		
06:56	ZZZZZZ	1		
07:01	ZZZZZZ	1		
07:06	ZZZZZZ	1		
07:11	ZZZZZZ	1		
07:16	ZZZZZZ	1		
07:21	ZZZZZZ	1		
07:26	ZZZZZZ	1		
07:31	MA54133-CCV23	1		
07:36	MA54133-CCB24	1		

Refer to raw data for calibration curve and standards.

REPORTED ELEMENTS SUMMARY

Login Number: JD64940
 Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
 Analyst: ND Run ID: MA54133
 Parameters: Pb

Time	Sample Description	Element: P Dilution b
10:04	MA54133-ICV1	1 X
10:11	MA54133-ICB1	1 X
10:16	MA54133-ICCV1	1
10:21	MA54133-ICCV2	1 X
10:37	MA54133-CCB1	1 X
10:46	MA54133-CRI1	1
10:51	MA54133-CRID1	1 X
11:00	MA54133-CRI2	1 X
11:05	MA54133-ICSA1	1 X
11:11	MA54133-ICSAB1	1 X
11:16	MA54133-HSTD1	1 X
11:21	MA54133-HSTD2	1 X
11:26	ZZZZZZ	1
11:32	ZZZZZZ	1
11:37	ZZZZZZ	1
11:42	MA54133-CCV1	1 X
11:47	MA54133-CCB2	1 X
11:52	MP39401-MB1	1 X
11:58	MP39401-B1	1 X
12:02	ZZZZZZ	1
12:07	ZZZZZZ	1
12:13	ZZZZZZ	1
12:18	ZZZZZZ	1
12:23	ZZZZZZ	1
12:28	ZZZZZZ	1
12:33	MA54133-CCV2	1 X
12:38	MA54133-CCB3	1 X
12:43	ZZZZZZ	1
12:48	ZZZZZZ	1
12:54	ZZZZZZ	1
12:59	ZZZZZZ	1
13:04	ZZZZZZ	1
13:09	ZZZZZZ	1
		Element: P b

REPORTED ELEMENTS SUMMARY

Login Number: JD64940
 Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
 Analyst: ND Run ID: MA54133
 Parameters: Pb

Time	Sample Description	Element: P Dilution b
13:14	ZZZZZZ	1
13:19	ZZZZZZ	1
13:25	ZZZZZZ	1
13:30	MA54133-CCV3	1 X
13:35	MA54133-CCB4	1 X
13:40	ZZZZZZ	1
13:45	ZZZZZZ	1
13:50	ZZZZZZ	1
13:55	MP39402-MB1	1 X
14:01	MP39402-B1	1 X
14:06	MP39402-S1	1
14:10	MP39402-S2	1
14:15	JD64631-2	1 (a)
14:20	MP39402-SD1	5
14:25	MA54133-CCV4	1 X
14:30	MA54133-CCB5	1 X
14:35	MA54133-CCV5	1 X
14:40	MA54133-CCB6	1 X
14:46	ZZZZZZ	1
14:51	ZZZZZZ	1
14:56	ZZZZZZ	1
15:01	ZZZZZZ	1
15:06	ZZZZZZ	1
15:11	ZZZZZZ	1
15:16	ZZZZZZ	1
15:22	ZZZZZZ	1
15:27	ZZZZZZ	1
15:32	MA54133-CCV6	1 X
15:37	MA54133-CCB7	1 X
15:42	MP39425-MB1	1 X
15:47	ZZZZZZ	1
15:52	MP39425-S1	1 X
15:57	MP39425-S2	1 X
		Element: P b

REPORTED ELEMENTS SUMMARY

Login Number: JD64940
 Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
 Analyst: ND Run ID: MA54133
 Parameters: Pb

Time	Sample Description	Element: P Dilution b
16:02	MP39425-B1	1 X
16:07	JD65074-3	1 X (a)
16:12	MP39425-SD1	5 X
16:18	ZZZZZZ	1
16:23	ZZZZZZ	1
16:28	ZZZZZZ	1
16:33	MA54133-CCV7	1 X
16:38	MA54133-CCB8	1 X
16:43	ZZZZZZ	1
16:48	ZZZZZZ	1
16:53	ZZZZZZ	1
16:59	ZZZZZZ	1
17:04	ZZZZZZ	1
17:09	MP39428-MB1	1 X
17:14	MP39428-B1	1 X
17:19	MP39428-S1	1
17:24	MP39428-S2	1
17:29	JD64998-11	1 (a)
17:34	MA54133-CCV8	1 X
17:39	MA54133-CCB9	1 X
17:44	MP39428-SD1	5
17:49	MP39428-PS1	1
17:54	ZZZZZZ	1
17:59	ZZZZZZ	1
18:04	ZZZZZZ	1
18:09	ZZZZZZ	1
18:14	ZZZZZZ	1
18:19	ZZZZZZ	1
18:24	ZZZZZZ	1
18:30	MA54133-CCV9	1 X
18:35	MA54133-CCB10	1 X
18:40	ZZZZZZ	1
18:45	ZZZZZZ	1
		Element: P b

REPORTED ELEMENTS SUMMARY

Login Number: JD64940
 Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP
 Analyst: ND
 Parameters: Pb

Date Analyzed: 05/05/23
 Run ID: MA54133

Methods: EPA 200.7, SW846 6010D

Time	Sample Description	Element: P Dilution b
18:50	ZZZZZZ	1
18:55	ZZZZZZ	1
19:00	ZZZZZZ	1
19:05	ZZZZZZ	1
19:10	ZZZZZZ	1
19:15	ZZZZZZ	1
19:20	ZZZZZZ	1
19:26	ZZZZZZ	1
19:31	MA54133-CCV10	1 X
19:35	MA54133-CCB11	1 X
19:41	ZZZZZZ	1
19:46	ZZZZZZ	1
19:51	MP39414-MB1	1 X
19:56	MP39414-LB1	1
20:01	MP39414-B1	1 X
20:06	MP39414-LS1	1 X
20:11	MP39414-S1	1 X
20:16	MP39414-S2	1 X
20:21	JD58095-13P	1 X (a)
20:26	MP39414-SD1	5 X
20:35	MA54133-CCV11	1 X
20:39	MA54133-CCB12	1 X
20:45	MP39408-B1	1 X
20:49	MP39408-MB1	1 X
20:55	MP39408-S1	1 X
21:00	MP39408-S2	1 X
21:05	JD64929-6	1 X (a)
21:10	MP39408-SD1	5 X
21:15	ZZZZZZ	1
21:20	ZZZZZZ	1
21:25	ZZZZZZ	1
21:30	MA54133-CCV12	1 X
21:35	MA54133-CCB13	1 X
		Element: P b

REPORTED ELEMENTS SUMMARY

Login Number: JD64940
 Account: WSP/MAW - WSP USA Environment & Infrastructure Inc
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP
 Analyst: ND
 Parameters: Pb

Date Analyzed: 05/05/23
 Run ID: MA54133

Methods: EPA 200.7, SW846 6010D

Time	Sample Description	Element: P Dilution b
21:40	ZZZZZZ	1
21:45	ZZZZZZ	1
21:50	ZZZZZZ	1
21:55	ZZZZZZ	1
22:00	ZZZZZZ	1
22:05	ZZZZZZ	1
22:10	ZZZZZZ	1
22:15	JD64940-1	1 X
22:20	JD64940-2	1 X
22:25	JD64940-3	1 X
22:30	MA54133-CCV13	1 X
22:35	MA54133-CCB14	1 X
22:41	JD64940-4	1 X
22:46	JD64940-5	1 X
22:51	JD64940-6	1 X
22:56	ZZZZZZ	1
23:01	ZZZZZZ	1
23:06	ZZZZZZ	1
23:11	MP39412-B1	1
23:16	MP39412-MB1	1
23:21	MP39412-S1	1
23:26	MP39412-S2	1
23:30	MA54133-CCV14	1 X
23:35	MA54133-CCB15	1 X
23:41	JD64975-1	1 (a)
23:46	MP39412-SD1	5
23:51	ZZZZZZ	1
23:56	ZZZZZZ	1
00:01	ZZZZZZ	1
00:06	ZZZZZZ	1
00:11	ZZZZZZ	1
00:16	ZZZZZZ	1
00:21	ZZZZZZ	1
		Element: P b

REPORTED ELEMENTS SUMMARY

Login Number: JD64940
 Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
 Analyst: ND Run ID: MA54133
 Parameters: Pb

Time	Sample Description	Element: P Dilution b
00:26	ZZZZZZ	1
00:32	MA54133-CCV15	1 X
00:36	MA54133-CCB16	1 X
00:42	ZZZZZZ	1
00:47	ZZZZZZ	1
00:52	ZZZZZZ	1
00:57	ZZZZZZ	1
01:02	ZZZZZZ	1
01:07	ZZZZZZ	1
01:12	ZZZZZZ	1
01:17	ZZZZZZ	1
01:22	ZZZZZZ	1
01:28	MA54133-CCV16	1 X
01:32	MA54133-CCB17	1 X
01:38	ZZZZZZ	1
01:43	ZZZZZZ	2
01:48	ZZZZZZ	5
01:53	ZZZZZZ	5
01:58	ZZZZZZ	1
02:04	ZZZZZZ	1
02:09	ZZZZZZ	1
02:14	ZZZZZZ	1
02:20	MA54133-CCV17	1 X
02:24	MA54133-CCB18	1 X
02:30	MP39424-MB1	1 X
02:35	MP39424-B1	1 X
02:40	MP39424-S1	1 to rerun, looks misspoured
02:45	MP39424-S2	1 to rerun, looks misspoured
02:49	JD65072-4	1 to rerun, looks misspoured. Is it actually -4f?
02:55	MP39424-SD1	5 to rerun, looks misspoured
03:00	ZZZZZZ	1
03:05	ZZZZZZ	1
03:11	ZZZZZZ	1
		Element: P b

REPORTED ELEMENTS SUMMARY

Login Number: JD64940
 Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
 Analyst: ND Run ID: MA54133
 Parameters: Pb

Time	Sample Description	Element: P Dilution b
03:16	MA54133-CCV18	1 X
03:21	MA54133-CCB19	1 X
03:26	ZZZZZZ	1
03:32	ZZZZZZ	1
03:37	ZZZZZZ	1
03:42	ZZZZZZ	1
03:47	ZZZZZZ	1
03:53	ZZZZZZ	1
03:58	ZZZZZZ	1
04:03	ZZZZZZ	1
04:08	MA54133-CCV19	1 X
04:13	MA54133-CCB20	1 X
04:18	ZZZZZZ	1
04:24	ZZZZZZ	1
04:29	ZZZZZZ	1
04:34	ZZZZZZ	1
04:39	ZZZZZZ	1
04:44	ZZZZZZ	1
04:49	ZZZZZZ	1
04:55	ZZZZZZ	1
05:00	MA54133-CCV20	1 X
05:05	MA54133-CCB21	1 X
05:10	MP39430-MB1	1 X
05:15	MP39430-B1	1 X
05:20	MP39430-S1	1 X
05:25	MP39430-S2	1 X
05:30	JD65071-49	1 X (a)
05:35	MP39430-SD1	5 X
05:40	ZZZZZZ	1
05:45	ZZZZZZ	1
05:50	MA54133-CCV21	1 X
05:55	MA54133-CCB22	1 X
06:00	ZZZZZZ	1
		Element: P b

REPORTED ELEMENTS SUMMARY

Login Number: JD64940
 Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
 Analyst: ND Run ID: MA54133
 Parameters: Pb

Time	Sample Description	Element: P Dilution b
06:05	ZZZZZZ	1
06:10	ZZZZZZ	1
06:15	ZZZZZZ	1
06:20	ZZZZZZ	1
06:25	ZZZZZZ	1
06:30	ZZZZZZ	1
06:35	MA54133-CCV22	1 X
06:40	MA54133-CCB23	1 X
06:46	ZZZZZZ	1
06:51	ZZZZZZ	1
06:56	ZZZZZZ	1
07:01	ZZZZZZ	1
07:06	ZZZZZZ	1
07:11	ZZZZZZ	1
07:16	ZZZZZZ	1
07:21	ZZZZZZ	1
07:26	ZZZZZZ	1
07:31	MA54133-CCV23	1 X
07:36	MA54133-CCB24	1 X
(a) Sample used for QC only; not part of login JD64940.		

Element: P
b

INTERNAL STANDARD SUMMARY

Login Number: JD64940

Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP

Date Analyzed: 05/05/23

Methods: EPA 200.7, SW846 6010D

Analyst: ND

Run ID: MA54133

Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
09:54	MA54133-STD1	2430 R	86164 R	10627 R	7048 R
09:59	MA54133-STD2	2319	81620	10600	6523
10:04	MA54133-ICV1	2368	82982	10637	6668
10:11	MA54133-ICB1	2429	85766	10757	7046
10:16	MA54133-ICCV1	No results reported for the elements associated with this internal standard.			
10:21	MA54133-ICCV2	2385	83160	10652	6684
10:37	MA54133-CCB1	2434	85959	10651	7058
10:46	MA54133-CRI1	No results reported for the elements associated with this internal standard.			
10:51	MA54133-CRID1	2414	85153	10608	6985
11:00	MA54133-CRI2	2412	84917	10577	6955
11:05	MA54133-ICSA1	2197	76827	10418	6127
11:11	MA54133-ICSAB1	2186	76534	10354	6103
11:16	MA54133-HSTD1	2388	83523	10531	6975
11:21	MA54133-HSTD2	2216	77847	10225	6124
11:26	ZZZZZZ	2397	84638	10554	7082
11:32	ZZZZZZ	2380	85422	10663	7030
11:37	ZZZZZZ	2436	85455	10606	7042
11:42	MA54133-CCV1	2386	83008	10573	6666
11:47	MA54133-CCB2	2429	85489	10609	7018
11:52	MP39401-MB1	2420	85489	10666	7008
11:58	MP39401-B1	2399	83583	10719	6783
12:02	ZZZZZZ	2353	83955	10588	6729
12:07	ZZZZZZ	2347	84027	10506	6708
12:13	ZZZZZZ	2323	83422	10478	6625
12:18	ZZZZZZ	2363	84261	10617	6759
12:23	ZZZZZZ	2336	82886	10546	6664
12:28	ZZZZZZ	2629	84564	10573	7452
12:33	MA54133-CCV2	2440	84689	10755	6812
12:38	MA54133-CCB3	2447	85952	10697	7059
12:43	ZZZZZZ	2525	89149	11255	7002
12:48	ZZZZZZ	2434	86051	10742	7016
12:54	ZZZZZZ	2376	84202	10678	6708
12:59	ZZZZZZ	2370	84206	10593	6749

INTERNAL STANDARD SUMMARY

Login Number: JD64940

Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc

Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP

Date Analyzed: 05/05/23

Methods: EPA 200.7, SW846 6010D

Analyst: ND

Run ID: MA54133

Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
13:04	ZZZZZZ	2350	84187	10576	6669
13:09	ZZZZZZ	2373	84894	10543	6737
13:14	ZZZZZZ	2383	84893	10556	6763
13:19	ZZZZZZ	2408	85248	10747	6799
13:25	ZZZZZZ	2344	84100	10626	6595
13:30	MA54133-CCV3	2387	82931	10508	6659
13:35	MA54133-CCB4	2472	86937	10712	7120
13:40	ZZZZZZ	2107	74284	9972	5643
13:45	ZZZZZZ	2093	74200	9918	5587
13:50	ZZZZZZ	2438	86624	10594	7008
13:55	MP39402-MB1	2425	86708	10592	6975
14:01	MP39402-B1	2432	84954	10723	6801
14:06	MP39402-S1	2338	82683	10562	6590
14:10	MP39402-S2	2377	84434	10748	6693
14:15	JD64631-2	2433	86192	10856	6839
14:20	MP39402-SD1	2479	87475	10884	7054
14:25	MA54133-CCV4	2414	999999	10603	6729
14:30	MA54133-CCB5	2466	86874	10656	7082
14:35	MA54133-CCV5	2421	84726	10592	6726
14:40	MA54133-CCB6	2481	87844	10736	7111
14:46	ZZZZZZ	2451	86622	10812	6954
14:51	ZZZZZZ	2425	86030	10635	6901
14:56	ZZZZZZ	2410	84942	10823	6743
15:01	ZZZZZZ	2448	85369	10628	7025
15:06	ZZZZZZ	2457	87434	10801	7020
15:11	ZZZZZZ	2448	86600	10699	6991
15:16	ZZZZZZ	2441	86703	10650	7016
15:22	ZZZZZZ	2445	86849	10576	7016
15:27	ZZZZZZ	2435	86143	10738	6870
15:32	MA54133-CCV6	2412	84393	10616	6705
15:37	MA54133-CCB7	2458	87438	10592	7041
15:42	MP39425-MB1	2522	88725	10842	7238
15:47	ZZZZZZ	2473	86757	10862	6930

INTERNAL STANDARD SUMMARY

Login Number: JD64940

Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc

Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP

Date Analyzed: 05/05/23

Methods: EPA 200.7, SW846 6010D

Analyst: ND

Run ID: MA54133

Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
15:52	MP39425-S1	2440	85272	10751	6804
15:57	MP39425-S2	2448	85641	10759	6834
16:02	MP39425-B1	2449	85449	10731	6853
16:07	JD65074-3	2462	86825	10791	7054
16:12	MP39425-SD1	2452	86693	10618	7044
16:18	ZZZZZZ	2359	82968	10628	6419
16:23	ZZZZZZ	2452	87779	10999	6974
16:28	ZZZZZZ	2410	84870	10650	6768
16:33	MA54133-CCV7	2381	83478	10564	6633
16:38	MA54133-CCB8	2443	86734	10562	7029
16:43	ZZZZZZ	2173	78611	10394	5895
16:48	ZZZZZZ	2414	85254	10681	6825
16:53	ZZZZZZ	2329	81969	10434	6461
16:59	ZZZZZZ	2340	82783	10605	6479
17:04	ZZZZZZ	2455	86010	10682	7020
17:09	MP39428-MB1	2411	85789	10554	6953
17:14	MP39428-B1	2349	83112	10474	6618
17:19	MP39428-S1	2415	83494	11300	6597
17:24	MP39428-S2	2369	82209	11027	6477
17:29	JD64998-11	2434	85045	11078	6683
17:34	MA54133-CCV8	2401	84016	10591	6687
17:39	MA54133-CCB9	2416	85375	10365	6957
17:44	MP39428-SD1	2439	84937	10694	6839
17:49	MP39428-PS1	2393	83351	11055	6601
17:54	ZZZZZZ	2209	79656	10558	5986
17:59	ZZZZZZ	2564	88892	11625	6772
18:04	ZZZZZZ	2381	84210	10998	6810
18:09	ZZZZZZ	2442	83833	10895	6800
18:14	ZZZZZZ	2422	83621	10862	6806
18:19	ZZZZZZ	2460	86597	11166	6664
18:24	ZZZZZZ	2490	86955	11071	6826
18:30	MA54133-CCV9	2380	82874	10396	6651
18:35	MA54133-CCB10	2436	85317	10498	7032

INTERNAL STANDARD SUMMARY

Login Number: JD64940

Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc

Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP

Date Analyzed: 05/05/23

Methods: EPA 200.7, SW846 6010D

Analyst: ND

Run ID: MA54133

Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
18:40	ZZZZZZ	2492	86343	11085	6868
18:45	ZZZZZZ	2473	86695	10697	7061
18:50	ZZZZZZ	2470	86525	10761	7043
18:55	ZZZZZZ	2481	85805	10901	6961
19:00	ZZZZZZ	2481	85207	10787	6952
19:05	ZZZZZZ	2493	85301	10909	6964
19:10	ZZZZZZ	2467	86272	10810	7028
19:15	ZZZZZZ	2478	86128	10874	7035
19:20	ZZZZZZ	2311	82608	10555	6407
19:26	ZZZZZZ	2350	84898	10746	6513
19:31	MA54133-CCV10	2399	83530	10545	6699
19:35	MA54133-CCB11	2431	85764	10555	7022
19:41	ZZZZZZ	2380	84130	10741	6555
19:46	ZZZZZZ	2346	83984	10641	6493
19:51	MP39414-MB1	2442	85839	10562	7052
19:56	MP39414-LB1	2195	76521	10132	5944
20:01	MP39414-B1	2398	83776	10585	6770
20:06	MP39414-LS1	2234	78029	10378	5943
20:11	MP39414-S1	2226	79226	10513	5941
20:16	MP39414-S2	2204	78714	10462	5887
20:21	JD58095-13P	2223	78673	10466	5910
20:26	MP39414-SD1	2375	83133	10495	6552
20:35	MA54133-CCV11	2389	83486	10439	6672
20:39	MA54133-CCB12	2465	86380	10521	7094
20:45	MP39408-B1	2401	83863	10621	6768
20:49	MP39408-MB1	2444	86537	10642	7052
20:55	MP39408-S1	2435	85027	10978	6643
21:00	MP39408-S2	2421	84744	10977	6690
21:05	JD64929-6	2497	86546	11120	6838
21:10	MP39408-SD1	2462	86093	10710	6971
21:15	ZZZZZZ	2493	86323	11193	6941
21:20	ZZZZZZ	2537	999999 !a	11372	6941
21:25	ZZZZZZ	2616	90476	11714	6931

INTERNAL STANDARD SUMMARY

Login Number: JD64940

Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP

Date Analyzed: 05/05/23

Methods: EPA 200.7, SW846 6010D

Analyst: ND

Run ID: MA54133

Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
21:30	MA54133-CCV12	2390	83002	10427	6665
21:35	MA54133-CCB13	2446	85904	10483	7056
21:40	ZZZZZZ	2454	85502	10976	6958
21:45	ZZZZZZ	2492	87875	11266	7003
21:50	ZZZZZZ	2465	85917	11042	6978
21:55	ZZZZZZ	2481	86517	11017	6950
22:00	ZZZZZZ	2500	86803	11021	7003
22:05	ZZZZZZ	2504	87346	10890	6997
22:10	ZZZZZZ	2422	84529	10957	6588
22:15	JD64940-1	2477	86595	10921	6799
22:20	JD64940-2	2500	88022	11129	6793
22:25	JD64940-3	2473	86079	10899	6810
22:30	MA54133-CCV13	2409	84010	10449	6706
22:35	MA54133-CCB14	2451	86543	10447	7046
22:41	JD64940-4	2499	87304	11028	6844
22:46	JD64940-5	2525	88069	11033	6903
22:51	JD64940-6	2495	87438	11061	6778
22:56	ZZZZZZ	2427	85588	10623	6976
23:01	ZZZZZZ	2483	87019	10911	6990
23:06	ZZZZZZ	2532	88867	11156	6917
23:11	MP39412-B1	2418	84352	10566	6790
23:16	MP39412-MB1	2476	87347	10587	7115
23:21	MP39412-S1	2456	86041	10786	6564
23:26	MP39412-S2	2453	85768	10791	6554
23:30	MA54133-CCV14	2427	84486	10517	6750
23:35	MA54133-CCB15	2476	86794	10521	7128
23:41	JD64975-1	2482	87323	10707	6676
23:46	MP39412-SD1	2470	86452	10528	6966
23:51	ZZZZZZ	2452	86260	10521	6858
23:56	ZZZZZZ	2421	85339	10532	6790
00:01	ZZZZZZ	2427	84949	10460	6838
00:06	ZZZZZZ	2426	85195	10480	6816
00:11	ZZZZZZ	2417	85608	10442	6861

INTERNAL STANDARD SUMMARY

Login Number: JD64940

Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc

Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP

Date Analyzed: 05/05/23

Methods: EPA 200.7, SW846 6010D

Analyst: ND

Run ID: MA54133

Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
00:16	ZZZZZZ	2407	84966	10440	6760
00:21	ZZZZZZ	2430	85357	10325	6849
00:26	ZZZZZZ	2467	86733	10483	7085
00:32	MA54133-CCV15	2414	84331	10421	6710
00:36	MA54133-CCB16	2443	85820	10314	7013
00:42	ZZZZZZ	2423	85211	10435	6786
00:47	ZZZZZZ	2480	87412	10736	6658
00:52	ZZZZZZ	2430	85180	10499	6816
00:57	ZZZZZZ	2409	85186	10423	6772
01:02	ZZZZZZ	2434	85552	10434	6835
01:07	ZZZZZZ	2400	84317	10355	6745
01:12	ZZZZZZ	2402	84680	10332	6813
01:17	ZZZZZZ	2397	84477	10395	6737
01:22	ZZZZZZ	2424	85254	10344	6842
01:28	MA54133-CCV16	2402	83206	10242	6669
01:32	MA54133-CCB17	2452	86124	10295	7040
01:38	ZZZZZZ	2408	84827	10373	6748
01:43	ZZZZZZ	2412	85669	10474	6786
01:48	ZZZZZZ	2338	81541	10176	6417
01:53	ZZZZZZ	2325	81184	10113	6385
01:58	ZZZZZZ	2470	86325	10412	7068
02:04	ZZZZZZ	2457	86536	10371	7026
02:09	ZZZZZZ	2453	86428	10341	7053
02:14	ZZZZZZ	2291	81727	10073	6406
02:20	MA54133-CCV17	2423	84382	10382	6720
02:24	MA54133-CCB18	2455	86790	10358	7035
02:30	MP39424-MB1	2454	86949	10400	7030
02:35	MP39424-B1	2424	85240	10414	6788
02:40	MP39424-S1	No results reported for the elements associated with this internal standard.			
02:45	MP39424-S2	No results reported for the elements associated with this internal standard.			
02:49	JD65072-4	No results reported for the elements associated with this internal standard.			
02:55	MP39424-SD1	No results reported for the elements associated with this internal standard.			
03:00	ZZZZZZ	2225	79725	10053	6049

INTERNAL STANDARD SUMMARY

Login Number: JD64940

Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc

Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP

Date Analyzed: 05/05/23

Methods: EPA 200.7, SW846 6010D

Analyst: ND

Run ID: MA54133

Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
03:05	ZZZZZZ	2157	78143	10035	5900
03:11	ZZZZZZ	2353	82459	10348	6395
03:16	MA54133-CCV18	2405	84071	10301	6667
03:21	MA54133-CCB19	2469	87236	10405	7071
03:26	ZZZZZZ	2195	77899	9986	5925
03:32	ZZZZZZ	2203	78129	9946	5943
03:37	ZZZZZZ	2184	77450	9888	5896
03:42	ZZZZZZ	2191	77668	9939	5916
03:47	ZZZZZZ	2440	86547	10405	6992
03:53	ZZZZZZ	2451	86696	10321	7020
03:58	ZZZZZZ	2409	84982	10322	6771
04:03	ZZZZZZ	2415	85937	10372	6854
04:08	MA54133-CCV19	2402	83992	10276	6672
04:13	MA54133-CCB20	2459	86680	10345	7050
04:18	ZZZZZZ	2426	85824	10235	6912
04:24	ZZZZZZ	2451	86791	10369	7028
04:29	ZZZZZZ	2394	84551	10268	6733
04:34	ZZZZZZ	2409	85288	10332	6785
04:39	ZZZZZZ	2448	86495	10388	6935
04:44	ZZZZZZ	No results reported for the elements associated with this internal standard.			
04:49	ZZZZZZ	2413	85944	10388	6803
04:55	ZZZZZZ	2459	87139	10416	6983
05:00	MA54133-CCV20	2429	84724	10348	6726
05:05	MA54133-CCB21	2474	87370	10313	7070
05:10	MP39430-MB1	2479	87219	10446	7084
05:15	MP39430-B1	2427	85194	10395	6788
05:20	MP39430-S1	2497	87904	11029	6838
05:25	MP39430-S2	2493	87773	11122	6729
05:30	JD65071-49	2588	89984	11147	7088
05:35	MP39430-SD1	2513	88270	10658	7043
05:40	ZZZZZZ	2517	88191	10949	7006
05:45	ZZZZZZ	2372	86010	10800	7330
05:50	MA54133-CCV21	2417	84345	10238	6692

INTERNAL STANDARD SUMMARY

Login Number: JD64940
 Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
 Analyst: ND Run ID: MA54133
 Parameters: Pb

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
05:55	MA54133-CCB22	2472	87243	10328	7058
06:00	ZZZZZZ	2600	90367	11260	6954
06:05	ZZZZZZ	2630	90722	11357	6940
06:10	ZZZZZZ	2436	81994	11091	6630
06:15	ZZZZZZ	2609	89164	11150	6889
06:20	ZZZZZZ	2590	87949	11365	6828
06:25	ZZZZZZ	2626	90149	11220	6978
06:30	ZZZZZZ	2610	90702	11195	6953
06:35	MA54133-CCV22	2431	84911	10244	6718
06:40	MA54133-CCB23	2499	87912	10412	7112
06:46	ZZZZZZ	2616	89933	11160	7014
06:51	ZZZZZZ	2363	82186	10770	6469
06:56	ZZZZZZ	2503	86907	11022	6597
07:01	ZZZZZZ	2537	999999 !a	11184	6771
07:06	ZZZZZZ	2460	87251	10851	6907
07:11	ZZZZZZ	2507	999999 !a	11166	7060
07:16	ZZZZZZ	2603	91590	11331	7094
07:21	ZZZZZZ	2516	88673	10967	7267
07:26	ZZZZZZ	2573	91602	11348	6987
07:31	MA54133-CCV23	2449	86052	10408	6791
07:36	MA54133-CCB24	2508	88100	10372	7171

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

LEGEND:

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

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

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JD64940
Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA54133 Units: ug/l

Time: Sample ID:			10:11 ICB1		10:37 CCB1		11:47 CCB2		12:38 CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	9.2	anr							
Antimony	6.0	2.8	anr							
Arsenic	3.0	2.6	anr							
Barium	200	.2	anr							
Beryllium	1.0	.2	anr							
Bismuth	20	2.5								
Boron	100	1.8								
Cadmium	3.0	.4	anr							
Calcium	5000	13	anr							
Cerium	100									
Chromium	10	.7	anr							
Cobalt	50	.6	anr							
Copper	10	.7	anr							
Iron	100	3.3	anr							
Lead	3.0	2	0.300	<3.0	-1.10	<3.0	1.20	<3.0	0.00	<3.0
Lithium	50	1.5								
Magnesium	5000	25	anr							
Manganese	15	.1	anr							
Molybdenum	20	.6	anr							
Nickel	10	.8	anr							
Phosphorus	50	7								
Potassium	10000	35	anr							
Selenium	10	3.6	anr							
Silicon	200	2.2	anr							
Silver	10	.6	anr							
Sodium	10000	14	anr							
Strontium	10	.1								
Sulfur	50	3.7								
Thallium	10	5.2	anr							
Tin	10	1.4								
Titanium	10	.8								
Tungsten	50	1.3								
Vanadium	50	.5	anr							

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JD64940
Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA54133 Units: ug/l

Time: Sample ID:			10:11 ICB1		10:37 CCB1		11:47 CCB2		12:38 CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zinc	20	.3	anr							
Zirconium	10	.5								
(*) Outside of QC limits										
(anr) Analyte not requested										

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JD64940
Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA54133 Units: ug/l

Time: Sample ID:			13:35 CCB4		14:30 CCB5		14:40 CCB6		15:37 CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	9.2	anr							
Antimony	6.0	2.8	anr							
Arsenic	3.0	2.6	anr							
Barium	200	.2	anr							
Beryllium	1.0	.2	anr							
Bismuth	20	2.5								
Boron	100	1.8								
Cadmium	3.0	.4	anr							
Calcium	5000	13	anr							
Cerium	100									
Chromium	10	.7	anr							
Cobalt	50	.6	anr							
Copper	10	.7	anr							
Iron	100	3.3	anr							
Lead	3.0	2	1.00	<3.0	-0.200	<3.0	-0.400	<3.0	0.500	<3.0
Lithium	50	1.5								
Magnesium	5000	25	anr							
Manganese	15	.1	anr							
Molybdenum	20	.6	anr							
Nickel	10	.8	anr							
Phosphorus	50	7								
Potassium	10000	35	anr							
Selenium	10	3.6	anr							
Silicon	200	2.2	anr							
Silver	10	.6	anr							
Sodium	10000	14	anr							
Strontium	10	.1								
Sulfur	50	3.7								
Thallium	10	5.2	anr							
Tin	10	1.4								
Titanium	10	.8								
Tungsten	50	1.3								
Vanadium	50	.5	anr							

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JD64940
Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA54133 Units: ug/l

Time: Sample ID:			13:35 CCB4	14:30 CCB5	14:40 CCB6	15:37 CCB7		
Metal	RL	IDL	raw	final	raw	final	raw	final
Zinc	20	.3	anr					
Zirconium	10	.5						
(*) Outside of QC limits								
(anr) Analyte not requested								

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JD64940
Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA54133 Units: ug/l

Time: Sample ID:				16:38 CCB8			17:39 CCB9			18:35 CCB10			19:35 CCB11		
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final	raw	final			
Aluminum	200	9.2	anr												
Antimony	6.0	2.8	anr												
Arsenic	3.0	2.6	anr												
Barium	200	.2	anr												
Beryllium	1.0	.2	anr												
Bismuth	20	2.5													
Boron	100	1.8													
Cadmium	3.0	.4	anr												
Calcium	5000	13	anr												
Cerium	100														
Chromium	10	.7	anr												
Cobalt	50	.6	anr												
Copper	10	.7	anr												
Iron	100	3.3	anr												
Lead	3.0	2	-0.600	<3.0	0.200	<3.0	-0.600	<3.0	-0.700	<3.0					
Lithium	50	1.5													
Magnesium	5000	25	anr												
Manganese	15	.1	anr												
Molybdenum	20	.6	anr												
Nickel	10	.8	anr												
Phosphorus	50	7													
Potassium	10000	35	anr												
Selenium	10	3.6	anr												
Silicon	200	2.2	anr												
Silver	10	.6	anr												
Sodium	10000	14	anr												
Strontium	10	.1													
Sulfur	50	3.7													
Thallium	10	5.2	anr												
Tin	10	1.4													
Titanium	10	.8													
Tungsten	50	1.3													
Vanadium	50	.5	anr												

BLANK RESULTS SUMMARY
 Part 1 - Initial and Continuing Calibration Blanks

Login Number: JD64940
 Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
 QC Limits: result < RL Run ID: MA54133 Units: ug/l

Time: Sample ID:			16:38 CCB8		17:39 CCB9		18:35 CCB10		19:35 CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zinc	20	.3	anr							
Zirconium	10	.5								
(*) Outside of QC limits										
(anr) Analyte not requested										

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JD64940
Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA54133 Units: ug/l

Time: Sample ID:			20:39 CCB12		21:35 CCB13		22:35 CCB14		23:35 CCB15	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	9.2	anr							
Antimony	6.0	2.8	anr							
Arsenic	3.0	2.6	anr							
Barium	200	.2	anr							
Beryllium	1.0	.2	anr							
Bismuth	20	2.5								
Boron	100	1.8								
Cadmium	3.0	.4	anr							
Calcium	5000	13	anr							
Cerium	100									
Chromium	10	.7	anr							
Cobalt	50	.6	anr							
Copper	10	.7	anr							
Iron	100	3.3	anr							
Lead	3.0	2	-0.600	<3.0	-0.100	<3.0	0.800	<3.0	-0.500	<3.0
Lithium	50	1.5								
Magnesium	5000	25	anr							
Manganese	15	.1	anr							
Molybdenum	20	.6	anr							
Nickel	10	.8	anr							
Phosphorus	50	7								
Potassium	10000	35	anr							
Selenium	10	3.6	anr							
Silicon	200	2.2	anr							
Silver	10	.6	anr							
Sodium	10000	14	anr							
Strontium	10	.1								
Sulfur	50	3.7								
Thallium	10	5.2	anr							
Tin	10	1.4								
Titanium	10	.8								
Tungsten	50	1.3								
Vanadium	50	.5	anr							

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JD64940
Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA54133 Units: ug/l

Time: Sample ID:			20:39 CCB12		21:35 CCB13		22:35 CCB14		23:35 CCB15	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zinc	20	.3	anr							
Zirconium	10	.5								
(*) Outside of QC limits										
(anr) Analyte not requested										

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JD64940

Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP

Date Analyzed: 05/05/23

Methods: EPA 200.7, SW846 6010D

QC Limits: to % Recovery

Run ID: MA54133

Units: ug/l

Time: Sample ID: ICCV		10:21 ICCV2		
Metal	True	Results	% Rec	
Aluminum	anr			
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Bismuth				
Boron				
Cadmium	anr			
Calcium	anr			
Cerium				
Chromium	anr			
Cobalt	anr			
Copper	anr			
Iron	anr			
Lead	2000	1980	99.0	
Lithium				
Magnesium	anr			
Manganese	anr			
Molybdenum	anr			
Nickel	anr			
Phosphorus				
Potassium	anr			
Selenium	anr			
Silicon	anr			
Silver	anr			
Sodium	anr			
Strontium				
Sulfur				
Thallium	anr			
Tin				
Titanium				
Tungsten				
Vanadium	anr			

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JD64940

Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
QC Limits: to % Recovery Run ID: MA54133 Units: ug/l

Time:		10:21
Sample ID:		ICCV
Metal		True
		Results % Rec

Zinc anr

Zirconium

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

6.1.4
6

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JD64940
Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA54133 Units: ug/l

Time: Sample ID:		10:04 ICV1	% Rec	CCV	11:42 CCV1	% Rec	CCV	12:33 CCV2	% Rec
Metal	ICV	Results		True	Results		True	Results	
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron									
Cadmium	anr								
Calcium	anr								
Cerium									
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	2000	2010	100.5	2000	1980	99.0	2000	1910	95.5
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Phosphorus									
Potassium	anr								
Selenium	anr								
Silicon	anr								
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JD64940
Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA54133 Units: ug/l

Time:		10:04		11:42		12:33	
Sample ID:		ICV		CCV		CCV	
Metal		ICV1		CCV1		CCV2	
		Results	% Rec	Results	% Rec	Results	% Rec

Zinc anr

Zirconium

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

6.1.5

6

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JD64940
Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA54133 Units: ug/l

Time: Sample ID:		13:30 CCV3		14:25 CCV4		14:35 CCV5			
Metal	CCV	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron									
Cadmium	anr								
Calcium	anr								
Cerium									
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	2000	1980	99.0	2000	1940	97.0	2000	1960	98.0
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Phosphorus									
Potassium	anr								
Selenium	anr								
Silicon	anr								
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JD64940
Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA54133 Units: ug/l

Time:		13:30		14:25		14:35	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV
Metal	True	Results	% Rec	True	Results	% Rec	True
							CCV5
							Results
							% Rec

Zinc anr

Zirconium

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

6.1.5

6

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JD64940
Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA54133 Units: ug/l

Time: Sample ID:		15:32 CCV6		16:33 CCV7		17:34 CCV8			
Metal	CCV	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron									
Cadmium	anr								
Calcium	anr								
Cerium									
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	2000	1940	97.0	2000	1960	98.0	2000	1960	98.0
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Phosphorus									
Potassium	anr								
Selenium	anr								
Silicon	anr								
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JD64940
Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA54133 Units: ug/l

Time:		15:32			16:33			17:34		
Sample ID:		CCV	15:32	CCV	16:33	CCV	17:34	CCV	17:34	
Metal		True	Results	% Rec	True	Results	% Rec	True	Results	% Rec

Zinc anr

Zirconium

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

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JD64940
Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA54133 Units: ug/l

Time: Sample ID:		18:30 CCV9		19:31 CCV10		20:35 CCV11				
Metal	CCV	Results	% Rec	True	Results	% Rec	CCV	True	Results	% Rec
Aluminum	anr									
Antimony	anr									
Arsenic	anr									
Barium	anr									
Beryllium	anr									
Bismuth										
Boron										
Cadmium	anr									
Calcium	anr									
Cerium										
Chromium	anr									
Cobalt	anr									
Copper	anr									
Iron	anr									
Lead	2000	1960	98.0	2000	1950	97.5	2000	1960	98.0	
Lithium										
Magnesium	anr									
Manganese	anr									
Molybdenum	anr									
Nickel	anr									
Phosphorus										
Potassium	anr									
Selenium	anr									
Silicon	anr									
Silver	anr									
Sodium	anr									
Strontium										
Sulfur										
Thallium	anr									
Tin										
Titanium										
Tungsten										
Vanadium	anr									

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JD64940
Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA54133 Units: ug/l

Time:		18:30			19:31			20:35		
Sample ID:		CCV	CCV9	CCV	CCV10	CCV	CCV11	CCV	CCV11	
Metal		True	Results	% Rec	True	Results	% Rec	True	Results	% Rec

Zinc anr

Zirconium

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

6.1.5

6

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JD64940
Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA54133 Units: ug/l

Time: Sample ID:		21:30 CCV12		22:30 CCV13		23:30 CCV14			
Metal	CCV	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron									
Cadmium	anr								
Calcium	anr								
Cerium									
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	2000	1980	99.0	2000	1970	98.5	2000	1970	98.5
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Phosphorus									
Potassium	anr								
Selenium	anr								
Silicon	anr								
Silver	anr								
Sodium	anr								
Strontium									
Sulfur									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JD64940
Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA54133 Units: ug/l

Time:		21:30		22:30		23:30			
Sample ID:	CCV	CCV12		CCV	CCV13	CCV	CCV14		
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec

Zinc anr

Zirconium

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

6.1.5

6

HIGH STANDARD CHECK SUMMARY

Login Number: JD64940

Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc

Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP
QC Limits: 90 to 110 % RecoveryDate Analyzed: 05/05/23
Run ID: MA54133Methods: EPA 200.7, SW846 6010D
Units: ug/l

Time:		11:16		11:21	
Sample ID:	HSTD	HSTD1		HSTD	HSTD2
Metal	True	Results	% Rec	True	Results
Aluminum					
Antimony	anr				
Arsenic	anr				
Barium	anr				
Beryllium	anr				
Bismuth					
Boron					
Cadmium	anr				
Calcium					
Cerium					
Chromium	anr				
Cobalt	anr				
Copper	anr				
Iron					
Lead	8000	7730	96.6		
Lithium					
Magnesium					
Manganese	anr				
Molybdenum	anr				
Nickel	anr				
Phosphorus					
Potassium					
Selenium	anr				
Silicon	anr				
Silver	anr				
Sodium					
Strontium					
Sulfur					
Thallium	anr				
Tin					
Titanium					
Tungsten					
Vanadium	anr				

HIGH STANDARD CHECK SUMMARY

Login Number: JD64940
 Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
 QC Limits: 90 to 110 % Recovery Run ID: MA54133 Units: ug/l

Time:		11:16		11:21	
Sample ID:		HSTD		HSTD	
Metal		True		True	
		Results		Results	
		% Rec		% Rec	

Zinc anr

Zirconium

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

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JD64940
 Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
 QC Limits: CRI 80-120% CRIA 80-120% Run ID: MA54133 Units: ug/l

Time: Sample ID:	CRI	CRIA	CRID	10:51 CRID1	% Rec	11:00 CRI2	% Rec
Metal	True	True	True	Results		Results	
Aluminum	200	500	100	anr			
Antimony	6.0	20	3.0				
Arsenic	8.0	20	3.0	anr			
Barium	200		4.0	anr			
Beryllium	2.0		1.0	anr			
Bismuth	20						
Boron	100		10				
Cadmium	3.0		1.0	anr			
Calcium	5000	2000	1000	anr			
Cerium							
Chromium	10		2.0	anr			
Cobalt	50		3.0	anr			
Copper	10		2.0				
Iron	100	500					
Lead	3.0	20	2.5			2.80	93.3
Lithium	50						
Magnesium	5000	2000	100	anr			
Manganese	15		3.0	anr			
Molybdenum	20						
Nickel	10		4.0	anr			
Phosphorus	50						
Potassium	5000		2000	anr			
Selenium	10	20	5.0				
Silicon	200						
Silver	5.0		2.0				
Sodium	5000		1000	anr			
Strontium	10						
Sulfur	50						
Thallium	10		2.0				
Tin	10						
Titanium	10						
Tungsten	50						
Vanadium	50		2.0	anr			

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JD64940
 Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
 QC Limits: CRI 80-120% CRIA 80-120% Run ID: MA54133 Units: ug/l

Time:					10:51		11:00	
Sample ID:	CRI	CRIA	CRID		CRID1		CRI2	
Metal	True	True	True		Results	% Rec	Results	% Rec

Zinc	20		10	anr				
Zirconium	10							

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

6.1.7
 6

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

Login Number: JD64940
Account: WSP/MAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
QC Limits: 80 to 120 % Recovery Run ID: MA54133 Units: ug/l

Time: Sample ID:	ICSA True	ICSAB True	11:05 ICSA1 Results	% Rec	11:11 ICSAB1 Results	% Rec
Metal						
Aluminum	500000	500000	506000	101.2	503000	100.6
Antimony		1000	0.00		1110	111.0
Arsenic		1000	1.70		975	97.5
Barium		500	2.20		474	94.8
Beryllium		500	0.00		473	94.6
Bismuth		500	4.80		531	106.2
Boron		500	-1.10		503	100.6
Cadmium		1000	-0.400		1010	101.0
Calcium	400000	400000	379000	94.8	387000	96.8
Cerium			61.8		581*	
Chromium		500	1.00		470	94.0
Cobalt		500	1.10		464	92.8
Copper		500	1.60		524	104.8
Iron	200000	200000	193000	96.5	194000	97.0
Lead		1000	0.00		925	92.5
Lithium		500	-7.00		518	103.6
Magnesium	500000	500000	491000	98.2	508000	101.6
Manganese		500	0.100		498	99.6
Molybdenum		500	1.50		501	100.2
Nickel		1000	-1.00		903	90.3
Phosphorus		500	10.4		445	89.0
Potassium			-19.1		-35.6	
Selenium		1000	0.00		899	89.9
Silicon		500	-5.00		555	111.0
Silver		1000	0.00		981	98.1
Sodium			14.0		32.3	
Strontium		500	3.50		489	97.8
Sulfur		500	-14.8		500	100.0
Thallium		1000	-0.100		886	88.6
Tin		500	1.00		499	99.8
Titanium		500	-2.50		516	103.2
Tungsten		500	-2.90		498	99.6
Vanadium		500	0.00		486	97.2

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

Login Number: JD64940
Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SF050523M1.ICP Date Analyzed: 05/05/23 Methods: EPA 200.7, SW846 6010D
QC Limits: 80 to 120 % Recovery Run ID: MA54133 Units: ug/l

Time:				11:05		11:11	
Sample ID:	ICSAB	ICSAB	ICSAB	ICSAB1	ICSAB1	ICSAB1	ICSAB1
Metal	True	True	True	Results	% Rec	Results	% Rec

Zinc		1000	6.80			922	92.2
Zirconium		500	6.60			470	94.0
(*) Outside of QC limits							
(anr) Analyte not requested							

6.1.8
6

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD64940
Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

QC Batch ID: MP39408
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 05/04/23

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	.92	8.1		
Antimony	2.0	.28	.41		
Arsenic	2.0	.26	.28		
Barium	20	.02	1.9		
Beryllium	0.20	.02	.08		
Bismuth	2.0	.25	.52		
Boron	10	.18	3.7		
Cadmium	0.50	.04	.07		
Calcium	500	1.3	21		
Chromium	1.0	.07	.37		
Cobalt	5.0	.06	.28		
Copper	2.5	.07	.84		
Iron	50	.33	19		
Lead	2.0	.2	.41	0.070	<2.0
Lithium	5.0	.15	.92		
Magnesium	500	2.5	14		
Manganese	1.5	.01	.41		
Molybdenum	2.0	.06	.32		
Nickel	4.0	.08	.35		
Phosphorus	20	.7	3.3		
Potassium	1000	3.5	32		
Selenium	2.0	.36	.65		
Silicon	20	.22	11		
Silver	0.50	.06	.17		
Sodium	1000	1.4	78		
Strontium	5.0	.01	.18		
Sulfur	10	.37	3.9		
Thallium	1.0	.52	.58		
Tin	20	.14	3.8		
Titanium	1.0	.08	.34		
Tungsten	5.0	.13	1.8		
Vanadium	5.0	.05	.19		
Zinc	5.0	.03	2.3		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD64940
Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

QC Batch ID: MP39408
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 05/04/23

Metal	RL	IDL	MDL	MB raw	final
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Zirconium 2.0 .05 .54

Associated samples MP39408: JD64940-1, JD64940-2, JD64940-3, JD64940-4, JD64940-5, JD64940-6

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD64940
 Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

QC Batch ID: MP39408
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: mg/kg

Prep Date: 05/04/23

Metal	JD64929-6 Original MS	Spike Lot MPSPK2		% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	anr				
Barium	anr				
Beryllium					
Bismuth					
Boron					
Cadmium	anr				
Calcium					
Chromium	anr				
Cobalt					
Copper					
Iron					
Lead	65.9	297	249	92.6	75-125
Lithium					
Magnesium					
Manganese	anr				
Molybdenum	anr				
Nickel					
Phosphorus					
Potassium					
Selenium	anr				
Silicon					
Silver	anr				
Sodium					
Strontium					
Sulfur					
Thallium					
Tin					
Titanium					
Tungsten					
Vanadium					
Zinc	anr				

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD64940
 Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

QC Batch ID: MP39408
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: mg/kg

Prep Date: 05/04/23

Metal	JD64929-6 Original MS	Spike/lot MPSPK2	% Rec	QC Limits
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Zirconium

Associated samples MP39408: JD64940-1, JD64940-2, JD64940-3, JD64940-4, JD64940-5, JD64940-6

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

6.2.2

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MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD64940
 Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

QC Batch ID: MP39408
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: mg/kg

Prep Date: 05/04/23

Metal	JD64929-6 Original MSD	SpikeLot MPSPK2 % Rec			MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	anr					
Barium	anr					
Beryllium						
Bismuth						
Boron						
Cadmium	anr					
Calcium						
Chromium	anr					
Cobalt						
Copper						
Iron						
Lead	65.9	288	255	87.2	3.1	20
Lithium						
Magnesium						
Manganese	anr					
Molybdenum	anr					
Nickel						
Phosphorus						
Potassium						
Selenium	anr					
Silicon						
Silver	anr					
Sodium						
Strontium						
Sulfur						
Thallium						
Tin						
Titanium						
Tungsten						
Vanadium						
Zinc	anr					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD64940
 Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

QC Batch ID: MP39408
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: mg/kg

Prep Date: 05/04/23

Metal	JD64929-6 Original MSD	Spike lot MPSPK2	% Rec	MSD RPD	QC Limit
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Zirconium

Associated samples MP39408: JD64940-1, JD64940-2, JD64940-3, JD64940-4, JD64940-5, JD64940-6

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD64940
 Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

QC Batch ID: MP39408
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: mg/kg

Prep Date: 05/04/23

Metal	BSP Result	Spike lot MPSPK2	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	anr			
Beryllium				
Bismuth				
Boron				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper				
Iron				
Lead	190	200	95.0	80-120
Lithium				
Magnesium				
Manganese	anr			
Molybdenum	anr			
Nickel				
Phosphorus				
Potassium				
Selenium	anr			
Silicon				
Silver	anr			
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc	anr			

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD64940

Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

QC Batch ID: MP39408
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 05/04/23

Metal	BSP Result	Spike lot MPSPK2	% Rec	QC Limits
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Zirconium

Associated samples MP39408: JD64940-1, JD64940-2, JD64940-3, JD64940-4, JD64940-5, JD64940-6

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

6.2.3
6

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD64940
 Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

QC Batch ID: MP39408
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: ug/l

Prep Date: 05/04/23

Metal	JD64929-6 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	anr			
Beryllium				
Bismuth				
Boron				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper				
Iron				
Lead	550	562	2.3	0-10
Lithium				
Magnesium				
Manganese	anr			
Molybdenum	anr			
Nickel				
Phosphorus				
Potassium				
Selenium	anr			
Silicon				
Silver	anr			
Sodium				
Strontium				
Sulfur				
Thallium				
Tin				
Titanium				
Tungsten				
Vanadium				
Zinc	anr			

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD64940
 Account: WSP/EMAW - WSP USA Environment & Infrastructure Inc
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

QC Batch ID: MP39408
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: ug/l

Prep Date: 05/04/23

Metal	JD64929-6	QC	
	Original SDL 1:5	%DIF	Limits

Zirconium

Associated samples MP39408: JD64940-1, JD64940-2, JD64940-3, JD64940-4, JD64940-5, JD64940-6

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

6.2.4

6

Instrument Detection Limits

Job Number: JD64940
Account: WSP/EMAW WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

Instrument ID: SSTRACE6	Effective Date: 02/11/21
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Analyte	IDL ug/l
Aluminum	9.2
Antimony	2.8
Arsenic	2.6
Barium	.2
Beryllium	.2
Bismuth	2.5
Boron	1.8
Cadmium	.4
Calcium	13
Chromium	.7
Cobalt	.6
Copper	.7
Iron	3.3
Lead	2
Lithium	1.5
Magnesium	24.8
Manganese	.1
Molybdenum	.6
Nickel	.8
Phosphorus	7
Potassium	34.5
Selenium	3.6
Silicon	2.2
Silver	.6
Sodium	13.9
Sulfur	3.7
Strontium	.1
Thallium	5.2
Tin	1.4
Titanium	.8
Tungsten	1.3
Vanadium	.5
Zinc	.3
Zirconium	.5

The above applies to the following instrument runs:
MA54133

Instrument Linear Ranges

Job Number: JD64940
Account: WSPERMAW WSP USA Environment & Infrastructure Inc
Project: Former TTC Site, One Robert Lane, Glen Head, NY

Instrument ID: SSTRACE6	Effective Date: 08/22/19
-------------------------	--------------------------

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

The above applies to the following instrument runs:
MA54133

General Chemistry

QC Data Summaries

7

Includes the following where applicable:

- Percent Solids Raw Data Summary

Percent Solids Raw Data Summary

Page 1 of 1

Job Number: JD64940

Account: WSP/EMAW WSP USA Environment & Infrastructure Inc

Project: Former TTC Site, One Robert Lane, Glen Head, NY

Sample: JD64940-1 **Analyzed:** 04-MAY-23 by MK **Method:** SM2540 G 18TH ED MOD
ClientID: SS-100

Wet Weight (Total)	34.69	g
Tare Weight	27.52	g
Dry Weight (Total)	34.04	g
Solids, Percent	90.9	%

Sample: JD64940-2 **Analyzed:** 04-MAY-23 by MK **Method:** SM2540 G 18TH ED MOD
ClientID: SS-101

Wet Weight (Total)	33.64	g
Tare Weight	26.91	g
Dry Weight (Total)	33.14	g
Solids, Percent	92.6	%

Sample: JD64940-3 **Analyzed:** 04-MAY-23 by MK **Method:** SM2540 G 18TH ED MOD
ClientID: SS-102

Wet Weight (Total)	28.9	g
Tare Weight	23.11	g
Dry Weight (Total)	28.31	g
Solids, Percent	89.8	%

Sample: JD64940-4 **Analyzed:** 04-MAY-23 by MK **Method:** SM2540 G 18TH ED MOD
ClientID: SS-1000

Wet Weight (Total)	33.08	g
Tare Weight	26.49	g
Dry Weight (Total)	32.29	g
Solids, Percent	88	%

Sample: JD64940-5 **Analyzed:** 04-MAY-23 by MK **Method:** SM2540 G 18TH ED MOD
ClientID: SS-103

Wet Weight (Total)	24.78	g
Tare Weight	18.82	g
Dry Weight (Total)	23.83	g
Solids, Percent	84.1	%

Sample: JD64940-6 **Analyzed:** 04-MAY-23 by MK **Method:** SM2540 G 18TH ED MOD
ClientID: SS-104

Wet Weight (Total)	25.7	g
Tare Weight	19.96	g
Dry Weight (Total)	25.13	g
Solids, Percent	90.1	%

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

WSP Environment & Energy

Former TTC Site, One Robert Lane, Glen Head, NY

31400522

SGS Job Number: JC95975A

Sampling Date: 09/27/19

Report to:

WSP Environment & Energy
75 Arlington Street 4th Floor
Boston, MA 02116
Dave.Bouchard@WSPGroup.com

ATTN: Dave Bouchard

Total number of pages in report: **146**



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

Laura Degenhardt
General Manager

Client Service contact: Tammy McCloskey 732-329-0200

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

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.



Oct 18, 2019

Mr. Dave Bouchard
WSP Environment & Energy
75 Arlington Street 4th Floor
Boston, MA 02116

Re: SGS North America – Dayton, NJ Jobs # JC95975 and JC95975A – Reissues

Dear Mr. Bouchard,

The final reports for SGS jobs number JC95975 have been edited to reflect corrections to the final results. These edits have been incorporated into the revised report which is attached.

Specifically, as per Clients request the Metal element Mercury has been reported for JC95975-2R, and the Metal element Lead and Percent Solids from samples -3 through -8 has been moved to an A job to meet Clients requirement. The both original job and A job have been reprocessed and resubmitted.

Please contact me at 732-329-0200 if I can be of further assistance in this matter.

Sincerely,

Report Department

SGS North America Inc



CONTINUOUS SERVICE IMPROVEMENT!

Our goal is to continuously improve our service to you. Please share your ideas about how we can serve you better at EHS.US.CustomerCare@sgs.com. Your feedback is appreciated!



SGS North America Inc. Mid-Atlantic 2235 US Highway 130 Dayton, NJ 08810, USA t +1 (0)732 329 0200 www.sgs.com

Member of the SGS Group (SGS SA)

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Sample Summary

WSP Environment & Energy

Job No: JC95975A

Former TTC Site, One Robert Lane, Glen Head, NY
Project No: 31400522

Sample Number	Collected			Received	Matrix		Client Sample ID
	Date	Time	By		Code	Type	
JC95975-3	09/27/19	09:45	JB	10/02/19	SO	Soil	SS-100-20190927
JC95975-4	09/27/19	09:50	JB	10/02/19	SO	Soil	SS-101-20190927
JC95975-5	09/27/19	09:55	JB	10/02/19	SO	Soil	SS-102-20190927
JC95975-6	09/27/19	10:00	JB	10/02/19	SO	Soil	SS-103-20190927
JC95975-7	09/27/19	10:05	JB	10/02/19	SO	Soil	SS-104-20190927
JC95975-8	09/27/19	10:10	JB	10/02/19	SO	Soil	SS-DUPE-20190927

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: WSP Environment & Energy

Job No JC95975A

Site: Former TTC Site, One Robert Lane, Glen Head, NY

Report Date 10/18/2019 3:49:25 P

On 10/02/2019, 6 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 3.6 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JC95975A was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

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

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

Metals Analysis By Method SW846 6010D

Matrix: SO

Batch ID: MP17676

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC95993-2MS, JC95993-2MSD, JC95993-2SDL were used as the QC samples for metals.

General Chemistry By Method SM2540 G 18TH ED MOD

Matrix: SO

Batch ID: GN838

- Sample(s) JC95230-3DUP were used as the QC samples for Solids, Percent.

Matrix: SO

Batch ID: GN839

- Sample(s) JC95975-7DUP were used as the QC samples for Solids, Percent.

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

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

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

Summary of Hits

Page 1 of 1

Job Number: JC95975A

Account: WSP Environment & Energy

Project: Former TTC Site, One Robert Lane, Glen Head, NY

Collected: 09/27/19



Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC95975-3	SS-100-20190927					
Lead		14.5	2.2		mg/kg	SW846 6010D
JC95975-4	SS-101-20190927					
Lead		27.8	2.2		mg/kg	SW846 6010D
JC95975-5	SS-102-20190927					
Lead		12.3	2.2		mg/kg	SW846 6010D
JC95975-6	SS-103-20190927					
Lead		45.3	2.4		mg/kg	SW846 6010D
JC95975-7	SS-104-20190927					
Lead		55.0	2.3		mg/kg	SW846 6010D
JC95975-8	SS-DUPE-20190927					
Lead		10.6	2.3		mg/kg	SW846 6010D

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	SS-100-20190927	Date Sampled:	09/27/19
Lab Sample ID:	JC95975-3	Date Received:	10/02/19
Matrix:	SO - Soil	Percent Solids:	94.3
Project:	Former TTC Site, One Robert Lane, Glen Head, NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	14.5	2.2	mg/kg	1	10/03/19	10/04/19 ND	SW846 6010D ¹	SW846 3050B ²

(1) Instrument QC Batch: MA47574
(2) Prep QC Batch: MP17676

RL = Reporting Limit

4.1
4

Report of Analysis

Client Sample ID:	SS-101-20190927	Date Sampled:	09/27/19
Lab Sample ID:	JC95975-4	Date Received:	10/02/19
Matrix:	SO - Soil	Percent Solids:	92.1
Project:	Former TTC Site, One Robert Lane, Glen Head, NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	27.8	2.2	mg/kg	1	10/03/19	10/04/19 ND	SW846 6010D ¹	SW846 3050B ²

(1) Instrument QC Batch: MA47574
(2) Prep QC Batch: MP17676

RL = Reporting Limit

4.2
4

Report of Analysis

Client Sample ID:	SS-102-20190927	Date Sampled:	09/27/19
Lab Sample ID:	JC95975-5	Date Received:	10/02/19
Matrix:	SO - Soil	Percent Solids:	90.2
Project:	Former TTC Site, One Robert Lane, Glen Head, NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	12.3	2.2	mg/kg	1	10/03/19	10/04/19 ND	SW846 6010D ¹	SW846 3050B ²

(1) Instrument QC Batch: MA47574
(2) Prep QC Batch: MP17676

RL = Reporting Limit

4.3
4

Report of Analysis

Client Sample ID:	SS-103-20190927	Date Sampled:	09/27/19
Lab Sample ID:	JC95975-6	Date Received:	10/02/19
Matrix:	SO - Soil	Percent Solids:	80.8
Project:	Former TTC Site, One Robert Lane, Glen Head, NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	45.3	2.4	mg/kg	1	10/03/19	10/04/19 ND	SW846 6010D ¹	SW846 3050B ²

(1) Instrument QC Batch: MA47574
(2) Prep QC Batch: MP17676

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SS-104-20190927	Date Sampled:	09/27/19
Lab Sample ID:	JC95975-7	Date Received:	10/02/19
Matrix:	SO - Soil	Percent Solids:	84.8
Project:	Former TTC Site, One Robert Lane, Glen Head, NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	55.0	2.3	mg/kg	1	10/03/19	10/04/19 ND	SW846 6010D ¹	SW846 3050B ²

(1) Instrument QC Batch: MA47574
(2) Prep QC Batch: MP17676

RL = Reporting Limit

4.5
4

Report of Analysis

Client Sample ID:	SS-DUPE-20190927	Date Sampled:	09/27/19
Lab Sample ID:	JC95975-8	Date Received:	10/02/19
Matrix:	SO - Soil	Percent Solids:	86.7
Project:	Former TTC Site, One Robert Lane, Glen Head, NY		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	10.6	2.3	mg/kg	1	10/03/19	10/04/19 ND	SW846 6010D ¹	SW846 3050B ²

(1) Instrument QC Batch: MA47574
(2) Prep QC Batch: MP17676

RL = Reporting Limit

4.6
4

Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody



50
511
51B

CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08819
TEL: 732-329-0200 FAX: 732-329-3498/3480
www.sgs.com/ehsusa

Page 1 of 1

FED EX # 4636 0062 0456
SGS Order # SW-11818-37
SGS Job # JC95975

Client / Reporting Information		Project Information		Requested Analysis		Matrix Codes	
Company Name: WSP		Project Name: Former TTC, Glen Head, NY					
Street Address: 75 Arlington St		Street: 1 Robert Lane					
City: Boston MA 02116		City: Glen Head NY					
Project Contact: David Bouchard@wsp.com		Project # 31400522					
Phone # (774) 413-5709		Client Purchase Order #					
Sample(s) Name(s): James Burger (607) 205-2426		Project Manager: Dave Bouchard					
Attention:							
Turn Around Time (Business Days)		Deliverable		Comments / Special Instructions			
☐ 10 Business Days ☒ 5 Business Days ☐ 3 Business Days ☐ 2 Business Days ☐ 1 Business Day ☐ Other		Approved By (SGS PM) / Date:		Initial Assessment 2A		Label Verification	
All data available via Lablink		Approval needed for 1-3 Business Day TAT		Commercial "A" = Results only; Commercial "B" = Results + QC Summary Commercial "C" = Results + QC Summary + Panel Raw data		http://www.sgs.com/en/home-and-conditions	
Retransmitted by:		Date / Time:		Retransmitted by:		Date / Time:	
1		10/1/19 16:50		2		10/1/19 09:20	
Retransmitted by:		Date / Time:		Retransmitted by:		Date / Time:	
3		3		4		4	
Retransmitted by:		Date / Time:		Retransmitted by:		Date / Time:	
5		5		5		5	
Custody Seal: 11678		Intact		Preserved where applicable		On Ice	
		Not intact		About		Therm ID	

ENSA-GAC-0023-02-FORM-Dayton - Standard COC .fvs

JC95975A: Chain of Custody

Page 1 of 4



SGS Sample Receipt Summary

Job Number: JC95975

Client: WSP ENVIRONMENT & ENERGY

Project: FORMER TTCF SITE, ONE ROBERT LANE, GL

Date / Time Received: 10/2/2019 9:20:00 AM

Delivery Method: FedEx

Airbill #s: 4636 0062 0456

Cooler Temps (Raw Measured) °C: Cooler 1: (3.7);

Cooler Temps (Corrected) °C: Cooler 1: (3.6);

Cooler Security

Y or N

Y or N

- | | | | | | |
|---------------------------|-------------------------------------|--------------------------|-----------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present: | ☒ | ☐ | 3. COC Present: | ☒ | ☐ |
| 2. Custody Seals Intact: | ☒ | ☐ | 4. Smpl Dates/Time OK | ☒ | ☐ |

Cooler Temperature

Y or N

- | | | |
|------------------------------|-------------------------------------|--------------------------|
| 1. Temp criteria achieved: | ☒ | ☐ |
| 2. Cooler temp verification: | IR Gun | |
| 3. Cooler media: | Ice (Bag) | |
| 4. No. Coolers: | 1 | |

Quality Control Preservation

Y or N

N/A

- | | | | |
|---------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Trip Blank present / cooler: | ☐ | ☒ | ☐ |
| 2. Trip Blank listed on COC: | ☐ | ☒ | ☐ |
| 3. Samples preserved properly: | ☒ | ☐ | |
| 4. VOCs headspace free: | ☐ | ☐ | ☒ |

Sample Integrity - Documentation

Y or N

- | | | |
|--|-------------------------------------|--------------------------|
| 1. Sample labels present on bottles: | ☒ | ☐ |
| 2. Container labeling complete: | ☒ | ☐ |
| 3. Sample container label / COC agree: | ☒ | ☐ |

Sample Integrity - Condition

Y or N

- | | | |
|----------------------------------|-------------------------------------|-------------------------------------|
| 1. Sample recvd within HT: | ☐ | ☒ |
| 2. All containers accounted for: | ☒ | ☐ |
| 3. Condition of sample: | Intact | |

Sample Integrity - Instructions

Y or N

N/A

- | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Analysis requested is clear: | ☒ | ☐ | |
| 2. Bottles received for unspecified tests | ☐ | ☒ | |
| 3. Sufficient volume recvd for analysis: | ☒ | ☐ | |
| 4. Compositing instructions clear: | ☐ | ☐ | ☒ |
| 5. Filtering instructions clear: | ☐ | ☐ | ☒ |

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

Comments -2: Lab to prep from intact soil volume for low level voc analysis outside of hold time.

SM089-03
Rev. Date 12/7/17

JC95975A: Chain of Custody

Page 2 of 4

Response:

Response: Proceed with analysis

Job Change Order: JC95975

Requested Date: 10/15/2019 Received Date: 10/2/2019
Account Name: WSP Environment & Energy Due Date: 10/9/2019
Project Description: Former TTC Site, One Robert Lane, Glen Head, NY NYASPB
C/O Initiated By: TAMMY PM: TM TAT (Days): 7

Sample #: JC95975-2 Change:
Dept: relog on original job for HG. Please re-prep and re-run

TAT: 7

LP-661-20190927

Sample #: JC95975-3 through 8 Change:
Dept: move these samples to an "A" job and reissue report

TAT: 7

Above Changes Per: David Bouchard Date/Time: 10/15/2019 2:57:38 PM

To Client: This Change Order is confirmation of the revisions, previously discussed with the Client Service Representative.

Internal Sample Tracking Chronicle

WSP Environment & Energy

Job No: JC95975A

Former TTC Site, One Robert Lane, Glen Head, NY

Project No: 31400522

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC95975-3	Collected: 27-SEP-19 09:45	By: JB	Received: 02-OCT-19	By: DG		
SS-100-20190927						
JC95975-3	SW846 6010D	04-OCT-19 19:08	ND	03-OCT-19	TG	PB
JC95975-3	SM2540 G 18TH ED MO	04-OCT-19 14:00	BG			SOL104
JC95975-4	Collected: 27-SEP-19 09:50	By: JB	Received: 02-OCT-19	By: DG		
SS-101-20190927						
JC95975-4	SW846 6010D	04-OCT-19 19:12	ND	03-OCT-19	TG	PB
JC95975-4	SM2540 G 18TH ED MO	04-OCT-19 14:00	BG			SOL104
JC95975-5	Collected: 27-SEP-19 09:55	By: JB	Received: 02-OCT-19	By: DG		
SS-102-20190927						
JC95975-5	SW846 6010D	04-OCT-19 19:17	ND	03-OCT-19	TG	PB
JC95975-5	SM2540 G 18TH ED MO	04-OCT-19 14:00	BG			SOL104
JC95975-6	Collected: 27-SEP-19 10:00	By: JB	Received: 02-OCT-19	By: DG		
SS-103-20190927						
JC95975-6	SW846 6010D	04-OCT-19 19:22	ND	03-OCT-19	TG	PB
JC95975-6	SM2540 G 18TH ED MO	04-OCT-19 14:00	BG			SOL104
JC95975-7	Collected: 27-SEP-19 10:05	By: JB	Received: 02-OCT-19	By: DG		
SS-104-20190927						
JC95975-7	SW846 6010D	04-OCT-19 19:26	ND	03-OCT-19	TG	PB
JC95975-7	SM2540 G 18TH ED MO	04-OCT-19 14:00	BG			SOL104
JC95975-8	Collected: 27-SEP-19 10:10	By: JB	Received: 02-OCT-19	By: DG		
SS-DUPE-20190927						
JC95975-8	SW846 6010D	04-OCT-19 19:31	ND	03-OCT-19	TG	PB
JC95975-8	SM2540 G 18TH ED MO	04-OCT-19 14:00	BG			SOL104

SGS Internal Chain of Custody

Job Number: JC95975A
Account: WSP/EMAW WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY
Received: 10/02/19

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC95975-3.1	Secured Storage	Todd Shoemaker	10/03/19 08:16	Retrieve from Storage
JC95975-3.1	Todd Shoemaker	Secured Staging Area	10/03/19 08:16	Return to Storage
JC95975-3.1	Secured Staging Area	Taylor Gorman	10/03/19 09:26	Retrieve from Storage
JC95975-3.1	Taylor Gorman	Secured Storage	10/03/19 10:02	Return to Storage
JC95975-3.1	Secured Storage	Sahara Feliciano	10/05/19 10:51	Retrieve from Storage
JC95975-3.1	Sahara Feliciano	Secured Staging Area	10/05/19 10:51	Return to Storage
JC95975-3.1	Secured Staging Area	Benjamin Gaines	10/06/19 14:05	Retrieve from Storage
JC95975-3.1	Benjamin Gaines	Secured Storage	10/06/19 14:06	Return to Storage
JC95975-3.1.1	Taylor Gorman	Metals Digestion	10/03/19 09:46	Digestate from JC95975-3.1
JC95975-3.1.1	Metals Digestion	Taylor Gorman	10/03/19 09:47	Digestate from JC95975-3.1
JC95975-3.1.1	Taylor Gorman	Metals Digestate Storage	10/03/19 09:47	Return to Storage
JC95975-4.1	Secured Storage	Todd Shoemaker	10/03/19 08:16	Retrieve from Storage
JC95975-4.1	Todd Shoemaker	Secured Staging Area	10/03/19 08:16	Return to Storage
JC95975-4.1	Secured Staging Area	Taylor Gorman	10/03/19 09:26	Retrieve from Storage
JC95975-4.1	Taylor Gorman	Secured Storage	10/03/19 10:02	Return to Storage
JC95975-4.1	Secured Storage	Sahara Feliciano	10/05/19 10:51	Retrieve from Storage
JC95975-4.1	Sahara Feliciano	Secured Staging Area	10/05/19 10:51	Return to Storage
JC95975-4.1	Secured Staging Area	Benjamin Gaines	10/06/19 14:05	Retrieve from Storage
JC95975-4.1	Benjamin Gaines	Secured Storage	10/06/19 14:06	Return to Storage
JC95975-4.1.1	Taylor Gorman	Metals Digestion	10/03/19 09:46	Digestate from JC95975-4.1
JC95975-4.1.1	Metals Digestion	Taylor Gorman	10/03/19 09:47	Digestate from JC95975-4.1
JC95975-4.1.1	Taylor Gorman	Metals Digestate Storage	10/03/19 09:47	Return to Storage
JC95975-5.1	Secured Storage	Todd Shoemaker	10/03/19 08:16	Retrieve from Storage
JC95975-5.1	Todd Shoemaker	Secured Staging Area	10/03/19 08:16	Return to Storage
JC95975-5.1	Secured Staging Area	Taylor Gorman	10/03/19 09:26	Retrieve from Storage
JC95975-5.1	Taylor Gorman	Secured Storage	10/03/19 10:02	Return to Storage
JC95975-5.1	Secured Storage	Sahara Feliciano	10/05/19 10:51	Retrieve from Storage
JC95975-5.1	Sahara Feliciano	Secured Staging Area	10/05/19 10:51	Return to Storage
JC95975-5.1	Secured Staging Area	Benjamin Gaines	10/06/19 14:05	Retrieve from Storage
JC95975-5.1	Benjamin Gaines	Secured Storage	10/06/19 14:06	Return to Storage
JC95975-5.1.1	Taylor Gorman	Metals Digestion	10/03/19 09:46	Digestate from JC95975-5.1
JC95975-5.1.1	Metals Digestion	Taylor Gorman	10/03/19 09:47	Digestate from JC95975-5.1
JC95975-5.1.1	Taylor Gorman	Metals Digestate Storage	10/03/19 09:47	Return to Storage
JC95975-6.1	Secured Storage	Todd Shoemaker	10/03/19 08:16	Retrieve from Storage
JC95975-6.1	Todd Shoemaker	Secured Staging Area	10/03/19 08:16	Return to Storage
JC95975-6.1	Secured Staging Area	Taylor Gorman	10/03/19 09:26	Retrieve from Storage
JC95975-6.1	Taylor Gorman	Secured Storage	10/03/19 10:02	Return to Storage
JC95975-6.1	Secured Storage	Sahara Feliciano	10/05/19 10:51	Retrieve from Storage

SGS Internal Chain of Custody

Page 2 of 2

Job Number: JC95975A
Account: WSP/EMAW WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY
Received: 10/02/19

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC95975-6.1	Sahara Feliciano	Secured Staging Area	10/05/19 10:51	Return to Storage
JC95975-6.1	Secured Staging Area	Benjamin Gaines	10/06/19 14:05	Retrieve from Storage
JC95975-6.1	Benjamin Gaines	Secured Storage	10/06/19 14:06	Return to Storage
JC95975-6.1.1	Taylor Gorman	Metals Digestion	10/03/19 09:46	Digestate from JC95975-6.1
JC95975-6.1.1	Metals Digestion	Taylor Gorman	10/03/19 09:47	Digestate from JC95975-6.1
JC95975-6.1.1	Taylor Gorman	Metals Digestate Storage	10/03/19 09:47	Return to Storage
JC95975-7.1	Secured Storage	Todd Shoemaker	10/03/19 08:16	Retrieve from Storage
JC95975-7.1	Todd Shoemaker	Secured Staging Area	10/03/19 08:16	Return to Storage
JC95975-7.1	Secured Staging Area	Taylor Gorman	10/03/19 09:26	Retrieve from Storage
JC95975-7.1	Taylor Gorman	Secured Storage	10/03/19 10:02	Return to Storage
JC95975-7.1	Secured Storage	Sahara Feliciano	10/05/19 10:51	Retrieve from Storage
JC95975-7.1	Sahara Feliciano	Secured Staging Area	10/05/19 10:51	Return to Storage
JC95975-7.1	Secured Staging Area	Benjamin Gaines	10/06/19 14:05	Retrieve from Storage
JC95975-7.1	Benjamin Gaines	Secured Storage	10/06/19 14:06	Return to Storage
JC95975-7.1.1	Taylor Gorman	Metals Digestion	10/03/19 09:46	Digestate from JC95975-7.1
JC95975-7.1.1	Metals Digestion	Taylor Gorman	10/03/19 09:47	Digestate from JC95975-7.1
JC95975-7.1.1	Taylor Gorman	Metals Digestate Storage	10/03/19 09:47	Return to Storage
JC95975-8.1	Secured Storage	Todd Shoemaker	10/03/19 08:16	Retrieve from Storage
JC95975-8.1	Todd Shoemaker	Secured Staging Area	10/03/19 08:16	Return to Storage
JC95975-8.1	Secured Staging Area	Taylor Gorman	10/03/19 09:26	Retrieve from Storage
JC95975-8.1	Taylor Gorman	Secured Storage	10/03/19 10:02	Return to Storage
JC95975-8.1	Secured Storage	Sahara Feliciano	10/05/19 10:51	Retrieve from Storage
JC95975-8.1	Sahara Feliciano	Secured Staging Area	10/05/19 10:51	Return to Storage
JC95975-8.1	Secured Staging Area	Benjamin Gaines	10/06/19 14:05	Retrieve from Storage
JC95975-8.1	Benjamin Gaines	Secured Storage	10/06/19 14:06	Return to Storage
JC95975-8.1.1	Taylor Gorman	Metals Digestion	10/03/19 09:46	Digestate from JC95975-8.1
JC95975-8.1.1	Metals Digestion	Taylor Gorman	10/03/19 09:47	Digestate from JC95975-8.1
JC95975-8.1.1	Taylor Gorman	Metals Digestate Storage	10/03/19 09:47	Return to Storage

Metals Analysis

QC Data Summaries

Includes the following where applicable:

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

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC95975A

Account: WSP/EMAW - WSP Environment & Energy

Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP

Date Analyzed: 10/04/19

Methods: EPA 200.7, SW846 6010D

Analyst: ND

Run ID: MA47574

Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
11:09	MA47574-STD1	1		STDA
11:14	MA47574-STD2	1		STDB
11:19	ZZZZZZ	1		
11:23	ZZZZZZ	1		
11:28	MA47574-ICV1	1		
11:33	MA47574-ICB1	1		
11:38	MA47574-ICCV1	1		
11:43	MA47574-CCB1	1		
11:48	ZZZZZZ	1		
11:53	ZZZZZZ	1		
11:58	MA47574-CRI1	1		
12:02	MA47574-CRID1	1		
12:07	MA47574-ICSA1	1		
12:12	MA47574-ICSAB1	1		
12:17	MA47574-HSTD1	1		
12:22	MA47574-HSTD2	1		
12:27	ZZZZZZ	1		
12:32	ZZZZZZ	1		
12:36	MA47574-CCV1	1		
12:41	MA47574-CCB2	1		
12:45	MP17668-MB1	1		
12:50	MP17668-B1	1		
12:55	MP17668-S1	1		
12:59	MP17668-S2	1		
13:04	JC95927-1	1		(sample used for QC only; not part of login JC95975A)
13:08	MP17668-SD1	5		
13:13	ZZZZZZ	1		
13:17	ZZZZZZ	1		
13:22	ZZZZZZ	1		
13:27	MA47574-CCV2	1		
13:31	MA47574-CCB3	1		
13:36	ZZZZZZ	1		
13:40	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC95975A
Account: WSPEMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP
Analyst: ND
Parameters: Pb

Date Analyzed: 10/04/19
Run ID: MA47574

Methods: EPA 200.7, SW846 6010D

Time	Sample Description	Dilution Factor	PS Recov	Comments
13:45	ZZZZZZ	1		
13:49	ZZZZZZ	1		
13:54	ZZZZZZ	1		
13:59	ZZZZZZ	1		
14:03	MP17676-MB1	1		
14:08	MP17676-B1	1		
14:12	MA47574-CCV3	1		
14:17	MA47574-CCB4	1		
14:21	MP17676-S1	1		needs post spike straight for K and on dilution for Cr, Sb
14:26	MP17676-S2	1		
14:31	JC95993-2	1		(sample used for QC only; not part of login JC95975A)
14:36	MP17676-SD1	5		
14:41	ZZZZZZ	1		
14:45	ZZZZZZ	1		
14:50	ZZZZZZ	1		
14:55	ZZZZZZ	1		
15:00	MA47574-CCV4	1		
15:04	MA47574-CCB5	1		
15:09	ZZZZZZ	1		
15:13	MP17676-S1	2		
15:18	MP17676-S2	2		
15:22	JC95993-2	2		(sample used for QC only; not part of login JC95975A)
15:27	MP17676-SD1	10		
15:31	ZZZZZZ	1		
15:36	ZZZZZZ	1		
15:41	ZZZZZZ	1		
15:45	MA47574-CCV5	1		
15:50	MA47574-CCB6	1		
15:55	MP17601-PS1	1		
15:59	ZZZZZZ	1		
16:04	ZZZZZZ	1		
16:09	ZZZZZZ	1		
16:15	MA47574-CRI2	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC95975A
Account: WSPEMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP
Analyst: ND
Parameters: Pb

Date Analyzed: 10/04/19
Run ID: MA47574

Methods: EPA 200.7, SW846 6010D

Time	Sample Description	Dilution Factor	PS Recov	Comments
16:21	MA47574-CRID2	1		
16:26	MA47574-ICSA2	1		
16:30	MA47574-ICSAB2	1		
16:35	MA47574-CCV6	1		
16:40	MA47574-CCB7	1		
16:44	ZZZZZZ	1		
16:49	ZZZZZZ	1		
16:54	ZZZZZZ	1		
16:58	ZZZZZZ	1		
17:03	ZZZZZZ	1		
17:08	ZZZZZZ	1		
17:12	ZZZZZZ	1		
17:17	ZZZZZZ	1		
17:21	ZZZZZZ	1		
17:26	ZZZZZZ	1		
17:31	ZZZZZZ	1		
17:35	ZZZZZZ	1		
17:40	MA47574-CCV7	1		
17:45	MA47574-CCB8	1		
17:49	ZZZZZZ	1		
17:54	ZZZZZZ	1		
17:58	ZZZZZZ	1		
18:03	ZZZZZZ	1		
18:08	ZZZZZZ	1		
18:12	ZZZZZZ	1		
18:17	ZZZZZZ	1		
18:21	ZZZZZZ	1		
18:26	ZZZZZZ	1		
18:31	ZZZZZZ	1		
18:35	MA47574-CCV8	1		
18:40	MA47574-CCB9	1		
18:45	MA47574-CCV9	1		
18:50	MA47574-CCB10	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC95975A
Account: WSP/EMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP
Analyst: ND
Parameters: Pb

Date Analyzed: 10/04/19
Run ID: MA47574

Methods: EPA 200.7, SW846 6010D

Time	Sample Description	Dilution Factor	PS Recov	Comments
18:54	ZZZZZZ	1		
18:59	ZZZZZZ	1		
19:03	ZZZZZZ	1		
19:08	JC95975-3	1		
19:12	JC95975-4	1		
19:17	JC95975-5	1		
19:22	JC95975-6	1		
19:26	JC95975-7	1		
19:31	JC95975-8	1		
----->	Last reportable sample/prep for job JC95975A			
19:36	ZZZZZZ	1		
19:40	MA47574-CCV10	1		
19:45	MA47574-CCB11	1		
----->	Last reportable CCB for job JC95975A			
19:49	ZZZZZZ	1		
19:54	ZZZZZZ	1		
19:59	ZZZZZZ	1		
20:04	ZZZZZZ	1		
20:08	MP17695-B1	1		CCV out
20:13	MP17695-MB1	1		CCV out
20:18	MP17695-S1	1		CCV out. Needs post spike for Mg and Sb
20:22	MP17695-S2	1		CCV out
20:27	JC96012-1	1		(sample used for QC only; not part of login JC95975A)
20:31	MP17695-SD1	5		CCV out
20:36	MA47574-CCV11	1		
20:40	MA47574-CCB12	1		
20:45	ZZZZZZ	1		
20:50	ZZZZZZ	1		
20:55	ZZZZZZ	1		
20:59	ZZZZZZ	1		
21:04	ZZZZZZ	1		
21:09	ZZZZZZ	1		
21:14	ZZZZZZ	1		
21:18	ZZZZZZ	1		
21:23	ZZZZZZ	1		

SGS Instrument Runlog
Inorganics Analyses

Login Number: JC95975A
Account: WSPEMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP
Analyst: ND
Parameters: Pb

Date Analyzed: 10/04/19
Run ID: MA47574

Methods: EPA 200.7, SW846 6010D

Time	Sample Description	Dilution Factor	PS Recov	Comments
21:27	ZZZZZZ	1		
21:32	MA47574-CCV12	1		
21:36	MA47574-CCB13	1		
21:41	ZZZZZZ	1		
21:46	ZZZZZZ	1		
21:50	ZZZZZZ	1		
21:55	ZZZZZZ	1		
22:00	ZZZZZZ	1		
22:04	ZZZZZZ	1		
22:09	ZZZZZZ	1		
22:13	MP17696-MB1	1		CCV out
22:18	ZZZZZZ	1		
22:22	MA47574-CCV13	1		
22:27	MA47574-CCB14	1		
22:31	MP17696-B1	1		CCV out
22:36	MP17696-S1	1		CCV out
22:41	MP17696-S2	1		CCV out
22:45	JC95930-1	1		(sample used for QC only; not part of login JC95975A)
22:50	MP17696-SD1	5		CCV out
22:55	ZZZZZZ	1		
22:59	ZZZZZZ	1		
23:04	ZZZZZZ	1		
23:08	ZZZZZZ	1		
23:13	MA47574-CCV14	1		
23:17	MA47574-CCB15	1		
23:22	ZZZZZZ	1		
23:27	ZZZZZZ	1		
23:31	ZZZZZZ	1		
23:36	ZZZZZZ	1		
23:40	ZZZZZZ	1		
23:45	MA47574-CCV15	1		
23:49	MA47574-CCB16	1		

Refer to raw data for calibration curve and standards.

REPORTED ELEMENTS SUMMARY

Login Number: JC95975A
 Account: WSP/EMAW - WSP Environment & Energy
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP
 Analyst: ND
 Parameters: Pb

Date Analyzed: 10/04/19
 Run ID: MA47574

Methods: EPA 200.7, SW846 6010D

Time	Sample Description	Element: P Dilution b
11:19	ZZZZZZ	1
11:23	ZZZZZZ	1
11:28	MA47574-ICV1	1 X
11:33	MA47574-ICB1	1 X
11:38	MA47574-ICCV1	1 X
11:43	MA47574-CCB1	1 X
11:48	ZZZZZZ	1
11:53	ZZZZZZ	1
11:58	MA47574-CRI1	1 X
12:02	MA47574-CRID1	1 X
12:07	MA47574-ICSA1	1 X
12:12	MA47574-ICSAB1	1 X
12:17	MA47574-HSTD1	1 X
12:22	MA47574-HSTD2	1 X
12:27	ZZZZZZ	1
12:32	ZZZZZZ	1
12:36	MA47574-CCV1	1 X
12:41	MA47574-CCB2	1 X
12:45	MP17668-MB1	1 X
12:50	MP17668-B1	1 X
12:55	MP17668-S1	1 X
12:59	MP17668-S2	1 X
13:04	JC95927-1	1 X (a)
13:08	MP17668-SD1	5 X
13:13	ZZZZZZ	1
13:17	ZZZZZZ	1
13:22	ZZZZZZ	1
13:27	MA47574-CCV2	1 X
13:31	MA47574-CCB3	1 X
13:36	ZZZZZZ	1
13:40	ZZZZZZ	1
13:45	ZZZZZZ	1
13:49	ZZZZZZ	1
		Element: P b

REPORTED ELEMENTS SUMMARY

Login Number: JC95975A
 Account: WSP/EMAW - WSP Environment & Energy
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP
 Analyst: ND
 Parameters: Pb

Date Analyzed: 10/04/19
 Run ID: MA47574

Methods: EPA 200.7, SW846 6010D

Time	Sample Description	Element: P Dilution b
13:54	ZZZZZZ	1
13:59	ZZZZZZ	1
14:03	MP17676-MB1	1 X
14:08	MP17676-B1	1 X
14:12	MA47574-CCV3	1 X
14:17	MA47574-CCB4	1 X
14:21	MP17676-S1	1
14:26	MP17676-S2	1
14:31	JC95993-2	1 (a)
14:36	MP17676-SD1	5
14:41	ZZZZZZ	1
14:45	ZZZZZZ	1
14:50	ZZZZZZ	1
14:55	ZZZZZZ	1
15:00	MA47574-CCV4	1 X
15:04	MA47574-CCB5	1 X
15:09	ZZZZZZ	1
15:13	MP17676-S1	2 X
15:18	MP17676-S2	2 X
15:22	JC95993-2	2 X (a)
15:27	MP17676-SD1	10 X
15:31	ZZZZZZ	1
15:36	ZZZZZZ	1
15:41	ZZZZZZ	1
15:45	MA47574-CCV5	1 X
15:50	MA47574-CCB6	1 X
15:55	MP17601-PS1	1
15:59	ZZZZZZ	1
16:04	ZZZZZZ	1
16:09	ZZZZZZ	1
16:15	MA47574-CRI2	1 X
16:21	MA47574-CRID2	1 X
16:26	MA47574-ICSA2	1 X
		Element: P b

REPORTED ELEMENTS SUMMARY

Login Number: JC95975A
 Account: WSP/EMAW - WSP Environment & Energy
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP
 Analyst: ND
 Parameters: Pb

Date Analyzed: 10/04/19
 Run ID: MA47574

Methods: EPA 200.7, SW846 6010D

Time	Sample Description	Element: P Dilution b
16:30	MA47574-ICSAB2	1 X
16:35	MA47574-CCV6	1 X
16:40	MA47574-CCB7	1 X
16:44	ZZZZZZ	1
16:49	ZZZZZZ	1
16:54	ZZZZZZ	1
16:58	ZZZZZZ	1
17:03	ZZZZZZ	1
17:08	ZZZZZZ	1
17:12	ZZZZZZ	1
17:17	ZZZZZZ	1
17:21	ZZZZZZ	1
17:26	ZZZZZZ	1
17:31	ZZZZZZ	1
17:35	ZZZZZZ	1
17:40	MA47574-CCV7	1 X
17:45	MA47574-CCB8	1 X
17:49	ZZZZZZ	1
17:54	ZZZZZZ	1
17:58	ZZZZZZ	1
18:03	ZZZZZZ	1
18:08	ZZZZZZ	1
18:12	ZZZZZZ	1
18:17	ZZZZZZ	1
18:21	ZZZZZZ	1
18:26	ZZZZZZ	1
18:31	ZZZZZZ	1
18:35	MA47574-CCV8	1 X
18:40	MA47574-CCB9	1 X
18:45	MA47574-CCV9	1 X
18:50	MA47574-CCB10	1 X
18:54	ZZZZZZ	1
18:59	ZZZZZZ	1
		Element: P b

REPORTED ELEMENTS SUMMARY

Login Number: JC95975A
 Account: WSP/EMAW - WSP Environment & Energy
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP
 Analyst: ND
 Parameters: Pb

Date Analyzed: 10/04/19
 Run ID: MA47574

Methods: EPA 200.7, SW846 6010D

Time	Sample Description	Element: P Dilution b
19:03	ZZZZZZ	1
19:08	JC95975-3	1 X
19:12	JC95975-4	1 X
19:17	JC95975-5	1 X
19:22	JC95975-6	1 X
19:26	JC95975-7	1 X
19:31	JC95975-8	1 X
19:36	ZZZZZZ	1
19:40	MA47574-CCV10	1 X
19:45	MA47574-CCB11	1 X
19:49	ZZZZZZ	1
19:54	ZZZZZZ	1
19:59	ZZZZZZ	1
20:04	ZZZZZZ	1
20:08	MP17695-B1	1 X
20:13	MP17695-MB1	1 X
20:18	MP17695-S1	1 X
20:22	MP17695-S2	1 X
20:27	JC96012-1	1 X (a)
20:31	MP17695-SD1	5 X
20:36	MA47574-CCV11	1 X
20:40	MA47574-CCB12	1 X
20:45	ZZZZZZ	1
20:50	ZZZZZZ	1
20:55	ZZZZZZ	1
20:59	ZZZZZZ	1
21:04	ZZZZZZ	1
21:09	ZZZZZZ	1
21:14	ZZZZZZ	1
21:18	ZZZZZZ	1
21:23	ZZZZZZ	1
21:27	ZZZZZZ	1
21:32	MA47574-CCV12	1 X
		Element: P b

REPORTED ELEMENTS SUMMARY

Login Number: JC95975A
 Account: WSP/EMAW - WSP Environment & Energy
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 Analyst: ND Run ID: MA47574
 Parameters: Pb

Time	Sample Description	Element: P Dilution b
21:36	MA47574-CCB13	1 X
21:41	ZZZZZZ	1
21:46	ZZZZZZ	1
21:50	ZZZZZZ	1
21:55	ZZZZZZ	1
22:00	ZZZZZZ	1
22:04	ZZZZZZ	1
22:09	ZZZZZZ	1
22:13	MP17696-MB1	1 X
22:18	ZZZZZZ	1
22:22	MA47574-CCV13	1 X
22:27	MA47574-CCB14	1 X
22:31	MP17696-B1	1 X
22:36	MP17696-S1	1 X
22:41	MP17696-S2	1 X
22:45	JC95930-1	1 X (a)
22:50	MP17696-SD1	5 X
22:55	ZZZZZZ	1
22:59	ZZZZZZ	1
23:04	ZZZZZZ	1
23:08	ZZZZZZ	1
23:13	MA47574-CCV14	1 X
23:17	MA47574-CCB15	1 X
23:22	ZZZZZZ	1
23:27	ZZZZZZ	1
23:31	ZZZZZZ	1
23:36	ZZZZZZ	1
23:40	ZZZZZZ	1
23:45	MA47574-CCV15	1 X
23:49	MA47574-CCB16	1 X

(a) Sample used for QC only; not part of login JC95975A.

Element: P
b

INTERNAL STANDARD SUMMARY

Login Number: JC95975A
Account: WSPEMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP
Analyst: ND
Parameters: Pb

Date Analyzed: 10/04/19
Run ID: MA47574

Methods: EPA 200.7, SW846 6010D

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
11:09	MA47574-STD1	4748 R	138850 R	26918 R	8294 R
11:14	MA47574-STD2	4603	137320	26506	8344
11:19	ZZZZZZ	4656	138590	26419	8325
11:23	ZZZZZZ	4719	140180	26997	8260
11:28	MA47574-ICV1	4631	138790	26596	8320
11:33	MA47574-ICB1	4749	140280	26873	8339
11:38	MA47574-ICCV1	4641	138140	26412	8321
11:43	MA47574-CCB1	4733	140510	26820	8317
11:48	ZZZZZZ	4844	143950	28120	8537
11:53	ZZZZZZ	4688	140930	27071	8298
11:58	MA47574-CRI1	4699	139010	26482	8290
12:02	MA47574-CRID1	4746	139660	26783	8350
12:07	MA47574-ICSA1	4341	130140	25246	8025
12:12	MA47574-ICSAB1	4340	129500	25186	8045
12:17	MA47574-HSTD1	4605	138270	26249	8556
12:22	MA47574-HSTD2	4383	132130	25282	8060
12:27	ZZZZZZ	4754	139290	26416	8359
12:32	ZZZZZZ	4669	139200	26525	8384
12:36	MA47574-CCV1	4630	137150	26098	8361
12:41	MA47574-CCB2	4754	139000	26506	8379
12:45	MP17668-MB1	4728	140210	26824	8354
12:50	MP17668-B1	4650	137360	26610	8373
12:55	MP17668-S1	4596	137900	26325	8409
12:59	MP17668-S2	4577	136920	26218	8362
13:04	JC95927-1	4683	138480	26396	8407
13:08	MP17668-SD1	4729	138200	26384	8400
13:13	ZZZZZZ	4684	139720	26800	8435
13:17	ZZZZZZ	4710	141620	27028	8352
13:22	ZZZZZZ	4695	138300	26709	8393
13:27	MA47574-CCV2	4608	137020	26188	8355
13:31	MA47574-CCB3	4714	138510	26587	8339
13:36	ZZZZZZ	4695	140140	26802	8400
13:40	ZZZZZZ	4663	139980	26646	8378

INTERNAL STANDARD SUMMARY

Login Number: JC95975A
Account: WSPEMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP
Analyst: ND
Parameters: Pb

Date Analyzed: 10/04/19
Run ID: MA47574

Methods: EPA 200.7, SW846 6010D

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
13:45	ZZZZZZ	4699	142060	26826	8416
13:49	ZZZZZZ	4715	139420	26825	8366
13:54	ZZZZZZ	4697	139160	26646	8361
13:59	ZZZZZZ	4714	140010	26609	8376
14:03	MP17676-MB1	4780	139840	27167	8422
14:08	MP17676-B1	4672	139200	26811	8417
14:12	MA47574-CCV3	4646	138270	26359	8403
14:17	MA47574-CCB4	4753	140580	26814	8390
14:21	MP17676-S1	4701	142360	27746	8611
14:26	MP17676-S2	4677	141420	27438	8612
14:31	JC95993-2	4770	142900	27556	8640
14:36	MP17676-SD1	4787	139540	26636	8520
14:41	ZZZZZZ	4617	141160	27318	8592
14:45	ZZZZZZ	4723	139220	26738	8354
14:50	ZZZZZZ	4765	139590	26594	8472
14:55	ZZZZZZ	4631	139420	26426	7784
15:00	MA47574-CCV4	4657	138420	26391	8319
15:04	MA47574-CCB5	4755	139440	26490	8353
15:09	ZZZZZZ	4924	144020	27763	8756
15:13	MP17676-S1	4748	142460	27476	8471
15:18	MP17676-S2	4730	140990	27051	8511
15:22	JC95993-2	4793	141200	27341	8487
15:27	MP17676-SD1	4808	138960	26574	8445
15:31	ZZZZZZ	4733	136890	25888	8734
15:36	ZZZZZZ	4787	137060	26018	8463
15:41	ZZZZZZ	4838	139660	26817	8706
15:45	MA47574-CCV5	4655	134250	25441	8372
15:50	MA47574-CCB6	4867	138560	26180	8417
15:55	MP17601-PS1	4785	139110	26964	8571
15:59	ZZZZZZ	4897	140040	26868	8419
16:04	ZZZZZZ	4848	139500	26508	8322
16:09	ZZZZZZ	4653	139160	26531	8018
16:15	MA47574-CRI2	4555	121100	21599	7879

INTERNAL STANDARD SUMMARY

Login Number: JC95975A
Account: WSPEMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP
Analyst: ND
Parameters: Pb

Date Analyzed: 10/04/19
Run ID: MA47574

Methods: EPA 200.7, SW846 6010D

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
16:21	MA47574-CRID2	4555	120160	21508	7914
16:26	MA47574-ICSA2	4194	113450	20532	7740
16:30	MA47574-ICSAB2	4211	114120	20609	7779
16:35	MA47574-CCV6	4478	119890	21306	7971
16:40	MA47574-CCB7	4590	121170	21703	7952
16:44	ZZZZZZ	4584	120630	21575	7947
16:49	ZZZZZZ	4577	121000	21500	7976
16:54	ZZZZZZ	4575	120350	21606	7957
16:58	ZZZZZZ	4582	121030	21620	7964
17:03	ZZZZZZ	4581	122840	21630	7995
17:08	ZZZZZZ	4614	121300	21835	7994
17:12	ZZZZZZ	4600	122210	21927	7966
17:17	ZZZZZZ	4562	122950	22063	7945
17:21	ZZZZZZ	4636	125150	22391	8036
17:26	ZZZZZZ	4700	123860	22832	8024
17:31	ZZZZZZ	4502	122370	21654	7763
17:35	ZZZZZZ	4486	121450	21675	7753
17:40	MA47574-CCV7	4580	124430	22167	8023
17:45	MA47574-CCB8	4627	124140	22435	7893
17:49	ZZZZZZ	4638	124680	22456	7894
17:54	ZZZZZZ	4644	124330	22327	7933
17:58	ZZZZZZ	4619	126330	22565	7502
18:03	ZZZZZZ	4641	124450	22501	7894
18:08	ZZZZZZ	4655	123720	22433	7904
18:12	ZZZZZZ	4625	123770	22262	7907
18:17	ZZZZZZ	4698	124200	22801	7993
18:21	ZZZZZZ	4841	129480	23694	8126
18:26	ZZZZZZ	5012	133630	24286	8175
18:31	ZZZZZZ	4884	129940	23697	8115
18:35	MA47574-CCV8	4555	120650	21782	7949
18:40	MA47574-CCB9	4664	122800	22222	7932
18:45	MA47574-CCV9	4571	121610	21808	7960
18:50	MA47574-CCB10	4620	122530	22197	7864

INTERNAL STANDARD SUMMARY

Login Number: JC95975A
Account: WSPEMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP
Analyst: ND
Parameters: Pb

Date Analyzed: 10/04/19
Run ID: MA47574

Methods: EPA 200.7, SW846 6010D

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
18:54	ZZZZZZ	4812	128300	23412	8019
18:59	ZZZZZZ	4876	130080	23897	8101
19:03	ZZZZZZ	4779	127180	23267	8132
19:08	JC95975-3	4718	125640	22931	8061
19:12	JC95975-4	4757	127160	23290	8043
19:17	JC95975-5	4815	129000	23686	8126
19:22	JC95975-6	4619	125010	22855	7890
19:26	JC95975-7	4736	126540	23170	8093
19:31	JC95975-8	4785	126920	23142	8164
19:36	ZZZZZZ	4014	112180	20162	7158
19:40	MA47574-CCV10	4563	121530	22198	7963
19:45	MA47574-CCB11	4616	121880	22065	7870
19:49	ZZZZZZ	4711	124940	22880	8200
19:54	ZZZZZZ	4862	131390	24182	7948
19:59	ZZZZZZ	5029	134860	24433	8460
20:04	ZZZZZZ	4894	130810	23675	8345
20:08	MP17695-B1	4681	125730	22521	8119
20:13	MP17695-MB1	4794	126600	22827	8106
20:18	MP17695-S1	4809	129440	23333	8285
20:22	MP17695-S2	4786	129570	23217	8254
20:27	JC96012-1	4902	129620	23416	8341
20:31	MP17695-SD1	4813	127200	22809	8193
20:36	MA47574-CCV11	4711	125990	22098	8205
20:40	MA47574-CCB12	4809	126920	22679	8181
20:45	ZZZZZZ	5044	134600	24637	8522
20:50	ZZZZZZ	4700	128230	23276	8830
20:55	ZZZZZZ	4634	125760	22248	7983
20:59	ZZZZZZ	4548	124610	21699	7961
21:04	ZZZZZZ	5006	134040	24113	8494
21:09	ZZZZZZ	4981	134350	24288	8519
21:14	ZZZZZZ	4863	130820	23480	8393
21:18	ZZZZZZ	4995	133710	24151	8551
21:23	ZZZZZZ	4853	131400	23745	8356

INTERNAL STANDARD SUMMARY

Login Number: JC95975A
Account: WSPEMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP
Analyst: ND
Parameters: Pb

Date Analyzed: 10/04/19
Run ID: MA47574

Methods: EPA 200.7, SW846 6010D

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
21:27	ZZZZZZ	4876	130850	23600	8382
21:32	MA47574-CCV12	4693	125100	22179	8208
21:36	MA47574-CCB13	4768	126600	22513	8138
21:41	ZZZZZZ	4907	131760	24079	8674
21:46	ZZZZZZ	4698	129160	23324	8399
21:50	ZZZZZZ	4854	129910	23573	8478
21:55	ZZZZZZ	4956	135270	23815	8578
22:00	ZZZZZZ	4886	132120	24049	8515
22:04	ZZZZZZ	4929	130010	23655	8576
22:09	ZZZZZZ	4906	132450	23915	8514
22:13	MP17696-MB1	4804	128170	22865	8183
22:18	ZZZZZZ	4907	131410	23628	8367
22:22	MA47574-CCV13	4674	126280	22456	8179
22:27	MA47574-CCB14	4807	128830	22913	8196
22:31	MP17696-B1	4783	128900	23211	8325
22:36	MP17696-S1	4650	126150	22821	8101
22:41	MP17696-S2	4643	126020	22939	8091
22:45	JC95930-1	4766	130230	22894	8180
22:50	MP17696-SD1	4778	126830	22513	8205
22:55	ZZZZZZ	4963	133310	24126	8453
22:59	ZZZZZZ	999999 !a	131560	23616	999999 !a
23:04	ZZZZZZ	4811	129810	23450	8235
23:08	ZZZZZZ	4763	128200	23029	8308
23:13	MA47574-CCV14	4659	124930	22200	8162
23:17	MA47574-CCB15	4769	127960	22776	8141
23:22	ZZZZZZ	4790	128820	22892	8259
23:27	ZZZZZZ	4991	132970	23879	8529
23:31	ZZZZZZ	4802	137950	25147	8306
23:36	ZZZZZZ	4818	138210	26218	8327
23:40	ZZZZZZ	4814	138080	26205	8333
23:45	MA47574-CCV15	4795	136120	25842	8366
23:49	MA47574-CCB16	4934	139700	26301	8420

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

INTERNAL STANDARD SUMMARY

Login Number: JC95975A
 Account: WSPEMAW - WSP Environment & Energy
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 Analyst: ND Run ID: MA47574
 Parameters: Pb

Sample					
Time	Description	Istd#1	Istd#2	Istd#3	Istd#4

LEGEND:

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

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

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC95975A
Account: WSP/EMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA47574 Units: ug/l

Time: Sample ID:			11:33 ICB1		11:43 CCB1		12:41 CCB2		13:31 CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	14	anr							
Antimony	6.0	1.3	anr							
Arsenic	3.0	1.5	anr							
Barium	200	.3	anr							
Beryllium	1.0	.1	anr							
Bismuth	20	3.3								
Boron	100	.8	anr							
Cadmium	3.0	.1	anr							
Calcium	5000	2.3	anr							
Cerium	100									
Chromium	10	.5	anr							
Cobalt	50	.4	anr							
Copper	10	.8	anr							
Iron	100	4.4	anr							
Lead	3.0	1.1	0.900	<3.0	0.00	<3.0	0.400	<3.0	0.300	<3.0
Lithium	50	4.4								
Magnesium	5000	14	anr							
Manganese	15	.1	anr							
Molybdenum	20	.7	anr							
Nickel	10	.3	anr							
Phosphorus	50	2.4								
Potassium	10000	140	anr							
Selenium	10	1.8	anr							
Silicon	200	2.2								
Silver	10	.5	anr							
Sodium	10000	34	anr							
Strontium	10	.1								
Sulfur	50	9.8	anr							
Thallium	10	1.3	anr							
Tin	10	.9	anr							
Titanium	10	.3								
Tungsten	50	3.9								
Vanadium	50	.3	anr							

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC95975A
Account: WSPEMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA47574 Units: ug/l

Time: Sample ID:				11:33 ICB1		11:43 CCB1		12:41 CCB2		13:31 CCB3	
Metal	RL	IDL		raw	final	raw	final	raw	final	raw	final
Zinc	20	1.3	anr								
Zirconium	10	.2									
(*) Outside of QC limits											
(anr) Analyte not requested											

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC95975A
Account: WSP/EMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA47574 Units: ug/l

Time: Sample ID:			14:17 CCB4	15:04 CCB5		15:50 CCB6		16:40 CCB7									
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final							
Aluminum	200	14	anr														
Antimony	6.0	1.3	anr														
Arsenic	3.0	1.5	anr														
Barium	200	.3	anr														
Beryllium	1.0	.1	anr														
Bismuth	20	3.3															
Boron	100	.8	anr														
Cadmium	3.0	.1	anr														
Calcium	5000	2.3	anr														
Cerium	100																
Chromium	10	.5	anr														
Cobalt	50	.4	anr														
Copper	10	.8	anr														
Iron	100	4.4	anr														
Lead	3.0	1.1	-0.300								<3.0	0.900	<3.0	0.700	<3.0	1.70	<3.0
Lithium	50	4.4															
Magnesium	5000	14	anr														
Manganese	15	.1	anr														
Molybdenum	20	.7	anr														
Nickel	10	.3	anr														
Phosphorus	50	2.4															
Potassium	10000	140	anr														
Selenium	10	1.8	anr														
Silicon	200	2.2															
Silver	10	.5	anr														
Sodium	10000	34	anr														
Strontium	10	.1															
Sulfur	50	9.8	anr														
Thallium	10	1.3	anr														
Tin	10	.9	anr														
Titanium	10	.3															
Tungsten	50	3.9															
Vanadium	50	.3	anr														

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC95975A
Account: WSPEMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA47574 Units: ug/l

Time: Sample ID:			14:17 CCB4		15:04 CCB5		15:50 CCB6		16:40 CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zinc	20	1.3	anr							
Zirconium	10	.2								
(*) Outside of QC limits										
(anr) Analyte not requested										

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC95975A
Account: WSP/EMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA47574 Units: ug/l

Time: Sample ID:			17:45 CCB8		18:40 CCB9		18:50 CCB10		19:45 CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	14	anr							
Antimony	6.0	1.3	anr							
Arsenic	3.0	1.5	anr							
Barium	200	.3	anr							
Beryllium	1.0	.1	anr							
Bismuth	20	3.3								
Boron	100	.8	anr							
Cadmium	3.0	.1	anr							
Calcium	5000	2.3	anr							
Cerium	100									
Chromium	10	.5	anr							
Cobalt	50	.4	anr							
Copper	10	.8	anr							
Iron	100	4.4	anr							
Lead	3.0	1.1	0.500	<3.0	-0.400	<3.0	0.500	<3.0	1.00	<3.0
Lithium	50	4.4								
Magnesium	5000	14	anr							
Manganese	15	.1	anr							
Molybdenum	20	.7	anr							
Nickel	10	.3	anr							
Phosphorus	50	2.4								
Potassium	10000	140	anr							
Selenium	10	1.8	anr							
Silicon	200	2.2								
Silver	10	.5	anr							
Sodium	10000	34	anr							
Strontium	10	.1								
Sulfur	50	9.8	anr							
Thallium	10	1.3	anr							
Tin	10	.9	anr							
Titanium	10	.3								
Tungsten	50	3.9								
Vanadium	50	.3	anr							

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC95975A
Account: WSPEMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: result < RL Run ID: MA47574 Units: ug/l

Time: Sample ID:			17:45 CCB8	18:40 CCB9	18:50 CCB10	19:45 CCB11				
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zinc	20	1.3	anr							
Zirconium	10	.2								
(*) Outside of QC limits										
(anr) Analyte not requested										

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC95975A
Account: WSP/EMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: to % Recovery Run ID: MA47574 Units: ug/l

Time: Sample ID: ICCV		11:38 ICCV1		
Metal	True	Results	% Rec	
Aluminum	anr			
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Bismuth				
Boron	anr			
Cadmium	anr			
Calcium	anr			
Cerium				
Chromium	anr			
Cobalt	anr			
Copper	anr			
Iron	anr			
Lead	2000	2020	101.0	
Lithium				
Magnesium	anr			
Manganese	anr			
Molybdenum	anr			
Nickel	anr			
Phosphorus				
Potassium	anr			
Selenium	anr			
Silicon				
Silver	anr			
Sodium	anr			
Strontium				
Sulfur	anr			
Thallium	anr			
Tin	anr			
Titanium				
Tungsten				
Vanadium	anr			

6.1.4
6

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC95975A
Account: WSPEMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: to % Recovery Run ID: MA47574 Units: ug/l

Time:		11:38
Sample ID:		ICCV
Metal		True
		Results % Rec

Zinc anr

Zirconium

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

6.1.4

6

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95975A
Account: WSPEMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47574 Units: ug/l

Time: Sample ID:		11:28 ICV1		CCV	12:36 CCV1		CCV	13:27 CCV2	
Metal	ICV	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron	anr								
Cadmium	anr								
Calcium	anr								
Cerium									
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	2000	1920	96.0	2000	2030	101.5	2000	2010	100.5
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Phosphorus									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur	anr								
Thallium	anr								
Tin	anr								
Titanium									
Tungsten									
Vanadium	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95975A
Account: WSPEMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47574 Units: ug/l

Time:		11:28		12:36		13:27	
Sample ID:		ICV		CCV		CCV	
Metal		ICV1		CCV1		CCV2	
		Results	% Rec	Results	% Rec	Results	% Rec

Zinc anr

Zirconium

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

6.1.5
6

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95975A
Account: WSPEMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47574 Units: ug/l

Time: Sample ID:		14:12 CCV3		15:00 CCV4		15:45 CCV5			
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron	anr								
Cadmium	anr								
Calcium	anr								
Cerium									
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	2000	2010	100.5	2000	2040	102.0	2000	2030	101.5
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Phosphorus									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur	anr								
Thallium	anr								
Tin	anr								
Titanium									
Tungsten									
Vanadium	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95975A
Account: WSPEMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47574 Units: ug/l

Time:		14:12		15:00		15:45	
Sample ID:		CCV		CCV		CCV	
Metal		True		True		True	
		Results		Results		Results	
		% Rec		% Rec		% Rec	

Zinc anr

Zirconium

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

6.1.5

6

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95975A
Account: WSPEMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47574 Units: ug/l

Time: Sample ID:		16:35 CCV6		17:40 CCV7		18:35 CCV8			
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth									
Boron	anr								
Cadmium	anr								
Calcium	anr								
Cerium									
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	2000	2100	105.0	2000	2100	105.0	2000	2120	106.0
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Phosphorus									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Strontium									
Sulfur	anr								
Thallium	anr								
Tin	anr								
Titanium									
Tungsten									
Vanadium	anr								

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95975A
Account: WSPEMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47574 Units: ug/l

Time:		16:35		17:40		18:35	
Sample ID:		CCV		CCV		CCV	
Metal		True		True		True	
		Results		Results		Results	
		% Rec		% Rec		% Rec	

Zinc anr

Zirconium

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

6.1.5

6

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95975A
Account: WSPEMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47574 Units: ug/l

Time: Sample ID:		18:45 CCV9		19:40 CCV10		
Metal	True	Results	% Rec	True	Results	% Rec
Aluminum	anr					
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Bismuth						
Boron	anr					
Cadmium	anr					
Calcium	anr					
Cerium						
Chromium	anr					
Cobalt	anr					
Copper	anr					
Iron	anr					
Lead	2000	2070	103.5	2000	2070	103.5
Lithium						
Magnesium	anr					
Manganese	anr					
Molybdenum	anr					
Nickel	anr					
Phosphorus						
Potassium	anr					
Selenium	anr					
Silicon						
Silver	anr					
Sodium	anr					
Strontium						
Sulfur	anr					
Thallium	anr					
Tin	anr					
Titanium						
Tungsten						
Vanadium	anr					

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC95975A
Account: WSPEMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 95 to 105 % Recovery Run ID: MA47574 Units: ug/l

Time:		18:45			19:40		
Sample ID:	CCV	CCV9		CCV	CCV10		
Metal	True	Results	% Rec	True	Results	% Rec	

Zinc anr

Zirconium

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

6.1.5

6

HIGH STANDARD CHECK SUMMARY

Login Number: JC95975A
 Account: WSPEMAW - WSP Environment & Energy
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 QC Limits: 90 to 110 % Recovery Run ID: MA47574 Units: ug/l

Time: Sample ID:		12:17 HSTD1	12:22 HSTD2	
Metal	HSTD	Results	% Rec	% Rec
Aluminum	True			
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Bismuth				
Boron	anr			
Cadmium	anr			
Calcium				
Cerium				
Chromium	anr			
Cobalt	anr			
Copper	anr			
Iron				
Lead	8000	8040	100.5	
Lithium				
Magnesium				
Manganese	anr			
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium				
Selenium	anr			
Silicon				
Silver	anr			
Sodium				
Strontium				
Sulfur	anr			
Thallium	anr			
Tin	anr			
Titanium				
Tungsten				
Vanadium	anr			

6.1.6

6

HIGH STANDARD CHECK SUMMARY

Login Number: JC95975A
 Account: WSPEMAW - WSP Environment & Energy
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 QC Limits: 90 to 110 % Recovery Run ID: MA47574 Units: ug/l

Time:		12:17		12:22	
Sample ID:		HSTD		HSTD	
Metal		True		True	
		Results		Results	
		% Rec		% Rec	

Zinc anr

Zirconium

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

6.1.6

6

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC95975A
Account: WSP/EMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: CRI 80-120% CRIA 80-120% Run ID: MA47574 Units: ug/l

Time: Sample ID:	CRI	CRIA	CRID	11:58 CRI1	% Rec	12:02 CRID1	% Rec	16:15 CRI2	% Rec
Metal	True	True	True	Results		Results		Results	
Aluminum	200	500	100	anr					
Antimony	6.0	20	3.0	anr					
Arsenic	8.0	20	3.0	anr					
Barium	200		4.0	anr					
Beryllium	2.0		1.0	anr					
Bismuth	20								
Boron	100		10	anr					
Cadmium	3.0		1.0	anr					
Calcium	5000	2000	1000	anr					
Cerium									
Chromium	10		2.0	anr					
Cobalt	50		3.0	anr					
Copper	10		2.0	anr					
Iron	100	500		anr					
Lead	3.0	20	2.5	3.50	116.7			2.70	90.0
Lithium	50								
Magnesium	5000	2000	100	anr					
Manganese	15		3.0	anr					
Molybdenum	20			anr					
Nickel	10		4.0	anr					
Phosphorus	50								
Potassium	5000		2000	anr					
Selenium	10	20	5.0	anr					
Silicon	200								
Silver	5.0		2.0	anr					
Sodium	5000		1000	anr					
Strontium	10								
Sulfur	50			anr					
Thallium	10		2.0	anr					
Tin	10			anr					
Titanium	10								
Tungsten	50								
Vanadium	50		2.0	anr					

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC95975A
 Account: WSP/EMAW - WSP Environment & Energy
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 QC Limits: CRI 80-120% CRIA 80-120% Run ID: MA47574 Units: ug/l

Time:				11:58		12:02		16:15	
Sample ID:	CRI	CRIA	CRID	CRI1		CRID1		CRI2	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec

Zinc	20		10	anr					
Zirconium	10								

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

6.1.7
6

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC95975A
 Account: WSP/EMAW - WSP Environment & Energy
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 QC Limits: CRI 80-120% CRIA 80-120% Run ID: MA47574 Units: ug/l

Time: Sample ID:	CRI True	CRIA True	CRID True	16:21 CRID2 Results	% Rec
Metal					
Aluminum	200	500	100	anr	
Antimony	6.0	20	3.0		
Arsenic	8.0	20	3.0	anr	
Barium	200		4.0	anr	
Beryllium	2.0		1.0	anr	
Bismuth	20				
Boron	100		10		
Cadmium	3.0		1.0	anr	
Calcium	5000	2000	1000	anr	
Cerium					
Chromium	10		2.0	anr	
Cobalt	50		3.0	anr	
Copper	10		2.0		
Iron	100	500			
Lead	3.0	20	2.5		
Lithium	50				
Magnesium	5000	2000	100	anr	
Manganese	15		3.0	anr	
Molybdenum	20				
Nickel	10		4.0	anr	
Phosphorus	50				
Potassium	5000		2000	anr	
Selenium	10	20	5.0	anr	
Silicon	200				
Silver	5.0		2.0		
Sodium	5000		1000	anr	
Strontium	10				
Sulfur	50				
Thallium	10		2.0		
Tin	10				
Titanium	10				
Tungsten	50				
Vanadium	50		2.0		

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC95975A
 Account: WSP/EMAW - WSP Environment & Energy
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
 QC Limits: CRI 80-120% CRIA 80-120% Run ID: MA47574 Units: ug/l

Time:				16:21		
Sample ID:	CRI	CRIA	CRID	CRID2		
Metal	True	True	True	Results	%	Rec

Zinc	20		10	anr		
Zirconium	10					

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

6.1.7
6

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

Login Number: JC95975A
Account: WSP/EMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 80 to 120 % Recovery Run ID: MA47574 Units: ug/l

Time: Sample ID:	ICSA True	ICSAB True	12:07 ICSA1 Results	% Rec	12:12 ICSAB1 Results	% Rec	16:26 ICSA2 Results	% Rec	16:30 ICSAB2 Results	% Rec
Metal										
Aluminum	500000	500000	505000	101.0	525000	105.0	514000	102.8	532000	106.4
Antimony		1000	-1.20		1020	102.0	-0.200		974	97.4
Arsenic		1000	-1.90		1060	106.0	0.100		1050	105.0
Barium		500	0.300		526	105.2	0.800		520	104.0
Beryllium		500	-0.200		518	103.6	-0.200		518	103.6
Bismuth		500	-19.4		520	104.0	-19.4		481	96.2
Boron		500	-2.40		520	104.0	-2.10		505	101.0
Cadmium		1000	-1.70		1090	109.0	-1.50		1040	104.0
Calcium	400000	400000	404000	101.0	392000	98.0	417000	104.3	404000	101.0
Cerium			86.8		63.3		85.5		58.9	
Chromium		500	2.30		487	97.4	1.50		529	105.8
Cobalt		500	-0.100		490	98.0	0.200		483	96.6
Copper		500	0.200		534	106.8	-0.600		510	102.0
Iron	200000	200000	204000	102.0	194000	97.0	211000	105.5	201000	100.5
Lead		1000	2.40		925	92.5	-1.10		949	94.9
Lithium		500	-3.70		535	107.0	-3.90		523	104.6
Magnesium	500000	500000	534000	106.8	534000	106.8	568000	113.6	564000	112.8
Manganese		500	-1.70		521	104.2	-1.30		552	110.4
Molybdenum		500	-2.50		490	98.0	-2.30		475	95.0
Nickel		1000	-1.90		969	96.9	-2.30		986	98.6
Phosphorus		500	2.10		516	103.2	-2.90		522	104.4
Potassium			77.3		77.5		-118		-49.9	
Selenium		1000	-4.80		1030	103.0	2.50		1020	102.0
Silicon		500	-7.50		514	102.8	-3.20		497	99.4
Silver		1000	0.500		1090	109.0	-1.20		1100	110.0
Sodium			208		264		107		189	
Strontium		500	-0.700		523	104.6	-1.20		514	102.8
Sulfur		500	21.0		537	107.4	9.80		515	103.0
Thallium		1000	-5.60		1010	101.0	0.900		976	97.6
Tin		500	-0.700		486	97.2	-2.10		490	98.0
Titanium		500	-0.400		509	101.8	-0.700		509	101.8
Tungsten		500	-1.10		490	98.0	-1.20		481	96.2
Vanadium		500	1.10		488	97.6	-0.700		501	100.2

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

Login Number: JC95975A
Account: WSPEMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

File ID: SD100419M1.ICP Date Analyzed: 10/04/19 Methods: EPA 200.7, SW846 6010D
QC Limits: 80 to 120 % Recovery Run ID: MA47574 Units: ug/l

Time:			12:07		12:12		16:26		16:30	
Sample ID:	ICSA	ICSAB	ICSA1	% Rec	ICSAB1	% Rec	ICSA2	% Rec	ICSAB2	% Rec
Metal	True	True	Results		Results		Results		Results	

Zinc		1000	2.90		998	99.8	3.30		1060	106.0
Zirconium		500	-6.10		493	98.6	-6.30		494	98.8

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

6.1.8

6

BLANK RESULTS SUMMARY
Part 2 - Method BlanksLogin Number: JC95975A
Account: WSPEMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NYQC Batch ID: MP17676
Matrix Type: SOLIDMethods: SW846 6010D
Units: mg/kg

Prep Date: 10/03/19

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	1.4	8		
Antimony	2.0	.13	.41		
Arsenic	2.0	.15	.28		
Barium	20	.03	1.9		
Beryllium	0.20	.0099	.079		
Bismuth	2.0	.33	.51		
Boron	9.9	.079	1.5		
Cadmium	0.50	.0099	.069		
Calcium	500	.23	44		
Chromium	0.99	.05	.37		
Cobalt	5.0	.04	.28		
Copper	2.5	.079	.83		
Iron	50	.44	19		
Lead	2.0	.11	.41	0.059	<2.0
Lithium	5.0	.44	.91		
Magnesium	500	1.3	14		
Manganese	1.5	.0099	.41		
Molybdenum	2.0	.069	.32		
Nickel	4.0	.03	.35		
Phosphorus	20	.24	3.2		
Potassium	990	13	31		
Selenium	2.0	.18	.64		
Silicon	20	.22	11		
Silver	0.50	.05	.17		
Sodium	990	3.4	77		
Strontium	5.0	.0099	.18		
Sulfur	9.9	.97	9.3		
Thallium	0.99	.13	.57		
Tin	20	.089	3.8		
Titanium	0.99	.03	.34		
Tungsten	5.0	.39	1.7		
Vanadium	5.0	.03	.19		
Zinc	5.0	.13	2.3		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC95975A
Account: WSPEMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

QC Batch ID: MP17676
Matrix Type: SOLID

Methods: SW846 6010D
Units: mg/kg

Prep Date: 10/03/19

Metal	RL	IDL	MDL	MB raw	final
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Zirconium 2.0 .02 .23

Associated samples MP17676: JC95975-3, JC95975-4, JC95975-5, JC95975-6, JC95975-7, JC95975-8

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

6.2.1

6

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC95975A
 Account: WSPEMAW - WSP Environment & Energy
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

QC Batch ID: MP17676
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: mg/kg

Prep Date: 10/03/19

Metal	JC95993-2 Original MS	Spike lot MPSPK2		% Rec	QC Limits
Aluminum	anr				
Antimony	anr				
Arsenic	anr				
Barium	anr				
Beryllium	anr				
Bismuth					
Boron					
Cadmium	anr				
Calcium	anr				
Chromium	anr				
Cobalt	anr				
Copper	anr				
Iron	anr				
Lead	141	339	207	95.8	75-125
Lithium					
Magnesium	anr				
Manganese	anr				
Molybdenum	anr				
Nickel	anr				
Phosphorus					
Potassium	anr				
Selenium	anr				
Silicon					
Silver	anr				
Sodium	anr				
Strontium					
Sulfur	anr				
Thallium	anr				
Tin	anr				
Titanium					
Tungsten					
Vanadium	anr				
Zinc	anr				

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC95975A
 Account: WSPEMAW - WSP Environment & Energy
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

QC Batch ID: MP17676
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: mg/kg

Prep Date: 10/03/19

Metal	JC95993-2 Original MS	Spike lot MPSPK2	% Rec	QC Limits
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Zirconium

Associated samples MP17676: JC95975-3, JC95975-4, JC95975-5, JC95975-6, JC95975-7, JC95975-8

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

6.2.2

6

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC95975A
 Account: WSP/EMAW - WSP Environment & Energy
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

QC Batch ID: MP17676
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: mg/kg

Prep Date: 10/03/19

Metal	JC95993-2 Original	MSD	Spike lot MPSPK2	% Rec	MSD RPD	QC Limit
Aluminum	anr					
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Bismuth						
Boron						
Cadmium	anr					
Calcium	anr					
Chromium	anr					
Cobalt	anr					
Copper	anr					
Iron	anr					
Lead	141	372	219	105.3	9.3	20
Lithium						
Magnesium	anr					
Manganese	anr					
Molybdenum	anr					
Nickel	anr					
Phosphorus						
Potassium	anr					
Selenium	anr					
Silicon						
Silver	anr					
Sodium	anr					
Strontium						
Sulfur	anr					
Thallium	anr					
Tin	anr					
Titanium						
Tungsten						
Vanadium	anr					
Zinc	anr					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC95975A
 Account: WSPEMAW - WSP Environment & Energy
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

QC Batch ID: MP17676
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: mg/kg

Prep Date: 10/03/19

Metal	JC95993-2 Original MSD	Spike lot MPSPK2	% Rec	MSD RPD	QC Limit
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Zirconium

Associated samples MP17676: JC95975-3, JC95975-4, JC95975-5, JC95975-6, JC95975-7, JC95975-8

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

6.2.2

6

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC95975A
 Account: WSPEMAW - WSP Environment & Energy
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

QC Batch ID: MP17676
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: mg/kg

Prep Date: 10/03/19

Metal	BSP Result	Spike lot MPSPK2	% Rec	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Bismuth				
Boron				
Cadmium	anr			
Calcium	anr			
Chromium	anr			
Cobalt	anr			
Copper	anr			
Iron	anr			
Lead	204	208	97.9	80-120
Lithium				
Magnesium	anr			
Manganese	anr			
Molybdenum	anr			
Nickel	anr			
Phosphorus				
Potassium	anr			
Selenium	anr			
Silicon				
Silver	anr			
Sodium	anr			
Strontium				
Sulfur	anr			
Thallium	anr			
Tin	anr			
Titanium				
Tungsten				
Vanadium	anr			
Zinc	anr			

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC95975A
 Account: WSPEMAW - WSP Environment & Energy
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

QC Batch ID: MP17676
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: mg/kg

Prep Date: 10/03/19

Metal	BSP Result	Spike lot MPSPK2	% Rec	QC Limits
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Zirconium

Associated samples MP17676: JC95975-3, JC95975-4, JC95975-5, JC95975-6, JC95975-7, JC95975-8

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

6.2.3

6

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC95975A
 Account: WSP/EMAW - WSP Environment & Energy
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

QC Batch ID: MP17676
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: ug/l

Prep Date: 10/03/19

Metal	JC95993-2 Original	SDL 1:5	%DIF	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Bismuth				
Boron				
Cadmium	anr			
Calcium	anr			
Chromium	anr			
Cobalt	anr			
Copper	anr			
Iron	anr			
Lead	1340	1440	7.5	0-10
Lithium				
Magnesium	anr			
Manganese	anr			
Molybdenum	anr			
Nickel	anr			
Phosphorus				
Potassium	anr			
Selenium	anr			
Silicon				
Silver	anr			
Sodium	anr			
Strontium				
Sulfur	anr			
Thallium	anr			
Tin	anr			
Titanium				
Tungsten				
Vanadium	anr			
Zinc	anr			

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC95975A
Account: WSPEMAW - WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

QC Batch ID: MP17676
Matrix Type: SOLID

Methods: SW846 6010D
Units: ug/l

Prep Date: 10/03/19

Metal	JC95993-2 Original SDL 1:5	%DIF	QC Limits
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Zirconium

Associated samples MP17676: JC95975-3, JC95975-4, JC95975-5, JC95975-6, JC95975-7, JC95975-8

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

6.2.4

6

POST DIGESTATE SPIKE SUMMARY

Login Number: JC95975A
 Account: WSPEMAW - WSP Environment & Energy
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

QC Batch ID: MP17676
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: ug/l

Prep Date:

10/03/19

Metal	Sample ml	Final ml	JC95993-2 Raw	PS Corr.** ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Bismuth									
Boron									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Lithium									
Magnesium									
Manganese									
Molybdenum									
Nickel									
Phosphorus									
Potassium									
Selenium									
Silicon									
Silver									
Sodium									
Strontium									
Sulfur									
Thallium									
Tin									
Titanium									
Tungsten									
Vanadium									
Zinc									

POST DIGESTATE SPIKE SUMMARY

Login Number: JC95975A
 Account: WSPEMAW - WSP Environment & Energy
 Project: Former TTC Site, One Robert Lane, Glen Head, NY

QC Batch ID: MP17676
 Matrix Type: SOLID

Methods: SW846 6010D
 Units: ug/l

Prep Date:

10/03/19

Metal	Sample ml	Final ml	JC95993-2 Raw	PS Corr.** ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
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Zirconium

Associated samples MP17676: JC95975-3, JC95975-4, JC95975-5, JC95975-6, JC95975-7, JC95975-8

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(**) Corr. sample result = Raw * (sample volume / final volume)

(anr) Analyte not requested

6.2.5

6

Instrument Detection Limits

Job Number: JC95975A
Account: WSPERMAW WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

Instrument ID: SSTRACE4	Effective Date: 01/16/19
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Analyte	IDL ug/l
Aluminum	13.7
Antimony	1.3
Arsenic	1.5
Barium	.3
Beryllium	.1
Bismuth	3.3
Boron	.8
Cadmium	.1
Calcium	2.3
Chromium	.5
Cobalt	.4
Copper	.8
Iron	4.4
Lead	1.1
Lithium	4.4
Magnesium	13.6
Manganese	.1
Molybdenum	.7
Nickel	.3
Phosphorus	2.4
Potassium	135.6
Selenium	1.8
Silicon	2.2
Silver	.5
Sodium	33.9
Sulfur	9.8
Strontium	.1
Thallium	1.3
Tin	.9
Titanium	.3
Tungsten	3.9
Vanadium	.3
Zinc	1.3
Zirconium	.2

The above applies to the following instrument runs:
MA47574

Instrument Linear Ranges

Job Number: JC95975A
Account: WSPERMAW WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

Instrument ID: SSTRACE4	Effective Date: 08/22/19
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Analyte	Linear Range ug/l
Aluminum	300000
Antimony	8000
Arsenic	8000
Barium	8000
Beryllium	8000
Bismuth	8000
Boron	8000
Cadmium	8000
Calcium	200000
Cerium	8000
Chromium	8000
Cobalt	8000
Copper	8000
Iron	200000
Lead	8000
Lithium	8000
Magnesium	300000
Manganese	8000
Molybdenum	8000
Nickel	8000
Palladium	8000
Phosphorus	8000
Potassium	200000
Selenium	8000
Silicon	25000
Silver	625
Sodium	200000
Sulfur	100000
Strontium	8000
Thallium	8000
Tin	8000
Titanium	8000
Tungsten	8000
Vanadium	8000
Zinc	8000
Zirconium	8000

The above applies to the following instrument runs:
MA47574



Metals Analysis

Raw Data

7

Zoom In
Zoom Out

Sample Name: STDA Acquired: 10/4/2019 11:09:47 Type: Cal
Method: SGS No Valve3(v198) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.0033	.0007	.0013	-.0001	-.0001	.0106	.0002	.0018	-.0016
Stddev	.0002	.0001	.0002	.0001	.0000	.0001	.0000	.0002	.0000
%RSD	5.119	18.62	14.12	71.13	15.77	.7509	6.176	10.42	1.592

#1	.0032	.0007	.0012	-.0000	-.0001	.0106	.0002	.0016	-.0016
#2	.0033	.0008	.0013	-.0001	-.0001	.0105	.0002	.0019	-.0017
#3	.0035	.0005	.0016	-.0001	-.0001	.0106	.0002	.0019	-.0016

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.0004	.0012	-.0010	-.0006	-.0000	.0007	.0007	.0011	.0046
Stddev	.0000	.0003	.0000	.0001	.0000	.0001	.0002	.0002	.0002
%RSD	9.885	21.63	4.709	17.03	37.26	13.11	29.34	20.00	3.429

#1	-.0003	.0009	-.0010	-.0005	-.0000	.0006	.0009	.0009	.0048
#2	-.0004	.0014	-.0010	-.0007	-.0000	.0007	.0007	.0011	.0045
#3	-.0004	.0014	-.0009	-.0005	-.0000	.0007	.0005	.0013	.0047

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.0002	-.0001	.0015	.0069	.0015	-.0003	.0027	.0003	-.0009
Stddev	.0000	.0001	.0008	.0009	.0002	.0002	.0001	.0000	.0002
%RSD	21.72	43.53	54.49	12.54	13.40	64.06	3.584	9.066	23.75

#1	.0002	-.0001	.0011	.0059	.0017	-.0005	.0027	.0003	-.0010
#2	.0002	-.0001	.0024	.0074	.0015	-.0001	.0026	.0004	-.0010
#3	.0002	-.0002	.0009	.0074	.0013	-.0004	.0028	.0003	-.0006

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	.0000	.0023	-.0002	-.0032	-.0008	.0009	-.0042	.0000	
Stddev	.0000	.0004	.0000	.0002	.0004	.0001	.0002	.0001	
%RSD	56.29	17.71	12.68	5.074	44.43	15.98	3.696	215.1	

#1	.0000	.0027	-.0002	-.0031	-.0009	.0008	-.0040	-.0000	
#2	.0000	.0019	-.0002	-.0034	-.0012	.0009	-.0041	.0001	
#3	.0000	.0024	-.0002	-.0032	-.0004	.0011	-.0043	.0001	

Raw Data MA47574 page 1 of 223

Zoom In
Zoom Out

Sample Name: STDA Acquired: 10/4/2019 11:09:47 Type: Cal
Method: SGS No Valve3(v198) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	138850.	26918.	4747.5	8293.5
Stddev	2614.	119.	5.6	6.0
%RSD	1.8826	.44074	.11834	.07249

#1	139010.	27046.	4750.5	8297.1
#2	136160.	26899.	4751.1	8286.6
#3	141380.	26811.	4741.1	8296.9

Raw Data MA47574 page 2 of 223

Zoom In
Zoom Out

Sample Name: STDB Acquired: 10/4/2019 11:14:24 Type: Cal
Method: SGS No Valve3(v198) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7.537	10.68	5.768	3.274	4.429	.9455	3.590	2.162	.0648
Stddev	.071	.10	.014	.004	.0017	.0021	.001	.004	.0000
%RSD	.9389	.8988	.2409	.1331	.3830	.2203	.0260	.1663	.0527

#1	7.572	10.76	5.762	3.269	4.409	.9432	3.589	2.159	.0648
#2	7.583	10.72	5.784	3.277	4.441	.9474	3.590	2.161	.0649
#3	7.455	10.57	5.758	3.276	4.437	.9458	3.591	2.166	.0648

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.4593	6.399	.5174	.2556	.9483	.5099	.8020	2.820	4.997
Stddev	.0010	.010	.0008	.0007	.0011	.0013	.0016	.013	.025
%RSD	.2093	.1498	.1519	.2623	.1201	.2558	.1980	.4507	.5109

#1	.4582	6.389	.5169	.2552	.9471	.5086	.8011	2.834	5.022
#2	.4601	6.401	.5183	.2564	.9486	.5112	.8039	2.808	4.971
#3	.4595	6.408	.5169	.2552	.9493	.5099	.8012	2.820	4.998

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4.263	.5187	1.380	4.384	1.138	3.443	2.568	.9052	11.57
Stddev	.031	.0028	.006	.019	.002	.006	.006	.0014	.18
%RSD	.7171	.5451	.4454	.4313	.1590	.1680	.2171	.1528	1.563

#1	4.297	.5211	1.386	4.399	1.136	3.439	2.565	.9038	11.75
#2	4.250	.5156	1.374	4.363	1.140	3.450	2.575	.9066	11.57
#3	4.240	.5193	1.381	4.389	1.138	3.440	2.565	.9051	11.39

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	.8094	1.861	1.215	.2837	1.005	2.067	.5577	.1415	
Stddev	.0011	.003	.003	.0014	.003	.010	.0013	.0002	
%RSD	.1393	.1809	.2726	.5033	.2576	.4654	.2350	.1681	

#1	.8081	1.858	1.212	.2845	1.005	2.078	.5576	.1412	
#2	.8102	1.864	1.218	.2845	1.008	2.059	.5591	.1416	
#3	.8098	1.859	1.216	.2820	1.003	2.065	.5565	.1416	

Raw Data MA47574 page 3 of 223

Zoom In
Zoom Out

Sample Name: STDB Acquired: 10/4/2019 11:14:24 Type: Cal
Method: SGS No Valve3(v198) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	137320.	26506.	4602.5	8344.3
Stddev	276.	103.	7.2	13.8
%RSD	.20083	.38845	.15660	.16536

#1	137620.	26388.	4610.8	8358.6
#2	137260.	26549.	4597.7	8343.4
#3	137080.	26580.	4599.1	8331.0

Raw Data MA47574 page 4 of 223

Sample Name: CCVCONF Acquired: 10/4/2019 11:19:18 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.997	2.034	2.016	2.011	2.000	1.939	2.004	2.024	F 2286
Stddev	.014	.016	.004	.001	.008	.007	.024	.002	.0002
%RSD	.7143	.7863	.2116	.0622	.3826	.3644	1.185	.1186	.1071
#1	2.013	2.052	2.021	2.010	1.995	1.943	1.997	2.022	2283
#2	1.985	2.021	2.014	2.012	2.009	1.942	2.031	2.025	2288
#3	1.994	2.029	2.013	2.010	1.996	1.931	1.985	2.027	2286

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Fail
Value Range 2500
-5.000%

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.989	2.026	1.916	2.032	2.008	1.955	1.905	39.36	40.02
Stddev	.008	.006	.001	.003	.004	.005	.004	.27	.28
%RSD	.4060	.3105	.0433	.1677	.2175	.2623	.2004	.6755	.6934
#1	1.987	2.033	1.916	2.036	2.004	1.960	1.907	39.65	40.33
#2	1.998	2.025	1.916	2.031	2.006	1.950	1.900	39.13	39.79
#3	1.982	2.020	1.915	2.029	2.013	1.954	1.907	39.30	39.94

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

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	40.08	39.78	39.88	1.968	1.928	1.955	5.004	1.950	2.019
Stddev	.30	.32	.22	.28	.004	.001	.004	.000	.012
%RSD	.7555	.7942	.5658	.7124	.1879	.0741	.0766	.0065	.6050
#1	40.41	40.14	39.54	40.21	1.971	1.929	5.009	1.950	2.032
#2	39.82	39.56	39.10	39.68	1.964	1.926	5.002	1.950	2.008
#3	40.00	39.63	39.24	39.76	1.970	1.928	5.002	1.950	2.016

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

Raw Data MA47574 page 5 of 223

Sample Name: CCVCONF Acquired: 10/4/2019 11:19:18 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.930	1.906	1.928	1.928	1.953	1.956	1.975	1.981
Stddev	.004	.004	.007	.003	.002	.013	.003	.002
%RSD	.2223	.1976	.3915	.1747	.1089	.6780	.1697	.0878
#1	1.928	1.910	1.928	1.932	1.956	1.970	1.971	1.983
#2	1.935	1.903	1.935	1.928	1.951	1.944	1.978	1.982
#3	1.927	1.905	1.920	1.925	1.954	1.954	1.976	1.979

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

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	138590.	26419.	4656.2	8325.2
Stddev	279.	173.	13.0	11.8
%RSD	.20098	.65590	.27843	.14152
#1	138850.	26226.	4642.2	8316.4
#2	138300.	26561.	4667.8	8338.6
#3	138630.	26470.	4658.7	8320.6

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

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	40.08	39.78	39.88	1.968	1.928	1.955	5.004	1.950	2.019
Stddev	.30	.32	.22	.28	.004	.001	.004	.000	.012
%RSD	.7555	.7942	.5658	.7124	.1879	.0741	.0766	.0065	.6050
#1	40.41	40.14	39.54	40.21	1.971	1.929	5.009	1.950	2.032
#2	39.82	39.56	39.10	39.68	1.964	1.926	5.002	1.950	2.008
#3	40.00	39.63	39.24	39.76	1.970	1.928	5.002	1.950	2.016

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

Raw Data MA47574 page 6 of 223

Sample Name: CCBCONF Acquired: 10/4/2019 11:23:47 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0001	.0000	.0001	.0001	.0001	.0000	.0002	.0001
Stddev	.0002	.0000	.0001	.0002	.0004	.0003	.0000	.0001	.0003
%RSD	131.4	48.38	467.7	221.7	418.4	213.1	120.8	53.05	535.4
#1	.0003	.0002	-.0000	.0000	.0006	-.0001	.0001	.0001	.0002
#2	.0002	.0001	-.0000	.0002	.0001	.0004	.0000	.0002	.0003
#3	-.0001	.0001	.0001	-.0001	-.0003	.0001	.0000	.0002	-.0003

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

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	-.0005	.0002	-.0009	.0005	-.0007	.0015	.0062	-.0009
Stddev	.0000	.0000	.0016	.0015	.0009	.0005	.0003	.0060	.0005
%RSD	13.18	8.290	878.8	177.1	174.0	71.99	20.82	96.95	56.81
#1	-.0003	-.0005	-.0004	-.0026	.0009	-.0007	.0019	.0128	-.0012
#2	-.0003	-.0005	.0020	-.0001	-.0005	-.0002	.0013	.0010	-.0011
#3	-.0003	-.0005	-.0010	.0001	.0012	-.0011	.0013	.0048	-.0003

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

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0007	.0044	.0501	.0335	.0039	.0002	.0005	-.0000	.0001
Stddev	.0009	.0032	.0137	.0065	.0006	.0001	.0004	.0003	.0000
%RSD	122.9	71.84	27.47	19.41	14.12	63.71	79.49	1753.	32.26
#1	-.0017	.0080	.0434	.0410	.0045	.0001	.0009	.0003	.0001
#2	-.0005	.0031	.0409	.0289	.0039	.0003	.0006	-.0003	.0001
#3	.0001	.0021	.0659	.0306	.0034	.0003	.0001	-.0001	.0001

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

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Sample Name: CCBCONF Acquired: 10/4/2019 11:23:47 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	-.0024	.0000	.0016	.0002	.0018	.0001	-.0023
Stddev	.0002	.0014	.0001	.0004	.0009	.0004	.0010	.0012
%RSD	53.07	59.04	2463.	26.54	538.1	24.14	715.9	53.54
#1	.0003	-.0038	.0001	.0011	.0009	.0018	.0011	-.0012
#2	.0003	-.0009	-.0000	.0018	.0005	.0013	.0001	-.0020
#3	.0006	-.0026	-.0001	.0018	-.0009	.0022	-.0008	-.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_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	140180.	26987.	4719.1	8259.7
Stddev	240.	102.	91.7	145.9
%RSD	.17107	.37702	1.9439	1.7669
#1	140050.	27077.	4773.5	8353.4
#2	140020.	27033.	4770.6	8334.1
#3	140450.	26883.	4613.2	8091.5

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

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0007	.0044	.0501	.0335	.0039	.0002	.0005	-.0000	.0001
Stddev	.0009	.0032	.0137	.0065	.0006	.0001	.0004	.0003	.0000
%RSD	122.9	71.84	27.47	19.41	14.12	63.71	79.49	1753.	32.26
#1	-.0017	.0080	.0434	.0410	.0045	.0001	.0009	.0003	.0001
#2	-.0005	.0031	.0409	.0289	.0039	.0003	.0006	-.0003	.0001
#3	.0001	.0021	.0659	.0306	.0034	.0003	.0001	-.0001	.0001

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

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◀ Zoom In ▶
Zoom Out

Sample Name: ICV 1 Acquired: 10/4/2019 11:28:28 Type: QC								
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000								
User: admin Custom ID1: Custom ID2: Custom ID3:								
Comment:								
Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.026	2.086	2.063	1.974	1.970	1.946	1.978	2.017
Stddev	.005	.006	.002	.003	.006	.005	.013	.004
%RSD	.2290	.2727	.0828	.1592	.3064	.2465	.6623	.1947
#1	2.030	2.093	2.061	1.972	1.963	1.941	1.986	2.012
#2	2.027	2.084	2.065	1.978	1.972	1.949	1.963	2.020
#3	2.021	2.082	2.062	1.973	1.975	1.950	1.986	2.018
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								
Elem	Ag3280	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.488	2.039	2.009	1.932	2.054	1.916	2.025	1.914
Stddev	.0007	.006	.001	.001	.002	.004	.004	.000
%RSD	.2961	.2866	.0451	.0375	.0738	.1852	.2096	.0158
#1	.2480	2.033	2.009	1.931	2.052	1.912	2.023	1.913
#2	.2488	2.040	2.010	1.933	2.055	1.920	2.030	1.914
#3	.2495	2.045	2.008	1.932	2.054	1.915	2.023	1.914
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	39.64	38.73	39.16	38.27	39.00	39.85	2.002	1.915
Stddev	.07	.07	.09	.13	.08	.15	.005	.003
%RSD	.1775	.1769	.2361	.3355	.2138	.3784	.2574	.1606
#1	39.69	38.79	39.27	38.41	39.07	39.96	1.997	1.915
#2	39.66	38.75	39.12	38.25	39.03	39.91	2.005	1.918
#3	39.55	38.65	39.10	38.16	38.91	39.68	2.006	1.912
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

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◀ Zoom In ▶
Zoom Out

Sample Name: ICV 1 Acquired: 10/4/2019 11:28:28 Type: QC								
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000								
User: admin Custom ID1: Custom ID2: Custom ID3:								
Comment:								
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.915	1.924	2.019	1.935	F 1.833	F 1.899	1.964	1.987
Stddev	.007	.002	.005	.004	.005	.004	.002	.002
%RSD	.1387	.0970	.2527	.2345	.2813	.2348	.0893	.0962
#1	4.910	1.922	2.023	1.938	1.829	1.894	1.962	1.989
#2	4.922	1.926	2.021	1.930	1.839	1.900	1.964	1.987
#3	4.911	1.923	2.013	1.937	1.831	1.903	1.965	1.985
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Pass	Chk Pass
Value					2.000	2.000		
Range					-5.000%	-5.000%		
Elem	Li6707	P_1774	Ce4040					
Units	ppm	ppm	ppm					
Avg	1.985	1.956	F -.0409					
Stddev	.006	.005	.0014					
%RSD	.3123	.2488	3.361					
#1	1.990	1.951	-.0399					
#2	1.987	1.956	-.0403					
#3	1.978	1.961	-.0424					
Check ?	Chk Pass	Chk Pass	Chk Fail					
Value			2.000					
Range			-5.000%					
Int. Std.	Y_3600	Y_3710	Y_2243	In2306				
Units	Cts/S	Cts/S	Cts/S	Cts/S				
Avg	138790.	26596.	4630.9	8319.6				
Stddev	419.	119.	6.7	4.8				
%RSD	.30197	.44914	.14462	.05792				
#1	138620.	26668.	4623.6	8318.5				
#2	139270.	26459.	4632.1	8315.4				
#3	138480.	26663.	4636.8	8324.8				

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◀ Zoom In ▶
Zoom Out

Sample Name: ICB 7 Acquired: 10/4/2019 11:33:24 Type: QC									
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000									
User: admin Custom ID1: Custom ID2: Custom ID3:									
Comment:									
Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0001	.0001	-.0001	.0003	-.0002	.0000	.0003	-.0004
Stddev	.0000	.0001	.0002	.0001	.0004	.0004	.0000	.0001	.0002
%RSD	214.7	102.8	145.7	83.67	109.3	181.6	62.22	33.90	49.10
#1	-.0000	.0001	.0000	-.0000	.0007	-.0004	.0000	.0003	-.0005
#2	.0000	.0000	.0004	-.0000	.0001	-.0005	.0000	.0002	-.0006
#3	.0001	.0001	.0000	-.0002	.0002	.0002	.0000	.0003	-.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	-.0005	.0006	-.0003	.0009	-.0011	.0006	-.0002	-.0030
Stddev	.0002	.0001	.0005	.0005	.0007	.0017	.0010	.0037	.0011
%RSD	989.1	10.00	83.76	147.4	80.09	153.9	164.7	1856.	37.74
#1	-.0002	-.0006	.0007	-.0009	.0014	-.0014	.0011	-.0044	-.0024
#2	.0000	-.0005	.0011	-.0003	.0012	-.0027	.0013	.0028	-.0024
#3	.0003	-.0005	.0001	.0002	.0001	.0007	-.0005	.0010	-.0044
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0050	.0076	.0180	.0021	.0001	.0002	.0002	.0000
Stddev	.0007	.0141	.0077	.0019	.0004	.0003	.0005	.0002	.0001
%RSD	1739.	279.4	101.0	10.67	19.49	323.7	289.1	109.9	359.3
#1	.0008	-.0009	.0163	.0190	.0025	-.0001	.0006	-.0000	.0000
#2	-.0004	-.0051	.0018	.0157	.0017	.0005	.0003	.0003	-.0001
#3	-.0003	.0211	.0046	.0191	.0021	-.0000	-.0004	.0003	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

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◀ Zoom In ▶
Zoom Out

Sample Name: ICB 7 Acquired: 10/4/2019 11:33:24 Type: QC									
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000									
User: admin Custom ID1: Custom ID2: Custom ID3:									
Comment:									
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0002	.0045	.0004	.0013	.0002	.0007	.0000	-.0004	
Stddev	.0001	.0010	.0001	.0014	.0007	.0011	.0004	.0019	
%RSD	48.26	21.22	19.41	112.5	270.9	144.9	1404.	457.4	
#1	.0001	.0052	.0005	.0022	-.0004	-.0005	-.0001	.0015	
#2	.0002	.0048	.0004	-.0004	.0009	.0013	.0004	-.0022	
#3	.0004	.0034	.0003	.0020	.0002	.0014	-.0002	-.0005	
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	
High Limit									
Low Limit									
Int. Std.	Y_3600	Y_3710	Y_2243	In2306					
Units	Cts/S	Cts/S	Cts/S	Cts/S					
Avg	140280.	26873.	4749.4	8338.5					
Stddev	200.	89.	15.8	28.0					
%RSD	.14229	.33267	.33218	.33590					
#1	140060.	26896.	4731.6	8308.5					
#2	140450.	26774.	4754.8	8342.9					
#3	140320.	26949.	4761.7	8364.0					

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Sample Name: iccv 1 Acquired: 10/4/2019 11:38:21 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.010	2.050	2.032	2.028	2.018	1.955	2.026	2.036	2.489
Stddev	.004	.003	.012	.013	.003	.009	.019	.016	.0013
%RSD	.1851	.1383	.6063	.6325	.1696	.4372	.9175	.8035	.5048
#1	2.014	2.052	2.021	2.025	2.014	1.952	2.013	2.033	2.476
#2	2.012	2.050	2.033	2.030	2.022	1.963	2.053	2.038	2.500
#3	2.006	2.046	2.049	2.044	2.017	1.945	2.014	2.057	2.481
#4	2.009	2.053	2.026	2.013	2.018	1.961	2.022	2.017	2.500

Check ?
Value
Range

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.000	2.050	1.932	2.038	2.019	1.972	1.917	39.44	40.11
Stddev	.002	.015	.009	.015	.015	.011	.011	.09	.11
%RSD	.1016	.7427	.4907	.7348	.7610	.5782	.5558	.2317	.2618

#1	2.000	2.037	1.921	2.021	2.013	1.958	1.911	39.51	40.14
#2	2.003	2.052	1.936	2.031	2.020	1.972	1.919	39.43	40.11
#3	1.998	2.071	1.943	2.054	2.039	1.986	1.931	39.32	39.97
#4	2.000	2.041	1.927	2.047	2.002	1.971	1.906	39.51	40.23

Check ?
Value
Range

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Raw Data MA47574 page 13 of 223

Sample Name: iccv 1 Acquired: 10/4/2019 11:38:21 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	138140.	26412.	4641.2	8320.9
Stddev	976.	80.	29.0	47.5
%RSD	.70675	.30317	.62490	.57075

#1	137820.	26496.	4674.7	8358.1
#2	136900.	26348.	4632.4	8309.9
#3	138870.	26464.	4606.3	8258.2
#4	138980.	26339.	4651.5	8357.4

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Sample Name: iccv 1 Acquired: 10/4/2019 11:38:21 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	40.52	39.85	39.25	39.80	1.981	1.944	5.042	1.960	2.018
Stddev	.06	.15	.11	.12	.012	.013	.037	.015	.005
%RSD	.1464	.3667	.2822	.3068	.6121	.6707	.7264	.7388	.2477
#1	40.52	39.70	39.40	39.93	1.971	1.932	5.015	1.947	2.023
#2	40.59	39.88	39.23	39.75	1.984	1.946	5.045	1.959	2.016
#3	40.44	39.77	39.13	39.65	1.996	1.962	5.092	1.980	2.011
#4	40.52	40.04	39.25	39.87	1.972	1.936	5.015	1.951	2.020

Check ?
Value
Range

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.948	1.925	1.940	1.943	1.970	1.960	1.989	1.997
Stddev	.005	.013	.003	.013	.012	.003	.015	.009
%RSD	.2468	.6643	.1773	.6425	.5846	.1442	.7354	.4606

#1	1.951	1.914	1.940	1.927	1.963	1.963	1.977	1.999
#2	1.953	1.928	1.943	1.946	1.971	1.962	1.985	2.006
#3	1.946	1.941	1.935	1.957	1.986	1.957	2.010	1.984
#4	1.942	1.915	1.942	1.942	1.960	1.959	1.985	2.000

Check ?
Value
Range

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Raw Data MA47574 page 14 of 223

Sample Name: ccb 7 Acquired: 10/4/2019 11:43:50 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0001	.0002	.0001	.0004	.0003	.0000	.0003	-.0002
Stddev	.0000	.0000	.0001	.0001	.0001	.0005	.0000	.0000	.0003
%RSD	35.45	46.71	39.51	166.5	13.07	197.1	564.7	7.691	159.9

#1	.0001	.0001	.0001	.0001	.0003	.0000	.0000	.0003	.0001
#2	.0001	.0000	.0002	.0002	.0004	.0000	-.0000	.0003	-.0002
#3	.0001	.0000	.0003	-.0001	.0004	-.0008	-.0000	.0003	-.0004

Check ?
High Limit
Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	-.0005	-.0000	-.0007	.0000	.0000	-.0007	.0025	-.0039
Stddev	.0002	.0001	.0004	.0004	.0007	.0016	.0007	.0053	.0011
%RSD	87.38	19.79	4291.	56.69	501700.	214.2	104.5	217.1	28.03

#1	.0002	-.0005	-.0001	-.0008	.0001	.0026	.0001	-.0020	-.0027
#2	.0005	-.0005	.0004	-.0003	-.0007	.0001	-.0010	.0011	-.0041
#3	.0001	-.0007	-.0003	-.0010	.0006	-.0004	-.0012	.0083	-.0048

Check ?
High Limit
Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	-.0016	.0104	.0200	.0029	.0001	.0002	.0001	.0001
Stddev	.0016	.0061	.0086	.0053	.0005	.0003	.0002	.0003	.0001
%RSD	207.0	377.7	82.52	26.65	16.23	230.4	99.72	222.7	95.94

#1	.0023	.0023	.0143	.0246	.0034	.0003	.0004	.0000	.0002
#2	.0009	-.0086	.0164	.0142	.0028	-.0002	-.0000	.0004	.0001
#3	-.0009	.0014	.0006	.0211	.0025	.0003	.0004	-.0001	-.0000

Check ?
High Limit
Low Limit

Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

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Sample Name: ccb 7 Acquired: 10/4/2019 11:43:50 Type: QC
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	-0.0021	.0000	-0.0004	.0012	.0018	-0.0008	-0.0007
Stddev	.0001	.0004	.0001	.0008	.0015	.0002	.0003	.0019
%RSD	26.37	16.90	224.4	185.4	123.4	11.92	37.53	269.7

#1	.0005	-.0021	-.0001	.0004	-.0000	.0018	-.0009	-.0026
#2	.0003	-.0018	.0002	-.0005	.0029	.0016	-.0004	.0011
#3	.0005	-.0025	.0000	-.0012	.0008	.0021	-.0010	-.0006

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

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	140510.	26820.	4733.2	8316.7
Stddev	281.	60.	16.9	32.3
%RSD	.2008	.22529	.35749	.38846

#1	140200.	26889.	4714.0	8283.3
#2	140580.	26773.	4745.8	8347.8
#3	140750.	26800.	4739.8	8318.9

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Sample Name: jc95653-1fundconf Acquired: 10/4/2019 11:48:48 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	143950.	28120.	4843.5	8536.9
Stddev	798.	612.	36.8	56.6
%RSD	.55469	2.1760	.75939	.66347

#1	143140.	28825.	4823.0	8508.6
#2	143970.	27727.	4886.0	8602.1
#3	144730.	27809.	4821.6	8499.9

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Sample Name: jc95653-1fundconf Acquired: 10/4/2019 11:48:48 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0451	.0017	.0007	.0147	.0029	.0068	.0934	.0365	-0.0000
Stddev	.0012	.0000	.0002	.0001	.0001	.0003	.0004	.0004	.0001
%RSD	2.674	1.297	31.63	.6666	4.812	5.020	.3932	1.003	3838.

#1	.0437	.0016	.0007	.0146	.0029	.0069	.0937	.0369	.0001
#2	.0458	.0017	.0004	.0148	.0028	.0064	.0935	.0362	-0.0000
#3	.0457	.0017	.0009	.0147	.0030	.0071	.0930	.0364	-0.0001

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	.2014	.0054	.0063	.0034	.0018	-0.0031	3.032	19.55
Stddev	.0003	.0013	.0005	.0016	.0007	.0009	.0008	.085	.479
%RSD	74.74	.6573	9.966	25.56	21.00	50.29	26.46	2.796	2.48

#1	.0006	.2022	.0051	.0079	.0037	.0011	-.0022	2.934	18.99
#2	.0001	.1998	.0050	.0047	.0026	.0028	-.0034	3.081	19.84
#3	.0005	.2021	.0060	.0062	.0039	.0015	-.0037	3.081	19.82

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.528	9.879	2.165	51.95	1.316	-0.0004	5.859	.0002	.1522
Stddev	.042	.225	.055	1.26	.0011	.0002	.059	.0001	.0038
%RSD	2.749	2.282	2.518	2.426	.8624	39.31	1.008	47.05	2.487

#1	1.480	9.623	2.106	50.50	.1323	-.0005	5.903	.0002	.1479
#2	1.558	9.968	2.177	52.74	.1303	-.0005	5.792	.0004	.1546
#3	1.546	10.05	2.213	52.62	.1322	-.0002	5.882	.0001	.1542

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	-0.0036	-0.0008	40.90	.0031	.0031	.0033	.0427
Stddev	.0000	.0004	.0000	.40	.0007	.0006	.0003	.0012
%RSD	22.41	12.41	3.722	.9684	21.79	19.98	9.667	2.798

#1	.0002	-.0040	-.0008	41.25	.0029	.0024	.0035	.0434
#2	.0003	-.0031	-.0008	40.47	.0039	.0035	.0034	.0435
#3	.0002	-.0036	-.0008	40.98	.0026	.0034	.0029	.0414

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Sample Name: jc95653-1fdconf Acquired: 10/4/2019 11:53:47 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0448	.0016	.0009	.0141	.0031	.0067	.0915	.0363	-0.0001
Stddev	.0003	.0000	.0001	.0002	.0003	.0006	.0002	.0005	.0001
%RSD	.6286	.6794	9.643	1.393	9.510	8.523	.2476	1.356	77.82

#1	.0445	.0016	.0009	.0140	.0028	.0066	.0916	.0350	-0.0000
#2	.0447	.0016	.0009	.0140	.0034	.0074	.0918	.0359	-0.0002
#3	.0451	.0016	.0010	.0143	.0033	.0062	.0913	.0351	-0.0002

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.1976	.0001	-0.0005	.0038	.0013	.0004	3.031	19.46
Stddev	.0003	.0008	.0011	.0007	.0007	.0009	.0004	.002	.02
%RSD	135.8	.4263	1698.	140.6	18.67	69.51	108.5	.0760	.0783

#1	.0002	.1971	.0010	-.0001	.0030	.0016	-.0001	3.030	19.44
#2	-.0001	.1985	.0003	-.0001	.0044	.0020	.0006	3.034	19.45
#3	.0006	.1971	-.0011	-.0014	.0039	.0003	.0007	3.030	19.47

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.518	9.706	2.243	50.88	1.246	.0002	5.640	-0.0010	.1526
Stddev	.005	.018	.015	.08	.0009	.0002	.026	.0001	.0004
%RSD	.3640	.1815	.6850	.1556	.7527	150.6	.4606	13.47	.2786

#1	1.512	9.688	2.257	50.94	.1235	.0002	5.633	-.0012	.1526
#2	1.522	9.723	2.244	50.92	.1254	.0004	5.669	-.0009	.1530
#3	1.521	9.708	2.227	50.79	.1248	-.0001	5.618	-.0010	.1521

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	-0.0021	-0.0002	37.14	-0.0003	.0079	-0.0000	.0414
Stddev	.0002	.0004	.0001	.30	.0010	.0005	.0007	.0014
%RSD	77.38	17.85	38.95	.7983	314.6	6.375	100.30	3.292

#1	.0004	-.0017	-.0003	37.11	-.0013	.0075	.0005	.0410
#2	.0001	-.0023	-.0002	37.45	.0006	.0076	.0004	.0429
#3	.0001	-.0023	-.0001	36.86	-.0003	.0085	-.0009	.0403

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Sample Name: jc95653-1fdconf Acquired: 10/4/2019 11:53:47 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	140930.	27071.	4688.1	8298.1
Stddev	439.	115.	26.7	41.3
%RSD	.31183	.42445	.56965	.49748
#1	141220.	27077.	4696.4	8320.9
#2	140430.	27182.	4658.2	8250.4
#3	141140.	26953.	4709.7	8322.9

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Sample Name: CRI Acquired: 10/4/2019 11:58:18 Type: QC
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2023	.0020	.0031	.0512	.0100	.0081	.0156	.0108
Stddev	.0001	.0001	.0001	.0005	.0003	.0005	.0000	.0002
%RSD	.0323	4.100	2.379	.9345	2.606	6.711	.0531	1.460
#1	.2023	.0019	.0030	.0511	.0097	.0077	.0156	.0106
#2	.2022	.0021	.0031	.0507	.0102	.0079	.0156	.0109
#3	.2023	.0021	.0030	.0517	.0099	.0088	.0156	.0107

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

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0046	.0479	.0207	.0081	.0093	.0035	.0103	.0053
Stddev	.0002	.0003	.0001	.0012	.0017	.0005	.0015	.0006
%RSD	4.321	.7037	.3541	14.98	17.77	14.81	14.46	11.98
#1	.0047	.0475	.0206	.0068	.0075	.0033	.0087	.0057
#2	.0046	.0482	.0207	.0087	.0096	.0031	.0116	.0057
#3	.0043	.0479	.0207	.0090	.0108	.0041	.0107	.0046

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

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1971	4.992	.1036	5.098	4.704	4.971	.0939	.0195
Stddev	.0048	.009	.0006	.004	.010	.017	.0002	.0003
%RSD	2.425	.1903	.5953	.0692	.2206	.3483	.1969	1.594
#1	.1940	4.990	.1030	5.096	4.716	4.951	.0937	.0198
#2	.1947	5.002	.1036	5.102	4.699	4.982	.0941	.0192
#3	.2026	4.983	.1043	5.096	4.698	4.981	.0939	.0195

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

Raw Data MA47574 page 22 of 223

Sample Name: CRI Acquired: 10/4/2019 11:58:18 Type: QC
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2044	.0103	.0097	.0100	.0457	.0092	.0547	.0217
Stddev	.0007	.0002	.0002	.0001	.0005	.0001	.0023	.0004
%RSD	.3303	2.318	1.623	1.369	1.012	.6672	4.215	1.846
#1	.2036	.0101	.0097	.0100	.0458	.0093	.0537	.0213
#2	.2049	.0105	.0098	.0102	.0452	.0092	.0573	.0220
#3	.2045	.0105	.0095	.0099	.0461	.0092	.0531	.0218

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

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	.0513	.0490	F-.0014
Stddev	.0019	.0009	.0032
%RSD	3.611	1.901	235.7
#1	.0526	.0487	.0009
#2	.0491	.0500	-.0051
#3	.0521	.0482	.0001

Check ? Chk Pass Chk Pass Chk Fail
Value
Range -20.00%

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139010.	26482.	4698.7	8290.0
Stddev	511.	107.	3.1	4.2
%RSD	.36727	.40374	.06562	.05091
#1	139550.	26599.	4699.3	8285.2
#2	138540.	26389.	4695.3	8292.0
#3	138920.	26459.	4701.4	8292.9

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Sample Name: CRID Acquired: 10/4/2019 12:02:53 Type: QC
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0040	.0009	.0009	.0030	.0019	-.0000	.0031	.0042
Stddev	.0001	.0000	.0001	.0001	.0002	.0003	.0000	.0002
%RSD	3.079	1.557	9.359	3.443	8.233	1028.	.5983	5.642
#1	.0039	.0009	.0010	.0031	.0019	.0002	.0031	.0039
#2	.0039	.0009	.0009	.0030	.0019	.0001	.0030	.0044
#3	.0041	.0009	.0009	.0029	.0017	-.0004	.0031	.0042

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

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	F.0014	.0097	.0026	F.0007	-.0004	F.0038	-.0005
Stddev	.0003	.0003	.0001	.0008	.0011	.0010	.0009	.0012
%RSD	72.18	21.08	.9757	29.34	151.7	234.2	23.68	261.4
#1	-.0005	.0016	.0096	.0032	.0019	.0000	.0048	-.0018
#2	-.0005	.0015	.0098	.0028	-.0003	-.0016	.0030	.0006
#3	-.0001	.0010	.0097	.0017	.0005	.0003	.0035	-.0002

Check ? Chk Fail Chk Pass Chk Pass Chk Fail Chk Fail Chk Fail Chk Fail
Value
Range -20.00%

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0957	.9809	.0010	.1157	1.881	.9627	-.0014	-.0000
Stddev	.0042	.0030	.0010	.0098	.035	.0111	.0004	.0003
%RSD	4.400	.3069	91.04	8.470	1.846	1.153	26.87	725.4
#1	.0973	.9843	.0021	.1270	1.861	.9560	-.0012	-.0002
#2	.0988	.9796	.0003	.1090	1.921	.9755	-.0019	-.0002
#3	.0909	.9787	.0007	.1111	1.862	.9567	-.0012	.0003

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

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Sample Name: CRID Acquired: 10/4/2019 12:02:53 Type: QC
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009	-0.0004	-0.0000	.0002	-0.0035	-0.0003	.0053	.0009
Stddev	.0012	.0000	.0001	.0000	.0006	.0001	.0024	.0003
%RSD	125.0	8.906	709.5	25.30	17.86	20.76	44.23	27.62

#1	.0019	-0.0004	-0.0001	.0002	-.0041	-.0003	.0029	-.0008
#2	-.0004	-.0004	.0000	.0001	-.0028	-.0002	.0076	.0008
#3	.0013	-.0005	.0000	.0002	-.0035	-.0003	.0055	.0012

Check ? Value Range
None None None None None None None

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	-0.0004	-0.0016	F -.0013
Stddev	.0005	.0007	.0011
%RSD	125.8	43.92	81.27

#1	-.0009	-.0024	-.0020
#2	-.0001	-.0014	-.0019
#3	-.0001	-.0010	-.0001

Check ? Value Range
None None Chk Fail
High Limit .0040
Low Limit -20.00%

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139660.	26783.	4746.3	8350.4
Stddev	762.	81.	12.6	16.1
%RSD	.54546	.30165	.26500	.19242

#1	138860.	26791.	4754.6	8347.7
#2	139770.	26859.	4752.4	8367.6
#3	140370.	26698.	4731.8	8335.8

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Sample Name: ICSA Acquired: 10/4/2019 12:07:31 Type: QC
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	-0.0002	-0.0017	-0.0001	.0023	.0002	-0.0017	-0.0019	.0005
Stddev	.0002	.0000	.0002	.0002	.0004	.0002	.0004	.0007	.0016
%RSD	55.01	6.879	11.42	131.1	16.76	117.8	20.74	35.54	299.3

#1	.0001	-.0002	-.0017	-.0001	.0019	.0001	-.0021	-.0017	-.0013
#2	.0005	-.0002	-.0015	-.0003	.0026	.0004	-.0015	-.0027	.0016
#3	.0004	-.0002	-.0019	.0000	.0024	.0000	-.0015	-.0013	.0013

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

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011	.0029	-0.0019	-0.0056	.0024	-0.0048	-0.0012	505.0	403.6
Stddev	.0003	.0001	.0002	.0032	.0017	.0020	.0011	5.2	2.6
%RSD	30.72	3.527	9.797	57.48	68.96	42.41	90.20	1.039	.6350

#1	.0012	.0028	-.0017	-.0092	.0043	-.0065	-.0020	511.1	400.9
#2	.0007	.0030	-.0019	-.0048	.0011	-.0025	-.0018	501.8	404.0
#3	.0014	.0029	-.0021	-.0029	.0018	-.0055	.0000	502.2	406.0

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

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	203.8	534.3	.0773	.2084	-0.0024	-0.0025	-0.0075	-0.0007	-0.0007
Stddev	1.0	.8	.0078	.0269	.0017	.0004	.0013	.0010	.0001
%RSD	.4740	.1517	10.06	12.89	71.98	17.81	17.93	140.1	13.89

#1	204.1	535.2	.0814	.1796	-.0024	-.0030	-.0063	-.0018	-.0006
#2	204.6	534.1	.0683	.2129	-.0040	-.0022	-.0089	-.0004	-.0008
#3	202.8	533.7	.0821	.2327	-.0006	-.0022	-.0073	.0001	-.0007

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

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Sample Name: ICSA Acquired: 10/4/2019 12:07:31 Type: QC
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0004	-0.0011	-0.0061	.0210	-0.0194	-0.0037	.0021	.0868
Stddev	.0003	.0009	.0007	.0011	.0006	.0008	.0003	.0037
%RSD	70.84	80.06	10.73	5.436	3.208	22.60	15.44	4.225

#1	-.0006	-.0002	-.0068	.0209	-.0200	-.0043	.0025	.0871
#2	-.0003	-.0020	-.0055	.0199	-.0187	-.0028	.0019	.0831
#3	-.0002	-.0011	-.0062	.0222	-.0194	-.0042	.0020	.0904

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

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	130140.	25246.	4341.1	8024.8
Stddev	2925.	7.	12.1	14.3
%RSD	2.2476	.02722	.27939	.17791

#1	126840.	25254.	4328.3	8008.7
#2	131160.	25242.	4352.4	8036.0
#3	132420.	25242.	4342.7	8029.5

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Sample Name: ICSAB Acquired: 10/4/2019 12:12:26 Type: QC
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5255	.5177	1.093	.4895	.4870	.5335	.5209	.9690	1.090
Stddev	.0015	.0009	.004	.0019	.0065	.0078	.0070	.0030	.014
%RSD	.2771	.1671	.3619	.3867	1.338	1.453	1.335	.3095	1.289

#1	.5240	.5178	1.088	.4874	.4838	.5323	.5195	.9657	1.089
#2	.5269	.5185	1.096	.4908	.4945	.5417	.5284	.9714	1.104
#3	.5254	.5168	1.095	.4905	.4827	.5263	.5147	.9701	1.076

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

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4881	.9882	1.058	1.010	.9253	1.029	1.015	525.4	391.9
Stddev	.0085	.0031	.005	.002	.0013	.006	.003	2.3	5.2
%RSD	1.330	.3123	.5178	.1815	.1394	.6216	.2884	.4377	1.323

#1	.4859	.9946	1.052	1.010	.9244	1.021	1.011	523.0	388.1
#2	.4954	.9999	1.062	1.011	.9268	1.033	1.017	527.6	397.9
#3	.4829	1.000	1.061	1.008	.9247	1.031	1.016	525.5	389.8

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

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	194.2	534.0	.0775	.2639	.5197	.4899	.5141	.4855	.5225
Stddev	2.1	1.2	.0632	.0090	.0033	.0004	.0040	.0017	.0009
%RSD	1.092	.2319	81.58	3.412	.6429	.0892	.7871	.3427	.1784

#1	194.3	533.5	.0889	.2536	.5189	.4894	.5100	.4842	.5215
#2	196.2	535.5	.0094	.2701	.5233	.4900	.5180	.4874	.5232
#3	192.0	533.2	.1342	.2680	.5167	.4903	.5144	.4850	.5228

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

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Sample Name: ICSAB Acquired: 10/4/2019 12:12:26 Type: QC
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5092	.4901	.4931	.5370	.5196	.5348	.5157	F_.0633
Stddev	.0074	.0011	.0068	.0027	.0009	.0005	.0021	.0034
%RSD	1.463	.2160	1.385	.4969	.1756	.0868	.4014	5.337

#1	.5070	.4889	.4916	.5340	.5188	.5343	.5133	.0636
#2	.5175	.4907	.5005	.5376	.5194	.5349	.5169	.0666
#3	.5030	.4907	.4871	.5393	.5206	.5352	.5169	.0599

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
Value								.5000
Range								-20.00%

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	129500.	25186.	4340.4	8044.5
Stddev	1603.	140.	14.0	23.2
%RSD	1.2375	.55615	.32235	.28832

#1	129950.	25156.	4355.2	8066.7
#2	127730.	25064.	4327.4	8020.4
#3	130840.	25339.	4338.7	8046.4

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Zoom In
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Sample Name: HSTD Acquired: 10/4/2019 12:17:11 Type: QC
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.339	8.493	8.006	8.481	8.522	8.034	8.310	8.440	.6208
Stddev	.045	.029	.151	.135	.019	.012	.066	.131	.0007
%RSD	.5439	.3375	1.887	1.597	.2186	.1538	.7889	1.553	.1157

#1	8.342	8.479	7.958	8.442	8.508	8.019	8.345	8.396	.6200
#2	8.292	8.526	8.176	8.631	8.515	8.041	8.234	8.587	.6214
#3	8.382	8.474	7.885	8.369	8.543	8.041	8.351	8.337	.6210

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

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.431	8.795	7.687	8.384	8.042	8.309	7.616	-2.181	-1.513
Stddev	.015	.179	.147	.129	.130	.154	.138	.0134	.0005
%RSD	.1802	2.036	1.912	1.542	1.615	1.858	1.810	6.135	.3094

#1	8.415	8.745	7.640	8.346	7.997	8.261	7.569	-2.060	-1.507
#2	8.433	8.994	7.852	8.528	8.189	8.482	7.771	-2.324	-1.514
#3	8.445	8.646	7.569	8.278	7.942	8.185	7.507	-2.158	-1.517

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

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0813	-.0388	.3049	.1201	8.088	7.740	23.86	7.901	8.279
Stddev	.0005	.0190	.0170	.0094	.145	.145	.43	.162	.120
%RSD	.6502	49.13	5.581	7.807	1.787	1.868	1.784	2.048	1.449

#1	.0807	-.0495	.2947	.1167	8.031	7.690	23.70	7.852	8.151
#2	.0815	-.0168	.3246	.1307	8.253	7.902	24.35	8.082	8.296
#3	.0817	-.0500	.2956	.1128	7.981	7.626	23.55	7.770	8.389

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

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Zoom In
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Sample Name: HSTD Acquired: 10/4/2019 12:17:11 Type: QC
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.742	8.014	7.398	99.33	7.884	7.860	8.409	7.709
Stddev	.033	.158	.074	1.93	.139	.016	.152	.012
%RSD	.4282	1.971	.9958	1.945	1.759	.2014	1.813	.1522

#1	7.781	7.961	7.417	98.83	7.832	7.844	8.367	7.697
#2	7.722	8.191	7.460	101.5	8.041	7.860	8.578	7.720
#3	7.725	7.889	7.316	97.70	7.779	7.876	8.282	7.709

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

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	138270.	26249.	4604.7	8556.4
Stddev	440.	115.	79.3	120.7
%RSD	.31826	.43926	1.7227	1.4110

#1	138630.	26357.	4627.3	8585.5
#2	138400.	26262.	4516.6	8423.8
#3	137780.	26128.	4670.3	8660.0

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Zoom In
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Sample Name: HSTD Acquired: 10/4/2019 12:22:24 Type: QC
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010	-.0001	-.0016	-.0002	.0029	.0006	-.0008	-.0012	.0014
Stddev	.0002	.0000	.0001	.0003	.0004	.0005	.0001	.0001	.0002
%RSD	23.39	68.75	5.246	223.3	13.08	85.78	18.55	11.11	10.71

#1	.0011	-.0000	-.0015	.0000	.0029	.0010	-.0006	-.0014	.0015
#2	.0011	-.0001	-.0017	-.0006	.0026	.0009	-.0009	-.0011	.0015
#3	.0007	-.0001	-.0016	.0001	.0034	.0000	-.0008	-.0011	.0013

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

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	.0028	.0013	-.0043	.0015	-.0043	.0004	.295.3	195.0
Stddev	.0002	.0004	.0012	.0004	.0004	.0008	.0007	2.2	2.1
%RSD	23.91	13.79	94.11	8.983	24.73	17.79	188.5	.7320	1.055

#1	.0006	.0025	.0026	-.0046	.0019	-.0046	-.0003	297.3	196.1
#2	.0009	.0027	.0010	-.0039	.0012	-.0035	.0003	295.6	196.2
#3	.0007	.0033	.0003	-.0045	.0015	-.0049	.0012	293.0	192.6

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

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	194.4	303.5	204.5	196.9	.0063	-.0007	.0127	-.0010	-.0003
Stddev	2.5	1.0	.7	3.3	.0003	.0006	.0002	.0014	.0001
%RSD	1.266	.3395	.3565	1.683	4.521	82.86	1.652	145.8	18.75

#1	197.3	304.7	205.3	199.8	.0064	-.0002	.0127	-.0011	-.0004
#2	193.0	303.2	204.2	197.6	.0060	-.0013	.0125	.0005	-.0003
#3	193.0	302.7	203.9	193.3	.0065	-.0005	.0129	-.0023	-.0003

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

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Sample Name: HSTD Acquired: 10/4/2019 12:22:24 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	-.0011	-.0058	.0079	-.0179	.0170	.0012	.0804
Stddev	.0001	.0008	.0002	.0021	.0013	.0017	.0021	.0044
%RSD	12.51	73.62	3.728	26.95	7.019	9.952	178.9	5.518

#1	.0008	-.0017	-.0058	.0101	-.0167	.0151	-.0006	.0836
#2	.0007	-.0014	-.0056	.0079	-.0176	.0177	.0034	.0822
#3	.0008	-.0002	-.0061	.0058	-.0192	.0182	.0007	.0753

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

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	132130.	25282.	4383.0	8059.9
Stddev	683.	160.	8.6	3.5
%RSD	.51723	.63302	.19718	.04362

#1	131420.	25135.	4379.6	8055.9
#2	132780.	25259.	4392.8	8062.6
#3	132200.	25452.	4376.5	8061.1

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Sample Name: sampleconf Acquired: 10/4/2019 12:27:30 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0041	.0010	.0012	.0032	.0021	.0002	.0031	.0042	-.0005
Stddev	.0001	.0000	.0001	.0001	.0002	.0004	.0000	.0001	.0001
%RSD	3.156	4.401	9.112	1.837	9.004	196.9	.8197	3.062	26.93

#1	.0041	.0010	.0011	.0032	.0024	-.0001	.0031	.0041	-.0006
#2	.0039	.0010	.0013	.0033	.0021	.0006	.0032	.0044	-.0004
#3	.0042	.0009	.0011	.0032	.0020	.0000	.0031	.0043	-.0006

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0015	.0100	.0026	.0014	.0002	.0039	.0001	.1121	.9998
Stddev	.0005	.0002	.0002	.0018	.0005	.0004	.0011	.0054	.0010
%RSD	31.33	1.950	8.274	121.5	282.5	10.28	197.5	4.809	.1016

#1	.0015	.0099	.0028	.0007	-.0004	.0035	.0012	.1118	.9991
#2	.0010	.0099	.0026	.0035	.0004	.0039	-.0011	.1176	1.001
#3	.0019	.0102	.0024	.0002	.0006	.0043	.0000	.1068	.9993

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0108	.1195	1.937	1.052	.0026	.0002	.0019	-.0003	.0000
Stddev	.0018	.0091	.032	.005	.0010	.0002	.0004	.0001	.0001
%RSD	16.60	7.616	1.626	.4607	38.61	89.95	22.82	24.49	432.3

#1	.0129	.1107	1.973	1.046	.0033	.0004	.0019	-.0003	.0001
#2	.0100	.1189	1.915	1.055	.0014	.0001	.0024	-.0003	.0000
#3	.0097	.1289	1.924	1.054	.0030	.0001	.0015	-.0002	-.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	-.0041	-.0003	.0046	.0013	.0034	-.0018	-.0012
Stddev	.0002	.0006	.0001	.0021	.0009	.0007	.0001	.0016
%RSD	40.93	14.00	56.18	44.39	65.58	21.91	7.148	132.8

#1	.0006	-.0040	-.0003	.0069	.0009	.0035	-.0020	.0007
#2	.0004	-.0047	-.0001	.0039	.0024	.0040	-.0018	-.0020
#3	.0003	-.0036	-.0004	.0030	.0008	.0026	-.0017	-.0023

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Sample Name: sampleconf Acquired: 10/4/2019 12:27:30 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139290.	26416.	4753.5	8358.9
Stddev	300.	29.	33.8	48.2
%RSD	.21560	.10917	.71054	.57670

#1	138990.	26400.	4760.7	8382.3
#2	139590.	26399.	4783.1	8390.8
#3	139270.	26449.	4716.7	8303.4

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Sample Name: CRCONF Acquired: 10/4/2019 12:32:08 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	-.0001	.0005	-.0007	F 10.17	.0003	-.0002	-.0008
Stddev	.0001	.0000	.0000	.0001	.01	.0003	.0000	.0002
%RSD	96.40	13.71	6.881	14.62	.1279	93.51	4.451	24.71

#1	.0001	-.0001	.0006	-.0008	10.15	.0006	-.0002	-.0010
#2	.0002	-.0001	.0005	-.0008	10.18	.0002	-.0002	-.0007
#3	.0000	-.0001	.0006	-.0006	10.18	.0001	-.0002	-.0006

Elem	Ag3280	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0005	.0011	.0046	-.0003	-.0005	.0019	-.0005	.0010
Stddev	.0003	.0004	.0001	.0009	.0012	.0002	.0012	.0008
%RSD	64.06	37.97	2.905	352.2	238.2	12.32	221.6	80.72

#1	-.0005	.0011	.0046	-.0003	-.0018	.0021	-.0010	.0018
#2	-.0002	.0016	.0044	.0007	-.0003	.0017	.0008	.0007
#3	-.0009	.0007	.0047	-.0012	.0006	.0018	-.0014	.0003

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0059	-.0030	.0059	.0088	-.0032	.0400	.0011	.0004
Stddev	.0035	.0003	.0016	.0122	.0085	.0047	.0004	.0001
%RSD	58.61	9.588	27.41	138.5	263.2	11.82	36.90	35.67

#1	-.0093	-.0026	.0071	-.0037	-.0130	.0454	.0013	.0002
#2	-.0061	-.0031	.0066	.0095	.0009	.0379	.0006	.0004
#3	-.0024	-.0032	.0041	.0206	.0024	.0367	.0012	.0005

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0062	-.0010	.0001	-.0006	.0004	F -.0124	.0008	.0015
Stddev	.0005	.0008	.0000	.0002	.0006	.0002	.0014	.0008
%RSD	8.678	80.30	76.61	31.95	175.4	1.754	168.9	50.86

#1	.0056	-.0001	.0001	-.0004	.0005	-.0125	-.0007	.0012
#2	.0067	-.0014	.0000	-.0007	-.0003	-.0125	.0010	.0009
#3	.0063	-.0017	.0001	-.0006	.0009	-.0121	.0020	.0024

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Sample Name: CRCONF Acquired: 10/4/2019 12:32:08 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	.0006	-0.0022	.0008
Stddev	.0012	.0005	.0031
%RSD	190.6	21.43	390.5

#1	-.0004	-.0017	-.0022
#2	.0003	-.0026	.0041
#3	.0019	-.0022	.0005

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139200.	26525.	4669.4	8383.6
Stddev	328.	94.	4.0	10.3
%RSD	23569	35374	.08530	.12232

#1	138940.	26630.	4673.5	8378.1
#2	139570.	26495.	4665.5	8395.5
#3	139090.	26450.	4669.3	8377.3

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Sample Name: CCV Acquired: 10/4/2019 12:36:47 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.966	1.942	1.935	1.988	1.978	1.949	2.039	1.994
Stddev	.002	.011	.002	.015	.012	.002	.013	.001
%RSD	.0991	.5740	.0946	.7460	.5790	.1173	.6402	.0422

#1	1.965	1.932	1.935	1.971	1.967	1.947	2.026	1.995
#2	1.968	1.954	1.934	1.997	1.989	1.952	2.052	1.994
#3	1.965	1.941	1.937	1.997	1.979	1.949	2.040	1.993

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

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	137150.	26098.	4629.6	8361.4
Stddev	591.	49.	24.4	35.8
%RSD	.43101	.18806	.52719	.42862

#1	137170.	26044.	4648.5	8389.7
#2	136540.	26110.	4602.1	8321.1
#3	137730.	26139.	4638.3	8373.3

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Sample Name: CCV Acquired: 10/4/2019 12:36:47 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.017	2.057	2.063	2.029	2.015	1.932	2.047	2.028	2.473
Stddev	.004	.004	.013	.009	.004	.005	.014	.009	.0007
%RSD	.1865	.1840	.6215	.4371	.1906	.2866	.6665	.4451	.3006

#1	2.014	2.057	2.050	2.020	2.014	1.932	2.035	2.019	2476
#2	2.021	2.061	2.076	2.037	2.011	1.926	2.062	2.037	2464
#3	2.016	2.053	2.062	2.030	2.019	1.937	2.045	2.026	2478

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

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.007	2.084	1.963	2.043	2.025	2.015	1.933	39.45	40.33
Stddev	.001	.013	.012	.013	.007	.010	.009	.05	.05
%RSD	.0270	.6042	.6285	.6273	.3439	.5166	.4437	.1225	.1277

#1	2.006	2.072	1.952	2.029	2.018	2.007	1.924	39.40	40.37
#2	2.006	2.097	1.976	2.052	2.032	2.027	1.941	39.44	40.27
#3	2.007	2.083	1.960	2.050	2.026	2.012	1.935	39.50	40.35

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

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	40.96	40.09	39.41	39.56	1.993	1.958	5.068	1.989	2.012
Stddev	.09	.02	.13	.01	.012	.011	.031	.013	.003
%RSD	.2181	.0390	.3296	.0271	.6184	.5779	.6046	.6649	.1239

#1	40.95	40.10	39.34	39.57	1.981	1.947	5.041	1.976	2.009
#2	41.05	40.07	39.34	39.55	2.006	1.970	5.101	2.002	2.012
#3	40.88	40.10	39.56	39.57	1.993	1.957	5.062	1.990	2.014

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

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Sample Name: CCB Acquired: 10/4/2019 12:41:17 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.000	.0000	.0001	.0001	.0003	-0.001	-0.000	.0001	-0.003
Stddev	.0002	.0000	.0002	.0001	.0003	.0001	.0000	.0000	.0003
%RSD	799.4	297.9	113.2	152.0	102.5	150.4	924.7	326.8	90.56

#1	.0001	-0.0000	.0001	-0.0000	.0005	.0000	.0000	-0.0001	-0.0002
#2	.0000	.0001	.0000	.0000	.0004	-0.0003	-0.0000	.0000	-0.0007
#3	-0.0002	-0.0000	.0003	.0001	-0.0000	-0.0001	-0.0000	.0003	-0.0001

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

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.003	-0.0005	.0009	-0.0007	.0004	.0002	-0.0009	.0012	-0.0035
Stddev	.0001	.0001	.0017	.0008	.0007	.0013	.0007	.0043	.0005
%RSD	36.77	24.89	194.0	120.4	169.4	681.9	75.27	346.4	14.95

#1	-0.0004	-0.0006	.0024	-0.0011	.0011	.0009	-0.0009	.0025	-0.0031
#2	-0.0002	-0.0006	-0.0009	.0003	.0002	.0010	-0.0003	-0.0036	-0.0041
#3	-0.0003	-0.0004	.0010	-0.0013	-0.0002	-0.0013	-0.0016	.0047	-0.0033

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

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.001	-0.0008	-0.0202	.0341	.0016	.0002	.0010	-0.0001	-0.0000
Stddev	.0009	.0087	.0275	.0124	.0004	.0001	.0013	.0005	.0000
%RSD	793.0	1135.	136.3	36.47	25.70	29.71	121.9	358.0	746.6

#1	-0.0010	-0.0050	-.0417	.0233	.0015	.0002	-0.0002	-0.0003	.0000
#2	-0.0002	-0.0066	-.0296	.0477	.0020	.0001	.0023	-0.0005	-0.0000
#3	.0008	.0093	.0108	.0314	.0012	.0002	.0010	.0004	.0000

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

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Sample Name: CCB Acquired: 10/4/2019 12:41:17 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	-0.0034	-0.0001	-0.0006	.0009	.0014	-0.0011	-0.0018
Stddev	.0001	.0003	.0003	.0026	.0007	.0005	.0002	.0007
%RSD	60.21	8.544	225.2	435.8	85.60	34.44	23.17	38.91

#1	.0001	-0.0034	.0001	-0.0019	.0014	.0008	-0.0011	-0.0011
#2	.0004	-0.0036	-0.0004	-0.0022	.0011	.0016	-0.0013	-0.0017
#3	.0003	-0.0031	-0.0001	.0024	.0000	.0017	-0.0008	-0.0025

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

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139000.	26506.	4754.2	8378.8
Stddev	634.	133.	22.4	35.1
%RSD	.45642	.50227	.47209	.41867

#1	138780.	26394.	4739.6	8351.3
#2	139720.	26653.	4742.9	8366.8
#3	138510.	26471.	4780.1	8418.3

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Sample Name: mp17668-mb1 7 Acquired: 10/4/2019 12:45:56 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	140210.	26824.	4728.1	8353.9
Stddev	415.	83.	13.9	39.2
%RSD	.29595	.31003	.29496	.46909

#1	140680.	26729.	4743.3	8398.8
#2	140040.	26882.	4725.3	8336.6
#3	139900.	26862.	4715.8	8326.3

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Sample Name: mp17668-mb1 7 Acquired: 10/4/2019 12:45:56 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0001	-0.0000	.0000	-0.0000	.0002	.0007	-0.0000	.0002	-0.0006
Stddev	.0001	.0000	.0001	.0001	.0003	.0005	.0000	.0004	.0003
%RSD	98.35	97.23	300.0	681.8	118.1	80.32	50.74	205.0	60.62

#1	-0.0001	.0000	-0.0001	.0001	.0002	.0001	-0.0000	-0.0002	-0.0005
#2	-0.0002	-0.0001	.0001	-0.0000	.0005	.0008	-0.0000	.0006	-0.0010
#3	.0000	-0.0001	.0001	-0.0000	.0000	.0011	-0.0000	.0001	-0.0003

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0002	.0051	-0.0006	-0.0008	.0007	-0.0005	.0008	-0.0017	.0036
Stddev	.0001	.0000	.0005	.0014	.0014	.0007	.0002	.0074	.0019
%RSD	48.81	.3202	74.79	182.6	213.4	155.9	22.53	439.1	52.72

#1	-0.0003	.0051	-0.0010	.0003	-0.0010	-0.0007	.0007	.0029	.0058
#2	-0.0003	.0051	-0.0001	-0.0002	.0015	-0.0011	.0010	.0023	.0028
#3	-0.0001	.0050	-0.0009	-0.0024	.0015	.0004	.0006	-0.0102	.0023

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	-0.0104	-0.0223	.0025	.0002	.0001	.0062	-0.0002	-0.0104
Stddev	.0009	.0071	.0263	.0119	.0008	.0002	.0007	.0004	.0000
%RSD	228.7	68.54	117.8	470.0	343.2	408.7	11.17	237.7	242.4

#1	-0.0003	-0.0143	-0.0045	-0.0083	-0.0004	-0.0002	.0065	-0.0004	.0000
#2	.0014	-0.0022	-0.0100	.0153	.0011	.0003	.0066	-0.0005	.0000
#3	.0000	-0.0147	-0.0525	.0007	.0000	.0000	.0054	.0003	-0.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	-0.0024	-0.0000	.0004	-0.0004	.0001	-0.0010	.0007
Stddev	.0002	.0009	.0001	.0007	.0007	.0006	.0003	.0020
%RSD	87.60	35.78	417.9	186.0	191.0	632.9	32.32	292.5

#1	.0004	-0.0014	-0.0002	.0002	-0.0002	.0007	-0.0007	.0014
#2	.0001	-0.0030	.0001	-0.0003	.0002	-0.0005	-0.0014	-0.0016
#3	.0001	-0.0028	-0.0000	.0012	-0.0012	.0000	-0.0009	.0022

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Sample Name: mp17668-b1 Acquired: 10/4/2019 12:50:32 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.976	2.020	2.006	1.983	1.968	1.881	1.997	1.980
Stddev	.004	.004	.001	.004	.005	.005	.009	.003
%RSD	.1750	.1954	.0522	.1859	.2762	.2550	.4283	.1311

#1	1.979	2.024	2.006	1.987	1.964	1.878	2.000	1.983
#2	1.976	2.016	2.005	1.980	1.974	1.887	2.003	1.978
#3	1.972	2.019	2.007	1.982	1.965	1.878	1.987	1.979

Elem	Ag3280	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2516	1.969	2.024	1.954	1.997	1.944	1.945	1.940
Stddev	.0011	.008	.002	.002	.002	.003	.001	.002
%RSD	.4272	.4039	.1073	.0781	.1167	.1487	.0391	.1182

#1	.2514	1.965	2.023	1.953	1.996	1.947	1.945	1.937
#2	.2528	1.978	2.022	1.953	1.996	1.943	1.944	1.941
#3	.2507	1.964	2.026	1.956	2.000	1.941	1.945	1.941

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.44	25.06	25.54	24.89	24.38	24.82	1.897	1.967
Stddev	.01	.05	.05	.03	.04	.01	.001	.001
%RSD	.0386	.1819	.1863	.1078	.1489	.0468	.0602	.0254

#1	24.43	25.11	25.59	24.92	24.41	24.83	1.898	1.967
#2	24.45	25.04	25.51	24.90	24.38	24.81	1.897	1.967
#3	24.43	25.03	25.52	24.87	24.34	24.81	1.896	1.968

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0258	1.989	1.973	1.983	1.938	1.947	F-.0746	.0311
Stddev	.0005	.002	.005	.009	.002	.006	.0023	.0006
%RSD	1.761	.1153	.2386	.4796	.1237	.3233	3.134	1.818

#1	.0256	1.991	1.978	1.974	1.935	1.943	-.0757	.0317
#2	.0256	1.986	1.974	1.993	1.940	1.955	-.0719	.0310
#3	.0264	1.990	1.968	1.982	1.939	1.945	-.0761	.0306

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Sample Name: mp17668-b1 Acquired: 10/4/2019 12:50:32 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	
Avg	.0021	1.977	-0.0523	
Stddev	.0005	.002	.0003	
%RSD	22.95	.1146	.5233	
#1	.0025	1.978	-.0520	
#2	.0022	1.975	-.0526	
#3	.0016	1.979	-.0523	
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	137360.	26610.	4649.8	8373.2
Stddev	84.	31.	7.2	8.1
%RSD	.06086	.11832	.15383	.09662
#1	137420.	26643.	4657.5	8374.6
#2	137270.	26581.	4643.5	8364.5
#3	137400.	26604.	4648.3	8380.5

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Sample Name: mp17668-s1 Acquired: 10/4/2019 12:55:00 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.184	2.015	2.021	1.950	1.933	1.908	3.350	1.937	.2521
Stddev	.002	.003	.004	.004	.007	.007	.043	.005	.0011
%RSD	.1114	.1468	.1981	.2069	.3862	.3670	1.275	.2371	.4295
#1	2.185	2.016	2.017	1.945	1.938	1.913	3.398	1.932	.2528
#2	2.181	2.012	2.020	1.952	1.924	1.900	3.317	1.941	.2509
#3	2.186	2.018	2.025	1.952	1.936	1.910	3.336	1.937	.2528
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.949	2.006	1.954	1.967	1.907	1.945	1.944	24.44	75.54
Stddev	.008	.003	.002	.002	.002	.002	.006	.06	.02
%RSD	.4038	.1232	.0946	.1235	.1103	.0848	.3265	.2449	.0208
#1	1.953	2.005	1.952	1.968	1.905	1.947	1.937	24.51	75.55
#2	1.940	2.005	1.954	1.965	1.909	1.944	1.950	24.41	75.55
#3	1.953	2.009	1.956	1.970	1.907	1.946	1.944	24.41	75.53
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	77.15	30.99	30.89	55.30	2.047	1.965	6.139	1.975	2.221
Stddev	.09	.09	.03	.10	.008	.002	.009	.001	.005
%RSD	.1172	.2772	.0811	.1726	.3699	.1081	.1457	.0539	.2458
#1	77.13	31.05	30.87	55.41	2.038	1.963	6.130	1.974	2.215
#2	77.06	30.89	30.92	55.22	2.050	1.966	6.139	1.975	2.223
#3	77.24	31.02	30.89	55.26	2.052	1.966	6.148	1.976	2.225
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	1.963	1.941	1.925	4.297	.0270	.0213	2.144	-0.0324	
Stddev	.010	.003	.006	.0040	.0011	.0009	.006	.0014	
%RSD	.5120	.1515	.2900	.9381	4.231	4.341	.2824	4.316	
#1	1.970	1.941	1.929	4.342	.0283	.0212	2.150	-.0340	
#2	1.952	1.938	1.919	4.283	.0265	.0205	2.138	-.0319	
#3	1.968	1.944	1.927	4.265	.0261	.0223	2.143	-.0314	

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Sample Name: mp17668-s1 Acquired: 10/4/2019 12:55:00 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	137900.	26325.	4595.6	8409.0
Stddev	645.	50.	9.9	17.6
%RSD	.46759	.18810	.21511	.20879
#1	137190.	26273.	4604.8	8428.3
#2	138460.	26331.	4596.7	8404.7
#3	138040.	26371.	4585.2	8393.9

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Sample Name: mp17668-s2 Acquired: 10/4/2019 12:59:31 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.198	2.027	2.025	1.957	1.950	1.920	3.379	1.948	.2549
Stddev	.002	.001	.008	.008	.003	.005	.013	.011	.0010
%RSD	.0767	.0708	.3755	.4309	.1353	.2584	.3855	.5604	.4104
#1	2.198	2.027	2.022	1.957	1.949	1.918	3.392	1.947	.2542
#2	2.200	2.026	2.020	1.949	1.953	1.925	3.380	1.938	.2561
#3	2.196	2.029	2.034	1.966	1.948	1.916	3.366	1.959	.2544
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.963	2.018	1.963	1.977	1.918	1.959	1.950	24.67	75.62
Stddev	.003	.011	.007	.007	.010	.010	.007	.03	.03
%RSD	.1521	.5275	.3584	.3615	.5039	.4962	.3857	.1175	.0438
#1	1.961	2.018	1.963	1.974	1.917	1.958	1.946	24.63	75.59
#2	1.966	2.007	1.956	1.971	1.908	1.950	1.946	24.68	75.60
#3	1.961	2.028	1.970	1.985	1.928	1.969	1.959	24.69	75.66
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	77.05	31.21	31.11	55.58	2.052	1.971	6.091	1.987	2.220
Stddev	.06	.07	.04	.03	.011	.007	.025	.010	.022
%RSD	.0727	.2155	.1431	.0626	.5429	.3350	.4076	.4872	.9848
#1	77.10	31.19	31.16	55.54	2.051	1.967	6.079	1.986	2.205
#2	77.07	31.29	31.07	55.58	2.042	1.968	6.074	1.978	2.209
#3	76.99	31.16	31.10	55.61	2.064	1.979	6.119	1.997	2.245
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	1.980	1.951	1.939	4.280	.0269	.0195	2.164	-0.0334	
Stddev	.004	.005	.004	.0010	.0005	.0004	.015	.0010	
%RSD	.2134	.2506	.2061	.2451	1.763	2.213	.7082	3.036	
#1	1.983	1.951	1.936	4.271	.0267	.0190	2.168	-.0324	
#2	1.981	1.947	1.944	4.279	.0274	.0195	2.148	-.0333	
#3	1.975	1.957	1.938	4.291	.0266	.0199	2.178	-.0344	

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Sample Name: mp17668-s2 Acquired: 10/4/2019 12:59:31 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	136920.	26218.	4577.3	8361.8
Stddev	380.	175.	27.6	59.0
%RSD	.27766	.66573	.60225	.70568

#1	136590.	26416.	4579.9	8361.3
#2	136830.	26088.	4603.5	8421.1
#3	137330.	26149.	4548.6	8303.1

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Sample Name: jc95927-1 Acquired: 10/4/2019 13:04:03 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2209	-0.001	-0.004	.0003	.0022	.0050	1.449	.0005
Stddev	.0002	.0001	.0001	.0002	.0002	.0001	.004	.0004
%RSD	.0872	61.75	21.04	64.98	7.323	2.827	.2514	67.02

#1	.2210	-0.001	-0.003	.0004	.0020	.0049	1.452	.0006
#2	.2210	-0.001	-0.003	.0004	.0024	.0050	1.450	.0008
#3	.2207	-0.001	-0.005	.0001	.0023	.0052	1.445	.0001

Elem	Ag3280	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0015	.0020	.0120	.0010	F -.0022	.0037	.0017	.0020
Stddev	.0004	.0002	.0001	.0003	.0014	.0006	.0008	.0013
%RSD	26.04	10.38	.7907	31.15	63.77	17.01	46.80	61.55

#1	.0011	.0022	.0120	.0006	-.0027	.0040	.0014	.0008
#2	.0019	.0021	.0119	.0012	-.0006	.0030	.0011	.0020
#3	.0016	.0018	.0121	.0011	-.0033	.0042	.0026	.0034

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0480	51.40	52.70	6.578	6.203	31.06	.1354	.0003
Stddev	.0024	.11	.09	.031	.032	.08	.0012	.0002
%RSD	4.985	.2195	.1708	.4781	.5112	.2708	.9028	70.44

#1	.0456	51.47	52.79	6.560	6.213	31.08	.1367	.0006
#2	.0481	51.46	52.61	6.615	6.228	31.13	.1352	.0001
#3	.0504	51.27	52.70	6.560	6.167	30.96	.1343	.0003

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.042	.0006	.2759	.0011	-.0025	-.0014	.5309	-.0051
Stddev	.034	.0007	.0004	.0003	.0004	.0001	.0019	.0006
%RSD	.5693	123.6	.1400	30.19	16.51	8.753	.3572	11.52

#1	6.080	-.0002	.2762	.0014	-.0029	-.0014	.5317	-.0044
#2	6.032	.0011	.2761	.0010	-.0024	-.0012	.5323	-.0054
#3	6.013	.0008	.2755	.0008	-.0021	-.0015	.5288	-.0055

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Sample Name: jc95927-1 Acquired: 10/4/2019 13:04:03 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	.0194	.1655	.0189
Stddev	.0011	.0026	.0030
%RSD	5.575	1.565	15.71

#1	.0197	.1685	.0222
#2	.0203	.1636	.0176
#3	.0182	.1645	.0167

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	138480.	26396.	4683.0	8406.8
Stddev	241.	46.	18.4	20.4
%RSD	.17435	.17611	.39219	.24219

#1	138210.	26376.	4662.4	8383.4
#2	138660.	26363.	4688.9	8420.0
#3	138590.	26449.	4697.7	8417.1

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Sample Name: mp17668-sd1 Acquired: 10/4/2019 13:08:38 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2258	-0.0003	-0.0008	-0.0005	.0034	.0098	1.495	-0.0006	-0.0010
Stddev	.0007	.0001	.0015	.0004	.0025	.0013	.002	.0014	.0021
%RSD	.3184	38.67	187.3	89.65	73.88	13.33	.1259	218.5	222.3

#1	.2267	-0.0003	-.0012	-.0009	.0063	.0109	1.493	.0003	-.0008
#2	.2254	-0.001	.0008	-.0005	.0019	.0084	1.497	-.0022	-.0031
#3	.2255	-0.0003	-.0020	-.0001	.0020	.0100	1.494	.0000	.0011

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0109	-.0022	-.0094	.0028	.0004	.0017	.0884	51.73
Stddev	.0008	.0002	.0066	.0083	.0027	.0025	.0048	.0339	.07
%RSD	485.0	2.110	302.9	88.22	96.21	607.9	272.5	38.38	.1289

#1	.0003	.0108	.0009	-.0181	.0056	.0032	-.0037	.1076	51.77
#2	.0008	.0112	-.0098	-.0015	.0003	-.0015	.0048	.0493	51.76
#3	-.0007	.0108	.0023	-.0086	.0024	-.0005	.0041	.1084	51.65

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	54.07	6.859	6.256	31.23	1387	-0.0001	6.109	-0.0005	2733
Stddev	.18	.044	.193	.14	.0017	.0012	.015	.0014	.0007
%RSD	.3415	.6467	3.091	.4450	1.236	1900.	.2384	273.6	.2705

#1	54.26	6.903	6.224	31.12	.1383	.0008	6.121	.0010	2731
#2	53.89	6.861	6.463	31.38	.1372	.0004	6.112	-.0018	2742
#3	54.06	6.814	6.080	31.18	.1406	-.0014	6.093	-.0007	2727

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0042	-.0110	-.0013	.5418	-.0013	.0262	.1636	.0351
Stddev	.0006	.0018	.0004	.0061	.0011	.0047	.0022	.0044
%RSD	13.75	16.10	29.59	1.120	86.37	17.84	1.357	12.53

#1	.0037	-.0120	-.0013	.5487	-.0021	.0210	.1657	.0400
#2	.0048	-.0120	-.0017	.5372	-.0000	.0276	.1613	.0337
#3	.0040	-.0089	-.0009	.5395	-.0019	.0300	.1637	.0316

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Sample Name: mp17668-sd1 Acquired: 10/4/2019 13:08:38 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	138200.	26384.	4729.3	8400.4
Stddev	642.	141.	18.6	23.2
%RSD	.46480	.53604	.39299	.27636
#1	138330.	26243.	4728.9	8392.5
#2	137510.	26382.	4710.9	8382.2
#3	138780.	26526.	4748.0	8426.6

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Sample Name: jc95927-2 Acquired: 10/4/2019 13:13:13 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0246	-0.0011	-0.0005	.0012	.0009	.0018	1.261	.0009
Stddev	.0001	.0000	.0001	.0002	.0000	.0006	.002	.0001
%RSD	.5774	35.43	19.62	19.57	2.871	31.58	.1671	11.45
#1	.0248	-0.0011	-0.0004	.0015	.0008	.0025	1.261	.0010
#2	.0245	-0.0011	-0.0004	.0011	.0009	.0015	1.258	.0010
#3	.0246	-0.0000	-0.0006	.0011	.0009	.0015	1.262	.0008
Elem	Ag3280	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010	.0010	.0048	.0701	F -.0030	.0008	.0045	.0017
Stddev	.0002	.0003	.0001	.0009	.0014	.0004	.0011	.0013
%RSD	16.72	27.02	1.609	1.304	46.99	54.23	23.80	78.58
#1	.0012	.0012	.0049	.0690	-.0033	.0013	.0051	.0002
#2	.0009	.0007	.0048	.0707	-.0015	.0005	.0052	.0024
#3	.0009	.0010	.0047	.0705	-.0043	.0007	.0033	.0026
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0755	26.07	50.25	4.756	5.301	15.64	.1023	.0023
Stddev	.0070	.01	.14	.017	.025	.02	.0006	.0002
%RSD	9.237	.0520	.2703	.3545	.4717	.1175	.6284	9.285
#1	.0823	26.08	50.38	4.766	5.279	15.66	.1020	.0021
#2	.0760	26.06	50.11	4.737	5.328	15.62	.1031	.0025
#3	.0683	26.09	50.25	4.766	5.296	15.65	.1020	.0022
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.04	-0.0003	.1336	.0035	-0.0016	-0.0018	.7112	-0.0045
Stddev	.02	.0003	.0002	.0002	.0006	.0001	.0020	.0008
%RSD	.1771	118.5	.1395	4.427	39.53	5.151	.2824	17.77
#1	10.06	.0000	.1338	.0033	-.0020	-.0017	.7098	-.0042
#2	10.02	-.0006	.1335	.0034	-.0009	-.0019	.7102	-.0054
#3	10.05	-.0002	.1334	.0036	-.0018	-.0017	.7135	-.0039

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Sample Name: jc95927-2 Acquired: 10/4/2019 13:13:13 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	
Avg	.0051	.0908	.0207	
Stddev	.0011	.0010	.0037	
%RSD	21.50	1.140	17.93	
#1	.0043	.0898	.0195	
#2	.0047	.0908	.0249	
#3	.0064	.0918	.0178	
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139720.	26800.	4683.6	8435.0
Stddev	444.	177.	5.3	18.5
%RSD	.31807	.65922	.11354	.21989
#1	139290.	26653.	4688.7	8452.2
#2	140180.	26996.	4684.1	8437.5
#3	139670.	26751.	4678.1	8415.3

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Sample Name: jc95927-3 Acquired: 10/4/2019 13:17:47 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0986	.0006	.0003	.0036	.0058	.0035	1.794	.0077	-0.0002
Stddev	.0013	.0000	.0001	.0001	.0004	.0001	.013	.0003	.0005
%RSD	1.339	6.733	41.39	3.405	7.798	2.350	.7406	4.065	305.6
#1	.0988	.0006	.0003	.0037	.0053	.0036	1.808	.0075	.0000
#2	.0972	.0006	.0002	.0035	.0058	.0035	1.793	.0081	-.0008
#3	.0998	.0006	.0004	.0038	.0062	.0035	1.781	.0076	.0002
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0083	.0194	.0044	-.0003	.0019	.0030	.0003	3.678	13.35
Stddev	.0002	.0001	.0008	.0006	.0019	.0021	.0010	.051	.17
%RSD	3.162	.7108	18.37	219.9	101.7	69.39	359.8	1.386	1.259
#1	.0063	.0196	.0035	-.0008	-.0002	.0036	-.0007	3.701	13.42
#2	.0062	.0194	.0045	.0004	.0034	.0007	.0012	3.620	13.16
#3	.0065	.0193	.0051	-.0004	.0024	.0047	.0003	3.714	13.48
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.011	2.728	2.522	68.12	.1140	.0006	9.074	-0.0000	.1416
Stddev	.060	.044	.021	.92	.0011	.0001	.038	.0003	.0017
%RSD	1.490	1.627	.8451	1.353	1.007	23.50	.4140	1293.	1.222
#1	4.041	2.751	2.520	68.29	.1151	.0007	9.116	-.0001	.1419
#2	3.942	2.677	2.501	67.12	.1141	.0005	9.063	-.0003	.1397
#3	4.049	2.757	2.544	68.94	.1128	.0005	9.043	.0003	.1431
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.1881	-.0017	.0007	1.393	-.0018	.0075	.0888	.0132	
Stddev	.0011	.0007	.0002	.005	.0019	.0009	.0011	.0004	
%RSD	.5918	42.79	28.09	.3345	109.1	11.71	1.265	3.129	
#1	.1892	-.0019	.0006	1.394	-.0003	.0065	.0888	.0131	
#2	.1883	-.0023	.0005	1.397	-.0021	.0078	.0899	.0136	
#3	.1870	-.0009	.0009	1.388	-.0035	.0083	.0876	.0128	

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Sample Name: jc95927-3 Acquired: 10/4/2019 13:17:47 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	141620.	27028.	4709.9	8352.2
Stddev	277.	367.	19.9	33.0
%RSD	.19564	1.3574	.42156	.39562

#1 141580. 26847. 4687.1 8316.0
#2 141370. 27450. 4719.3 8380.7
#3 141920. 26786. 4723.3 8359.9

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Sample Name: jc95927-4 Acquired: 10/4/2019 13:22:29 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0213	-.0001	.0003	.0098	.0002	.0013	.6999	.0043	-.0006
Stddev	.0001	.0000	.0001	.0003	.0002	.0001	.0086	.0001	.0004
%RSD	.6577	37.14	23.85	2.999	97.56	5.371	1.230	2.106	59.88

#1 .0213 -.0001 .0003 .0100 .0004 .0012 .7098 .0042 -.0011
#2 .0214 -.0001 .0002 .0094 .0003 .0013 .6940 .0044 -.0003
#3 .0212 -.0001 .0003 .0100 -.0000 .0013 .6959 .0043 -.0005

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	.0052	.0007	-.0016	.0007	.0029	.0013	.0062	16.37
Stddev	.0002	.0002	.0005	.0009	.0002	.0008	.0003	.0035	.03
%RSD	33.16	2.950	76.34	55.30	30.49	29.14	23.22	55.86	2038

#1 .0009 .0054 .0012 -.0020 .0005 .0033 .0014 .0082 16.38
#2 .0008 .0051 .0007 -.0006 .0009 .0019 .0016 .0022 16.39
#3 .0004 .0053 .0002 -.0023 .0007 .0035 .0010 .0082 16.33

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1121	3.817	3.365	34.06	.4576	.0005	8.948	-.0004	1.203
Stddev	.0017	.006	.010	.06	.0019	.0003	.020	.0003	.0001
%RSD	1.491	.1692	.3035	.1747	.4220	55.53	.2215	77.93	.0661

#1 .1105 3.825 3.354 34.02 .4597 .0004 8.970 -.0008 .1202
#2 .1119 3.814 3.374 34.02 .4573 .0003 8.942 -.0002 .1204
#3 .1139 3.813 3.367 34.12 .4559 .0009 8.932 -.0003 .1204

Elem	Tl3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	-.0032	-.0007	7.527	-.0002	.0017	.0030	.0018
Stddev	.0002	.0005	.0001	.014	.0003	.0011	.0011	.0043
%RSD	51.72	14.54	10.20	.1823	155.3	64.57	36.28	235.7

#1 .0006 -.0027 -.0007 7.543 -.0005 .0020 .0027 .0068
#2 .0003 -.0036 -.0008 7.521 -.0001 .0025 .0021 -.0005
#3 .0002 -.0034 -.0008 7.517 .0001 .0005 .0042 -.0008

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Sample Name: jc95927-4 Acquired: 10/4/2019 13:22:29 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	138300.	26709.	4695.2	8393.1
Stddev	1439.	73.	6.8	7.4
%RSD	1.0401	.27215	.14555	.08867

#1 136640. 26676. 4689.0 8386.3
#2 139080. 26792. 4702.5 8401.0
#3 139180. 26658. 4694.2 8391.9

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Sample Name: ccv Acquired: 10/4/2019 13:27:04 Type: QC
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.020	2.054	2.075	2.026	2.002	1.935	2.056	2.017	2.469
Stddev	.002	.002	.003	.002	.009	.001	.009	.001	.0003
%RSD	.1168	.0964	.1197	.1004	.4402	.0438	.4464	.0354	.1173

#1 2.019 2.053 2.077 2.027 1.995 1.935 2.045 2.017 .2472
#2 2.019 2.057 2.076 2.027 1.998 1.936 2.062 2.016 .2466
#3 2.023 2.053 2.072 2.024 2.012 1.935 2.060 2.016 .2468

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

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.004	2.078	1.958	2.045	2.014	2.011	1.939	39.35	40.17
Stddev	.002	.001	.002	.006	.002	.002	.003	.02	.07
%RSD	.0775	.0384	.1046	.3152	.1022	.0869	.1485	.0563	.1768

#1 2.005 2.078 1.956 2.049 2.013 2.011 1.941 39.35 40.22
#2 2.002 2.079 1.960 2.048 2.017 2.013 1.936 39.37 40.21
#3 2.005 2.078 1.957 2.037 2.013 2.009 1.941 39.32 40.09

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

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	40.93	39.81	39.32	39.68	1.996	1.964	5.068	1.991	2.011
Stddev	.04	.11	.04	.04	.002	.002	.005	.001	.001
%RSD	.1078	.2881	.0890	.1094	.1106	.0880	.1039	.0540	.0495

#1 40.91 39.80 39.36 39.68 1.993 1.966 5.073 1.992 2.012
#2 40.98 39.93 39.29 39.63 1.996 1.964 5.068 1.989 2.010
#3 40.91 39.70 39.32 39.72 1.998 1.962 5.062 1.991 2.010

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

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Sample Name: ccv		Acquired: 10/4/2019 13:27:04				Type: QC		
Method: SGS No Vlave3(v198)		Mode: CONC		Corr. Factor: 1.000000				
User: admin		Custom ID1:		Custom ID2:		Custom ID3:		
Comment:								
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.974	1.947	1.932	1.993	1.992	1.956	2.047	1.998
Stddev	.003	.002	.002	.003	.004	.002	.003	.002
%RSD	.1324	.0899	.0774	.1670	.1831	.0904	.1287	.0972
#1	1.974	1.946	1.933	1.991	1.996	1.955	2.048	1.999
#2	1.977	1.947	1.931	1.996	1.991	1.956	2.049	1.996
#3	1.971	1.949	1.933	1.990	1.989	1.958	2.044	1.998
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								
Int. Std.	Y_3600	Y_3710	Y_2243	In2306				
Units	Cts/S	Cts/S	Cts/S	Cts/S				
Avg	137020.	26188.	4608.4	8354.8				
Stddev	461.	10.	10.0	17.9				
%RSD	.33649	.03715	.21595	.21451				
#1	137310.	26180.	4609.9	8356.5				
#2	137270.	26199.	4597.7	8336.0				
#3	136490.	26185.	4617.5	8371.7				

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Sample Name: ccb		Acquired: 10/4/2019 13:31:33				Type: QC			
Method: SGS No Vlave3(v198)		Mode: CONC		Corr. Factor: 1.000000					
User: admin		Custom ID1:		Custom ID2:		Custom ID3:			
Comment:									
Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.001	-0.000	-0.002	-0.001	-0.003	-0.003	-0.000	-0.004	-0.006
Stddev	.0003	.0000	.0001	.0001	.0001	.0007	.0000	.0005	.0002
%RSD	240.9	101.3	74.39	161.7	48.28	256.7	26.21	117.2	37.01
#1	-0.004	-0.000	-0.002	-0.000	-0.004	-0.004	-0.000	-0.001	-0.003
#2	-0.001	-0.000	-0.000	-0.001	-0.001	-0.002	-0.000	-0.008	-0.008
#3	-0.000	-0.000	-0.003	-0.001	-0.003	-0.011	-0.000	-0.006	-0.007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.001	-0.004	-0.001	-0.007	-0.003	-0.003	-0.005	-0.024	-0.029
Stddev	.0002	.0000	.0003	.0003	.0004	.0024	.0011	.0031	.0017
%RSD	451.9	7.833	390.8	50.03	112.4	789.9	236.4	131.0	59.87
#1	.0001	-0.004	.0003	-0.009	-0.001	.0024	.0018	-0.040	-0.039
#2	-0.003	-0.003	.0003	-0.009	.0005	-0.022	-0.001	-0.043	-0.040
#3	.0001	-0.004	-0.003	-0.003	.0006	-0.011	-0.003	.0012	-0.009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.001	-0.074	-0.252	-0.008	-0.002	.0001	.0011	.0001	.0001
Stddev	.0027	.0023	.0097	.0046	.0004	.0001	.0008	.0006	.0001
%RSD	263.6	31.49	38.55	615.1	219.3	104.7	74.34	454.8	172.8
#1	.0027	-0.051	-0.141	.0028	.0003	.0001	.0018	-0.005	-0.001
#2	-0.004	-0.073	-0.323	-0.060	.0005	.0002	.0014	.0008	.0001
#3	-0.026	-0.097	-0.290	.0010	-0.002	-0.000	.0002	.0001	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

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Sample Name: ccb		Acquired: 10/4/2019 13:31:33				Type: QC		
Method: SGS No Vlave3(v198)		Mode: CONC		Corr. Factor: 1.000000				
User: admin		Custom ID1:		Custom ID2:		Custom ID3:		
Comment:								
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	-0.041	-0.002	-0.021	.0003	.0004	-0.013	.0002
Stddev	.0002	.0002	.0001	.0012	.0008	.0009	.0018	.0015
%RSD	88.92	5.778	60.11	57.23	313.3	202.0	137.0	804.0
#1	.0005	-0.044	-0.004	-0.010	.0007	.0010	-0.035	.0004
#2	.0001	-0.041	-0.001	-0.034	-0.007	.0009	-0.001	-0.014
#3	.0001	-0.039	-0.003	-0.019	.0008	-0.006	-0.005	.0015
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								
Int. Std.	Y_3600	Y_3710	Y_2243	In2306				
Units	Cts/S	Cts/S	Cts/S	Cts/S				
Avg	138510.	26587.	4713.5	8338.9				
Stddev	415.	53.	5.9	4.1				
%RSD	.29937	.19761	.12427	.04946				
#1	138960.	26647.	4719.7	8334.2				
#2	138420.	26551.	4708.1	8340.3				
#3	138150.	26563.	4712.7	8342.0				

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Sample Name: jc95927-5		Acquired: 10/4/2019 13:36:13			Type: Unk				
Method: SGS No Vlave3(v198)		Mode: CONC		Corr. Factor: 1.000000					
User: admin		Custom ID1:		Custom ID2:		Custom ID3:			
Comment:									
Elem Units	Ba4554 ppm	Be3130 ppm	Cd2288 ppm	Co2286 ppm	Cr2677 ppm	Cu3247 ppm	Mn2576 ppm	Ni2316 ppm	Ag3280 ppm
Avg	.0205	-0.0000	.0002	.0094	.0003	.0003	.6722	.0040	-0.0007
Stddev	.0001	.0000	.0001	.0003	.0004	.0003	.0023	.0003	.0001
%RSD	.5283	51.92	32.75	2.728	125.8	92.14	.3365	6.902	17.91
#1	.0206	-0.0000	.0003	.0091	.0002	.0005	.6747	.0037	-0.0008
#2	.0204	-0.0000	.0003	.0097	-0.0000	.0006	.6716	.0043	-0.0007
#3	.0206	-0.0000	.0001	.0093	.0007	-0.0000	.6703	.0040	-0.0006
Elem Units	V_2924 ppm	Zn2062 ppm	As1890 ppm	Ti1908 ppm	Pb2203 ppm	Se1960 ppm	Sb2068 ppm	Al3961 ppm	Ca3179 ppm
Avg	.0008	.0054	.0009	-0.0002	.0001	.0019	.0005	.0049	15.90
Stddev	.0004	.0001	.0012	.0011	.0006	.0013	.0009	.0097	.02
%RSD	45.10	.9423	123.5	646.9	536.3	69.00	178.1	199.0	.1408
#1	.0010	.0054	-0.0004	-0.0007	-0.0001	.0017	.0005	-0.0026	15.87
#2	.0011	.0053	.0014	.0011	.0008	.0034	-0.0004	.0014	15.91
#3	.0004	.0054	.0018	-0.0008	-0.0004	.0007	.0014	.0159	15.91
Elem Units	Fe2599 ppm	Mg2790 ppm	K_7664 ppm	Na5895 ppm	B_2089 ppm	Mo2020 ppm	Si2124 ppm	Sn1899 ppm	Sr4077 ppm
Avg	.1101	3.707	3.245	33.16	.4442	.0005	8.679	-0.0002	.1170
Stddev	.0013	.009	.014	.04	.0020	.0003	.025	.0002	.0001
%RSD	1.158	.2368	.4285	.1160	.4461	58.59	.2851	114.3	.0530
#1	.1104	3.703	3.229	33.19	.4449	.0002	8.684	-0.0002	.1170
#2	.1112	3.717	3.254	33.11	.4458	.0007	8.701	-0.0005	.1170
#3	.1087	3.701	3.251	33.17	.4420	.0006	8.652	.0000	.1171
Elem Units	Ti3349 ppm	W_2079 ppm	Zr3391 ppm	S_1820 ppm	Bi2230 ppm	Li6707 ppm	P_1774 ppm	Ce4040 ppm	
Avg	.0002	-0.0028	-0.0009	7.320	-0.0001	-0.0004	.0029	.0012	
Stddev	.0002	.0005	.0001	.024	.0006	.0005	.0004	.0016	
%RSD	108.6	18.71	16.97	.3204	623.1	150.3	12.06	129.6	
#1	.0005	-0.0032	-0.0010	7.314	-0.0006	-0.0006	.0030	-0.0005	
#2	.0002	-0.0022	-0.0008	7.346	-0.0004	.0003	.0032	.0026	
#3	.0000	-0.0029	-0.0007	7.301	.0006	-0.0008	.0025	.0016	

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Sample Name: jc95927-5 Acquired: 10/4/2019 13:36:13 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	140140.	26802.	4694.5	8400.0
Stddev	426.	137.	16.8	21.7
%RSD	.30381	.51238	.35834	.25816
#1	139710.	26805.	4688.4	8390.5
#2	140150.	26938.	4681.7	8384.7
#3	140560.	26664.	4713.6	8424.8

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Sample Name: jc95927-1f Acquired: 10/4/2019 13:40:46 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2199	-.0001	-.0005	.0003	.0027	.0019	1.433	.0005	.0015
Stddev	.0005	.0001	.0001	.0001	.0003	.0004	.008	.0002	.0003
%RSD	.2353	37.71	20.76	44.05	11.45	23.54	.5621	51.80	20.18
#1	.2193	-.0001	-.0006	.0003	.0024	.0021	1.436	.0004	.0017
#2	.2202	-.0002	-.0004	.0002	.0030	.0022	1.423	.0008	.0017
#3	.2202	-.0001	-.0005	.0005	.0028	.0014	1.439	.0003	.0011
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0018	.0067	.0006	-.0003	.0013	.0032	.0020	.0457	51.20
Stddev	.0005	.0001	.0006	.0008	.0006	.0014	.0004	.0066	.09
%RSD	26.37	1.394	95.64	227.2	45.43	44.81	21.21	14.56	.1743
#1	.0012	.0068	.0001	-.0010	.0020	.0017	.0025	.0472	51.22
#2	.0021	.0067	.0005	.0005	.0012	.0032	.0016	.0514	51.27
#3	.0019	.0066	.0012	-.0006	.0008	.0046	.0019	.0384	51.10
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	52.11	6.527	6.184	31.08	.1326	.0002	6.027	.0005	.2758
Stddev	.21	.033	.025	.08	.0000	.0002	.017	.0002	.0004
%RSD	.4041	.5054	.4037	.2637	.0160	96.02	.2885	45.66	.1548
#1	51.88	6.512	6.177	31.18	.1325	.0004	6.024	.0008	.2763
#2	52.30	6.565	6.211	31.04	.1326	-.0000	6.046	.0004	.2755
#3	52.14	6.504	6.163	31.03	.1326	.0004	6.012	.0004	.2757
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0010	-.0012	-.0017	.5469	-.0050	.0175	.1601	.0213	
Stddev	.0001	.0005	.0000	.0015	.0006	.0004	.0009	.0022	
%RSD	11.33	39.30	1.322	.2689	12.06	2.542	.5401	10.27	
#1	.0011	-.0013	-.0017	.5460	-.0044	.0176	.1595	.0192	
#2	.0010	-.0017	-.0017	.5486	-.0055	.0170	.1611	.0236	
#3	.0009	-.0007	-.0017	.5462	-.0053	.0179	.1596	.0210	

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Sample Name: jc95927-1f Acquired: 10/4/2019 13:40:46 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139980.	26646.	4663.2	8378.2
Stddev	735.	88.	8.5	12.7
%RSD	.52506	.33074	.18237	.15104
#1	140090.	26742.	4664.9	8368.3
#2	140650.	26568.	4654.0	8392.4
#3	139190.	26628.	4670.7	8373.8

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Sample Name: jc95927-2f Acquired: 10/4/2019 13:45:20 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0194	-.0001	-.0003	.0004	.0009	-.0002	1.056	.0004	.0009
Stddev	.0002	.0000	.0001	.0003	.0003	.0003	.013	.0004	.0002
%RSD	1.003	24.59	35.69	72.68	36.30	138.3	1.213	110.0	26.82
#1	.0196	-.0001	-.0003	.0007	.0007	.0001	1.065	.0004	.0007
#2	.0192	-.0001	-.0002	.0001	.0012	-.0005	1.041	-.0001	.0011
#3	.0194	-.0002	-.0004	.0006	.0007	-.0003	1.061	.0008	.0009
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	.0060	.0739	-.0013	.0007	.0041	.0015	.0124	25.09
Stddev	.0002	.0006	.0012	.0004	.0008	.0012	.0017	.0012	.02
%RSD	26.46	10.07	1.582	29.00	114.6	28.05	110.0	9.766	.0832
#1	.0010	.0067	.0734	-.0014	-.0002	.0028	.0010	.0110	25.10
#2	.0007	.0058	.0731	-.0015	.0012	.0050	.0034	.0133	25.10
#3	.0006	.0055	.0753	-.0008	.0010	.0045	.0002	.0128	25.06
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	49.79	4.590	5.176	15.38	.1007	.0023	9.887	-.0003	.1295
Stddev	.07	.023	.030	.03	.0008	.0001	.049	.0005	.0003
%RSD	.1359	.5016	.5785	.2098	.7551	4.659	.4990	190.7	.2279
#1	49.83	4.592	5.201	15.40	.0998	.0025	9.850	-.0008	.1298
#2	49.71	4.612	5.184	15.39	.1010	.0023	9.943	.0002	.1295
#3	49.82	4.566	5.143	15.34	.1013	.0023	9.867	-.0002	.1292
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0002	-.0029	-.0021	.7242	-.0060	.0033	.0917	.0184	
Stddev	.0003	.0001	.0002	.0026	.0004	.0013	.0009	.0044	
%RSD	132.9	3.697	8.167	.3575	6.913	38.66	.9558	24.20	
#1	-.0001	-.0029	-.0020	.7215	-.0055	.0027	.0907	.0194	
#2	.0004	-.0030	-.0020	.7244	-.0060	.0024	.0923	.0135	
#3	.0004	-.0028	-.0023	.7266	-.0063	.0048	.0921	.0223	

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Sample Name: jc95927-2f Acquired: 10/4/2019 13:45:20 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	142060.	26826.	4699.2	8416.3
Stddev	1697.	14.	17.9	25.9
%RSD	1.1945	.05209	.38069	.30740

#1 141270. 26825. 4712.7 8433.4
#2 144010. 26841. 4678.9 8386.6
#3 140910. 26813. 4705.9 8429.0

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Sample Name: jc95927-3f Acquired: 10/4/2019 13:49:57 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0901	.0005	.0003	.0038	.0053	.0035	1.714	.0071	-.0003
Stddev	.0002	.0000	.0001	.0002	.0002	.0009	.008	.0002	.0003
%RSD	.2038	6.348	39.05	5.269	2.844	24.34	.4850	3.272	100.2

#1 .0899 .0005 .0004 .0038 .0053 .0026 1.723 .0072 -.0007
#2 .0902 .0005 .0002 .0036 .0055 .0037 1.711 .0068 -.0002
#3 .0902 .0006 .0003 .0040 .0052 .0043 1.708 .0072 -.0001

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0052	.0177	.0036	-.0008	.0016	.0013	.0003	3.077	13.16
Stddev	.0001	.0002	.0015	.0009	.0007	.0010	.0005	.015	.03
%RSD	1.877	1.164	42.12	104.1	41.44	78.92	183.4	.5005	.2375

#1 .0051 .0175 .0052 -.0014 .0009 .0025 .0006 3.085 13.12
#2 .0052 .0178 .0036 -.0013 .0022 .0008 .0006 3.087 13.18
#3 .0052 .0179 .0021 .0002 .0017 .0006 -.0003 3.059 13.18

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.487	2.638	2.472	66.63	1.087	.0006	8.228	-.0005	1.317
Stddev	.014	.010	.020	.23	.0005	.0001	.034	.0004	.0006
%RSD	.4114	.3685	.8250	.3437	.4419	19.55	.4074	95.28	.4266

#1 3.471 2.631 2.486 66.40 .1083 .0007 8.211 -.0010 .1312
#2 3.499 2.649 2.449 66.86 .1092 .0006 8.267 -.0002 .1323
#3 3.489 2.635 2.482 66.63 .1084 .0005 8.207 -.0002 .1316

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1641	-.0040	.0003	1.383	-.0011	.0069	.0820	.0130
Stddev	.0003	.0007	.0001	.003	.0005	.0012	.0011	.0042
%RSD	.2027	17.72	23.83	.2416	44.65	17.44	1.362	32.28

#1 .1644 -.0032 .0002 1.380 -.0009 .0056 .0808 .0150
#2 .1643 -.0042 .0003 1.386 -.0007 .0080 .0830 .0081
#3 .1638 -.0045 .0002 1.382 -.0017 .0072 .0821 .0157

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Sample Name: jc95927-3f Acquired: 10/4/2019 13:49:57 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139420.	26825.	4715.2	8365.6
Stddev	389.	67.	13.7	15.5
%RSD	.27871	.25058	.29150	.18565

#1 139840. 26758. 4721.3 8372.9
#2 139340. 26892. 4699.4 8347.7
#3 139080. 26826. 4724.8 8376.1

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Sample Name: jc95927-4f Acquired: 10/4/2019 13:54:35 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0204	-.0001	.0003	.0090	.0005	.0012	.6621	.0042
Stddev	.0002	.0000	.0002	.0004	.0002	.0003	.0019	.0005
%RSD	.9706	15.10	62.46	4.162	37.36	26.02	.2921	11.54

#1 .0203 -.0000 .0001 .0089 .0004 .0010 .6642 .0046
#2 .0203 -.0001 .0004 .0087 .0004 .0015 .6604 .0036
#3 .0206 -.0001 .0004 .0094 .0007 .0009 .6616 .0043

Elem	Ag3280	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0006	.0007	.0049	.0009	F -.0026	.0008	.0020	.0014
Stddev	.0002	.0002	.0001	.0009	.0011	.0012	.0002	.0009
%RSD	33.90	30.64	1.721	104.7	40.64	151.6	8.223	67.00

#1 -.0004 .0008 .0050 .0018 -.0017 .0021 .0022 .0011
#2 -.0007 .0004 .0049 -.0001 -.0038 .0006 .0019 .0007
#3 -.0008 .0007 .0048 .0010 -.0024 -.0003 .0020 .0025

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0066	16.06	1.096	3.760	3.281	33.66	.4460	.0003
Stddev	.0072	.02	.0010	.008	.037	.12	.0015	.0002
%RSD	108.8	.1268	.9231	.2053	1.115	.3557	.3268	78.82

#1 .0077 16.09 .1088 3.760 3.323 33.70 .4448 .0000
#2 .0132 16.06 .1092 3.768 3.262 33.75 .4477 .0005
#3 -.0011 16.05 .1108 3.752 3.257 33.52 .4456 .0004

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.798	-.0002	1.183	.0002	-.0032	-.0010	7.388	-.0000
Stddev	.039	.0001	.0003	.0003	.0011	.0002	.039	.0004
%RSD	.4427	45.32	.2560	126.6	33.93	19.32	.5304	1337.

#1 8.778 -.0001 .1182 .0006 -.0045 -.0010 7.373 -.0003
#2 8.843 -.0003 .1186 .0001 -.0026 -.0013 7.432 -.0003
#3 8.773 -.0002 .1180 .0000 -.0026 -.0009 7.358 .0005

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Sample Name: jc95927-4f Acquired: 10/4/2019 13:54:35 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	
Avg	.0018	.0014	.0023	
Stddev	.0002	.0008	.0011	
%RSD	12.53	55.99	48.32	
#1	.0017	.0013	.0021	
#2	.0018	.0022	.0013	
#3	.0021	.0007	.0035	
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139160.	26646.	4696.7	8361.3
Stddev	292.	158.	18.7	23.7
%RSD	20948	59474	39755	28403
#1	138840.	26469.	4711.1	8383.8
#2	139390.	26697.	4675.6	8336.5
#3	139270.	26773.	4703.3	8363.5

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Sample Name: jc95927-5f Acquired: 10/4/2019 13:59:06 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0201	-.0001	.0003	.0090	.0003	.0018	.6469	.0042	-.0002
Stddev	.0001	.0000	.0001	.0000	.0001	.0001	.0008	.0001	.0005
%RSD	.4042	27.10	19.03	.1855	32.71	3.615	.1263	1.354	214.7
#1	.0200	-.0001	.0004	.0090	.0002	.0018	.6460	.0042	-.0003
#2	.0200	-.0001	.0003	.0090	.0004	.0017	.6477	.0042	-.0006
#3	.0201	-.0001	.0002	.0090	.0002	.0019	.6469	.0043	.0003
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	.0056	-.0000	-.0009	.0001	.0022	.0008	.0034	15.84
Stddev	.0002	.0001	.0005	.0014	.0010	.0004	.0018	.0015	.03
%RSD	38.09	1.915	1900.	147.1	702.7	17.38	231.1	42.61	.1661
#1	.0005	.0057	-.0005	-.0001	.0006	.0018	.0025	.0051	15.87
#2	.0004	.0055	.0005	-.0025	.0007	.0023	-.0011	.0028	15.84
#3	.0009	.0055	-.0001	-.0002	-.0010	.0026	.0009	.0023	15.81
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0972	3.718	3.209	33.20	.4406	.0006	8.684	-.0002	.1168
Stddev	.0005	.010	.031	.06	.0041	.0001	.074	.0004	.0001
%RSD	.4885	.2710	.9752	.1694	.9213	20.05	.8568	197.5	.1048
#1	.0970	3.708	3.184	33.20	.4449	.0004	8.761	-.0003	.1168
#2	.0978	3.728	3.244	33.26	.4369	.0006	8.612	.0002	.1169
#3	.0970	3.719	3.198	33.15	.4400	.0006	8.678	-.0005	.1166
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0002	.0003	-.0008	7.261	-.0014	.0019	.0013	.0029	
Stddev	.0001	.0005	.0001	.069	.0012	.0007	.0008	.0018	
%RSD	29.44	200.4	11.99	.9525	85.45	35.62	60.04	64.38	
#1	.0002	.0009	-.0008	7.330	-.0000	.0025	.0023	.0011	
#2	.0002	.0001	-.0009	7.192	-.0021	.0019	.0009	.0027	
#3	.0003	-.0002	-.0007	7.263	-.0019	.0012	.0008	.0048	

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Sample Name: jc95927-5f Acquired: 10/4/2019 13:59:06 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	140010.	26609.	4713.5	8376.3
Stddev	346.	57.	38.5	51.5
%RSD	.24720	.21507	.81718	.61476
#1	140220.	26543.	4677.8	8322.9
#2	139610.	26638.	4754.3	8425.6
#3	140200.	26645.	4708.5	8380.3

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Sample Name: MP17676-MB1 Acquired: 10/4/2019 14:03:36 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 1

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0000	-.0001	-.0000	.0001	.0015	.0013	.0002	.0007	-.0003
Stddev	.0001	.0001	.0001	.0002	.0001	.0003	.0000	.0002	.0001
%RSD	488.5	51.17	600.5	208.1	5.227	23.51	3.906	35.13	54.54
#1	.0000	-.0001	-.0001	-.0000	.0014	.0011	.0002	.0005	-.0004
#2	.0000	-.0002	.0001	-.0000	.0015	.0012	.0002	.0006	-.0002
#3	-.0001	-.0002	-.0000	.0003	.0016	.0017	.0002	.0010	-.0002
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	.0126	.0000	-.0013	.0006	-.0005	-.0002	.0037	.0486
Stddev	.0001	.0024	.0009	.0001	.0010	.0012	.0006	.0090	.0030
%RSD	106.3	19.23	16530.	8.893	155.5	244.2	368.0	243.7	6.173
#1	.0000	.0112	-.0010	-.0013	-.0004	-.0009	.0002	.0050	.0474
#2	-.0001	.0112	.0008	-.0011	.0016	-.0014	-.0008	-.0059	.0520
#3	-.0001	.0154	.0002	-.0014	.0007	.0008	.0002	.0120	.0463
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0125	.0180	-.0436	.0330	-.0010	.0003	.0106	.0187	.0003
Stddev	.0017	.0164	.0272	.0033	.0005	.0002	.0015	.0006	.0000
%RSD	13.96	90.74	62.52	10.08	45.37	47.63	14.18	3.039	4.444
#1	.0145	.0157	-.0475	.0366	-.0011	.0004	.0096	.0190	.0003
#2	.0117	.0354	-.0686	.0300	-.0005	.0004	.0098	.0191	.0003
#3	.0112	.0030	-.0146	.0325	-.0015	.0001	.0123	.0180	.0002
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0007	-.0023	-.0003	.0042	.0017	-.0014	.0207	-.0005	
Stddev	.0001	.0013	.0001	.0023	.0012	.0009	.0008	.0018	
%RSD	14.30	56.93	49.20	54.61	71.02	63.05	4.071	385.4	
#1	.0008	-.0036	-.0004	.0039	.0003	-.0013	.0216	.0011	
#2	.0006	-.0023	-.0001	.0021	.0024	-.0023	.0200	-.0024	
#3	.0008	-.0010	-.0003	.0066	.0024	-.0006	.0205	-.0001	

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Sample Name: MP17676-MB1 Acquired: 10/4/2019 14:03:36 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 1

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139840.	27167.	4779.8	8422.1
Stddev	3872.	61.	17.5	22.9
%RSD	2.7692	.22465	.36536	.27137

#1	135990.	27192.	4799.4	8447.2
#2	143740.	27098.	4765.7	8402.6
#3	139780.	27212.	4774.4	8416.3

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Sample Name: MP17676-B1 Acquired: 10/4/2019 14:08:12 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.009	2.055	2.025	2.007	1.980	1.925	2.023	2.003	2.455
Stddev	.002	.004	.012	.010	.008	.005	.007	.006	.0005
%RSD	.1078	.1911	.5978	.4946	.3845	.2790	.3446	.2892	.2179

#1	2.011	2.057	2.035	2.015	1.972	1.920	2.016	2.007	2.450
#2	2.009	2.057	2.029	2.010	1.984	1.925	2.022	2.005	2.454
#3	2.007	2.050	2.012	1.996	1.986	1.931	2.030	1.996	2.460

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.976	2.038	1.914	2.036	1.963	1.940	1.901	2.443	25.06
Stddev	.008	.013	.010	.006	.006	.009	.013	.04	.07
%RSD	.4129	.6212	.5143	.3080	.3243	.4522	.6726	.1599	.2855

#1	1.966	2.049	1.920	2.040	1.970	1.946	1.911	24.43	25.08
#2	1.981	2.040	1.919	2.039	1.963	1.944	1.904	24.46	25.12
#3	1.979	2.024	1.902	2.029	1.957	1.930	1.886	24.39	24.98

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.49	24.73	24.36	24.99	1.876	1.922	.0548	1.979	2.002
Stddev	.08	.06	.07	.05	.010	.012	.0012	.011	.004
%RSD	.3136	.2623	.3003	.1828	.5547	.6064	2.106	.5450	.1847

#1	25.57	24.71	24.35	24.95	1.883	1.930	.0557	1.988	2.001
#2	25.48	24.80	24.44	25.04	1.881	1.927	.0553	1.981	2.007
#3	25.42	24.68	24.29	24.98	1.864	1.909	.0535	1.967	1.999

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.956	1.411	1.923	2.002	.0270	.0014	2.017	-.0499
Stddev	.004	.008	.005	.009	.0009	.0014	.008	.0010
%RSD	.1874	.5414	.2873	.4647	3.208	95.77	.4080	1.963

#1	1.954	1.416	1.917	2.006	.0261	.0028	2.024	-.0509
#2	1.953	1.414	1.926	2.008	.0271	.0001	2.020	-.0490
#3	1.960	1.402	1.927	1.991	.0278	.0014	2.008	-.0499

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Sample Name: MP17676-B1 Acquired: 10/4/2019 14:08:12 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 2

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139200.	26811.	4671.6	8416.6
Stddev	176.	174.	21.5	22.8
%RSD	.12668	.64779	.45922	.27043

#1	139370.	26728.	4652.0	8396.8
#2	139220.	26694.	4668.2	8411.6
#3	139020.	27010.	4694.5	8441.5

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Sample Name: CCV Acquired: 10/4/2019 14:12:39 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.032	2.065	2.059	2.013	1.997	1.951	2.032	2.008	2.477
Stddev	.004	.003	.001	.002	.005	.008	.013	.002	.0009
%RSD	.1796	.1301	.0219	.0883	.2639	.3964	.6169	.0790	.3821

#1	2.029	2.062	2.059	2.015	2.003	1.958	2.037	2.008	2.487
#2	2.030	2.065	2.059	2.014	1.995	1.952	2.042	2.010	2.473
#3	2.036	2.067	2.058	2.011	1.993	1.942	2.018	2.007	2.470

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

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.997	2.046	1.941	2.039	2.005	1.995	1.931	39.57	40.29
Stddev	.009	.004	.002	.003	.003	.002	.001	.07	.06
%RSD	.4326	.1936	.1012	.1232	.1256	.0763	.0669	.1663	.1586

#1	2.004	2.045	1.939	2.037	2.008	1.995	1.932	39.54	40.22
#2	2.000	2.050	1.942	2.042	2.006	1.997	1.929	39.53	40.28
#3	1.988	2.042	1.942	2.039	2.003	1.994	1.931	39.65	40.35

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

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	40.96	39.90	39.59	40.17	1.988	1.950	5.047	1.972	2.025
Stddev	.09	.04	.08	.10	.003	.001	.007	.003	.004
%RSD	.2266	.1116	.2089	.2444	.1624	.0471	.1393	.1333	.1839

#1	40.86	39.84	39.57	40.18	1.985	1.949	5.050	1.970	2.026
#2	40.98	39.92	39.51	40.07	1.987	1.949	5.038	1.975	2.021
#3	41.04	39.93	39.67	40.26	1.991	1.951	5.051	1.971	2.029

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

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Sample Name: CCV Acquired: 10/4/2019 14:12:39 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.965	1.939	1.935	1.973	1.984	1.971	2.040	2.001
Stddev	.009	.002	.008	.007	.002	.004	.001	.008
%RSD	.4799	.0762	.4268	.3786	.1168	.1865	.0332	.4180

#1	1.972	1.938	1.943	1.964	1.986	1.970	2.040	2.008
#2	1.970	1.938	1.935	1.975	1.982	1.968	2.041	2.003
#3	1.955	1.941	1.927	1.979	1.985	1.975	2.041	1.992

Check ?
Value
Range

Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
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Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	138270.	26359.	4646.4	8402.9
Stddev	409.	94.	3.2	.7
%RSD	.29613	.35634	.06940	.00861

#1	137890.	26467.	4645.3	8403.2
#2	138220.	26311.	4650.0	8403.5
#3	138700.	26298.	4643.9	8402.1

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Sample Name: CCB Acquired: 10/4/2019 14:17:09 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0001	.0002	.0001	.0004	.0005	.0000	.0001	.0006
Stddev	.0002	.0000	.0002	.0002	.0002	.0003	.0000	.0004	.0002
%RSD	1064.	57.76	95.71	181.9	39.40	60.05	1126.	784.9	33.33

#1	-.0002	.0001	-.0000	-.0002	.0004	.0002	-.0000	.0001	-.0008
#2	.0002	.0001	.0002	.0001	.0003	.0008	.0000	.0003	-.0004
#3	.0000	.0000	.0004	-.0002	.0006	.0005	-.0000	-.0005	-.0007

Check ?
High Limit
Low Limit

Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
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Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	-.0004	-.0000	-.0011	-.0003	.0013	-.0002	.0023	-.0037
Stddev	.0002	.0001	.0005	.0011	.0007	.0007	.0007	.0061	.0010
%RSD	123.2	16.95	1269.	101.8	216.2	53.40	424.5	260.0	28.51

#1	.0001	-.0004	-.0004	-.0005	.0001	.0006	.0006	-.0014	-.0025
#2	-.0000	-.0005	-.0002	-.0025	.0001	.0020	-.0004	.0093	-.0046
#3	.0003	-.0003	.0005	-.0004	-.0011	.0013	-.0007	-.0009	-.0039

Check ?
High Limit
Low Limit

Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
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Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	.0029	-.0206	.0010	.0006	.0003	.0003	.0002	.0001
Stddev	.0012	.0023	.0226	.0042	.0004	.0002	.0007	.0004	.0001
%RSD	2241.	79.33	109.5	414.3	59.33	78.60	195.9	190.6	118.0

#1	.0011	.0022	-.0061	-.0038	.0009	.0005	-.0002	.0006	.0001
#2	.0000	.0010	-.0092	.0039	.0002	.0000	.0001	-.0002	.0001
#3	-.0013	.0055	-.0466	.0029	.0007	.0003	.0011	.0002	-.0000

Check ?
High Limit
Low Limit

Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
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Sample Name: CCB Acquired: 10/4/2019 14:17:09 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	-.0008	-.0000	.0008	.0016	.0005	-.0013	.0006
Stddev	.0001	.0005	.0001	.0016	.0007	.0009	.0015	.0063
%RSD	50.91	58.04	146.9	195.7	46.27	183.6	113.9	1025.

#1	.0001	-.0003	.0000	-.0004	.0019	.0015	-.0009	.0055
#2	.0001	-.0011	-.0000	.0027	.0021	.0003	-.0001	.0028
#3	.0003	-.0011	-.0001	.0003	.0007	-.0003	-.0030	-.0065

Check ?
High Limit
Low Limit

Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
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Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	140580.	26814.	4753.3	8389.5
Stddev	453.	32.	13.0	11.8
%RSD	.32203	.11795	.27404	.14028

#1	140930.	26778.	4768.2	8395.9
#2	140070.	26836.	4747.8	8375.9
#3	140740.	26827.	4743.9	8396.8

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Sample Name: MP17676-S1 Acquired: 10/4/2019 14:21:48 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.068	1.920	1.966	1.937	3.003	3.058	F 11.52	2.100	.2440
Stddev	.009	.004	.002	.004	.030	.030	.10	.009	.0009
%RSD	.2934	.2240	.1148	.2319	.9955	.9898	.8657	.4209	.3578

#1	3.064	1.924	1.964	1.940	3.017	3.078	11.51	2.108	.2441
#2	3.079	1.921	1.968	1.938	2.969	3.023	11.42	2.101	.2431
#3	3.062	1.915	1.966	1.932	3.023	3.073	11.62	2.091	.2449

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.306	4.248	1.862	1.849	3.107	1.818	.9914	221.4	146.0
Stddev	.021	.006	.002	.001	.007	.006	.0022	1.1	2.6
%RSD	.8979	.1349	.1266	.0434	.2119	.3171	.2221	.5048	1.807

#1	2.309	4.242	1.861	1.849	3.113	1.811	.9915	220.6	143.0
#2	2.283	4.254	1.865	1.848	3.107	1.821	.9935	222.7	148.1
#3	2.324	4.248	1.861	1.850	3.100	1.821	.9891	221.0	146.7

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 290.5	74.41	55.28	27.53	2.079	1.801	8.230	1.818	2.233
Stddev	3.0	.14	.22	.11	.001	.002	.035	.002	.029
%RSD	1.041	.1927	.4021	.4022	.0296	.0951	.4278	.1090	1.289

#1	288.5	74.56	55.22	27.50	2.079	1.799	8.260	1.816	2.248
#2	293.9	74.38	55.52	27.65	2.078	1.803	8.239	1.819	2.200
#3	288.9	74.28	55.09	27.44	2.078	1.801	8.191	1.819	2.252

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.535	1.518	1.751	5.634	-.0079	2.417	6.075	.5067
Stddev	.033	.001	.014	.016	.0004	.0006	.019	.0038
%RSD	.5917	.0736	.7773	.2828	5.499	.2558	.3065	.7469

#1	5.525	1.516	1.758	5.618	-.0079	2.420	6.054	.5089
#2	5.508	1.519	1.735	5.650	-.0074	2.422	6.085	.5023
#3	5.571	1.518	1.760	5.636	-.0083	2.410	6.086	.5089

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Sample Name: MP17676-S1 Acquired: 10/4/2019 14:21:48 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 3

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	142360.	27746.	4700.8	8610.5
Stddev	689.	60.	2.0	18.6
%RSD	.48420	.21641	.04166	.21626

#1	142400.	27813.	4701.8	8592.1
#2	143030.	27697.	4698.6	8610.1
#3	141660.	27727.	4702.1	8629.4

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Sample Name: MP17676-S2 Acquired: 10/4/2019 14:26:48 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 4

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.006	1.898	1.934	1.897	2.841	2.990	F 11.96	2.065	2.410
Stddev	.025	.018	.005	.006	.002	.007	.08	.010	.0004
%RSD	.8411	.9288	.2435	.3058	.0670	.2419	.6354	.4712	.1631

#1	3.029	1.915	1.939	1.903	2.839	2.983	12.00	2.075	2.408
#2	3.011	1.898	1.933	1.892	2.840	2.998	11.87	2.056	2.415
#3	2.979	1.880	1.929	1.896	2.843	2.989	12.00	2.063	2.408

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.254	4.359	1.835	1.801	3.223	1.790	.9787	209.3	150.0
Stddev	.002	.007	.001	.003	.013	.002	.0016	2.0	.6
%RSD	.0706	.1684	.0719	.1861	.4157	.1047	.1635	.9697	.3778

#1	2.253	4.367	1.837	1.804	3.237	1.791	.9791	210.7	150.6
#2	2.256	4.358	1.834	1.797	3.210	1.788	.9801	206.9	149.9
#3	2.255	4.352	1.834	1.801	3.224	1.790	.9770	210.1	149.5

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 302.4	73.57	53.10	27.58	2.085	1.769	8.686	2.189	2.182
Stddev	1.3	.69	.56	.32	.008	.005	.023	.005	.043
%RSD	.4210	.9430	1.064	1.145	.4002	.2886	.2650	.2121	1.983

#1	303.8	74.21	53.68	27.89	2.095	1.775	8.700	2.194	2.195
#2	302.0	73.69	53.07	27.58	2.080	1.766	8.660	2.188	2.218
#3	301.4	72.83	52.55	27.26	2.081	1.767	8.699	2.185	2.134

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.211	1.492	1.738	5.775	-.0098	2.316	5.747	.4841
Stddev	.011	.002	.001	.004	.0012	.0027	.017	.0017
%RSD	.2157	.1027	.0395	.0652	11.71	1.148	.2966	.3419

#1	5.224	1.494	1.737	5.779	-.0109	.2344	5.765	.4860
#2	5.203	1.491	1.738	5.771	-.0086	.2313	5.744	.4829
#3	5.206	1.491	1.738	5.775	-.0100	.2291	5.731	.4836

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Sample Name: MP17676-S2 Acquired: 10/4/2019 14:26:48 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 4

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	141420.	27438.	4677.3	8612.3
Stddev	697.	213.	7.3	23.9
%RSD	.49255	.77788	.15652	.27791

#1	141190.	27284.	4669.1	8590.4
#2	142200.	27347.	4683.2	8637.9
#3	140870.	27681.	4679.5	8608.7

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Sample Name: JC95993-2 Acquired: 10/4/2019 14:31:46 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.038	.0080	.0076	.1002	1.471	.9600	F 11.83	.2975
Stddev	.008	.0000	.0002	.0001	.003	.0029	.14	.0006
%RSD	.7421	.1453	3.176	.0998	.2056	.3008	1.199	.2071

#1	1.033	.0080	.0078	.1003	1.474	.9630	11.74	.2976
#2	1.033	.0080	.0074	.1003	1.471	.9573	11.69	.2981
#3	1.047	.0080	.0075	.1001	1.468	.9598	11.47	.2968

Elem	Ag3280	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0086	.4077	2.306	.0643	F -.0051	1.256	.0095	.0083
Stddev	.0008	.0005	.009	.0007	.0005	.004	.0011	.0012
%RSD	9.663	.1257	.3817	1.115	9.533	.3600	11.36	13.97

#1	.0077	.4083	2.312	.0651	-.0056	1.258	.0106	.0084
#2	.0093	.4074	2.310	.0637	-.0046	1.258	.0094	.0094
#3	.0088	.4074	2.296	.0642	-.0050	1.251	.0085	.0071

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	139.8	139.7	F 265.0	52.92	17.67	3.227	.2540	.0165
Stddev	.8	1.4	2.1	.28	.07	.016	.0012	.0003
%RSD	.6002	.9911	.7846	.5240	.3799	.4847	.4873	2.075

#1	139.4	141.0	262.6	52.75	17.65	3.219	.2553	.0163
#2	139.3	138.2	266.4	52.76	17.61	3.217	.2539	.0164
#3	140.8	139.9	266.0	53.24	17.74	3.245	.2528	.0169

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.992	.0945	3.581	3.648	.0165	.0630	3.782	F -.0317
Stddev	.029	.0007	.0022	.005	.0009	.0003	.014	.0009
%RSD	.5879	.7483	.6236	.1438	5.196	.4110	.3588	2.880

#1	5.017	.0948	.3568	3.643	.0155	.0633	3.795	-.0326
#2	5.000	.0937	.3567	3.653	.0172	.0629	3.783	-.0317
#3	4.960	.0950	.3606	3.647	.0168	.0628	3.768	-.0308

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Sample Name: JC95993-2 Acquired: 10/4/2019 14:31:46 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5

Elem	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	
Avg	.2059	4.137	.5194	
Stddev	.0008	.007	.0013	
%RSD	.3950	.1764	.2508	
#1	.2053	4.136	.5191	
#2	.2057	4.145	.5182	
#3	.2068	4.131	.5208	
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	142900.	27556.	4770.0	8639.7
Stddev	500.	80.	13.1	18.2
%RSD	.35004	.28924	.27524	.21093
#1	142680.	27616.	4757.8	8625.9
#2	142540.	27588.	4768.4	8632.7
#3	143470.	27466.	4783.9	8660.3

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Sample Name: MP17676-SD1 Acquired: 10/4/2019 14:36:35 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 6

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.062	.0079	.0070	.1048	1.528	.8737	13.03	.3127	.0173
Stddev	.003	.0002	.0003	.0029	.012	.0052	.08	.0074	.0013
%RSD	.2597	2.710	3.643	2.767	.8047	.5899	.6288	2.379	7.737
#1	1.062	.0081	.0073	.1068	1.518	.8733	12.99	.3164	.0185
#2	1.059	.0077	.0068	.1061	1.524	.8688	12.98	.3177	.0159
#3	1.064	.0078	.0068	.1015	1.541	.8790	13.12	.3042	.0174
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.184	2.473	.0656	-.0058	1.316	.0126	.0123	141.3	148.8
Stddev	.0035	.054	.0051	.0101	.024	.0005	.0019	.2	.5
%RSD	.8408	2.195	7.806	174.2	1.833	3.861	15.58	.1758	.3193
#1	.4176	2.511	.0665	-.0157	1.331	.0127	.0111	141.5	149.3
#2	.4154	2.496	.0601	-.0044	1.329	.0130	.0145	141.1	148.3
#3	.4223	2.411	.0702	-.0061	1.288	.0120	.0113	141.1	148.7
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	290.0	55.61	17.06	3.122	.2539	.0160	4.715	.0967	.3565
Stddev	1.4	.27	.17	.040	.0087	.0009	.165	.0037	.0003
%RSD	.4689	.4839	1.024	1.266	3.422	5.407	3.502	3.803	.0893
#1	290.5	55.86	16.91	3.076	.2629	.0160	4.805	.0967	.3569
#2	288.4	55.33	17.25	3.143	.2534	.0169	4.817	.1004	.3565
#3	291.0	55.66	17.03	3.146	.2455	.0152	4.525	.0930	.3563
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	3.757	.0041	.0638	3.868	-.0291	.2074	4.263	.5158	
Stddev	.018	.0020	.0011	.082	.0051	.0045	.099	.0095	
%RSD	.4656	49.82	1.770	2.123	17.44	2.158	2.324	1.845	
#1	3.753	.0064	.0647	3.933	-.0349	.2043	4.335	.5134	
#2	3.743	.0026	.0625	3.896	-.0271	.2125	4.305	.5077	
#3	3.777	.0032	.0640	3.776	-.0253	.2054	4.150	.5263	

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Sample Name: MP17676-SD1 Acquired: 10/4/2019 14:36:35 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 6

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139540.	26636.	4787.3	8519.7
Stddev	707.	177.	92.9	159.5
%RSD	.50688	.66384	1.9401	1.8716
#1	139650.	26454.	4726.5	8412.5
#2	140190.	26808.	4741.2	8443.6
#3	138790.	26647.	4894.2	8702.9

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Sample Name: TD45449-1 Acquired: 10/4/2019 14:41:15 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 25

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.507	.0038	-.0005	.0540	1.473	6.660	2.343	.5462	.0239
Stddev	.035	.0000	.0001	.0012	.005	.039	.018	.0120	.0015
%RSD	.9945	.7216	16.47	2.174	.3217	.5839	.7675	2.204	6.468
#1	3.488	.0038	-.0006	.0552	1.477	6.704	2.351	.5590	.0242
#2	3.547	.0038	-.0006	.0529	1.468	6.629	2.323	.5351	.0252
#3	3.486	.0038	-.0004	.0540	1.475	6.649	2.356	.5445	.0222
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7541	F 16.39	.2810	-.0006	.2046	.0017	.0644	86.83	104.8
Stddev	.0038	.38	.0040	.0012	.0051	.0009	.0019	.93	1.9
%RSD	.5068	2.312	1.413	180.8	2.512	52.96	3.016	1.070	1.857
#1	.7582	16.81	.2854	-.0015	.2100	.0014	.0658	86.40	102.9
#2	.7507	16.07	.2777	.0007	.1997	.0027	.0652	87.89	106.7
#3	.7536	16.28	.2798	-.0011	.2040	.0010	.0622	86.19	104.7
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 245.9	64.21	31.70	43.55	.5440	.1643	2.343	.2240	.6049
Stddev	2.8	.62	.36	.48	.0127	.0039	.052	.0055	.0068
%RSD	1.133	.9610	1.122	1.111	2.331	2.377	2.240	2.446	1.121
#1	246.9	64.10	31.50	43.29	.5569	.1687	2.402	.2302	.6010
#2	248.1	64.88	32.11	44.11	.5316	.1611	2.302	.2199	.6127
#3	242.8	63.66	31.49	43.25	.5435	.1631	2.326	.2218	.6010
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	3.374	.0330	.1891	14.54	.0142	.0819	F 10.01	.2205	
Stddev	.008	.0007	.0009	.31	.0018	.0024	.20	.0021	
%RSD	.2326	1.979	.4606	2.102	12.56	2.949	1.962	.9713	
#1	3.377	.0338	.1899	14.88	.0139	.0811	10.22	.2221	
#2	3.365	.0325	.1882	14.28	.0125	.0845	9.835	.2180	
#3	3.380	.0327	.1892	14.46	.0160	.0799	9.977	.2212	

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Sample Name: TD45449-1 Acquired: 10/4/2019 14:41:15 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 25

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	141160.	27318.	4616.9	8592.1
Stddev	591.	323.	93.8	154.3
%RSD	.41902	1.1831	2.0317	1.7963
#1	141350.	27273.	4514.3	8426.5
#2	141630.	27019.	4698.2	8731.9
#3	140490.	27660.	4638.3	8618.0

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Sample Name: jc95653-6 Acquired: 10/4/2019 14:45:58 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: MP17668

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0016	-.0001	.0001	.0001	.0015	.0015	.0027	.0004
Stddev	.0002	.0000	.0000	.0002	.0004	.0001	.0000	.0003
%RSD	11.83	52.85	27.96	264.1	23.57	7.984	1.045	67.87
#1	.0016	-.0000	.0001	-.0001	.0019	.0016	.0027	.0005
#2	.0018	-.0001	.0001	.0003	.0013	.0016	.0027	.0001
#3	.0014	-.0001	.0001	-.0003	.0014	.0014	.0027	.0006
Elem	Ag3280	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0004	.0003	.0076	-.0010	F -.0022	.0004	.0006	.0008
Stddev	.0002	.0001	.0001	.0001	.0012	.0002	.0006	.0005
%RSD	50.88	40.21	1.912	9.088	54.95	34.96	98.12	65.04
#1	-.0006	.0003	.0074	-.0010	-.0035	.0006	.0011	.0013
#2	-.0002	.0004	.0077	-.0011	-.0021	.0003	.0007	.0008
#3	-.0004	.0002	.0077	-.0009	-.0011	.0004	-.0001	.0003
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0188	.1502	.0386	.0204	-.0463	.0835	.0005	.0001
Stddev	.0025	.0016	.0016	.0109	.0221	.0128	.0000	.0001
%RSD	13.09	1.066	4.021	53.67	47.72	15.29	9.861	64.49
#1	.0173	.1508	.0403	.0214	-.0216	.0741	.0005	.0001
#2	.0216	.1484	.0380	.0090	-.0531	.0981	.0005	.0001
#3	.0174	.1514	.0374	.0308	-.0642	.0784	.0004	.0000
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0747	-.0004	.0012	.0007	-.0030	-.0002	.0413	.0012
Stddev	.0012	.0005	.0001	.0000	.0002	.0002	.0010	.0012
%RSD	1.540	118.6	6.635	6.684	8.199	103.2	2.463	104.3
#1	.0734	-.0001	.0012	.0008	-.0028	.0000	.0424	.0019
#2	.0756	-.0009	.0011	.0007	-.0028	-.0002	.0404	.0018
#3	.0751	-.0001	.0012	.0007	-.0033	-.0003	.0410	-.0002

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Sample Name: jc95653-6 Acquired: 10/4/2019 14:45:58 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: MP17668

Elem	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	
Avg	-.0007	.0453	-.0013	
Stddev	.0004	.0012	.0024	
%RSD	51.23	2.673	189.2	
#1	-.0009	.0449	.0014	
#2	-.0003	.0467	-.0019	
#3	-.0010	.0444	-.0033	
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139220.	26738.	4722.6	8354.4
Stddev	1215.	44.	9.1	16.6
%RSD	.87248	.16552	.19314	.19872
#1	138580.	26747.	4719.6	8351.2
#2	140620.	26689.	4715.4	8339.6
#3	138460.	26776.	4732.9	8372.4

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Sample Name: jc95653-12 Acquired: 10/4/2019 14:50:35 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0304	.0002	.0001	.0021	.0069	.0035	.0221	.0059	-.0005
Stddev	.0001	.0000	.0001	.0002	.0002	.0002	.0000	.0002	.0003
%RSD	.4061	12.73	57.32	8.070	2.601	7.054	.1044	3.021	69.36
#1	.0306	.0002	.0002	.0021	.0071	.0037	.0221	.0059	-.0009
#2	.0303	.0002	.0001	.0023	.0068	.0036	.0221	.0060	-.0003
#3	.0304	.0003	.0001	.0019	.0067	.0032	.0221	.0057	-.0003
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0072	.0311	.0024	-.0011	.0013	.0031	.0013	1.310	13.63
Stddev	.0004	.0003	.0012	.0003	.0008	.0008	.0007	.008	.01
%RSD	5.059	1.105	52.08	29.51	65.05	25.20	53.83	.5939	.0974
#1	.0070	.0308	.0021	-.0009	.0004	.0036	.0008	1.302	13.64
#2	.0070	.0315	.0038	-.0015	.0021	.0034	.0011	1.310	13.63
#3	.0076	.0310	.0013	-.0009	.0013	.0022	.0021	1.317	13.61
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.596	5.855	2.884	16.66	.0205	.0002	4.548	-.0003	.0374
Stddev	.013	.009	.023	.02	.0006	.0002	.032	.0007	.0002
%RSD	.3558	.1622	.8088	.1424	2.897	119.3	.7091	194.7	.4146
#1	3.611	5.853	2.906	16.69	.0200	.0002	4.517	-.0010	.0375
#2	3.589	5.865	2.860	16.65	.0203	.0004	4.581	.0003	.0372
#3	3.588	5.846	2.885	16.64	.0212	-.0000	4.545	-.0004	.0374
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0199	-.0031	.0001	5.480	-.0014	.0014	.0384	.0133	
Stddev	.0006	.0003	.0000	.051	.0007	.0004	.0008	.0027	
%RSD	2.863	9.382	20.57	9.216	49.23	30.38	2.088	20.00	
#1	.0196	-.0033	.0001	5.447	-.0007	.0014	.0393	.0102	
#2	.0196	-.0028	.0001	5.538	-.0020	.0010	.0380	.0150	
#3	.0206	-.0033	.0001	5.454	-.0016	.0018	.0378	.0145	

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Sample Name: jc95653-12 Acquired: 10/4/2019 14:50:35 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139590.	26594.	4764.9	8471.5
Stddev	141.	136.	48.0	65.4
%RSD	.10123	.51234	1.0075	.77243
#1	139490.	26470.	4802.1	8523.9
#2	139530.	26574.	4710.7	8398.2
#3	139750.	26740.	4781.8	8492.5

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Sample Name: jc95653-13 Acquired: 10/4/2019 14:55:08 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139420.	26426.	4631.0	7784.1
Stddev	724.	102.	55.1	89.0
%RSD	.51919	.38657	1.1900	1.1438
#1	139980.	26352.	4580.7	7714.8
#2	138600.	26543.	4689.9	7884.5
#3	139670.	26384.	4622.5	7753.0

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Sample Name: jc95653-13 Acquired: 10/4/2019 14:55:08 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2239	.0046	.0082	.0821	.0106	.0470	1.714	1.1852	1.0003
Stddev	.0003	.0000	.0001	.0011	.0003	.0005	.003	.0032	.0005
%RSD	.1192	.5114	.9752	1.388	3.083	.9651	.1926	1.741	183.8
#1	.2236	.0046	.0081	.0833	.0104	.0465	1.711	1.1871	.0003
#2	.2239	.0046	.0081	.0810	.0110	.0474	1.717	1.1815	-.0007
#3	.2241	.0046	.0083	.0821	.0104	.0470	1.715	1.1871	-.0004
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0110	.9795	.0060	.0014	.0025	.0009	-.0013	5.673	F 202.6
Stddev	.0004	.0150	.0008	.0013	.0009	.0009	.0011	.011	1.3
%RSD	3.322	1.536	13.42	93.84	34.65	90.95	79.88	1.985	.6394
#1	.0106	.9910	.0051	.0026	.0024	.0004	-.0004	5.660	202.1
#2	.0113	.9625	.0062	.0015	.0018	.0005	-.0010	5.674	204.1
#3	.0112	.9850	.0066	.0000	.0035	.0019	-.0025	5.683	201.6
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.140	105.3	12.52	F 699.4	.0535	-.0002	8.233	-.0008	1.453
Stddev	.008	.0	.23	11.2	.0008	.0001	.116	.0006	.003
%RSD	.2448	.0406	1.843	1.601	1.503	39.03	1.414	67.36	.1823
#1	3.137	105.3	12.27	710.8	.0544	-.0002	8.318	-.0004	1.452
#2	3.149	105.3	12.60	688.4	.0528	-.0001	8.100	-.0015	1.452
#3	3.135	105.2	12.71	699.0	.0535	-.0003	8.281	-.0007	1.456
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0214	-.0023	.0004	20.63	-.0006	.0459	.0144	.2892	
Stddev	.0004	.0010	.0001	.33	.0007	.0043	.0010	.0040	
%RSD	1.852	44.09	32.99	1.577	104.1	9.481	7.231	1.390	
#1	.0211	-.0017	.0003	20.90	-.0012	.0413	.0134	.2867	
#2	.0219	-.0034	.0005	20.27	-.0008	.0464	.0155	.2938	
#3	.0212	-.0017	.0004	20.73	.0001	.0499	.0144	.2870	

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Sample Name: ccv Acquired: 10/4/2019 15:00:01 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.026	2.058	2.054	2.043	2.035	1.983	2.047	2.058	2.522
Stddev	.004	.007	.007	.008	.011	.003	.015	.008	.0008
%RSD	.1885	.3365	.3407	.3953	.5229	.1274	.7452	.4044	.3161
#1	2.031	2.066	2.054	2.046	2.028	1.981	2.054	2.059	2.519
#2	2.024	2.056	2.047	2.034	2.048	1.986	2.057	2.049	2.531
#3	2.024	2.053	2.061	2.050	2.031	1.982	2.029	2.065	2.516
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.026	2.067	1.957	2.065	2.044	2.005	1.941	39.81	40.62
Stddev	.008	.009	.007	.011	.010	.010	.006	.08	.16
%RSD	.3952	.4466	.3742	.5171	.4994	.5186	.3000	.1971	.3998
#1	2.027	2.067	1.954	2.067	2.045	2.003	1.942	39.98	40.76
#2	2.034	2.058	1.951	2.053	2.033	1.996	1.935	39.93	40.67
#3	2.018	2.076	1.965	2.074	2.053	2.016	1.946	39.82	40.44
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	40.52	40.29	40.07	39.92	1.998	1.954	5.088	1.991	2.044
Stddev	.11	.23	.13	.06	.009	.007	.018	.006	.004
%RSD	.2746	.5795	.3226	.1547	.4628	.3508	.3497	.3108	.1907
#1	40.64	40.48	40.12	39.97	2.001	1.953	5.087	1.992	2.049
#2	40.51	40.35	40.17	39.95	1.987	1.947	5.071	1.985	2.043
#3	40.42	40.03	39.93	39.85	2.005	1.961	5.106	1.997	2.041
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

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Sample Name: ccv Acquired: 10/4/2019 15:00:01 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.965	1.929	1.961	1.974	1.976	1.975	2.066	2.009
Stddev	.009	.009	.006	.007	.004	.004	.005	.004
%RSD	.4442	.4491	.2976	.3412	.2136	.2058	.2554	.2042
#1	1.967	1.928	1.957	1.974	1.978	1.980	2.067	2.006
#2	1.972	1.921	1.968	1.967	1.971	1.975	2.060	2.013
#3	1.955	1.938	1.959	1.981	1.979	1.972	2.070	2.007

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

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	138420.	26391.	4656.9	8319.2
Stddev	686.	113.	16.8	29.3
%RSD	.49587	.42630	.36168	.35271

#1	138290.	26395.	4661.7	8321.0
#2	137800.	26277.	4670.8	8347.7
#3	139160.	26502.	4638.2	8289.1

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Sample Name: ccb Acquired: 10/4/2019 15:04:30 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0000	.0001	.0001	.0004	.0003	.0000	-.0001	-.0007
Stddev	.0001	.0000	.0001	.0001	.0004	.0003	.0000	.0003	.0003
%RSD	356.5	380.1	63.17	77.50	103.9	91.71	50.92	394.0	37.06
#1	.0000	.0000	.0002	.0001	.0004	-.0000	.0000	.0003	-.0007
#2	-.0001	.0000	.0001	.0001	.0000	.0005	.0000	-.0003	-.0009
#3	.0001	-.0000	.0000	.0000	.0008	.0005	.0000	-.0003	-.0004

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

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	-.0003	.0007	-.0011	.0009	.0004	-.0003	.0086	-.0038
Stddev	.0001	.0001	.0003	.0007	.0015	.0017	.0005	.0005	.0005
%RSD	126.1	30.26	49.92	61.33	166.6	384.4	180.3	8.071	13.31
#1	-.0003	-.0004	.0010	-.0017	-.0004	-.0005	.0001	.0068	-.0042
#2	-.0001	-.0004	.0003	-.0004	.0026	.0024	-.0009	.0061	-.0032
#3	.0000	-.0002	.0007	-.0011	.0005	-.0006	-.0001	.0071	-.0039

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

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	-.0023	.0601	.1095	-.0006	.0001	.0023	.0003	.0001
Stddev	.0004	.0084	.0168	.0062	.0004	.0001	.0018	.0003	.0000
%RSD	42.81	357.6	27.86	5.619	67.25	112.5	79.20	82.30	46.19
#1	.0012	-.0094	.0710	.1156	-.0002	.0001	.0016	.0004	.0000
#2	.0008	.0069	.0408	.1096	-.0007	.0003	.0044	.0006	.0001
#3	.0005	-.0044	.0686	.1033	-.0010	.0000	.0009	.0000	.0001

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

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Sample Name: ccb Acquired: 10/4/2019 15:04:30 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	-.0029	-.0002	.0014	.0011	F_.0026	-.0025	.0026
Stddev	.0001	.0005	.0001	.0017	.0001	.0006	.0008	.0013
%RSD	51.80	17.92	33.01	118.4	8.129	21.71	33.23	49.73
#1	.0004	-.0023	-.0001	-.0000	.0011	.0031	-.0033	.0015
#2	.0002	-.0031	-.0002	.0010	.0012	.0028	-.0024	.0040
#3	.0002	-.0033	-.0003	.0033	.0010	.0020	-.0017	.0023

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

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139440.	26490.	4754.8	8353.2
Stddev	670.	175.	9.9	18.8
%RSD	.48022	.65981	.20868	.22492

#1	138920.	26309.	4765.7	8344.1
#2	140190.	26505.	4746.3	8340.6
#3	139210.	26658.	4752.5	8374.8

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Sample Name: JC95927-2FUNDCONF Acquired: 10/4/2019 15:09:09 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0200	-.0001	-.0008	.0010	.0002	.0002	1.098	.0004	.0015
Stddev	.0003	.0000	.0002	.0002	.0001	.0001	.012	.0003	.0004
%RSD	1.573	32.42	22.18	16.17	56.04	51.47	1.050	70.18	27.73
#1	.0197	-.0002	-.0009	.0012	.0004	.0001	1.084	.0006	.0020
#2	.0203	-.0001	-.0008	.0011	.0002	.0001	1.104	.0001	.0016
#3	.0200	-.0001	-.0006	.0009	.0001	.0003	1.105	.0005	.0011

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0019	.0010	.0842	.0040	-.0006	.0089	-.0020	.0047	25.81
Stddev	.0003	.0001	.0019	.0006	.0003	.0011	.0008	.0076	.26
%RSD	15.15	12.60	2.277	15.14	45.78	16.11	37.83	162.8	.9909
#1	.0019	.0010	.0857	.0038	-.0004	.0058	-.0028	.0065	25.57
#2	.0022	.0009	.0820	.0047	-.0010	.0080	-.0021	.0037	26.08
#3	.0017	.0011	.0848	.0035	-.0005	.0068	-.0012	.0111	25.80

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	51.16	4.754	5.372	16.04	.1046	.0035	10.27	.0019	.1336
Stddev	.42	.040	.039	.16	.0025	.0002	.21	.0003	.0015
%RSD	.8129	.8480	.7190	1.014	2.349	5.945	2.057	14.23	1.146
#1	50.79	4.716	5.375	15.87	.1051	.0037	10.33	.0021	.1320
#2	51.61	4.797	5.408	16.20	.1019	.0034	10.04	.0019	.1350
#3	51.08	4.750	5.331	16.04	.1067	.0034	10.45	.0016	.1339

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0300	-.0025	.7985	-.0014	-.0008	.1012	.0198
Stddev	.0003	.0036	.0001	.0170	.0011	.0010	.0012	.0023
%RSD	95.38	12.09	2.608	2.131	78.48	126.8	1.165	11.54
#1	-.0000	.0339	-.0024	.8048	-.0016	-.0007	.1008	.0172
#2	.0006	.0295	-.0025	.7792	-.0025	.0002	.1002	.0213
#3	.0004	.0266	-.0024	.8115	-.0002	-.0018	.1025	.0210

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass

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Sample Name: JC95927-2FUNDCONF Acquired: 10/4/2019 15:09:09 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	144020.	27763.	4923.7	8755.9
Stddev	1685.	180.	88.2	150.5
%RSD	1.1700	.64830	1.7908	1.7185

#1	145960.	27944.	4905.8	8731.7
#2	142990.	27584.	5019.4	8917.0
#3	143100.	27760.	4845.8	8619.1

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Sample Name: MP17676-S1 Acquired: 10/4/2019 15:13:42 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.108	1.957	1.983	2.012	3.146	3.078	12.30	2.225	2537
Stddev	.022	.016	.009	.007	.007	.006	.08	.005	.0015
%RSD	.6978	.8285	.4696	.3408	.2200	.2033	.6138	.2479	.5930

#1	3.116	1.962	1.982	2.010	3.144	3.084	12.23	2.226	2541
#2	3.084	1.939	1.993	2.019	3.140	3.072	12.29	2.230	2520
#3	3.125	1.970	1.974	2.006	3.153	3.077	12.38	2.219	2550

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.386	4.451	1.896	1.943	3.278	1.867	1.002	227.5	155.5
Stddev	.005	.018	.009	.002	.007	.004	.007	2.0	1.5
%RSD	.2024	.4155	.4597	.1217	.2278	.2086	.7280	.8726	.9732

#1	2.392	4.453	1.902	1.944	3.279	1.863	.9986	227.8	155.9
#2	2.383	4.468	1.900	1.945	3.286	1.871	1.010	225.4	153.8
#3	2.385	4.431	1.886	1.940	3.271	1.866	.9972	229.3	156.8

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	304.2	77.60	56.50	28.36	2.110	1.830	8.266	1.878	2.350
Stddev	4.9	.81	.48	.27	.009	.006	.027	.013	.018
%RSD	1.607	1.047	.8451	.9359	.4049	.3502	.3225	.6820	.7461

#1	304.7	78.00	56.46	28.36	2.103	1.833	8.279	1.884	2.352
#2	299.0	76.67	56.04	28.10	2.119	1.835	8.284	1.887	2.332
#3	308.8	78.14	57.00	28.63	2.108	1.823	8.236	1.864	2.366

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.664	1.537	1.806	5.672	-0.109	2.440	6.307	.5120
Stddev	.009	.002	.001	.032	.0020	.0028	.025	.0083
%RSD	.1493	.1436	.0372	.5616	18.21	1.137	.4047	1.614

#1	5.673	1.536	1.806	5.665	-.0131	.2459	6.295	.5037
#2	5.662	1.539	1.805	5.707	-.0102	.2408	6.336	.5121
#3	5.656	1.535	1.806	5.644	-.0093	.2453	6.290	.5202

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Sample Name: MP17676-S1 Acquired: 10/4/2019 15:13:42 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	142460.	27476.	4747.9	8471.4
Stddev	314.	203.	17.7	20.4
%RSD	.22036	.74018	.37330	.24025

#1	142810.	27405.	4754.8	8481.9
#2	142390.	27705.	4727.7	8447.9
#3	142190.	27317.	4761.1	8484.3

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Sample Name: MP17676-S2 Acquired: 10/4/2019 15:18:16 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.050	1.934	1.959	1.972	2.963	2.963	12.88	2.176	2504
Stddev	.012	.010	.012	.010	.017	.004	.06	.006	.0007
%RSD	.4063	.4968	.6159	.4845	.5817	.1255	.4407	.2599	.2978

#1	3.037	1.925	1.971	1.980	2.945	2.966	12.84	2.180	2511
#2	3.062	1.944	1.958	1.974	2.980	2.964	12.86	2.180	2496
#3	3.049	1.934	1.947	1.961	2.964	2.959	12.95	2.170	2506

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.306	4.566	1.866	1.888	3.387	1.841	.9908	216.3	157.2
Stddev	.005	.023	.009	.009	.015	.005	.0073	.9	.6
%RSD	.2249	.4997	.4983	.4845	.4510	.2585	.7368	.4130	.3976

#1	2.301	4.587	1.876	1.898	3.404	1.846	.9992	215.3	156.6
#2	2.311	4.568	1.865	1.887	3.385	1.840	.9867	217.1	157.8
#3	2.308	4.542	1.857	1.880	3.374	1.836	.9864	216.4	157.2

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	320.7	76.07	53.58	28.12	2.122	1.802	9.044	2.259	2.288
Stddev	1.2	.29	.14	.11	.012	.010	.058	.013	.009
%RSD	.3688	.3748	.2695	.3994	.5593	.5509	.6353	.5750	.3885

#1	320.9	75.83	53.42	28.01	2.129	1.812	9.096	2.271	2.279
#2	319.4	76.39	53.69	28.23	2.129	1.801	9.052	2.262	2.296
#3	321.7	76.01	53.63	28.11	2.109	1.792	8.982	2.245	2.290

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.331	1.518	1.776	5.842	-0.0088	2.322	5.916	.4925
Stddev	.017	.012	.001	.028	.0016	.0015	.033	.0041
%RSD	.3137	.8006	.0666	.4762	17.79	.6595	.5598	.8254

#1	5.312	1.531	1.775	5.871	-.0100	.2318	5.953	.4911
#2	5.344	1.514	1.777	5.841	-.0070	.2338	5.908	.4893
#3	5.337	1.508	1.775	5.815	-.0094	.2308	5.889	.4971

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Sample Name: MP17676-S2 Acquired: 10/4/2019 15:18:16 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	140990.	27051.	4729.8	8511.4
Stddev	589.	66.	18.3	28.0
%RSD	.41792	.24420	.38703	.32904

#1	141670.	27111.	4710.4	8483.8
#2	140620.	26980.	4732.0	8510.6
#3	140680.	27062.	4746.8	8539.8

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Sample Name: JC95993-2 Acquired: 10/4/2019 15:22:50 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.079	.0082	.0073	.1049	1.564	.9675	12.81	.3173
Stddev	.002	.0001	.0001	.0006	.003	.0027	.03	.0026
%RSD	.1612	1.355	1.258	.5512	.1895	.2793	.2452	.8107

#1	1.081	.0083	.0072	.1053	1.567	.9689	12.83	.3203
#2	1.079	.0081	.0073	.1051	1.561	.9643	12.81	.3159
#3	1.078	.0082	.0074	.1042	1.564	.9691	12.77	.3158

Elem	Ag3280	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0144	.4252	2.420	.0657	F -.0046	1.341	.0179	.0100
Stddev	.0004	.0011	.026	.0004	.0008	.009	.0002	.0015
%RSD	2.538	.2688	1.060	.5834	17.45	.6683	.9637	15.13

#1	.0143	.4264	2.449	.0661	-.0040	1.352	.0178	.0118
#2	.0140	.4241	2.413	.0658	-.0042	1.336	.0178	.0090
#3	.0148	.4250	2.399	.0654	-.0055	1.336	.0181	.0093

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	146.0	150.0	285.7	55.88	18.11	3.346	.2591	.0173
Stddev	.4	.3	.3	.22	.05	.017	.0035	.0002
%RSD	.3036	.2261	.0935	.3876	.2712	.5132	1.347	1.109

#1	146.4	150.4	286.0	56.11	18.13	3.349	.2629	.0175
#2	145.9	149.8	285.6	55.68	18.06	3.362	.2586	.0174
#3	145.6	149.9	285.5	55.86	18.15	3.328	.2559	.0171

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.242	.0961	.3730	3.795	.0137	.0671	3.835	-.0362
Stddev	.062	.0011	.0015	.004	.0013	.0006	.033	.0004
%RSD	1.176	1.138	.4119	.1163	9.123	.9507	.8586	1.066

#1	5.306	.0974	.3748	3.800	.0132	.0678	3.867	-.0362
#2	5.238	.0952	.3719	3.793	.0128	.0667	3.838	-.0366
#3	5.183	.0958	.3723	3.793	.0152	.0668	3.801	-.0358

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Sample Name: JC95993-2 Acquired: 10/4/2019 15:22:50 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 2.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	.2110	4.279	.5384
Stddev	.0020	.035	.0067
%RSD	.9669	.8180	1.253

#1	.2133	4.319	.5421
#2	.2099	4.260	.5425
#3	.2097	4.258	.5306

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	141200.	27341.	4792.8	8487.0
Stddev	599.	79.	4.8	6.8
%RSD	.42404	.28993	.09949	.07954

#1	141830.	27338.	4789.2	8494.7
#2	141120.	27264.	4791.0	8484.3
#3	140640.	27422.	4798.2	8482.0

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Sample Name: MP17676-SD1 Acquired: 10/4/2019 15:27:26 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.151	.0078	.0067	.1151	1.693	.9416	14.47	.3418	.0220
Stddev	.003	.0002	.0007	.0031	.016	.0049	.06	.0046	.0033
%RSD	.2239	2.604	10.66	2.704	.9127	.5179	.4356	1.348	14.79

#1	1.151	.0077	.0062	.1183	1.689	.9405	14.42	.3470	.0189
#2	1.154	.0076	.0075	.1149	1.680	.9470	14.45	.3400	.0254
#3	1.149	.0080	.0064	.1121	1.710	.9374	14.54	.3384	.0217

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4538	2.680	.0608	-.0032	1.442	.0178	.0077	152.7	160.5
Stddev	.0004	.039	.0023	.0190	.029	.0110	.0114	.1	.1
%RSD	.0903	1.466	3.772	599.1	2.018	61.81	148.7	.0412	.0494

#1	.4541	2.717	.0634	-.0225	1.467	.0186	.0202	152.7	160.4
#2	.4540	2.685	.0600	.0155	1.449	.0064	-.0020	152.8	160.5
#3	.4534	2.639	.0591	-.0025	1.410	.0284	.0048	152.6	160.5

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	313.8	60.93	18.31	3.459	.2527	.0173	5.427	.1031	.3878
Stddev	.8	.24	.05	.080	.0050	.0010	.200	.0051	.0005
%RSD	.2693	.3877	.2743	2.298	1.961	6.027	3.682	4.993	.1231

#1	312.8	61.13	18.29	3.508	.2546	.0175	5.571	.1088	.3879
#2	314.5	60.67	18.26	3.502	.2564	.0182	5.511	.1019	.3882
#3	314.0	60.98	18.36	3.367	.2470	.0162	5.199	.0987	.3873

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.018	-.0060	.0711	4.048	-.0171	.2195	4.542	.5656
Stddev	.017	.0059	.0016	.075	.0020	.0043	.085	.0036
%RSD	.4183	97.62	2.244	1.853	11.76	1.963	1.866	.6344

#1	4.006	-.0102	.0698	4.116	-.0148	.2158	4.633	.5643
#2	4.012	.0007	.0707	4.060	-.0183	.2186	4.530	.5697
#3	4.037	-.0085	.0729	3.967	-.0182	.2243	4.465	.5629

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Sample Name: MP17676-SD1 Acquired: 10/4/2019 15:27:26 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

	Int. Std.	Y_3600	Y_3710	Y_2243	In2306
	Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg		138960.	26574.	4808.0	8445.0
Stddev		328.	129.	13.0	23.9
%RSD		.23568	.48382	.27034	.28272

#1	139230.	26652.	4810.5	8432.0
#2	139060.	26425.	4819.5	8472.5
#3	138590.	26644.	4793.9	8430.4

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Sample Name: FECONF Acquired: 10/4/2019 15:31:59 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

	Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg		-0.0002	-0.0003	-0.0020	-0.0003	.0016	.0046	.0002	-0.0023	.0055
Stddev		.0002	.0000	.0001	.0001	.0004	.0002	.0001	.0002	.0004
%RSD		106.7	7.035	3.017	34.10	23.09	3.898	69.05	9.789	7.368

#1	-0.0002	-0.0003	-0.0020	-0.0002	.0015	.0044	.0003	-0.0022	.0054
#2	-0.0003	-0.0003	-0.0020	-0.0003	.0020	.0045	.0000	-0.0026	.0051
#3	.0000	-0.0003	-0.0021	-0.0003	.0013	.0048	.0002	-0.0023	.0059

	Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg		-0.0010	.0010	.0040	-0.0011	-0.0008	.0031	.0034	-0.0010	-0.0298
Stddev		.0003	.0001	.0008	.0014	.0004	.0010	.0008	.0042	.0018
%RSD		32.48	12.03	18.79	129.2	46.29	31.09	23.53	412.6	5.900

#1	-0.0014	.0009	.0045	-0.0017	-0.0005	.0036	.0040	-0.0044	-0.0317
#2	-0.0009	.0011	.0044	.0005	-0.0012	.0020	.0036	.0037	-0.0284
#3	-0.0008	.0010	.0032	-0.0020	-0.0007	.0038	.0025	-0.0024	-0.0292

	Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg		F 204.8	-0.0364	-0.1720	-0.0232	-0.0042	.0006	.0117	.0003	-0.0001
Stddev		1.0	.0207	.0356	.0233	.0000	.0002	.0053	.0003	.0000
%RSD		.5016	57.00	20.71	100.5	.3947	38.07	45.58	113.6	42.23

#1	205.9	-0.0589	-0.1521	-0.0491	-0.0042	.0004	.0110	.0003	-0.0001
#2	203.8	-0.182	-0.1508	-0.0039	-0.0042	.0006	.0174	.0006	-0.0002
#3	204.7	-0.0320	-0.2132	-0.0165	-0.0042	.0008	.0068	-0.0001	-0.0001

	Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg		.0003	-0.0031	-0.0049	.0038	-0.0173	-0.0004	-0.0009	.0712
Stddev		.0002	.0003	.0002	.0023	.0013	.0008	.0013	.0022
%RSD		62.07	11.08	4.464	60.33	7.531	218.7	138.2	3.060

#1	.0004	-0.0033	-0.0051	.0050	-0.0181	.0004	-0.0004	.0737
#2	.0003	-0.0027	-0.0047	.0053	-0.0179	-0.0013	-0.0000	.0699
#3	.0001	-0.0032	-0.0049	.0012	-0.0158	-0.0002	-0.0024	.0700

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Sample Name: FECONF Acquired: 10/4/2019 15:31:59 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

	Int. Std.	Y_3600	Y_3710	Y_2243	In2306
	Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg		136890.	25888.	4732.9	8733.8
Stddev		658.	86.	13.9	34.0
%RSD		.48100	.33062	.29439	.38955

#1	137040.	25789.	4722.5	8695.0
#2	136160.	25940.	4748.7	8758.7
#3	137450.	25934.	4727.6	8747.7

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Sample Name: ASCONF Acquired: 10/4/2019 15:36:46 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: - Custom ID3:
Comment:

	Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg		.0000	-0.0001	.0008	-0.0001	-0.0002	.0035	-0.0001	.0003	-0.0004
Stddev		.0002	.0000	.0004	.0002	.0003	.0002	.0000	.0002	.0003
%RSD		5364.	35.55	50.19	300.6	196.4	4.806	48.55	63.95	76.56

#1	-0.0001	-0.0001	.0004	-0.0003	-0.0001	.0034	-0.0000	.0006	-0.0007
#2	-0.0001	-0.0001	.0011	.0001	-0.0005	.0037	-0.0001	.0002	-0.0005
#3	.0002	-0.0001	.0010	-0.0001	.0001	.0034	-0.0001	.0002	-0.0001

	Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg		-0.0005	-0.0025	4.945	.0005	.0003	-0.0007	-0.0009	.0031	-0.0151
Stddev		.0002	.0001	.004	.0013	.0012	.0018	.0012	.0059	.0014
%RSD		39.62	2.385	.0827	238.8	484.4	269.1	132.5	192.7	9.458

#1	-0.0003	-0.0025	4.947	.0013	-0.0006	.0013	-0.0000	.0056	-0.0153
#2	-0.0006	-0.0024	4.948	.0013	-0.0003	.0012	-0.0004	.0072	-0.0136
#3	-0.0007	-0.0025	4.940	-0.0010	.0017	-0.0021	-0.0024	-0.0037	-0.0165

	Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg		.0058	-0.0022	-0.0779	-0.0266	-0.0027	-0.0001	.0045	-0.0011	-0.0001
Stddev		.0021	.0106	.0290	.0086	.0002	.0001	.0015	.0003	.0000
%RSD		36.03	471.5	37.22	32.26	7.855	141.4	32.99	29.72	18.98

#1	.0080	.0097	-0.0507	-0.0216	-0.0028	-0.0002	.0033	-0.0011	-0.0001
#2	.0054	-0.0059	-0.1085	-0.0365	-0.0024	-0.0002	.0040	-0.0008	-0.0001
#3	.0039	-0.0105	-0.0746	-0.0217	-0.0028	.0001	.0061	-0.0014	-0.0001

	Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg		.0004	-0.0024	-0.0002	-0.0002	.0012	-0.0006	-0.0029	-0.0006
Stddev		.0003	.0005	.0001	.0007	.0012	.0013	.0008	.0012
%RSD		76.31	19.16	59.93	447.5	95.30	210.6	28.15	217.6

#1	.0007	-0.0019	-0.0001	.0005	.0014	.0008	-0.0023	-0.0000
#2	.0003	-0.0026	-0.0003	-0.0009	-0.0000	-0.0009	-0.0039	.0003
#3	.0001	-0.0028	-0.0001	-0.0002	.0023	-0.0017	-0.0026	-0.0020

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Sample Name: ASCONF Acquired: 10/4/2019 15:36:46 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: - Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	137060.	26018.	4787.3	8462.5
Stddev	225.	73.	5.2	6.1
%RSD	.16392	.28032	.10949	.07237
#1	137320.	26076.	4792.7	8468.5
#2	136920.	25936.	4787.1	8462.8
#3	136950.	26043.	4782.2	8456.2

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Sample Name: JC95927-2UNDCONF Acquired: 10/4/2019 15:41:19 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0246	-0.001	-0.006	.0015	.0002	.0052	1.286	.0007	.0016
Stddev	.0002	.0000	.0001	.0002	.0001	.0005	.029	.0003	.0004
%RSD	.9018	25.65	17.40	10.77	63.08	10.31	2.288	38.68	27.36
#1	.0247	-0.001	-0.006	.0016	.0003	.0048	1.252	.0010	.0020
#2	.0247	-0.002	-0.008	.0013	.0002	.0050	1.302	.0007	.0018
#3	.0243	-0.002	-0.005	.0015	.0001	.0058	1.304	.0004	.0011
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0016	.0010	.0783	.0036	-0.0006	.0076	-0.0023	.0323	26.29
Stddev	.0002	.0001	.0008	.0017	.0003	.0013	.0004	.0087	.02
%RSD	14.93	12.27	1.077	47.89	45.62	16.60	18.90	26.82	.0744
#1	.0015	.0011	.0776	.0033	-0.003	.0062	-0.0021	.0396	26.32
#2	.0014	.0009	.0792	.0020	-0.006	.0082	-0.0027	.0227	26.28
#3	.0018	.0011	.0780	.0054	-0.008	.0085	-0.0019	.0347	26.29
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	51.18	4.831	5.310	16.07	.1028	.0028	10.23	.0023	.1342
Stddev	.06	.013	.014	.03	.0004	.0001	.05	.0008	.0002
%RSD	.1258	.2783	.2555	.1810	.3832	4.965	.4839	36.41	.1824
#1	51.19	4.824	5.316	16.10	.1033	.0030	10.25	.0015	.1344
#2	51.24	4.847	5.319	16.07	.1027	.0027	10.26	.0032	.1339
#3	51.11	4.823	5.294	16.04	.1025	.0028	10.17	.0023	.1342
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0015	.0139	-0.0024	.7877	-0.0005	-0.0008	.1000	.0198	
Stddev	.0001	.0010	.0002	.0087	.0011	.0009	.0004	.0005	
%RSD	7.718	7.177	10.31	1.101	236.9	120.3	.4051	2.565	
#1	.0015	.0149	-0.0021	.7958	-0.008	-0.0013	.1001	.0196	
#2	.0015	.0129	-0.0025	.7888	.0007	.0003	.1003	.0204	
#3	.0017	.0138	-0.0026	.7786	-0.0013	-0.0013	.0995	.0195	

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Sample Name: JC95927-2UNDCONF Acquired: 10/4/2019 15:41:19 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139680.	26817.	4838.3	8706.4
Stddev	3152.	87.	17.7	33.7
%RSD	2.2573	.32347	.36494	.38733
#1	143260.	26855.	4836.8	8714.2
#2	138330.	26718.	4821.5	8669.4
#3	137390.	26878.	4856.7	8735.4

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Sample Name: ccv Acquired: 10/4/2019 15:45:54 Type: QC
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.057	2.081	2.028	2.020	2.044	1.948	2.075	2.034	.2503
Stddev	.004	.002	.003	.003	.003	.007	.014	.005	.0005
%RSD	.2084	.1055	.1508	.1462	.1539	.3406	.6669	.2596	.2102
#1	2.058	2.083	2.028	2.017	2.044	1.940	2.072	2.030	.2497
#2	2.052	2.079	2.031	2.023	2.048	1.952	2.063	2.033	.2502
#3	2.060	2.083	2.025	2.021	2.041	1.951	2.090	2.040	.2508
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.994	2.060	1.926	1.953	2.033	1.975	1.917	39.54	40.30
Stddev	.003	.003	.003	.009	.002	.008	.005	.05	.06
%RSD	.1602	.1214	.1615	.4886	.0955	.4059	.2632	.1193	.1366
#1	1.992	2.062	1.923	1.944	2.031	1.967	1.913	39.57	40.32
#2	1.998	2.061	1.928	1.963	2.035	1.983	1.923	39.56	40.35
#3	1.993	2.057	1.928	1.952	2.033	1.976	1.916	39.48	40.24
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	41.73	40.09	39.42	40.24	1.974	1.932	5.031	1.960	2.016
Stddev	.08	.11	.03	.04	.005	.003	.005	.005	.001
%RSD	.2018	.2804	.0809	.1101	.2316	.1334	.0931	.2543	.0262
#1	41.81	40.19	39.41	40.27	1.968	1.929	5.026	1.955	2.016
#2	41.64	40.11	39.45	40.25	1.976	1.934	5.033	1.965	2.017
#3	41.74	39.97	39.39	40.19	1.977	1.933	5.034	1.961	2.016
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

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Sample Name: ccv		Acquired: 10/4/2019 15:45:54		Type: QC				
Method: SGS No Vlave3(v198)		Mode: CONC		Corr. Factor: 1.000000				
User: admin		Custom ID1:		Custom ID2:				
Comment:				Custom ID3:				
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.972	1.921	1.940	1.935	1.959	1.976	2.012	2.012
Stddev	.001	.005	.004	.010	.008	.002	.001	.004
%RSD	.0303	.2645	.1940	.4980	.3855	.1045	.0510	.1844
#1	1.973	1.918	1.936	1.940	1.954	1.974	2.011	2.008
#2	1.971	1.927	1.943	1.941	1.967	1.978	2.012	2.016
#3	1.972	1.918	1.941	1.924	1.955	1.976	2.013	2.012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								
Int. Std.	Y_3600	Y_3710	Y_2243	In2306				
Units	Cts/S	Cts/S	Cts/S	Cts/S				
Avg	134250.	25441.	4654.8	8371.9				
Stddev	22.	159.	9.3	8.4				
%RSD	.01614	.62561	.20053	.09995				
#1	134270.	25301.	4652.1	8373.3				
#2	134220.	25408.	4647.1	8362.9				
#3	134250.	25614.	4665.2	8379.4				

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Sample Name: ccb		Acquired: 10/4/2019 15:50:24			Type: QC				
Method: SGS No Vlave3(v198)		Mode: CONC			Corr. Factor: 1.000000				
User: admin		Custom ID1:			Custom ID2:				
Comment:		Custom ID3:							
Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0001	.0002	.0002	.0004	F .0039	.0003	-.0002	.0005
Stddev	.0001	.0000	.0002	.0001	.0004	.0003	.0001	.0003	.0004
%RSD	78.67	7.824	84.59	58.33	91.48	8.933	17.42	188.3	74.76
#1	.0003	.0001	.0000	.0001	-.0000	.0035	.0003	-.0003	.0008
#2	.0001	.0001	.0004	.0003	.0006	.0041	.0003	.0002	.0008
#3	.0001	.0001	.0004	.0002	.0007	.0040	.0003	-.0004	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit						.0013			
Low Limit						-.0013			
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	-.0003	.0007	.0007	.0007	.0008	.0006	.0039	.0000
Stddev	.0002	.0001	.0008	.0006	.0007	.0007	.0008	.0048	.0012
%RSD	86.13	21.61	110.7	93.48	91.51	81.89	125.6	124.0	57410.
#1	.0000	-.0002	.0016	.0002	.0006	.0015	-.0002	.0085	.0014
#2	.0001	-.0002	-.0001	.0005	.0015	.0001	.0012	.0043	-.0005
#3	.0004	-.0003	.0007	.0014	.0001	.0009	.0008	-.0011	-.0009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0029	.0063	-.0571	-.0154	-.0012	.0003	.0048	-.0000	.0001
Stddev	.0007	.0021	.0178	.0090	.0004	.0002	.0028	.0005	.0000
%RSD	23.94	34.13	31.26	58.52	34.03	59.86	58.23	125.2	4.742
#1	.0036	.0062	-.0659	-.0179	-.0007	.0006	.0040	-.0005	.0001
#2	.0022	.0084	-.0688	-.0054	-.0014	.0002	.0025	.0001	.0001
#3	.0030	.0041	-.0365	-.0228	-.0014	.0002	.0080	.0004	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

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Sample Name: ccb		Acquired: 10/4/2019 15:50:24		Type: QC				
Method: SGS No Vlave3(v198)		Mode: CONC		Corr. Factor: 1.000000				
User: admin		Custom ID1:		Custom ID2:				
Comment:				Custom ID3:				
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	-.0036	-.0000	.0021	.0011	-.0002	-.0037	.0000
Stddev	.0001	.0007	.0002	.0015	.0010	.0003	.0008	.0007
%RSD	34.00	18.72	2525.	68.34	90.41	164.7	21.14	2621.
#1	.0002	-.0043	-.0002	.0014	.0020	.0000	-.0028	-.0008
#2	.0004	-.0030	.0002	.0012	.0001	-.0000	-.0043	.0004
#3	.0003	-.0034	-.0000	.0038	.0011	-.0005	-.0039	.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								
Int. Std.	Y_3600	Y_3710	Y_2243	In2306				
Units	Cts/S	Cts/S	Cts/S	Cts/S				
Avg	138560.	26180.	4867.1	8417.4				
Stddev	1320.	216.	18.3	19.7				
%RSD	.95286	.82328	.37675	.23388				
#1	139650.	25937.	4847.5	8397.7				
#2	138940.	26348.	4883.9	8437.0				
#3	137090.	26257.	4869.8	8417.5				

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[Zoom In](#)
[Zoom Out](#)

Sample Name: MP17601-PS1		Acquired: 10/4/2019 15:55:02		Type: Unk				
Method: SGS No Vlave3(v198)		Mode: CONC		Corr. Factor: 1.000000				
User: admin		Custom ID1:		Custom ID2:				
Comment:				Custom ID3:				
Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.351	2.037	2.011	2.078	2.392	2.142	4.186	2.314
Stddev	.003	.003	.007	.002	.011	.009	.040	.002
%RSD	.1447	.1204	.3334	.0918	.4569	.4005	.9567	.0783
#1	2.347	2.035	2.004	2.077	2.405	2.150	4.217	2.316
#2	2.353	2.040	2.017	2.080	2.387	2.144	4.141	2.314
#3	2.354	2.037	2.014	2.077	2.385	2.133	4.201	2.313
Elem	Ag3280	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1901	2.309	2.328	2.163	1.938	2.178	2.003	1.991
Stddev	.0017	.007	.010	.009	.005	.003	.007	.006
%RSD	.9016	.2949	.4172	.3993	.2834	.1242	.3536	.2821
#1	.1914	2.317	2.317	2.153	1.933	2.179	1.995	1.985
#2	.1882	2.307	2.336	2.169	1.937	2.179	2.007	1.995
#3	.1908	2.304	2.332	2.167	1.944	2.174	2.007	1.994
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	169.9	42.16	F 210.8	91.72	45.01	27.56	1.964	1.943
Stddev	.1	.05	1.5	.16	.04	.04	.009	.006
%RSD	.0333	.1099	.6915	.1771	.0930	.1367	.4400	.3008
#1	170.0	42.16	210.5	91.59	45.05	27.59	1.957	1.937
#2	169.9	42.21	212.4	91.90	44.97	27.52	1.962	1.945
#3	170.0	42.11	209.5	91.67	45.01	27.58	1.974	1.948
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.395	2.008	2.092	F 13.17	1.718	2.062	1.346	F -.0381
Stddev	.008	.005	.005	.06	.015	.005	.008	.0012
%RSD	.3407	.2566	.2335	.4721	.8882	.2491	.5701	3.086
#1	2.386	2.003	2.098	13.24	1.707	2.067	1.337	-.0373
#2	2.396	2.014	2.091	13.15	1.711	2.062	1.352	-.0395
#3	2.402	2.008	2.088	13.13	1.735	2.057	1.349	-.0376

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Sample Name: MP17601-PS1 Acquired: 10/4/2019 15:55:02 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	
Avg	.3821	6.890	.3716	
Stddev	.0004	.021	.0022	
%RSD	.1161	.3008	.6044	
#1	.3817	6.867	.3738	
#2	.3820	6.899	.3693	
#3	.3826	6.905	.3716	
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139110.	26964.	4784.6	8570.9
Stddev	665.	83.	17.1	14.4
%RSD	.47773	.30636	.35800	.16783
#1	138440.	27035.	4802.8	8578.4
#2	139770.	26873.	4768.8	8554.4
#3	139110.	26985.	4782.3	8580.1

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Sample Name: MP17601-MB1CONF Acquired: 10/4/2019 15:59:51 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0001	-.0000	.0001	.0010	.0037	.0005	-.0000	.0007
Stddev	.0000	.0001	.0002	.0001	.0002	.0004	.0000	.0003	.0002
%RSD	12.82	96.89	418.7	109.2	22.26	11.68	4.663	1107.	22.10
#1	.0003	.0002	.0001	.0000	.0010	.0033	.0005	.0002	.0009
#2	.0003	.0001	-.0002	.0000	.0008	.0041	.0005	.0001	.0008
#3	.0003	.0000	-.0000	.0002	.0013	.0039	.0005	-.0004	.0005
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	.0253	.0014	.0018	.0014	.0011	.0004	.0245	.0452
Stddev	.0001	.0001	.0003	.0009	.0009	.0012	.0010	.0084	.0013
%RSD	17.11	.4947	23.99	52.28	68.63	111.2	266.6	34.11	2.900
#1	.0007	.0255	.0017	.0007	.0014	.0001	.0008	.0324	.0457
#2	.0010	.0253	.0011	.0022	.0004	.0025	.0011	.0253	.0437
#3	.0009	.0253	.0015	.0025	.0023	.0008	-.0008	.0158	.0461
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0369	.0148	-.0582	.0094	-.0001	.0025	.0112	.0168	.0004
Stddev	.0038	.0122	.0505	.0035	.0003	.0005	.0008	.0003	.0001
%RSD	10.18	82.62	86.76	37.63	259.8	19.20	7.365	2.047	22.17
#1	.0411	.0031	-.0231	.0132	-.0002	.0029	.0114	.0171	.0004
#2	.0355	.0274	-.0354	.0088	-.0004	.0026	.0118	.0165	.0003
#3	.0340	.0139	-.1160	.0062	.0003	.0020	.0102	.0166	.0004
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0016	.0113	.0002	.0068	.0017	-.0002	.0182	-.0009	
Stddev	.0001	.0014	.0002	.0011	.0010	.0007	.0006	.0007	
%RSD	4.867	12.36	82.33	16.56	56.36	443.5	3.322	80.72	
#1	.0015	.0127	.0000	.0059	.0013	-.0010	.0181	-.0017	
#2	.0016	.0114	.0003	.0081	.0010	.0005	.0189	-.0008	
#3	.0016	.0099	.0003	.0066	.0028	.0000	.0177	-.0002	

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Sample Name: MP17601-MB1CONF Acquired: 10/4/2019 15:59:51 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	140040.	26868.	4897.0	8419.1
Stddev	590.	84.	16.9	19.1
%RSD	.42143	.31423	.34451	.22741
#1	139500.	26803.	4878.4	8405.1
#2	139960.	26837.	4911.3	8440.9
#3	140670.	26963.	4901.3	8411.4

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Sample Name: sampleconf Acquired: 10/4/2019 16:04:30 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0040	.0010	.0011	.0030	.0021	.0028	.0032	.0040	.0008
Stddev	.0001	.0001	.0000	.0000	.0002	.0001	.0000	.0003	.0000
%RSD	2.118	9.520	3.428	.4165	10.43	4.527	.8374	6.993	2.718
#1	.0039	.0010	.0011	.0030	.0023	.0026	.0032	.0039	.0008
#2	.0041	.0010	.0010	.0030	.0018	.0027	.0031	.0044	.0008
#3	.0040	.0009	.0011	.0031	.0021	.0029	.0032	.0038	.0007
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0016	.0099	.0038	.0044	-.0004	.0059	.0003	.0102	1.007
Stddev	.0002	.0001	.0005	.0010	.0007	.0005	.0005	.0023	.002
%RSD	13.99	.8942	14.36	21.73	167.4	9.032	165.2	2.270	.1699
#1	.0014	.0100	.0034	.0045	-.0010	.0065	.0008	.1003	1.005
#2	.0017	.0098	.0033	.0053	-.0005	.0055	.0004	.0996	1.006
#3	.0017	.0099	.0042	.0034	.0003	.0058	-.0002	.1039	1.009
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0039	.1112	1.826	.9749	-.0018	.0012	.0024	-.0005	-.0001
Stddev	.0013	.0138	.015	.0172	.0006	.0002	.0012	.0003	.0000
%RSD	33.84	12.37	.8441	1.762	31.21	14.55	52.64	69.01	50.29
#1	.0037	.1216	1.834	.9593	-.0013	.0013	.0022	-.0008	-.0001
#2	.0027	.0956	1.808	.9933	-.0016	.0013	.0037	-.0005	-.0001
#3	.0053	.1164	1.835	.9723	-.0024	.0010	.0012	-.0001	-.0000
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0003	.0042	-.0003	.0044	.0017	-.0000	-.0028	-.0001	
Stddev	.0003	.0008	.0001	.0007	.0027	.0006	.0005	.0014	
%RSD	87.65	19.95	52.35	16.30	154.6	1234.	18.26	2129.	
#1	.0006	.0045	-.0001	.0052	-.0012	-.0007	-.0022	.0003	
#2	.0003	.0049	-.0004	.0043	.0040	.0001	-.0030	.0011	
#3	.0000	.0033	-.0002	.0038	.0024	.0005	-.0032	-.0016	

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Sample Name: sampleconf Acquired: 10/4/2019 16:04:30 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139500.	26508.	4847.6	8321.7
Stddev	161.	157.	7.6	11.5
%RSD	.11509	.59375	.15721	.13804

#1 139580. 26646. 4840.8 8313.1
#2 139610. 26336. 4855.8 8334.8
#3 139310. 26542. 4846.1 8317.3

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Sample Name: sampleconf Acquired: 10/4/2019 16:09:08 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2049	.0020	.0030	.0516	.0106	.0116	.0160	.0110	.0064
Stddev	.0006	.0000	.0000	.0002	.0003	.0004	.0000	.0009	.0001
%RSD	.2984	1.325	1.666	.4760	2.479	3.427	.0823	8.113	1.965

#1 .2052 .0020 .0029 .0519 .0105 .0116 .0160 .0099 .0064
#2 .2042 .0020 .0030 .0514 .0108 .0112 .0160 .0113 .0065
#3 .2053 .0020 .0030 .0516 .0103 .0120 .0160 .0116 .0063

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0487	.0223	.0085	.0111	.0027	.0116	.0068	.2010	5.071
Stddev	.0002	.0019	.0002	.0007	.0010	.0011	.0002	.0055	.003
%RSD	.4801	8.342	2.076	6.742	37.37	9.423	2.547	2.723	.0517

#1 .0490 .0204 .0086 .0103 .0030 .0116 .0067 .2055 5.072
#2 .0486 .0241 .0086 .0112 .0036 .0127 .0067 .2026 5.069
#3 .0486 .0225 .0083 .0118 .0016 .0105 .0070 .1949 5.074

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1043	5.185	4.777	5.202	.0923	.0195	.2129	.0103	.0100
Stddev	.0014	.026	.035	.013	.0009	.0003	.0089	.0001	.0001
%RSD	1.298	.5088	.7329	.2568	.9336	1.489	4.174	.5819	.9135

#1 .1036 5.159 4.817 5.189 .0931 .0197 .2082 .0104 .0099
#2 .1035 5.184 4.761 5.201 .0923 .0197 .2232 .0103 .0101
#3 .1059 5.211 4.752 5.215 .0914 .0192 .2074 .0102 .0099

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0101	.0482	.0100	.0440	.0217	.0510	.0454	-.0014
Stddev	.0002	.0009	.0002	.0069	.0005	.0003	.0011	.0007
%RSD	1.553	1.914	1.549	15.77	2.292	.6014	2.480	53.65

#1 .0101 .0490 .0101 .0511 .0213 .0507 .0463 -.0006
#2 .0102 .0484 .0100 .0437 .0215 .0513 .0459 -.0020
#3 .0099 .0472 .0098 .0372 .0222 .0510 .0442 -.0015

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Sample Name: sampleconf Acquired: 10/4/2019 16:09:08 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	139160.	26531.	4653.3	8018.2
Stddev	252.	79.	188.3	293.8
%RSD	.18132	.29640	4.0473	3.6635

#1 139430. 26548. 4869.9 8357.4
#2 138930. 26445. 4528.2 7842.8
#3 139140. 26600. 4561.8 7854.5

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Sample Name: CRI Acquired: 10/4/2019 16:15:18 Type: QC
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2026	.0021	.0030	.0516	.0104	.0084	.0168	.0112	.0041
Stddev	.0008	.0000	.0001	.0002	.0001	.0002	.0001	.0002	.0002
%RSD	.3878	2.030	2.320	.4801	1.399	2.395	.3162	1.747	5.295

#1 .2020 .0020 .0030 .0518 .0103 .0086 .0169 .0112 .0038
#2 .2023 .0021 .0030 .0516 .0104 .0084 .0168 .0115 .0042
#3 .2035 .0020 .0031 .0513 .0106 .0082 .0168 .0111 .0041

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

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0489	.0234	.0075	.0080	.0027	.0117	.0057	.2059	5.270
Stddev	.0003	.0001	.0002	.0011	.0006	.0024	.0005	.0056	.011
%RSD	.6555	.4398	2.964	14.00	23.72	20.15	8.257	2.712	.1984

#1 .0491 .0233 .0073 .0072 .0020 .0129 .0053 .2001 5.282
#2 .0485 .0235 .0077 .0075 .0029 .0132 .0063 .2113 5.261
#3 .0490 .0233 .0074 .0093 .0032 .0090 .0057 .2062 5.268

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

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1042	5.586	4.816	5.292	.0909	.0191	.1951	.0094	.0097
Stddev	.0020	.024	.035	.016	.0005	.0002	.0029	.0002	.0001
%RSD	1.926	.4270	.7248	.2992	.5120	1.146	1.475	1.953	1.041

#1 .1064 5.610 4.804 5.306 .0908 .0190 .1941 .0092 .0098
#2 .1035 5.563 4.789 5.296 .0914 .0193 .1928 .0096 .0096
#3 .1026 5.585 4.856 5.275 .0906 .0189 .1983 .0094 .0097

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

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Sample Name: CRI Acquired: 10/4/2019 16:15:18 Type: QC
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0106	.0474	.0091	.0424	.0230	.0542	.0463	F .0007
Stddev	.0001	.0013	.0002	.0013	.0007	.0013	.0005	.0028
%RSD	.9173	2.841	1.965	3.152	2.921	2.440	1.184	403.0
#1	.0105	.0462	.0089	.0434	.0228	.0554	.0464	.0039
#2	.0107	.0489	.0092	.0409	.0237	.0543	.0468	-.0012
#3	.0106	.0472	.0091	.0429	.0224	.0528	.0457	-.0006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
Value								.2000
Range								-20.00%

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	121100.	21599.	4554.5	7879.0
Stddev	282.	8.	6.8	12.4
%RSD	.23284	.03661	.14944	.15798
#1	120850.	21596.	4547.1	7877.3
#2	121060.	21608.	4555.8	7867.5
#3	121410.	21593.	4560.5	7892.2

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Sample Name: CRID Acquired: 10/4/2019 16:21:25 Type: QC
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0046	.0010	F .0012	.0032	.0018	.0010	.0033	.0047
Stddev	.0002	.0000	.0001	.0002	.0004	.0007	.0001	.0003
%RSD	3.615	2.191	5.992	5.251	24.52	63.33	1.872	6.192
#1	.0046	.0010	.0012	.0031	.0016	.0008	.0033	.0044
#2	.0044	.0010	.0013	.0030	.0023	.0005	.0034	.0048
#3	.0048	.0010	.0012	.0033	.0014	.0018	.0033	.0050
Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
Value			.0010					
Range			20.00%					

Elem	Ag3280	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	F .0001	.0107	.0027	F .0013	.0005	.0054	.0008
Stddev	.0009	.0003	.0001	.0009	.0012	.0008	.0006	.0013
%RSD	118.0	245.0	.7834	31.44	86.35	143.5	11.63	166.3
#1	-.0018	-.0004	.0107	.0028	.0027	.0003	.0052	-.0005
#2	.0001	.0002	.0106	.0035	.0006	-.0011	.0061	-.0022
#3	-.0008	-.0003	.0108	.0018	.0008	-.0008	.0049	.0003
Check ?	None	Chk Fail	Chk Pass	Chk Pass	Chk Fail	None	Chk Pass	None
Value		.0020			.0020			
Range		-20.00%			-20.00%			

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1121	1.042	.0027	1.002	1.790	.9674	-.0023	.0000
Stddev	.0108	.004	.0005	.0203	.003	.0150	.0002	.0001
%RSD	9.626	.3367	19.52	20.28	.1787	1.553	10.40	752.3
#1	.0997	1.046	.0031	.0942	1.792	.9508	-.0020	-.0001
#2	.1176	1.043	.0030	.0835	1.786	.9801	-.0025	.0002
#3	.1191	1.039	.0021	.1228	1.791	.9712	-.0024	.0000
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	None
Value								
Range								

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Sample Name: CRID Acquired: 10/4/2019 16:21:25 Type: QC
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0017	-.0007	-.0002	.0006	-.0020	-.0008	-.0085	.0016
Stddev	.0004	.0002	.0000	.0003	.0007	.0002	.0005	.0008
%RSD	21.36	23.59	12.65	47.85	33.06	19.76	6.318	52.20
#1	.0017	-.0008	-.0003	.0009	-.0013	-.0007	-.0090	.0006
#2	.0013	-.0005	-.0002	.0004	-.0026	-.0007	-.0079	.0020
#3	.0021	-.0007	-.0002	.0004	-.0022	-.0010	-.0086	.0021
Check ?	None	None	None	None	None	None	None	None
Value								
Range								

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	-.0000	-.0071	F .0006
Stddev	.0008	.0014	.0025
%RSD	8143.	20.00	443.3
#1	-.0009	-.0065	.0014
#2	.0002	-.0060	-.0033
#3	.0007	-.0087	.0002
Check ?	None	None	Chk Fail
Value			.0040
Range			-20.00%

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	120160.	21508.	4555.2	7913.7
Stddev	1110.	47.	4.5	8.8
%RSD	.92340	.21684	.09781	.11131
#1	120630.	21473.	4557.8	7911.0
#2	118890.	21490.	4557.7	7923.6
#3	120950.	21561.	4550.0	7906.6

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Sample Name: ICSA Acquired: 10/4/2019 16:26:03 Type: QC
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	-.0002	-.0015	.0002	.0015	-.0006	-.0013	-.0023	-.0012
Stddev	.0001	.0000	.0001	.0003	.0004	.0002	.0001	.0006	.0006
%RSD	9.380	15.52	6.718	122.3	27.62	33.21	9.416	27.73	46.95
#1	.0009	-.0002	-.0015	.0003	.0015	-.0008	-.0014	-.0026	-.0008
#2	.0007	-.0002	-.0014	.0004	.0019	-.0005	-.0012	-.0016	-.0019
#3	.0009	-.0002	-.0016	-.0001	.0011	-.0004	-.0014	-.0028	-.0010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
High Limit									
Low Limit									

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0007	.0033	.0001	.0009	-.0011	.0025	-.0002	513.8	417.0
Stddev	.0002	.0002	.0011	.0013	.0012	.0033	.0008	1.1	4.0
%RSD	37.90	5.723	1133.	141.7	116.8	133.1	428.1	.2130	.9704
#1	-.0009	.0033	-.0006	.0018	-.0010	.0062	-.0001	515.1	420.7
#2	-.0004	.0032	-.0005	-.0006	.0001	.0016	.0006	513.2	417.4
#3	-.0007	.0036	.0014	.0016	-.0024	-.0003	-.0011	513.2	412.7
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
High Limit									
Low Limit									

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	210.6	568.1	-.1175	.1071	-.0021	-.0023	-.0032	-.0021	-.0012
Stddev	2.5	1.5	.0498	.0071	.0002	.0001	.0004	.0014	.0001
%RSD	1.179	.2577	42.44	6.622	10.81	4.147	12.97	65.18	5.214
#1	213.1	569.1	-.1745	.1035	-.0023	-.0023	-.0029	-.0005	-.0012
#2	208.1	568.7	-.0954	.1025	-.0019	-.0022	-.0037	-.0030	-.0011
#3	210.5	566.4	-.0825	.1153	-.0022	-.0024	-.0031	-.0028	-.0011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
High Limit									
Low Limit									

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◀ Zoom In ▶
Zoom Out

Sample Name: ICSA Acquired: 10/4/2019 16:26:03 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.007	-0.012	-0.063	.0098	-0.194	-0.039	-0.029	.0855
Stddev	.0002	.0020	.0002	.0015	.0029	.0012	.0009	.0057
%RSD	28.03	168.6	2.704	15.36	14.81	31.77	29.34	6.708

#1	-0.006	-0.016	-0.061	.0088	-.0223	-.0028	-.0019	.0908
#2	-0.010	.0010	-0.065	.0116	-.0193	-.0052	-.0032	.0794
#3	-0.007	-0.029	-0.064	.0091	-.0166	-.0037	-.0035	.0862

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

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	113450.	20532.	4193.6	7739.8
Stddev	1112.	83.	16.2	27.2
%RSD	.97983	.40290	.38728	.35126

#1	112710.	20445.	4181.0	7712.1
#2	114730.	20541.	4211.9	7766.4
#3	112920.	20609.	4187.7	7741.0

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◀ Zoom In ▶
Zoom Out

Sample Name: ICSAB Acquired: 10/4/2019 16:30:57 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5092	.4809	.4936	.5145	.4812	.5227	.5217	F .0589
Stddev	.0003	.0024	.0011	.0042	.0022	.0013	.0015	.0045
%RSD	.0657	.4926	.2138	.8151	.4523	.2392	.2873	7.648

#1	.5091	.4831	.4933	.5188	.4793	.5240	.5223	.0638
#2	.5089	.4813	.4948	.5105	.4807	.5225	.5227	.0548
#3	.5095	.4784	.4927	.5141	.4836	.5215	.5199	.0582

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Fail
Value
Range
5000
-20.00%

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	114120.	20609.	4211.2	7778.7
Stddev	456.	81.	11.2	8.8
%RSD	.39994	.39264	.26624	.11266

#1	113880.	20521.	4201.3	7779.1
#2	114650.	20628.	4209.0	7769.7
#3	113830.	20680.	4223.4	7787.2

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◀ Zoom In ▶
Zoom Out

Sample Name: ICSAB Acquired: 10/4/2019 16:30:57 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5199	.5176	1.043	.4833	.5287	.5101	.5518	.9857	1.103
Stddev	.0003	.0006	.003	.0015	.0007	.0013	.0013	.0020	.002
%RSD	.0621	.1241	.2804	.3180	.1253	.2486	.2362	.2024	.1333

#1	.5202	.5170	1.045	.4827	.5286	.5097	.5530	.9835	1.102
#2	.5201	.5183	1.045	.4850	.5281	.5115	.5504	.9874	1.104
#3	.5196	.5175	1.040	.4821	.5294	.5090	.5521	.9862	1.101

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

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5008	1.063	1.051	.9764	.9492	1.018	.9739	531.7	403.5
Stddev	.0019	.002	.004	.0028	.0018	.003	.0035	4.9	1.2
%RSD	.3868	.1940	.3334	.2860	.1865	.2914	.3607	.9291	.2857

#1	.5013	1.064	1.054	.9732	.9471	1.016	.9779	536.9	403.3
#2	.5025	1.064	1.050	.9779	.9501	1.021	.9714	531.1	402.5
#3	.4987	1.060	1.048	.9781	.9503	1.016	.9724	527.1	404.8

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

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	201.4	564.3	-.0499	.1894	.5045	.4754	.4970	.4902	.5139
Stddev	.1	.6	.0358	.0218	.0023	.0011	.0010	.0004	.0004
%RSD	.0424	.1101	71.78	11.50	.4494	.2248	.2092	.0739	.0820

#1	201.5	564.8	-.0856	.1809	.5040	.4760	.4982	.4898	.5135
#2	201.4	564.6	-.0140	.2141	.5070	.4759	.4961	.4904	.5144
#3	201.3	563.6	-.0502	.1731	.5026	.4741	.4967	.4904	.5139

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

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◀ Zoom In ▶
Zoom Out

Sample Name: CCV Acquired: 10/4/2019 16:35:35 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.001	2.060	1.961	2.008	2.191	1.876	2.165	2.069	.2530
Stddev	.002	.002	.005	.002	.008	.007	.008	.004	.0001
%RSD	.1045	.0861	.2608	.0968	.3561	.3650	.3813	.1773	.0463

#1	2.002	2.062	1.967	2.008	2.199	1.881	2.173	2.065	.2528
#2	2.003	2.060	1.957	2.006	2.183	1.868	2.157	2.072	.2530
#3	1.999	2.058	1.959	2.009	2.192	1.878	2.164	2.071	.2531

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

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.064	F 2.202	1.938	1.946	2.095	1.976	1.850	40.15	41.62
Stddev	.007	.004	.003	.004	.002	.002	.004	.11	.09
%RSD	.3551	.2036	.1571	.2235	.0864	.0872	.2373	.2636	.2056

#1	2.071	2.207	1.939	1.941	2.096	1.978	1.854	40.25	41.71
#2	2.057	2.200	1.935	1.946	2.093	1.975	1.846	40.16	41.58
#3	2.064	2.199	1.941	1.950	2.096	1.975	1.848	40.04	41.56

Check ? Chk Pass Chk Fail Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range
2.000
10.00%

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	41.66	42.87	40.23	41.18	1.928	1.880	4.888	2.000	1.995
Stddev	.07	.16	.20	.16	.002	.004	.008	.004	.006
%RSD	.1633	.3760	.5028	.3885	.1203	.1989	.1548	.1763	.3263

#1	41.58	43.06	40.42	41.35	1.930	1.883	4.890	2.001	2.001
#2	41.71	42.79	40.26	41.17	1.926	1.876	4.880	1.997	1.995
#3	41.69	42.77	40.02	41.03	1.928	1.880	4.894	2.004	1.988

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

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Sample Name: CCV		Acquired: 10/4/2019 16:35:35				Type: QC		
Method: SGS No Vlave3(v198)		Mode: CONC		Corr. Factor: 1.000000				
User: admin		Custom ID1:		Custom ID2:		Custom ID3:		
Comment:								
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.969	1.889	1.953	1.911	1.823	1.933	2.077	1.949
Stddev	.006	.001	.006	.006	.006	.003	.003	.003
%RSD	.2970	.0549	.2933	.3249	.3472	.1494	.1303	.1611
#1	1.975	1.889	1.958	1.917	1.830	1.936	2.078	1.953
#2	1.964	1.888	1.947	1.911	1.817	1.933	2.074	1.947
#3	1.969	1.890	1.954	1.905	1.822	1.930	2.079	1.948
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								
Int. Std.	Y_3600	Y_3710	Y_2243	In2306				
Units	Cts/S	Cts/S	Cts/S	Cts/S				
Avg	119890.	21306.	4478.1	7970.7				
Stddev	333.	92.	9.9	8.5				
%RSD	.27807	.42967	.22029	.10623				
#1	119510.	21382.	4468.2	7969.9				
#2	120030.	21331.	4478.2	7962.6				
#3	120140.	21204.	4487.9	7979.5				

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Sample Name: CCB		Acquired: 10/4/2019 16:40:06				Type: QC			
Method: SGS No Vlave3(v198)		Mode: CONC		Corr. Factor: 1.000000					
User: admin		Custom ID1:		Custom ID2:		Custom ID3:			
Comment:									
Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0013	F .0007	.0003	.0005	.0001	F .0018	.0005	.0001	-.0008
Stddev	.0001	.0000	.0002	.0001	.0002	.0000	.0001	.0005	.0001
%RSD	7.287	3.186	58.13	17.27	252.6	1.772	12.97	371.7	11.97
#1	.0013	.0007	.0003	.0004	.0001	.0018	.0006	.0003	-.0008
#2	.0012	.0006	.0004	.0005	.0003	.0018	.0005	.0006	-.0009
#3	.0014	.0007	.0001	.0005	-.0002	.0018	.0005	-.0004	-.0007
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit		.0001				.0013			
Low Limit		-.0001				-.0013			
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0011	-.0002	.0004	.0011	.0017	.0015	.0004	F .0222	.0161
Stddev	.0005	.0002	.0009	.0008	.0004	.0013	.0015	.0070	.0018
%RSD	47.20	119.3	232.7	75.11	22.55	85.73	416.2	31.53	11.03
#1	-.0010	.0000	.0014	.0003	.0013	.0028	-.0002	.0254	.0179
#2	-.0017	-.0003	-.0004	.0020	.0020	.0015	.0021	.0142	.0161
#3	-.0007	-.0002	.0002	.0011	.0018	.0002	-.0008	.0271	.0144
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
High Limit								.0200	
Low Limit								-.0200	
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0160	.0106	-.0862	.0296	-.0008	-.0000	.0017	-.0000	.0006
Stddev	.0005	.0104	.0169	.0066	.0002	.0002	.0005	.0002	.0001
%RSD	3.031	98.06	19.61	22.35	21.98	699.5	31.22	10190.	11.11
#1	.0164	.0061	-.1011	.0371	-.0006	.0001	.0021	.0002	.0006
#2	.0160	.0224	-.0678	.0251	-.0008	.0001	.0020	-.0003	.0005
#3	.0155	.0032	-.0896	.0264	-.0010	-.0003	.0011	.0001	.0005
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	.0100								
Low Limit	-.0100								

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Sample Name: CCB		Acquired: 10/4/2019 16:40:06			Type: QC			
Method: SGS No Vlave3(v198)		Mode: CONC		Corr. Factor: 1.000000				
User: admin		Custom ID1:		Custom ID2:		Custom ID3:		
Comment:								
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	-.0019	.0000	-.0104	.0016	.0015	-.0067	-.0001
Stddev	.0002	.0004	.0004	.0009	.0008	.0008	.0010	.0028
%RSD	35.08	20.03	716.5	8.611	50.64	55.49	15.27	2828.
#1	.0005	-.0024	.0000	-.0094	.0015	.0021	-.0078	.0026
#2	.0004	-.0017	.0004	-.0106	.0024	.0019	-.0063	-.0029
#3	.0008	-.0017	-.0003	-.0112	.0008	.0006	-.0059	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								
Int. Std.	Y_3600	Y_3710	Y_2243	In2306				
Units	Cts/S	Cts/S	Cts/S	Cts/S				
Avg	121170.	21703.	4590.3	7952.0				
Stddev	119.	114.	14.1	22.2				
%RSD	.09811	.52346	.30616	.27951				
#1	121180.	21818.	4574.4	7926.5				
#2	121050.	21591.	4595.3	7962.8				
#3	121290.	21698.	4601.1	7966.8				

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Sample Name: VCONF		Acquired: 10/4/2019 16:44:45			Type: Unk			
Method: SGS No Vlave3(v198)		Mode: CONC		Corr. Factor: 1.000000				
User: admin		Custom ID1:		Custom ID2:		Custom ID3:		
Comment:								
Elem Units	Ba4554 ppm	Be3130 ppm	Cd2288 ppm	Co2286 ppm	Cr2677 ppm	Cu3247 ppm	Mn2576 ppm	Ni2316 ppm
Avg	.0011	.0006	.0000	.0000	-.0005	.0082	.0005	.0009
Stddev	.0001	.0002	.0002	.0000	.0002	.0006	.0000	.0003
%RSD	8.227	24.50	1184.	5938.	44.44	7.499	8.219	29.60
#1	.0010	.0006	.0001	-.0000	-.0005	.0079	.0005	.0009
#2	.0011	.0008	.0002	.0000	-.0003	.0090	.0005	.0012
#3	.0011	.0005	-.0002	-.0000	-.0007	.0079	.0004	.0006
Elem Units	Ag3280 ppm	V_2924 ppm	Zn2062 ppm	As1890 ppm	Ti1908 ppm	Pb2203 ppm	Se1960 ppm	Sb2068 ppm
Avg	-.0002	F 11.36	.0095	-.0015	-.0019	.0013	.0090	-.0004
Stddev	.0001	.01	.0003	.0009	.0024	.0009	.0007	.0017
%RSD	60.62	.0810	3.531	62.33	124.9	71.74	7.733	414.1
#1	-.0001	11.36	.0093	-.0016	-.0040	.0002	.0098	-.0023
#2	-.0001	11.35	.0094	-.0023	.0007	.0019	.0087	.0009
#3	-.0003	11.37	.0099	-.0005	-.0025	.0017	.0085	.0002
Elem Units	Al3961 ppm	Ca3179 ppm	Fe2599 ppm	Mg2790 ppm	K_7664 ppm	Na5895 ppm	B_2089 ppm	Mo2020 ppm
Avg	.0480	.0484	.0121	.0189	-.0360	.0860	-.0018	-.0022
Stddev	.0032	.0013	.0008	.0243	.0372	.0118	.0002	.0001
%RSD	6.739	2.616	6.522	128.6	103.3	13.76	9.753	4.890
#1	.0494	.0479	.0117	-.0070	.0068	.0864	-.0019	-.0022
#2	.0443	.0499	.0129	.0411	-.0602	.0977	-.0016	-.0023
#3	.0503	.0475	.0115	.0226	-.0546	.0740	-.0019	-.0020
Elem Units	Si2124 ppm	Sn1899 ppm	Sr4077 ppm	Ti3349 ppm	W_2079 ppm	Zr3391 ppm	S_1820 ppm	Bi2230 ppm
Avg	F -.2667	-.0008	-.0001	.0001	-.0004	.0005	-.0035	.0042
Stddev	.0021	.0008	.0001	.0001	.0006	.0001	.0023	.0005
%RSD	.7789	100.2	94.98	74.38	140.0	22.24	65.88	12.63
#1	-.2691	.0000	-.0002	.0002	-.0005	.0004	-.0015	.0038
#2	-.2657	-.0017	-.0002	.0001	-.0010	.0005	-.0029	.0048
#3	-.2653	-.0009	.0000	.0000	.0002	.0006	-.0060	.0041

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Sample Name: VCONF Acquired: 10/4/2019 16:44:45 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	
Avg	.0007	-0.0098	.0023	
Stddev	.0012	.0004	.0018	
%RSD	158.1	4.058	76.60	
#1	.0016	-.0103	.0008	
#2	-.0006	-.0096	.0043	
#3	.0012	-.0096	.0019	
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	120630.	21575.	4583.7	7947.1
Stddev	37.	74.	9.6	12.0
%RSD	.03092	.34301	.20982	.15062
#1	120640.	21489.	4594.5	7960.9
#2	120590.	21613.	4580.2	7940.8
#3	120670.	21621.	4576.3	7939.7

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Sample Name: ticonf Acquired: 10/4/2019 16:49:22 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0008	.0008	.0001	.0010	-0.0006	-0.0063	.0001	.0005	
Stddev	.0000	.0001	.0002	.0001	.0005	.0006	.0000	.0002	
%RSD	3.497	13.84	108.1	10.64	90.29	9.204	22.25	48.21	
#1	.0008	.0009	-.0000	.0010	-.0009	-.0056	.0000	.0008	
#2	.0008	.0007	.0002	.0009	.0000	-.0065	.0001	.0005	
#3	.0009	.0008	.0002	.0011	-.0008	-.0067	.0001	.0003	
Elem	Ag3280	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0003	-0.0014	.0023	-0.0008	.0004	.0005	.0026	-0.0018	
Stddev	.0010	.0002	.0001	.0003	.0003	.0005	.0004	.0007	
%RSD	322.2	12.25	3.335	33.81	88.61	88.37	15.71	38.34	
#1	-.0003	-.0012	.0024	-.0010	.0007	.0000	.0024	-.0018	
#2	-.0002	-.0015	.0023	-.0005	.0002	.0009	.0024	-.0025	
#3	.0014	-.0014	.0022	-.0008	.0001	.0007	.0031	-.0011	
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0110	.0121	.0070	.1047	-.1436	-0.0257	-0.0015	-0.0002	
Stddev	.0020	.0017	.0023	.0077	.0492	.0046	.0006	.0003	
%RSD	18.02	14.31	32.43	7.380	34.26	17.96	38.04	212.0	
#1	.0090	.0102	.0090	.1003	-.1163	-.0204	-.0021	-.0003	
#2	.0130	.0127	.0045	.1002	-.1140	-.0279	-.0011	.0002	
#3	.0110	.0135	.0074	.1136	-.2004	-.0288	-.0012	-.0005	
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0046	.0013	-0.0002	F 10.84	-0.0027	-0.0013	-0.0100	F -.0301	
Stddev	.0010	.0006	.0001	.07	.0007	.0002	.0014	.0005	
%RSD	22.47	46.12	78.05	.6674	24.48	18.17	14.18	1.672	
#1	.0042	.0006	-.0000	10.80	-.0022	-.0011	-.0110	-.0306	
#2	.0038	.0016	-.0003	10.80	-.0034	-.0016	-.0083	-.0302	
#3	.0057	.0017	-.0002	10.93	-.0024	-.0012	-.0106	-.0296	

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Sample Name: ticonf Acquired: 10/4/2019 16:49:22 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	
Avg	.0007	-0.0073	-0.0108	
Stddev	.0021	.0012	.0060	
%RSD	311.0	15.97	55.54	
#1	-.0011	-.0082	-.0115	
#2	.0002	-.0078	-.0045	
#3	.0029	-.0060	-.0165	
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	121000.	21500.	4577.1	7975.8
Stddev	135.	72.	5.7	5.7
%RSD	.11139	.33443	.12537	.07101
#1	120850.	21458.	4573.1	7969.5
#2	121070.	21459.	4583.7	7980.3
#3	121080.	21583.	4574.6	7977.8

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Sample Name: mnconf Acquired: 10/4/2019 16:54:07 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	.0002	.0001	.0001	-0.0044	.0028	F 11.32	-0.0001	-0.0022
Stddev	.0001	.0000	.0001	.0002	.0006	.0006	.07	.0003	.0005
%RSD	16.25	12.17	90.46	197.5	5.540	21.06	.5849	207.9	23.34
#1	.0006	.0001	.0001	.0003	-.0044	.0029	11.38	-.0003	-.0027
#2	.0007	.0002	.0000	.0000	-.0046	.0030	11.32	-.0002	-.0019
#3	.0008	.0002	.0001	-.0001	-.0041	.0020	11.25	.0002	-.0019
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0048	.0003	.0011	.0028	.0007	.0041	.0008	.0091	.0634
Stddev	.0002	.0001	.0010	.0006	.0001	.0006	.0007	.0050	.0025
%RSD	3.653	23.30	90.14	20.66	16.24	13.71	80.65	54.83	3.996
#1	.0048	.0003	.0017	.0034	.0005	.0039	.0002	.0072	.0605
#2	.0046	.0002	.0016	.0022	.0008	.0047	.0015	.0054	.0645
#3	.0049	.0003	-.0000	.0028	.0007	.0036	.0008	.0148	.0651
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0040	-0.0468	-0.1742	-0.0091	-0.0031	-0.0005	.0054	-0.0004	-0.0001
Stddev	.0011	.0233	.0180	.0108	.0006	.0001	.0028	.0003	.0000
%RSD	26.83	49.90	10.33	119.0	18.00	27.61	51.32	65.94	17.52
#1	-.0049	-.0287	-.1606	-.0115	-.0036	-.0004	.0045	-.0005	-.0002
#2	-.0028	-.0731	-.1673	-.0184	-.0025	-.0006	.0085	-.0001	-.0001
#3	-.0043	-.0385	-.1946	.0027	-.0032	-.0004	.0032	-.0007	-.0001
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0008	-0.0019	-0.0008	-0.0252	.0021	.0001	-0.0322	-0.0027	
Stddev	.0006	.0012	.0000	.0005	.0005	.0005	.0015	.0017	
%RSD	77.26	64.19	2.935	1.896	24.90	414.4	4.619	60.35	
#1	.0005	-.0031	-.0007	-.0246	.0017	.0005	-.0338	-.0010	
#2	.0015	-.0018	-.0008	-.0255	.0027	.0003	-.0309	-.0042	
#3	.0004	-.0007	-.0008	-.0253	.0020	-.0004	-.0318	-.0030	

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Sample Name: mnconf Acquired: 10/4/2019 16:54:07 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	120350.	21606.	4574.6	7957.1
Stddev	832.	6.	2.8	1.8
%RSD	.69110	.02958	.06212	.02210

#1 119400. 21599. 4577.2 7955.4
#2 120730. 21611. 4575.0 7958.9
#3 120930. 21607. 4571.6 7956.8

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Sample Name: snconf Acquired: 10/4/2019 16:58:53 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0007	-0.0001	.0001	.0002	-0.0008	.0006	.0003	.0006	-0.0009
Stddev	.0002	.0000	.0002	.0002	.0001	.0005	.0001	.0000	.0004
%RSD	25.59	14.68	308.6	91.83	10.19	75.37	22.45	5.513	46.68

#1 .0006 -0.0001 -0.0000 .0000 -0.0008 .0009 .0004 .0006 -0.0014
#2 .0006 -0.0001 -0.0001 .0005 -0.0009 .0009 .0003 .0006 -0.0007
#3 .0009 -0.0001 .0003 .0002 -0.0008 .0001 .0003 .0006 -0.0006

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0013	-0.0010	.0003	-0.0002	.0003	.0007	.0089	.0167	.0023
Stddev	.0003	.0000	.0003	.0006	.0015	.0011	.0010	.0089	.0024
%RSD	20.89	4.421	119.4	382.3	523.6	156.7	10.96	53.45	103.8

#1 -.0015 -0.0009 -0.0000 .0001 .0020 .0007 .0088 .0256 .0040
#2 -.0010 -0.0010 .0006 -.0009 -.0003 .0018 .0100 .0078 -.0004
#3 -.0013 -0.0010 .0002 .0002 -0.0009 -.0004 .0081 .0166 .0033

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0009	-0.0150	-0.1342	-0.0162	.0004	-0.0004	.0302	F 10.44	-0.0002
Stddev	.0013	.0072	.0649	.0008	.0005	.0003	.0012	.02	.0001
%RSD	143.2	48.44	48.38	5.175	136.4	73.25	3.956	.1487	42.61

#1 -.0002 -0.0134 -0.0866 -.0157 .0004 -.0006 .0315 10.46 -.0003
#2 -.0024 -.0086 -.1079 -.0157 -.0009 -.0001 .0292 10.43 -.0003
#3 -.0001 -.0228 -.2082 -.0172 -.0002 -.0005 .0300 10.44 -.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	-0.0161	-0.0005	-0.0160	.0027	-0.0001	-0.0079	-0.0017
Stddev	.0001	.0001	.0002	.0008	.0023	.0012	.0007	.0027
%RSD	33.85	.6493	42.00	5.276	83.22	2177.	9.278	159.5

#1 .0002 -0.0160 -.0007 -.0157 .0053 -.0002 -.0081 -.0048
#2 .0003 -0.0162 -.0003 -.0154 .0016 .0013 -.0071 .0005
#3 .0004 -0.0161 -.0004 -.0170 .0012 -.0012 -.0086 -.0008

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Sample Name: snconf Acquired: 10/4/2019 16:58:53 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	121030.	21620.	4581.7	7964.0
Stddev	103.	23.	5.6	10.3
%RSD	.08545	.10524	.12240	.12905

#1 121150. 21645. 4578.7 7958.3
#2 120940. 21614. 4588.2 7975.9
#3 121010. 21601. 4578.3 7957.9

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Sample Name: moconf Acquired: 10/4/2019 17:03:31 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	.0002	.0001	-0.0029	.0005	-0.0008	-0.0004	-0.0012	-0.0013
Stddev	.0001	.0000	.0001	.0002	.0007	.0008	.0000	.0003	.0009
%RSD	35.94	13.61	97.59	6.643	128.0	90.92	10.75	23.88	68.65

#1 .0003 .0002 .0002 -.0030 -.0003 -.0003 -.0004 -.0009 -.0014
#2 .0005 .0002 .0002 -.0027 -.0009 -.0006 -.0004 -.0015 -.0004
#3 .0003 .0002 -.0000 -.0030 .0010 -.0017 -.0003 -.0012 -.0022

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0016	-0.0016	-0.0009	.0015	-0.0003	.0023	.0023	.0672	.0030
Stddev	.0007	.0001	.0004	.0026	.0008	.0014	.0008	.0073	.0028
%RSD	46.87	3.393	50.02	180.3	296.2	60.29	34.24	10.84	94.99

#1 -.0024 -.0016 -.0013 .0022 .0006 .0018 .0014 .0638 .0006
#2 -.0013 -.0015 -.0005 .0036 -.0011 .0039 .0030 .0756 .0061
#3 -.0010 -.0016 -.0008 -.0015 -.0004 .0012 .0024 .0623 .0022

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	-0.0845	-0.2149	-0.0160	-0.0023	F 9.756	.0881	-0.0004	-0.0002
Stddev	.0011	.0095	.0317	.0044	.0015	.074	.0010	.0007	.0001
%RSD	511.1	11.25	14.76	27.63	.7586	.7591	1.101	178.7	25.53

#1 -.0007 -.0924 -.1792 -.0148 .2011 9.699 .0873 -.0003 -.0002
#2 -.0001 -.0872 -.2398 -.0209 .2016 9.731 .0892 .0002 -.0002
#3 .0015 -.0740 -.2257 -.0124 .2040 9.840 .0879 -.0011 -.0003

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0006	.0015	.0094	-0.0163	.0019	-0.0013	-0.0084	-0.0032
Stddev	.0002	.0011	.0000	.0015	.0004	.0012	.0013	.0037
%RSD	27.32	72.77	.3397	9.040	23.47	94.28	15.08	115.1

#1 -.0005 .0009 .0094 -.0161 .0020 .0000 -.0070 .0010
#2 -.0006 .0008 .0094 -.0150 .0014 -.0024 -.0094 -.0046
#3 -.0008 .0027 .0094 -.0179 .0023 -.0016 -.0089 -.0060

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Sample Name: moconf Acquired: 10/4/2019 17:03:31 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	122840.	21630.	4580.5	7995.2
Stddev	1956.	43.	28.7	45.5
%RSD	1.5925	.19935	.62749	.56903
#1	121670.	21678.	4609.2	8044.0
#2	125090.	21617.	4580.7	7987.5
#3	121740.	21595.	4551.7	7954.0

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Sample Name: siconf Acquired: 10/4/2019 17:08:07 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	-0.0001	.0001	-0.0000	-0.0003	.0007	-0.0001	-0.0004	-0.0006
Stddev	.0002	.0001	.0000	.0001	.0002	.0003	.0000	.0000	.0006
%RSD	32.45	91.99	25.25	473.0	63.20	43.26	32.20	4.883	106.8
#1	.0008	-0.0000	.0001	.0000	-0.0006	.0003	-0.0001	.0004	-0.0007
#2	.0010	-0.0001	.0001	.0001	-0.0003	.0008	-0.0000	.0005	.0001
#3	.0005	-0.0001	.0002	-0.0001	-0.0002	.0008	-0.0001	.0004	-0.0011
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0015	-0.0002	.0002	.0021	.0006	.0039	-0.0003	-0.0016	.0013
Stddev	.0004	.0001	.0002	.0009	.0015	.0016	.0007	.0060	.0032
%RSD	29.43	31.13	79.00	43.23	234.4	40.83	225.5	381.7	241.7
#1	-0.0010	-0.0002	.0004	.0011	-0.0011	.0042	.0004	.0022	-0.0001
#2	-0.0016	-0.0002	.0002	.0029	.0011	.0054	-0.0003	-0.0086	-0.0009
#3	-0.0019	-0.0003	.0000	.0022	.0018	.0022	-0.0011	.0016	.0051
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	-0.0062	-0.1036	-0.0425	.0004	.0006	9.612	-0.0007	-0.0001
Stddev	.0012	.0089	.0219	.0102	.0003	.0001	.167	.0002	.0001
%RSD	620.5	142.9	21.09	23.99	76.30	24.68	1.739	22.70	73.31
#1	.0012	.0032	-0.1130	-0.0420	.0004	.0005	9.728	-0.0005	-0.0001
#2	-0.0011	-0.0145	-0.0787	-0.0326	.0002	.0007	9.688	-0.0007	-0.0001
#3	.0005	-0.0074	-0.1193	-0.0530	.0008	.0005	9.421	-0.0008	-0.0002
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	-0.0003	-0.0039	-0.0011	-0.0149	.0010	-0.0012	-0.0063	-0.0028	
Stddev	.0001	.0012	.0002	.0025	.0005	.0014	.0017	.0023	
%RSD	50.47	30.33	17.54	17.04	53.56	116.2	27.33	81.03	
#1	-0.0003	-0.0025	-0.0014	-0.0147	.0014	-0.0018	-0.0046	-0.0041	
#2	-0.0004	-0.0045	-0.0010	-0.0124	.0011	-0.0022	-0.0080	-0.0002	
#3	-0.0001	-0.0046	-0.0010	-0.0175	.0004	.0004	-0.0063	-0.0043	

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Sample Name: siconf Acquired: 10/4/2019 17:08:07 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	121300.	21835.	4613.8	7994.3
Stddev	43.	147.	81.2	126.3
%RSD	.03585	.67545	1.7604	1.5795
#1	121320.	21729.	4558.8	7909.8
#2	121320.	21772.	4575.6	7933.8
#3	121250.	22003.	4707.1	8139.5

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Sample Name: siconf Acquired: 10/4/2019 17:12:44 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	-0.0000	.0002	-0.0001	-0.0007	.0004	.0000	.0002	-0.0003
Stddev	.0001	.0000	.0002	.0002	.0003	.0005	.0000	.0003	.0004
%RSD	16.57	43.97	103.5	323.4	42.69	126.4	64.86	135.4	131.4
#1	.0006	-0.0001	.0000	.0001	-0.0006	.0005	.0001	.0006	.0002
#2	.0007	-0.0000	.0001	-0.0003	-0.0004	.0005	.0000	.0002	-0.0007
#3	.0009	-0.0000	.0003	-0.0000	-0.0010	.0007	.0000	-0.0001	-0.0005
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0021	.0003	.0009	.0006	.0002	.0003	-0.0001	.0133	.0090
Stddev	.0005	.0001	.0006	.0022	.0005	.0017	.0009	.0052	.0034
%RSD	21.31	36.90	73.87	391.9	305.0	492.6	784.9	38.90	37.96
#1	-0.0016	.0004	.0001	.0029	.0007	.0020	.0009	.0159	.0062
#2	-0.0023	.0002	.0013	.0003	-0.0001	.0004	-0.0003	.0074	.0128
#3	-0.0025	.0003	.0012	-0.0015	-0.0001	-0.0013	-0.0009	.0168	.0080
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0012	-0.0004	-0.1506	-0.0444	-0.0035	-0.0004	.0033	-0.0011	-0.0002
Stddev	.0014	.0074	.0176	.0121	.0003	.0000	.0004	.0014	.0000
%RSD	118.8	1715.	11.70	27.17	9.300	7.231	13.10	134.0	13.82
#1	-0.0005	.0057	-0.1466	-0.0330	-0.0036	-0.0004	.0036	-0.0025	-0.0002
#2	-0.0002	-0.0087	-0.1698	-0.0570	-0.0038	-0.0004	.0036	.0004	-0.0002
#3	-0.0028	.0017	-0.1353	-0.0433	-0.0031	-0.0004	.0028	-0.0011	-0.0002
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	-0.0003	-0.0027	-0.0005	98.74	.0019	-0.0017	-0.0095	.0022	
Stddev	.0002	.0005	.0002	.54	.0011	.0006	.0009	.0029	
%RSD	70.57	20.42	47.32	.5455	57.60	35.15	9.311	130.3	
#1	.0005	-0.0024	-0.0008	98.44	.0030	-0.0010	-0.0096	.0045	
#2	.0001	-0.0033	-0.0003	98.43	.0020	-0.0021	-0.0086	-0.0011	
#3	.0004	-0.0023	-0.0004	99.37	.0008	-0.0020	-0.0103	.0033	

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Sample Name: sconf Acquired: 10/4/2019 17:12:44 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	122210.	21927.	4599.7	7965.9
Stddev	304.	53.	5.4	7.9
%RSD	.24911	.24186	.11701	.09972

#1	121870.	21869.	4599.9	7962.0
#2	122460.	21974.	4594.3	7960.7
#3	122300.	21938.	4605.1	7975.1

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Sample Name: niconf Acquired: 10/4/2019 17:17:21 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	.0006	.0031	.0001	-.0005	-.0004	-.0003	F 12.02	-.0011
Stddev	.0002	.0001	.0001	.0004	.0005	.0005	.0000	.02	.0004
%RSD	27.54	14.36	3.205	242.0	112.4	120.6	8.438	.1952	37.01

#1	.0009	.0005	.0030	.0004	.0001	-.0009	-.0003	12.01	-.0012
#2	.0005	.0006	.0031	-.0003	-.0008	.0001	-.0003	12.00	-.0006
#3	.0008	.0006	.0032	.0003	-.0008	-.0004	-.0003	12.04	-.0014

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0016	.0020	-.0001	-.0008	-.0009	-.0004	-.0038	.0214	-.0031
Stddev	.0001	.0002	.0009	.0007	.0007	.0010	.0003	.0151	.0024
%RSD	7.951	11.88	1353.	84.94	77.08	258.7	8.282	70.28	77.69

#1	-.0016	.0018	.0002	-.0014	-.0011	-.0011	-.0042	.0378	-.0004
#2	-.0018	.0019	.0007	-.0001	-.0001	.0008	-.0037	.0185	-.0051
#3	-.0015	.0023	-.0011	-.0009	-.0014	-.0009	-.0036	.0080	-.0039

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0018	-.0121	-.0165	-.0462	-.0038	-.0002	.0016	-.0013	-.0001
Stddev	.0020	.0122	.0225	.0047	.0001	.0002	.0004	.0008	.0000
%RSD	110.1	100.6	135.8	10.12	2.415	117.9	26.64	62.10	33.76

#1	.0005	-.0259	-.0081	-.0421	-.0038	-.0004	.0014	-.0017	-.0002
#2	-.0032	-.0028	.0005	-.0454	-.0039	.0001	.0014	-.0004	-.0002
#3	-.0026	-.0075	-.0420	-.0513	-.0037	-.0002	.0021	-.0018	-.0001

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	-.0014	-.0006	-.0177	-.0006	-.0014	-.0013	-.0019
Stddev	.0002	.0017	.0002	.0010	.0005	.0002	.0007	.0013
%RSD	75.21	120.9	35.00	5.521	85.18	15.39	54.42	69.84

#1	.0001	.0005	-.0006	-.0168	-.0012	-.0012	-.0013	-.0031
#2	.0004	-.0021	-.0008	-.0174	-.0004	-.0016	-.0021	-.0005
#3	.0001	-.0027	-.0004	-.0187	-.0002	-.0015	-.0006	-.0021

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Sample Name: niconf Acquired: 10/4/2019 17:17:21 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	122950.	22063.	4562.3	7945.1
Stddev	284.	47.	5.3	12.5
%RSD	.23076	.21467	.11668	.15702

#1	123230.	22024.	4556.3	7947.0
#2	122660.	22116.	4566.3	7956.5
#3	122970.	22049.	4564.5	7931.8

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Sample Name: coconf Acquired: 10/4/2019 17:21:59 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	-.0001	.0009	F 10.71	.0016	-.0010	-.0001	-.0034	-.0004
Stddev	.0001	.0001	.0001	.07	.0002	.0006	.0000	.0002	.0004
%RSD	21.48	93.07	11.72	.6516	12.77	65.08	34.04	5.773	92.92

#1	.0007	-.0000	.0010	10.67	.0014	-.0016	-.0000	-.0036	-.0007
#2	.0007	-.0000	.0008	10.68	.0015	-.0009	-.0001	-.0034	.0000
#3	.0004	-.0001	.0008	10.79	.0018	-.0004	-.0001	-.0032	-.0007

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0015	.0172	.0034	.0066	.0049	.0068	-.0005	.0067	.0066
Stddev	.0001	.0001	.0012	.0008	.0004	.0013	.0020	.0136	.0024
%RSD	5.593	.5827	36.26	11.79	7.656	19.20	397.8	202.4	27.51

#1	-.0015	.0172	.0023	.0062	.0050	.0053	-.0020	.0121	.0112
#2	-.0016	.0172	.0031	.0060	.0052	.0077	-.0012	.0168	.0082
#3	-.0014	.0173	.0047	.0075	.0045	.0075	.0018	-.0088	.0065

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0074	-.0016	-.1529	-.0394	-.0040	-.0001	-.0002	-.0005	-.0002
Stddev	.0007	.0064	.0185	.0171	.0006	.0001	.0005	.0004	.0000
%RSD	9.778	405.0	12.11	43.35	14.04	145.9	238.9	80.92	14.32

#1	.0081	-.0065	-.1347	-.0330	-.0044	.0000	-.0003	-.0000	-.0002
#2	.0075	.0056	-.1523	-.0264	-.0041	-.0002	-.0006	-.0008	-.0002
#3	.0066	-.0038	-.1717	-.0587	-.0033	-.0001	.0003	-.0006	-.0002

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	-.0050	-.0005	-.0139	-.0082	-.0014	-.0075	.0095
Stddev	.0001	.0002	.0000	.0013	.0006	.0008	.0010	.0052
%RSD	87.16	3.526	2.236	9.194	.6874	55.38	12.89	54.04

#1	.0001	-.0051	-.0005	-.0153	.0876	-.0022	-.0066	.0037
#2	.0003	-.0051	-.0005	-.0128	.0866	-.0012	-.0085	.0133
#3	.0001	-.0048	-.0005	-.0135	.0876	-.0007	-.0072	.0117

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Sample Name: coconf Acquired: 10/4/2019 17:21:59 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	125150.	22391.	4636.3	8035.8
Stddev	189.	26.	21.8	38.3
%RSD	.15080	.11556	.47029	.47612
#1	125370.	22391.	4642.0	8054.9
#2	125060.	22418.	4654.8	8060.8
#3	125020.	22366.	4612.3	7991.8

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Sample Name: alconf Acquired: 10/4/2019 17:26:37 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012	-.0001	.0007	.0006	.0022	.0164	.0001	.0002
Stddev	.0001	.0001	.0001	.0001	.0005	.0005	.0001	.0001
%RSD	8.156	96.71	8.503	20.48	21.18	3.093	79.57	40.83
#1	.0011	-.0000	.0007	.0007	.0026	.0168	.0000	.0003
#2	.0011	-.0000	.0007	.0004	.0017	.0167	.0001	.0001
#3	.0013	-.0001	.0008	.0006	.0024	.0159	.0002	.0002
Elem	Ag3280	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	-.0020	.0318	-.0000	F -.0026	F -.0034	.0028	-.0045
Stddev	.0005	.0008	.0004	.0021	.0035	.0014	.0006	.0014
%RSD	187.9	38.94	1.155	38530.	136.5	39.82	22.13	30.43
#1	.0003	-.0012	.0314	.0021	-.0047	-.0019	.0027	-.0034
#2	-.0006	-.0023	.0321	-.0020	.0015	-.0044	.0034	-.0060
#3	-.0005	-.0027	.0319	-.0001	-.0045	-.0039	.0022	-.0040
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 513.5	.0264	.0336	-.0072	-.0445	.0956	-.0026	-.0031
Stddev	4.2	.0012	.0009	.0137	.0465	.0206	.0001	.0002
%RSD	.8223	4.660	2.780	189.3	104.5	21.60	3.596	4.902
#1	518.3	.0271	.0342	-.0220	-.0829	.1173	-.0027	-.0033
#2	511.7	.0250	.0342	.0049	.0072	.0933	-.0025	-.0031
#3	510.4	.0271	.0325	-.0045	-.0578	.0762	-.0026	-.0030
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0039	-.0025	.0003	.0011	-.0040	-.0006	.0229	-.0023
Stddev	.0033	.0008	.0001	.0003	.0019	.0002	.0006	.0009
%RSD	82.83	34.13	38.33	24.42	47.29	28.15	2.557	40.73
#1	.0002	-.0016	.0003	.0014	-.0061	-.0005	.0234	-.0028
#2	.0058	-.0026	.0005	.0008	-.0027	-.0006	.0222	-.0012
#3	.0058	-.0032	.0002	.0012	-.0030	-.0008	.0230	-.0028

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Sample Name: alconf Acquired: 10/4/2019 17:26:37 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	
Avg	-.0016	-.0011	.0019	
Stddev	.0014	.0008	.0028	
%RSD	84.44	70.98	144.6	
#1	-.0032	-.0018	.0014	
#2	-.0006	-.0013	-.0006	
#3	-.0010	-.0003	.0049	
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	123860.	22832.	4700.2	8023.6
Stddev	552.	36.	7.6	14.2
%RSD	.44597	.15662	.16082	.17659
#1	124440.	22828.	4707.4	8039.2
#2	123810.	22798.	4701.0	8020.1
#3	123340.	22870.	4692.3	8011.5

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Sample Name: mgconf Acquired: 10/4/2019 17:31:18 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	-.0000	.0000	.0008	-.0010	-.0004	.0014	.0008	.0004
Stddev	.0001	.0001	.0003	.0001	.0003	.0006	.0000	.0003	.0004
%RSD	15.69	226.3	1175.	17.01	26.54	172.1	2.888	34.23	110.6
#1	.0007	-.0001	.0002	.0009	-.0008	-.0006	.0014	.0007	.0005
#2	.0005	-.0000	.0002	.0008	-.0013	.0003	.0014	.0006	-.0001
#3	.0006	.0000	-.0003	.0006	-.0009	-.0009	.0013	.0011	.0007
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010	.0080	.0009	.0017	-.0014	.0017	-.0028	.0425	.0817
Stddev	.0005	.0001	.0015	.0003	.0015	.0011	.0006	.0106	.0008
%RSD	46.88	.8906	162.9	15.87	103.9	61.31	21.85	24.91	1.001
#1	.0006	.0080	.0026	.0014	-.0009	.0027	-.0031	.0364	.0810
#2	.0015	.0079	.0004	.0019	-.0031	.0018	-.0021	.0548	.0815
#3	.0008	.0080	-.0003	.0017	-.0003	.0006	-.0033	.0364	.0826
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0023	F 588.5	-.0376	.0296	-.0029	-.0005	.0059	-.0005	-.0001
Stddev	.0008	1.2	.0513	.0034	.0001	.0003	.0010	.0003	.0001
%RSD	35.20	.1974	136.4	11.40	3.580	62.60	16.48	70.35	102.7
#1	-.0031	587.2	-.0823	.0326	-.0028	-.0001	.0049	-.0001	.0000
#2	-.0015	588.7	-.0489	.0302	-.0029	-.0007	.0069	-.0007	-.0002
#3	-.0023	589.5	.0184	.0259	-.0030	-.0006	.0059	-.0007	-.0002
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0005	-.0021	-.0006	-.0103	.0027	-.0016	-.0047	-.0009	
Stddev	.0001	.0002	.0001	.0035	.0004	.0005	.0010	.0040	
%RSD	24.03	11.71	16.90	34.21	16.77	31.43	20.67	460.2	
#1	.0005	-.0018	-.0006	-.0078	.0030	-.0010	-.0045	.0002	
#2	.0006	-.0022	-.0008	-.0089	.0028	-.0017	-.0057	-.0053	
#3	.0004	-.0022	-.0006	-.0144	.0022	-.0020	-.0038	.0025	

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Sample Name: mgconf Acquired: 10/4/2019 17:31:18 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	122370.	21654.	4501.8	7762.5
Stddev	484.	78.	28.7	40.9
%RSD	.39532	.35935	.63804	.52663

#1 121960. 21727. 4487.7 7740.2
#2 122230. 21665. 4482.9 7737.6
#3 122900. 21572. 4534.9 7809.6

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Sample Name: caconf Acquired: 10/4/2019 17:35:55 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	-0.0000	.0002	.0001	.0001	-0.0006	.0001	.0011
Stddev	.0003	.0000	.0001	.0002	.0004	.0003	.0000	.0001
%RSD	37.11	175.4	91.41	159.9	631.8	46.07	37.86	9.312

#1 .0010 -0.0000 -0.0000 .0001 .0002 -0.0006 .0001 .0010
#2 .0008 .0000 .0003 -0.0000 -0.0003 -0.0004 .0001 .0011
#3 .0005 -0.0001 .0002 .0003 .0003 -0.0010 .0002 .0012

Elem	Ag3280	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	-0.0023	.0011	-0.0010	.0014	F -.0034	-0.0014	-0.0022
Stddev	.0007	.0004	.0001	.0009	.0006	.0011	.0011	.0003
%RSD	80.48	16.56	10.01	94.49	43.11	33.39	77.91	12.39

#1 .0002 -0.0019 .0011 -0.0020 .0021 -0.0036 -0.0005 -0.0019
#2 .0008 -0.0026 .0012 -0.0003 .0012 -0.0044 -0.0026 -0.0023
#3 .0016 -0.0024 .0010 -0.0007 .0009 -0.0022 -0.0010 -0.0024

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0059	F 408.8	.0104	.0092	-.1798	-0.0223	-0.0047	-0.0004
Stddev	.0001	7.1	.0010	.0120	.0123	.0189	.0003	.0002
%RSD	102.9	1.744	9.721	130.2	6.854	84.87	5.946	45.96

#1 -.0011 417.0 .0092 .0022 -.1893 -.0441 -.0044 -.0002
#2 .0092 405.3 .0109 .0231 -.1842 -.0114 -.0049 -.0006
#3 .0096 404.1 .0110 .0024 -.1659 -.0113 -.0049 -.0006

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0011	-0.0012	-0.0012	-0.0003	-0.0017	-0.0004	.0048	.0038
Stddev	.0001	.0002	.0001	.0005	.0008	.0001	.0039	.0005
%RSD	12.35	18.10	9.120	144.0	45.08	13.26	82.31	12.00

#1 -.0011 -.0014 -.0013 -.0005 -.0026 -.0005 .0091 .0033
#2 -.0010 -.0013 -.0011 -.0007 -.0014 -.0004 .0037 .0041
#3 -.0013 -.0010 -.0012 .0002 -.0011 -.0003 .0015 .0040

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Sample Name: caconf Acquired: 10/4/2019 17:35:55 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	-0.0089	-0.0076	.0033
Stddev	.0012	.0004	.0064
%RSD	13.33	5.687	193.4

#1 -.0092 -.0072 -.0041
#2 -.0098 -.0075 -.0076
#3 -.0075 -.0080 .0065

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	121450.	21675.	4485.7	7752.9
Stddev	1250.	187.	4.0	8.9
%RSD	1.0296	.86433	.08977	.11534

#1 120250. 21459. 4490.2 7762.5
#2 122740. 21795. 4482.6 7751.5
#3 121350. 21771. 4484.2 7744.8

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Sample Name: CCV Acquired: 10/4/2019 17:40:42 Type: QC
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.940	2.004	1.928	2.007	2.157	1.877	2.126	2.088	.2509
Stddev	.004	.003	.002	.002	.019	.016	.011	.003	.0025
%RSD	.2084	.1544	.1080	.0762	.8996	.8501	.5006	.1182	.9792

#1 1.945 2.008 1.926 2.005 2.164 1.882 2.134 2.087 .2515
#2 1.938 2.002 1.928 2.008 2.135 1.859 2.114 2.087 .2482
#3 1.938 2.003 1.930 2.008 2.172 1.890 2.129 2.091 .2530

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

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.043	2.162	1.917	1.987	2.099	1.963	1.838	39.77	41.11
Stddev	.019	.005	.003	.006	.005	.003	.004	.006	.09
%RSD	.9467	.2139	.1507	.2981	.2228	.1538	.2156	.1526	.2219

#1 2.055 2.157 1.915 1.987 2.094 1.960 1.834 39.84 41.21
#2 2.020 2.162 1.920 1.992 2.099 1.966 1.838 39.72 41.08
#3 2.053 2.166 1.917 1.980 2.103 1.964 1.841 39.77 41.04

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

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	39.61	42.10	40.19	41.16	1.919	1.853	4.878	1.981	1.985
Stddev	.08	.09	.06	.13	.002	.001	.005	.004	.004
%RSD	.2030	.2185	.1563	.3091	.1023	.0442	.0968	.2008	.2188

#1 39.70 42.20 40.26 41.31 1.917 1.852 4.877 1.976 1.990
#2 39.55 42.06 40.14 41.07 1.921 1.852 4.873 1.982 1.981
#3 39.58 42.03 40.17 41.12 1.919 1.854 4.883 1.984 1.983

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

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Sample Name: CCV Acquired: 10/4/2019 17:40:42 Type: QC								
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000								
User: admin Custom ID1: Custom ID2: Custom ID3:								
Comment:								
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.919	1.853	1.938	1.900	F 1.797	1.890	2.065	1.919
Stddev	.018	.006	.017	.006	.002	.002	.003	.019
%RSD	.9330	.3430	.8621	.3057	.1247	.1162	.1350	1.003
#1	1.926	1.847	1.945	1.896	1.800	1.891	2.062	1.926
#2	1.899	1.852	1.919	1.897	1.796	1.887	2.068	1.897
#3	1.933	1.860	1.950	1.906	1.796	1.890	2.066	1.934
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value					2.000			
Range					-10.00%			
Int. Std.	Y_3600	Y_3710	Y_2243	In2306				
Units	Cts/S	Cts/S	Cts/S	Cts/S				
Avg	124430.	22167.	4579.7	8022.7				
Stddev	1089.	77.	7.4	9.6				
%RSD	.87545	.34777	.16190	.11989				
#1	123830.	22078.	4588.1	8033.8				
#2	125690.	22217.	4577.1	8017.1				
#3	123780.	22206.	4574.0	8017.1				

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Sample Name: CCB Acquired: 10/4/2019 17:45:12 Type: QC								
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000								
User: admin Custom ID1: Custom ID2: Custom ID3:								
Comment:								
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	-.0026	-.0006	-.0118	.0012	-.0006	-.0080	-.0003
Stddev	.0003	.0023	.0001	.0022	.0021	.0007	.0006	.0010
%RSD	217.0	87.96	14.61	18.69	177.3	105.3	7.257	329.6
#1	-.0002	-.0004	-.0007	-.0137	-.0023	-.0013	-.0086	-.0012
#2	.0003	-.0049	-.0007	-.0122	-.0013	.0001	-.0074	.0007
#3	.0003	-.0025	-.0005	-.0094	.0026	-.0007	-.0080	-.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								
Int. Std.	Y_3600	Y_3710	Y_2243	In2306				
Units	Cts/S	Cts/S	Cts/S	Cts/S				
Avg	124140.	22435.	4626.9	7892.8				
Stddev	153.	58.	21.7	27.8				
%RSD	.12359	.25969	.46847	.35237				
#1	124160.	22422.	4607.9	7874.7				
#2	123980.	22499.	4622.3	7878.9				
#3	124280.	22385.	4650.5	7924.9				

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Sample Name: CCB Acquired: 10/4/2019 17:45:12 Type: QC											
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000											
User: admin Custom ID1: Custom ID2: Custom ID3:											
Comment:											
Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0006	.0001	.0000	.0001	-.0002	.0000	.0000	.0004	-.0003		
Stddev	.0003	.0001	.0001	.0004	.0004	.0003	.0001	.0002	.0001		
%RSD	60.06	73.34	287.3	528.2	193.2	231.1	1706.	66.38	35.24		
#1	.0008	.0002	.0001	.0005	-.0007	.0002	-.0000	.0006	-.0002		
#2	.0002	.0002	-.0001	-.0001	-.0001	-.0002	.0001	.0003	-.0005		
#3	.0007	.0000	.0001	-.0002	.0001	-.0003	-.0000	.0002	-.0003		
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass		
High Limit											
Low Limit											
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	-.0017	-.0005	-.0004	.0002	.0005	.0015	.0005	.0179	.0080		
Stddev	.0004	.0001	.0014	.0015	.0004	.0016	.0022	.0055	.0028		
%RSD	22.64	31.45	355.4	713.2	83.99	108.0	458.9	30.54	35.16		
#1	-.0018	-.0003	.0008	-.0014	.0003	.0011	-.0003	.0131	.0105		
#2	-.0021	-.0006	-.0018	.0007	.0002	.0001	-.0012	.0168	.0084		
#3	-.0013	-.0005	-.0001	.0014	.0010	.0033	.0029	.0238	.0050		
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass		
High Limit											
Low Limit											
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0016	-.0039	-.0841	-.0126	-.0020	-.0000	.0028	-.0005	-.0000		
Stddev	.0012	.0161	.0102	.0050	.0004	.0002	.0014	.0006	.0001		
%RSD	75.74	413.2	12.17	39.83	21.59	6124.	50.37	118.5	7969.		
#1	.0026	.0114	-.0763	-.0094	-.0015	.0002	.0041	.0001	.0000		
#2	.0003	-.0207	-.0803	-.0184	-.0021	-.0000	.0013	-.0011	.0001		
#3	.0019	-.0024	-.0957	-.0100	-.0024	-.0002	.0031	-.0006	-.0001		
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass		
High Limit											
Low Limit											

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Sample Name: jc95653-14 Acquired: 10/4/2019 17:49:51 Type: Unk											
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000											
User: admin Custom ID1: Custom ID2: Custom ID3:											
Comment:											
Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0018	.0000	.0000	.0000	.0004	.0014	.0026	.0003	-.0002		
Stddev	.0001	.0000	.0001	.0003	.0002	.0006	.0001	.0004	.0007		
%RSD	6.907	577.5	335.6	635.3	54.59	41.33	2.046	119.5	338.1		
#1	.0017	-.0000	-.0001	.0003	.0002	.0021	.0026	.0007	-.0009		
#2	.0018	.0001	.0001	-.0000	.0006	.0011	.0026	.0001	-.0001		
#3	.0020	.0000	.0001	-.0002	.0003	.0010	.0026	.0001	.0005		
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	-.0015	.0064	-.0002	-.0020	.0004	.0003	.0012	.0286	.1018		
Stddev	.0003	.0000	.0008	.0020	.0015	.0009	.0009	.0050	.0023		
%RSD	17.16	.3288	463.7	103.0	334.1	281.6	73.48	17.61	2.249		
#1	-.0014	.0063	-.0011	-.0042	-.0013	-.0003	.0020	.0230	.1019		
#2	-.0013	.0064	.0003	-.0002	.0015	.0014	.0012	.0329	.0994		
#3	-.0018	.0064	.0003	-.0015	.0011	-.0001	.0003	.0299	.1039		
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077		
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
Avg	.0192	.0073	-.0755	-.0050	-.0008	.0000	.0610	-.0007	.0009		
Stddev	.0008	.0049	.0186	.0106	.0002	.0001	.0020	.0004	.0001		
%RSD	3.907	66.91	24.70	212.3	24.89	282.8	3.296	51.70	5.864		
#1	.0201	.0110	-.0948	-.0069	-.0010	.0001	.0588	-.0009	.0008		
#2	.0187	.0090	-.0576	.0064	-.0008	-.0001	.0627	-.0003	.0008		
#3	.0188	.0018	-.0739	-.0146	-.0006	.0002	.0614	-.0008	.0009		
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040			
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm			
Avg	.0009	-.0026	-.0004	.0179	.0022	-.0013	.0207	.0023			
Stddev	.0003	.0007	.0001	.0011	.0008	.0003	.0003	.0044			
%RSD	32.27	26.92	37.23	6.080	37.79	21.39	1.410	193.0			
#1	.0012	-.0021	-.0002	.0171	.0020	-.0013	.0210	-.0004			
#2	.0010	-.0034	-.0005	.0175	.0030	-.0016	.0204	-.0001			
#3	.0006	-.0023	-.0005	.0191	.0014	-.0011	.0206	.0073			

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Sample Name: jc95653-14 Acquired: 10/4/2019 17:49:51 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	124680.	22456.	4637.6	7894.4
Stddev	249.	59.	38.4	61.6
%RSD	.19942	.26373	.82715	.77986
#1	124560.	22495.	4648.7	7912.0
#2	124960.	22388.	4595.0	7826.0
#3	124500.	22485.	4669.3	7945.3

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Sample Name: jc95653-12f Acquired: 10/4/2019 17:54:28 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0246	.0001	.0002	.0013	.0007	.0017	.0120	.0048	.0000
Stddev	.0000	.0000	.0001	.0003	.0003	.0006	.0001	.0000	.0002
%RSD	.2006	45.11	51.45	25.51	37.56	37.61	.7145	.3915	417.7
#1	.0247	.0001	.0003	.0013	.0009	.0013	.0120	.0048	.0001
#2	.0246	.0001	.0002	.0009	.0008	.0013	.0121	.0047	.0003
#3	.0246	.0000	.0001	.0016	.0004	.0024	.0120	.0048	.0000
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0023	.0257	-.0004	-.0004	-.0004	.0052	.0006	.0375	14.32
Stddev	.0008	.0001	.0018	.0010	.0010	.0018	.0013	.0089	.02
%RSD	35.35	.5261	412.2	280.8	246.8	35.44	232.6	23.64	.1081
#1	-.0032	.0256	-.0022	-.0013	-.0008	.0055	.0002	.0325	14.34
#2	-.0022	.0256	.0014	-.0006	-.0012	.0069	.0020	.0322	14.32
#3	-.0015	.0258	-.0005	.0007	.0007	.0032	-.0005	.0477	14.31
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0021	6.160	2.168	18.09	.0151	-.0004	1.393	-.0005	.0352
Stddev	.0018	.028	.023	.03	.0005	.0002	.005	.0010	.0000
%RSD	84.67	.4549	1.074	.1729	3.044	36.04	.3392	202.4	.1074
#1	.0037	6.187	2.193	18.12	.0156	-.0003	1.395	.0006	.0352
#2	.0025	6.160	2.164	18.08	.0147	-.0006	1.388	-.0008	.0352
#3	.0002	6.131	2.147	18.06	.0150	-.0004	1.397	-.0013	.0352
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0002	-.0035	.0000	5.402	.0010	-.0011	-.0061	.0077	
Stddev	.0002	.0005	.0002	.009	.0009	.0006	.0006	.0006	
%RSD	105.2	14.59	693.1	.1681	91.07	59.71	9.833	7.727	
#1	.0001	-.0035	.0003	5.407	-.0000	-.0004	-.0055	.0080	
#2	.0004	-.0039	-.0001	5.391	.0016	-.0016	-.0068	.0082	
#3	.0001	-.0029	-.0001	5.406	.0014	-.0013	-.0061	.0070	

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Sample Name: jc95653-12f Acquired: 10/4/2019 17:54:28 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	124330.	22327.	4643.9	7932.8
Stddev	25.	68.	4.5	3.1
%RSD	.01972	.30338	.09600	.03938
#1	124320.	22373.	4644.1	7929.2
#2	124310.	22249.	4648.2	7934.4
#3	124360.	22360.	4639.3	7934.9

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Sample Name: jc95653-13f Acquired: 10/4/2019 17:58:58 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2122	.0044	.0075	.0791	.0024	.0236	1.737	.1888	.0002
Stddev	.0004	.0001	.0002	.0005	.0004	.0002	.0004	.0008	.0002
%RSD	.2094	1.625	2.836	.6655	15.55	.6983	.2114	.4342	93.90
#1	.2118	.0044	.0072	.0786	.0020	.0237	1.736	.1879	-.0000
#2	.2127	.0044	.0075	.0797	.0027	.0234	1.741	.1896	.0004
#3	.2121	.0043	.0076	.0790	.0025	.0237	1.734	.1888	.0003
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	.9664	.0043	.0022	.0015	.0017	-.0023	3.818	F 205.1
Stddev	.0002	.0065	.0011	.0007	.0006	.0014	.0005	.014	.8
%RSD	26.56	.6716	26.75	34.20	41.31	79.31	22.54	.3687	.3839
#1	.0004	.9590	.0036	.0022	.0012	.0018	-.0029	3.813	204.4
#2	.0007	.9709	.0056	.0028	.0011	.0031	-.0020	3.834	205.9
#3	.0006	.9694	.0036	.0014	.0022	.0003	-.0020	3.808	205.0
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0134	108.1	11.64	F 704.8	.0445	-.0006	3.892	-.0009	1.410
Stddev	.0011	.3	.21	17.2	.0004	.0001	.026	.0008	.004
%RSD	8.236	.2764	1.799	2.440	.9057	23.66	.6606	88.93	.2584
#1	.0134	108.2	11.41	724.6	.0441	-.0006	3.863	-.0010	1.409
#2	.0123	108.3	11.72	693.9	.0448	-.0005	3.912	-.0017	1.414
#3	.0145	107.7	11.81	695.8	.0446	-.0007	3.902	-.0001	1.407
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	-.0005	-.0034	-.0003	19.37	.0020	.0422	-.0096	.2740	
Stddev	.0002	.0012	.0001	.14	.0018	.0037	.0010	.0038	
%RSD	42.84	34.31	18.61	.7014	89.30	8.730	10.02	1.402	
#1	-.0003	-.0042	-.0003	19.22	-.0000	.0381	-.0085	.2765	
#2	-.0006	-.0038	-.0004	19.44	.0027	.0430	-.0103	.2758	
#3	-.0007	-.0021	-.0003	19.47	.0034	.0454	-.0101	.2695	

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Sample Name: jc95653-13f Acquired: 10/4/2019 17:58:58 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	126330.	22565.	4618.6	7502.1
Stddev	429.	101.	32.4	39.7
%RSD	.33923	.44876	.70211	.52883
#1	126160.	22505.	4656.0	7547.8
#2	126000.	22682.	4599.8	7480.9
#3	126810.	22509.	4599.8	7477.5

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Sample Name: jc95700-11 Acquired: 10/4/2019 18:03:44 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0014	-.0001	.0001	-.0001	.0009	.0049	.0016	.0005	-.0001
Stddev	.0001	.0001	.0001	.0001	.0003	.0005	.0000	.0003	.0004
%RSD	7.330	95.12	82.85	175.5	35.39	10.05	1.153	56.96	412.4
#1	.0014	.0000	.0000	-.0002	.0007	.0045	.0017	.0002	-.0004
#2	.0015	-.0001	.0002	.0000	.0013	.0049	.0016	.0007	-.0002
#3	.0013	-.0001	.0001	-.0001	.0007	.0054	.0016	.0007	.0003
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0019	.0038	-.0015	-.0009	.0011	.0013	.0008	.0087	.0713
Stddev	.0003	.0000	.0009	.0006	.0002	.0014	.0023	.0114	.0022
%RSD	14.39	1.165	63.39	60.64	15.88	105.0	305.6	130.7	3.080
#1	-.0016	.0037	-.0011	-.0003	.0012	.0014	.0032	.0164	.0715
#2	-.0021	.0038	-.0025	-.0011	.0009	-.0001	-.0014	-.0044	.0690
#3	-.0020	.0038	-.0007	-.0014	.0010	.0028	.0005	.0142	.0733
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1179	.0101	.0891	.3419	-.0020	.0001	.0623	-.0002	.0009
Stddev	.0004	.0077	.0474	.0252	.0003	.0001	.0012	.0005	.0001
%RSD	.3073	75.70	53.14	7.360	13.40	89.45	2.000	263.4	8.282
#1	.1177	.0027	.1438	.3623	-.0021	.0001	.0612	.0004	.0010
#2	.1183	.0180	.0606	.3496	-.0017	.0000	.0637	-.0004	.0010
#3	.1177	.0097	.0631	.3138	-.0021	.0002	.0620	-.0005	.0008
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0004	-.0025	-.0007	-.0067	.0003	.0030	-.0070	.0014	
Stddev	.0002	.0006	.0002	.0021	.0019	.0018	.0001	.0046	
%RSD	41.74	22.65	26.41	31.92	724.5	57.91	1.317	322.0	
#1	.0003	-.0021	-.0008	-.0044	.0015	.0050	-.0069	.0037	
#2	.0003	-.0022	-.0007	-.0086	-.0020	.0022	-.0071	.0044	
#3	.0005	-.0032	-.0005	-.0072	.0012	.0018	-.0071	-.0038	

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Sample Name: jc95700-11 Acquired: 10/4/2019 18:03:44 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	124450.	22501.	4640.8	7893.7
Stddev	200.	64.	18.9	33.9
%RSD	.16046	.28477	.40766	.43004
#1	124350.	22533.	4657.7	7918.5
#2	124320.	22427.	4620.3	7855.0
#3	124680.	22543.	4644.2	7907.6

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Sample Name: jc95815-17 Acquired: 10/4/2019 18:08:18 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0015	-.0000	.0001	-.0001	.0005	.0038	.0003	.0006	.0002
Stddev	.0001	.0001	.0002	.0001	.0003	.0004	.0000	.0001	.0003
%RSD	5.741	197.3	173.1	92.80	55.11	9.610	10.28	9.196	188.6
#1	.0016	.0000	.0002	-.0001	.0006	.0043	.0003	.0007	-.0002
#2	.0014	-.0001	.0002	-.0000	.0002	.0037	.0003	.0007	.0002
#3	.0015	-.0001	-.0001	-.0003	.0008	.0036	.0004	.0006	.0005
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0016	.0037	-.0012	-.0008	-.0005	.0022	.0012	.0056	.0667
Stddev	.0004	.0000	.0006	.0008	.0012	.0015	.0010	.0017	.0028
%RSD	25.78	.4400	48.43	109.4	268.2	69.68	86.44	29.58	4.232
#1	-.0011	.0037	-.0007	-.0003	-.0005	.0039	.0008	.0038	.0668
#2	-.0017	.0038	-.0010	-.0017	.0008	.0015	.0023	.0069	.0694
#3	-.0020	.0038	-.0019	-.0003	-.0017	.0011	.0004	.0063	.0638
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0057	-.0188	-.0399	.1289	-.0026	-.0002	.1155	-.0008	.0011
Stddev	.0007	.0135	.0286	.0064	.0005	.0002	.0013	.0011	.0000
%RSD	12.39	71.68	71.65	4.951	20.81	75.95	1.125	126.9	2.774
#1	.0050	-.0223	-.0593	.1331	-.0030	-.0001	.1162	.0004	.0011
#2	.0064	-.0302	-.0071	.1215	-.0029	-.0002	.1164	-.0014	.0012
#3	.0056	-.0039	-.0533	.1319	-.0020	-.0004	.1140	-.0015	.0011
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0003	-.0035	-.0008	-.0078	.0013	.0007	-.0069	-.0013	
Stddev	.0002	.0010	.0002	.0006	.0010	.0006	.0009	.0022	
%RSD	55.27	28.42	27.18	7.039	78.96	88.50	12.68	168.2	
#1	.0002	-.0047	-.0006	-.0081	.0001	.0004	-.0071	.0011	
#2	.0003	-.0029	-.0010	-.0082	.0020	.0014	-.0076	-.0032	
#3	.0005	-.0030	-.0007	-.0072	.0017	.0002	-.0059	-.0018	

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Sample Name: jc95815-17 Acquired: 10/4/2019 18:08:18 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	123720.	22433.	4655.1	7904.0
Stddev	349.	177.	.8	5.0
%RSD	.28220	.79023	.01753	.06313
#1	124020.	22471.	4655.4	7902.9
#2	123810.	22587.	4655.6	7909.4
#3	123340.	22239.	4654.1	7899.6

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Sample Name: jc95815-18 Acquired: 10/4/2019 18:12:54 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0095	-0.0000	.0002	.0004	.0002	.0078	.0455	.0011	.0003
Stddev	.0001	.0001	.0000	.0002	.0003	.0001	.0001	.0002	.0001
%RSD	1.166	125.0	19.04	51.67	105.2	.6600	.1502	13.93	45.29
#1	.0096	-0.0000	.0002	.0005	.0005	.0079	.0455	.0011	.0002
#2	.0094	-0.0001	.0002	.0004	.0000	.0078	.0455	.0010	.0002
#3	.0094	-0.0000	.0002	.0002	.0002	.0078	.0454	.0013	.0004
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0008	.0120	.0010	-0.0012	.0006	.0018	-0.0001	.2142	28.66
Stddev	.0002	.0001	.0005	.0019	.0010	.0011	.0006	.0013	.06
%RSD	28.05	.5096	50.44	161.4	188.1	59.95	558.7	.6190	2078
#1	-.0010	.0120	.0010	-.0033	.0010	.0030	-.0008	.2142	28.66
#2	-.0007	.0120	.0015	.0004	-.0006	.0016	.0004	.2129	28.72
#3	-.0006	.0119	.0005	-.0006	.0013	.0009	.0000	.2156	28.60
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5258	1.567	6.533	1.723	.0091	.0005	3.434	-0.0008	.3075
Stddev	.0029	.004	.015	.014	.0005	.0002	.015	.0007	.0003
%RSD	.5533	.2619	.2270	.8139	5.682	32.90	.4353	79.66	.0991
#1	.5269	1.570	6.516	1.737	.0095	.0004	3.448	-.0006	.3078
#2	.5281	1.569	6.542	1.709	.0093	.0007	3.434	-.0016	.3076
#3	.5226	1.562	6.540	1.723	.0085	.0005	3.419	-.0004	.3072
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.0036	-0.0029	-0.0009	2.650	.0015	.0005	.0804	.0023	
Stddev	.0006	.0011	.0002	.011	.0003	.0014	.0014	.0016	
%RSD	15.73	39.85	24.66	.4183	18.36	305.5	1.687	71.09	
#1	.0036	-.0028	-.0008	2.660	.0014	.0015	.0807	.0010	
#2	.0041	-.0040	-.0006	2.653	.0018	-.0012	.0815	.0017	
#3	.0030	-.0017	-.0011	2.638	.0013	.0010	.0789	.0041	

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Sample Name: jc95815-18 Acquired: 10/4/2019 18:12:54 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	123770.	22262.	4624.7	7906.7
Stddev	313.	136.	11.9	22.2
%RSD	.25277	.61111	.25668	.28024
#1	123860.	22168.	4616.4	7886.3
#2	123420.	22201.	4619.4	7903.5
#3	124030.	22418.	4638.3	7930.2

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Sample Name: JC95931-1 Acquired: 10/4/2019 18:17:27 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 7 MP17676

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1292	.0014	-0.0003	.0102	.0995	.0304	.1342	.0443	.0016
Stddev	.0002	.0000	.0001	.0003	.0004	.0005	.0003	.0001	.0004
%RSD	.1789	1.277	44.71	2.986	.3665	1.803	.2175	.1322	24.89
#1	.1292	.0014	-.0004	.0100	.0993	.0310	.1342	.0442	.0017
#2	.1289	.0015	-.0004	.0106	.0993	.0299	.1338	.0444	.0011
#3	.1294	.0015	-.0002	.0101	.1000	.0305	.1344	.0443	.0019
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1280	.0679	.0193	-0.0016	.0496	.0038	-0.0000	92.12	1.478
Stddev	.0002	.0002	.0013	.0014	.0012	.0029	.0001	.06	.006
%RSD	.1484	.2281	6.777	89.85	2.324	76.95	349.1	.0638	.3957
#1	.1281	.0679	.0179	-.0007	.0486	.0057	-.0001	92.14	1.473
#2	.1278	.0681	.0204	-.0008	.0494	.0052	.0000	92.17	1.484
#3	.1280	.0678	.0197	-.0032	.0509	.0004	.0000	92.05	1.477
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	51.20	2.128	1.754	2.067	.0026	.0025	2.017	.0164	.0196
Stddev	.06	.010	.082	.0016	.0007	.0002	.008	.0006	.0001
%RSD	.1103	.4567	4.673	.7681	27.01	9.449	.4017	3.757	.2958
#1	51.14	2.134	1.771	2.070	.0028	.0026	2.024	.0163	.0195
#2	51.25	2.133	1.666	2.051	.0019	.0026	2.020	.0170	.0196
#3	51.20	2.117	1.827	2.082	.0033	.0022	2.008	.0158	.0196
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
Avg	.7401	-0.0037	.0498	.4357	-0.0091	.0215	.6729	.2722	
Stddev	.0015	.0013	.0003	.0019	.0010	.0009	.0020	.0029	
%RSD	.2083	35.33	.5026	.4474	10.49	4.301	.2928	1.062	
#1	.7391	-.0051	.0499	.4346	-.0094	.0219	.6723	.2731	
#2	.7394	-.0035	.0500	.4345	-.0099	.0222	.6751	.2690	
#3	.7419	-.0025	.0495	.4380	-.0081	.0204	.6713	.2746	

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Sample Name: JC95931-1 Acquired: 10/4/2019 18:17:27 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 7 MP17676

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	124200.	22801.	4697.9	7992.5
Stddev	472.	14.	6.1	6.8
%RSD	.37984	.06351	.12915	.08495

#1	124430.	22805.	4694.5	7992.9
#2	124520.	22785.	4694.3	7985.5
#3	123660.	22813.	4704.9	7999.0

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Sample Name: JC95937-1 Acquired: 10/4/2019 18:21:57 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 8

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.723	.0048	.0050	.0520	.2385	.4815	1.864	1.061
Stddev	.004	.0001	.0002	.0006	.0017	.0009	.008	.0002
%RSD	.1580	1.522	3.675	1.215	.7071	.1776	.4200	.1608

#1	2.719	.0048	.0053	.0525	.2400	.4806	1.867	1.063
#2	2.728	.0049	.0049	.0523	.2389	.4821	1.870	1.060
#3	2.723	.0048	.0049	.0513	.2367	.4820	1.855	1.060

Elem	Ag3280	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0096	.2569	3.204	.0779	.0001	3.409	.0094	.0050
Stddev	.0005	.0009	.013	.0017	.0018	.014	.0014	.0004
%RSD	5.689	.3517	.3962	2.151	1814.	.3974	14.39	7.100

#1	.0097	.2577	3.219	.0780	.0010	3.423	.0080	.0053
#2	.0091	.2572	3.195	.0762	-.0020	3.407	.0095	.0046
#3	.0101	.2559	3.199	.0795	.0013	3.396	.0107	.0050

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	112.8	22.12	152.5	16.85	7.146	2.043	.0285	.0038
Stddev	.4	.10	.2	.06	.060	.003	.0006	.0004
%RSD	.3276	.4379	.1233	.3393	.8411	.1384	1.957	11.52

#1	112.6	22.05	152.4	16.84	7.078	2.041	.0286	.0035
#2	113.2	22.23	152.7	16.92	7.193	2.042	.0278	.0036
#3	112.5	22.08	152.4	16.81	7.166	2.046	.0289	.0043

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.509	.1601	.1774	2.296	-.0040	.0327	3.186	F -.0290
Stddev	.003	.0008	.0006	.006	.0012	.0003	.006	.0011
%RSD	.2271	.5239	.3149	.2598	29.71	1.008	.1903	3.780

#1	1.513	.1609	.1774	2.301	-.0030	.0331	3.192	-.0278
#2	1.507	.1602	.1780	2.298	-.0053	.0326	3.180	-.0298
#3	1.507	.1592	.1769	2.289	-.0037	.0324	3.185	-.0294

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Sample Name: JC95937-1 Acquired: 10/4/2019 18:21:57 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 8

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	.0980	7.159	.6476
Stddev	.0012	.031	.0024
%RSD	1.189	.4302	.3750

#1	.0973	7.194	.6468
#2	.0993	7.145	.6504
#3	.0973	7.137	.6457

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	129480.	23694.	4841.4	8126.2
Stddev	650.	71.	21.3	37.3
%RSD	.50218	.29839	.43907	.45951

#1	129030.	23638.	4817.2	8083.3
#2	129180.	23671.	4857.1	8143.8
#3	130220.	23774.	4850.0	8151.4

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Sample Name: JC95937-2 Acquired: 10/4/2019 18:26:34 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 9

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4341	.0053	-.0014	.0557	.2322	.0751	1.432	.1172
Stddev	.0006	.0000	.0001	.0005	.0011	.0006	.002	.0003
%RSD	.1314	.9165	4.445	.9226	.4582	.8444	.1324	.2779

#1	.4335	.0053	-.0015	.0562	.2332	.0743	1.434	.1172
#2	.4347	.0053	-.0015	.0552	.2311	.0754	1.430	.1169
#3	.4342	.0053	-.0014	.0557	.2322	.0754	1.432	.1176

Elem	Ag3280	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0056	.2831	.3102	.0439	F -.0024	.0674	.0049	.0005
Stddev	.0006	.0007	.0011	.0013	.0009	.0010	.0008	.0009
%RSD	11.60	.2313	.3455	2.990	38.33	1.541	16.84	180.6

#1	.0063	.2836	.3112	.0454	-.0035	.0685	.0057	.0014
#2	.0053	.2823	.3090	.0429	-.0019	.0674	.0048	-.0005
#3	.0051	.2833	.3103	.0436	-.0019	.0664	.0041	.0007

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	106.6	10.96	158.1	26.27	9.457	.8134	.0251	.0026
Stddev	.1	.01	.4	.05	.041	.0038	.0003	.0004
%RSD	.0588	.1018	.2645	.1839	.4327	.4698	1.310	14.69

#1	106.6	10.97	157.7	26.32	9.498	.8156	.0247	.0021
#2	106.5	10.95	158.5	26.23	9.416	.8155	.0252	.0028
#3	106.6	10.96	158.0	26.24	9.456	.8089	.0253	.0027

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.289	.0190	.0654	5.200	-.0026	.0760	.0642	F -.0488
Stddev	.006	.0002	.0001	.007	.0005	.0003	.0024	.0004
%RSD	.4852	1.260	.0832	.1365	18.53	.3907	3.762	.7404

#1	1.295	.0188	.0654	5.204	-.0030	.0758	.0661	-.0485
#2	1.282	.0190	.0655	5.192	-.0021	.0759	.0651	-.0492
#3	1.289	.0193	.0654	5.203	-.0026	.0763	.0615	-.0488

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Sample Name: JC95937-2 Acquired: 10/4/2019 18:26:34 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 9

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	.0852	2.570	.9424
Stddev	.0012	.013	.0041
%RSD	1.367	.5002	.4387
#1	.0858	2.582	.9442
#2	.0839	2.557	.9377
#3	.0860	2.572	.9454

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	133630.	24286.	5011.6	8175.0
Stddev	243.	49.	20.5	23.5
%RSD	.18156	.20034	.40994	.28793

#1	133520.	24339.	5002.2	8168.7
#2	133910.	24277.	5035.2	8201.1
#3	133460.	24243.	4997.5	8155.3

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Sample Name: JC95942-1 Acquired: 10/4/2019 18:31:03 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3765	.0038	-0.0003	.0444	.1951	.0871	2.929	.0884
Stddev	.0008	.0001	.0002	.0001	.0009	.0012	.006	.0006
%RSD	.2085	2.361	61.92	.3137	.4795	1.349	.1900	.6921
#1	.3761	.0038	-.0002	.0445	.1952	.0861	2.931	.0886
#2	.3760	.0037	-.0006	.0443	.1960	.0868	2.923	.0877
#3	.3774	.0038	-.0003	.0445	.1942	.0884	2.933	.0889

Elem	Ag3280	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0041	.3541	.2776	.0282	-0.0006	.1207	.0089	.0005
Stddev	.0002	.0002	.0001	.0004	.0014	.0006	.0026	.0004
%RSD	5.884	.0525	.0357	1.446	234.0	.4630	29.65	85.39

#1	.0038	.3538	.2776	.0286	-.0021	.1213	.0100	.0010
#2	.0043	.3542	.2777	.0282	.0003	.1205	.0107	.0001
#3	.0042	.3542	.2775	.0278	.0001	.1203	.0059	.0004

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	98.29	16.55	130.6	15.47	4.813	1.889	.1222	.0157
Stddev	.06	.01	.2	.05	.033	.008	.0006	.0003
%RSD	.0655	.0300	.1795	.3242	.6842	.4197	.5115	1.793
#1	98.32	16.55	130.4	15.43	4.779	1.888	.1215	.0159
#2	98.22	16.55	130.5	15.46	4.815	1.882	.1226	.0157
#3	98.34	16.55	130.9	15.53	4.845	1.898	.1224	.0154

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.999	.0260	.0746	2.345	-0.0020	.0162	2.765	F -.0252
Stddev	.006	.0003	.0000	.003	.0008	.0001	.007	.0018
%RSD	.3260	1.071	.0243	.1424	40.00	.7598	.2399	7.034
#1	1.999	.0260	.0746	2.346	-.0029	.0162	2.769	-.0253
#2	2.005	.0257	.0745	2.342	-.0019	.0163	2.769	-.0234
#3	1.992	.0263	.0746	2.348	-.0013	.0160	2.757	-.0270

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Sample Name: JC95942-1 Acquired: 10/4/2019 18:31:03 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	.0712	3.007	.4823
Stddev	.0005	.001	.0022
%RSD	.7468	.0207	.4660
#1	.0708	3.007	.4847
#2	.0710	3.007	.4818
#3	.0718	3.006	.4803

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	129940.	23697.	4884.0	8114.5
Stddev	420.	23.	6.3	7.6
%RSD	.32327	.09507	.12960	.09392

#1	129560.	23715.	4878.3	8111.0
#2	130390.	23705.	4882.9	8123.2
#3	129860.	23672.	4890.8	8109.2

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Sample Name: CCV Acquired: 10/4/2019 18:35:40 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.977	2.035	1.919	2.008	F 2.216	1.917	2.156	2.108	.2572
Stddev	.001	.003	.005	.003	.006	.003	.008	.002	.0009
%RSD	.0666	.1368	.2650	.1462	.2734	.1417	.3878	.0831	.3550

#1	1.977	2.037	1.925	2.010	2.222	1.920	2.164	2.107	.2581
#2	1.978	2.037	1.917	2.005	2.213	1.916	2.147	2.107	.2562
#3	1.976	2.032	1.916	2.010	2.211	1.915	2.157	2.110	.2572

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					2.000				
Range					10.00%				

Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.064	2.147	1.916	1.991	2.117	1.960	1.840	40.38	41.44
Stddev	.005	.005	.003	.011	.002	.004	.005	.02	.02
%RSD	.2262	.2417	.1591	.5527	.0996	.2132	.2748	.0411	.0593
#1	2.069	2.153	1.919	1.997	2.119	1.963	1.846	40.37	41.41
#2	2.062	2.146	1.914	1.978	2.115	1.955	1.835	40.39	41.45
#3	2.060	2.143	1.915	1.997	2.117	1.961	1.840	40.40	41.46

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

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	40.25	42.52	40.51	41.86	1.926	1.852	4.900	1.983	2.013
Stddev	.08	.08	.04	.03	.005	.004	.005	.004	.003
%RSD	.2007	.1965	.0902	.0796	.2860	.1951	.0979	.2261	.1428
#1	40.33	42.45	40.46	41.83	1.930	1.855	4.904	1.986	2.010
#2	40.25	42.50	40.53	41.89	1.920	1.848	4.895	1.978	2.013
#3	40.17	42.62	40.52	41.88	1.929	1.853	4.900	1.985	2.016

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

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Sample Name: CCV		Acquired: 10/4/2019 18:35:40		Type: QC				
Method: SGS No Vlave3(v198)		Mode: CONC		Corr. Factor: 1.000000				
User: admin		Custom ID1:		Custom ID2:				
Comment:				Custom ID3:				
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.940	1.851	1.977	1.892	F 1.792	1.921	2.079	1.959
Stddev	.002	.006	.004	.008	.004	.002	.005	.005
%RSD	.1012	.3176	.2147	.4037	.2121	.0989	.2489	.2334
#1	1.940	1.858	1.981	1.898	1.795	1.919	2.084	1.961
#2	1.937	1.847	1.973	1.884	1.794	1.922	2.074	1.954
#3	1.941	1.849	1.975	1.894	1.788	1.922	2.077	1.963
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value					2.000			
Range					-10.00%			
Int. Std.	Y_3600	Y_3710	Y_2243	In2306				
Units	Cts/S	Cts/S	Cts/S	Cts/S				
Avg	120650.	21782.	4554.8	7949.4				
Stddev	535.	80.	14.9	9.6				
%RSD	.44363	.36624	.32641	.12118				
#1	120140.	21707.	4541.9	7942.5				
#2	121210.	21774.	4551.5	7945.3				
#3	120590.	21866.	4571.1	7960.4				

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Sample Name: CCB		Acquired: 10/4/2019 18:40:51		Type: QC				
Method: SGS No Vlave3(v198)		Mode: CONC		Corr. Factor: 1.000000				
User: admin		Custom ID1:		Custom ID2:				
Comment:				Custom ID3:				
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005	-.0043	-.0008	-.0112	.0019	-.0007	-.0096	-.0021
Stddev	.0001	.0009	.0001	.0010	.0012	.0003	.0017	.0010
%RSD	19.25	22.22	13.93	8.646	64.82	43.42	17.80	49.05
#1	.0006	-.0036	-.0007	-.0118	.0017	-.0010	-.0097	-.0011
#2	.0004	-.0038	-.0007	-.0101	.0032	-.0004	-.0078	-.0031
#3	.0005	-.0054	-.0009	-.0117	.0008	-.0007	-.0112	-.0020
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								
Int. Std.	Y_3600	Y_3710	Y_2243	In2306				
Units	Cts/S	Cts/S	Cts/S	Cts/S				
Avg	122800.	22222.	4664.3	7931.7				
Stddev	296.	76.	6.5	10.8				
%RSD	.24095	.34172	.13934	.13569				
#1	122530.	22198.	4660.3	7924.4				
#2	123110.	22160.	4660.7	7926.6				
#3	122770.	22307.	4671.8	7944.0				

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Sample Name: CCB		Acquired: 10/4/2019 18:40:51			Type: QC				
Method: SGS No Vlave3(v198)		Mode: CONC			Corr. Factor: 1.000000				
User: admin		Custom ID1:			Custom ID2:		Custom ID3:		
Comment:									
Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	.0000	.0001	.0000	-.0001	F .0019	.0000	-.0001	-.0000
Stddev	.0002	.0001	.0002	.0001	.0003	.0006	.0000	.0003	.0001
%RSD	28.95	201.3	197.6	589.7	195.0	32.53	31.87	429.8	909.4
#1	.0005	.0000	.0001	.0002	-.0005	.0014	.0000	.0002	.0000
#2	.0005	.0001	-.0001	-.0001	.0000	.0016	.0000	-.0002	-.0002
#3	.0008	-.0000	.0002	-.0000	-.0000	.0025	.0000	-.0002	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit						.0013			
Low Limit						-.0013			
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0016	-.0007	.0007	-.0002	-.0004	.0006	-.0007	.0116	.0055
Stddev	.0003	.0003	.0012	.0004	.0011	.0020	.0004	.0051	.0027
%RSD	20.68	40.95	187.4	181.9	288.0	317.4	53.98	44.20	48.87
#1	-.0017	-.0005	.0014	.0001	.0005	-.0016	-.0003	.0122	.0078
#2	-.0012	-.0005	.0014	-.0007	-.0016	.0018	-.0011	.0164	.0025
#3	-.0018	-.0010	-.0008	-.0001	-.0001	.0017	-.0008	.0062	.0063
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010	-.0022	-.1010	-.0101	-.0025	-.0001	.0018	-.0002	-.0002
Stddev	.0011	.0047	.0202	.0064	.0009	.0001	.0006	.0003	.0001
%RSD	105.9	217.3	19.96	63.87	37.20	138.9	31.13	202.7	57.59
#1	.0022	-.0077	-.0883	-.0118	-.0016	.0000	.0019	.0002	-.0002
#2	.0007	.0005	-.0904	-.0030	-.0025	-.0002	.0023	-.0004	-.0001
#3	.0001	.0006	-.1242	-.0155	-.0035	-.0001	.0012	-.0003	-.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

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Sample Name: CCV		Acquired: 10/4/2019 18:45:30			Type: QC				
Method: SGS No Vlave3(v198)		Mode: CONC			Corr. Factor: 1.000000				
User: admin		Custom ID1:		Custom ID2:		Custom ID3:			
Comment:									
Elem Units	Ba4554 ppm	Be3130 ppm	Cd2288 ppm	Co2286 ppm	Cr2677 ppm	Cu3247 ppm	Mn2576 ppm	Ni2316 ppm	Ag3280 ppm
Avg	1.919	1.983	1.874	1.965	2.158	1.866	2.086	2.062	2.496
Stddev	.002	.002	.002	.003	.001	.003	.007	.004	.003
%RSD	.1221	.1218	.0937	.1462	.0596	.1640	.3537	.2087	.1073
#1	1.919	1.981	1.876	1.967	2.157	1.864	2.093	2.066	2.495
#2	1.921	1.985	1.872	1.966	2.158	1.864	2.088	2.062	2.495
#3	1.916	1.982	1.874	1.962	2.160	1.870	2.078	2.058	2.499
Check ? Value Range	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Elem Units	V_2924 ppm	Zn2062 ppm	As1890 ppm	Tl1908 ppm	Pb2203 ppm	Se1960 ppm	Sb2068 ppm	Al3961 ppm	Ca3179 ppm
Avg	2.013	2.099	1.871	1.942	2.071	1.913	F 1.800	39.28	40.33
Stddev	.005	.002	.002	.003	.002	.000	.004	.07	.02
%RSD	.2410	.0916	.0868	.1291	.0701	.0178	.2316	.1747	.0562
#1	2.008	2.097	1.870	1.940	2.073	1.913	1.803	39.27	40.31
#2	2.012	2.100	1.873	1.944	2.072	1.913	1.801	39.22	40.35
#3	2.018	2.101	1.871	1.944	2.070	1.913	1.795	39.36	40.35
Check ? Value Range	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail 2.000 -10.00%	Chk Pass	Chk Pass
Elem Units	Fe2599 ppm	Mg2790 ppm	K_7664 ppm	Na5895 ppm	B_2089 ppm	Mo2020 ppm	Si2124 ppm	Sn1899 ppm	Sr4077 ppm
Avg	39.11	41.47	39.40	40.81	1.885	1.808	4.780	1.937	1.956
Stddev	.08	.08	.03	.04	.007	.001	.009	.001	.002
%RSD	.2081	.1876	.0721	.1086	.3972	.0789	.1832	.0429	.1050
#1	39.08	41.42	39.37	40.81	1.893	1.809	4.789	1.937	1.955
#2	39.21	41.43	39.42	40.77	1.885	1.807	4.782	1.938	1.955
#3	39.05	41.56	39.41	40.86	1.878	1.806	4.771	1.936	1.958
Check ? Value Range	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass

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Sample Name: CCV Acquired: 10/4/2019 18:45:30 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.890	1.805	1.926	1.847	F 1.749	1.871	2.028	1.910
Stddev	.001	.002	.002	.007	.001	.002	.006	.003
%RSD	.0520	.1319	.0956	.3995	.0537	.1065	.3213	.1467

#1	1.890	1.804	1.926	1.843	1.750	1.872	2.024	1.910
#2	1.891	1.804	1.924	1.855	1.749	1.872	2.036	1.908
#3	1.890	1.808	1.928	1.842	1.748	1.869	2.024	1.913

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value					2.000			
Range					-10.00%			

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	121610.	21808.	4570.5	7959.5
Stddev	99.	37.	.9	1.8
%RSD	.08144	.16971	.02032	.02291

#1	121500.	21797.	4571.0	7957.5
#2	121660.	21777.	4571.1	7961.1
#3	121680.	21849.	4569.5	7960.0

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Sample Name: CCB Acquired: 10/4/2019 18:50:00 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	.0000	.0002	-.0001	-.0005	F .0015	.0001	.0001	.0005
Stddev	.0002	.0000	.0001	.0000	.0005	.0004	.0000	.0002	.0002
%RSD	31.21	262.1	67.22	48.00	95.11	27.26	70.35	370.7	44.03

#1	.0007	.0000	.0002	-.0001	-.0002	.0017	.0001	-.0000	.0007
#2	.0006	-.0000	.0003	-.0001	-.0010	.0017	.0001	-.0001	.0003
#3	.0004	.0001	.0001	-.0001	-.0002	.0010	.0000	.0003	.0006

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit						.0013			
Low Limit						-.0013			

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0018	-.0005	-.0009	.0018	.0005	.0004	-.0005	.0084	.0028
Stddev	.0001	.0001	.0011	.0001	.0005	.0006	.0000	.0016	.0012
%RSD	6.152	29.06	120.3	6.242	110.6	158.6	1.338	18.95	43.07

#1	-.0020	-.0005	-.0009	.0017	-.0000	.0010	-.0005	.0078	.0014
#2	-.0018	-.0003	.0002	.0019	.0004	-.0003	-.0005	.0101	.0033
#3	-.0018	-.0006	-.0020	.0017	.0010	.0005	-.0005	.0071	.0036

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

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	.0004	-.1296	-.0152	-.0011	-.0002	.0020	-.0002	-.0002
Stddev	.0005	.0098	.0435	.0030	.0003	.0002	.0010	.0002	.0000
%RSD	332.6	2745.	33.60	19.76	25.74	103.5	51.31	102.6	23.82

#1	.0004	.0104	-.0821	-.0179	-.0009	-.0003	.0030	-.0000	-.0002
#2	-.0003	-.0091	-.1389	-.0120	-.0009	-.0004	.0009	-.0005	-.0002
#3	-.0005	-.0002	-.1677	-.0157	-.0014	.0000	.0022	-.0001	-.0001

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

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Sample Name: CCB Acquired: 10/4/2019 18:50:00 Type: QC
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	-.0023	-.0007	-.0138	.0022	-.0007	-.0083	-.0018
Stddev	.0001	.0005	.0000	.0015	.0011	.0012	.0010	.0009
%RSD	19.47	21.72	5.740	10.65	52.50	164.5	11.88	48.91

#1	.0004	-.0017	-.0007	-.0124	.0011	-.0016	-.0078	-.0020
#2	.0005	-.0027	-.0008	-.0136	.0034	-.0011	-.0076	-.0008
#3	.0004	-.0024	-.0007	-.0153	.0021	.0006	-.0094	-.0024

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

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	122530.	22197.	4620.2	7863.8
Stddev	411.	29.	11.0	15.5
%RSD	.33503	.12908	.23717	.19667

#1	122140.	22208.	4607.6	7846.2
#2	122490.	22219.	4626.4	7870.0
#3	122960.	22165.	4626.8	7875.3

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Sample Name: JC95942-2 Acquired: 10/4/2019 18:54:37 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 11

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2203	.0020	-.0002	.0376	.1240	.0946	.6603	.0670	.0047
Stddev	.0004	.0000	.0001	.0003	.0008	.0006	.0006	.0022	.0008
%RSD	.1852	2.027	77.74	.8651	.6114	.6318	.3309	.3403	17.42

#1	.2200	.0019	-.0003	.0379	.1233	.0941	.6591	.0672	.0043
#2	.2200	.0020	-.0001	.0373	.1248	.0953	.6628	.0669	.0056
#3	.2207	.0020	-.0001	.0377	.1239	.0945	.6589	.0668	.0042

Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1746	.1920	.0104	-.0006	.0336	.0077	-.0001	39.26	9.685
Stddev	.0004	.0006	.0003	.0008	.0004	.0009	.0003	.02	.007
%RSD	.2038	.3128	2.424	117.7	1.172	11.42	204.2	.0479	.0757

#1	.1745	.1919	.0104	-.0014	.0332	.0085	.0000	39.27	9.690
#2	.1750	.1914	.0107	-.0007	.0336	.0079	-.0004	39.27	9.677
#3	.1744	.1926	.0102	.0002	.0340	.0068	.0000	39.24	9.689

Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	75.56	15.25	4.470	.8050	.0102	.0074	1.192	.0173	.0372
Stddev	.11	.03	.026	.0121	.0006	.0002	.005	.0002	.0001
%RSD	.1466	.2241	.5893	1.500	5.809	3.234	.4177	1.334	.3031

#1	75.50	15.27	4.462	.8189	.0097	.0074	1.196	.0175	.0373
#2	75.50	15.21	4.449	.7988	.0108	.0072	1.186	.0173	.0371
#3	75.69	15.28	4.500	.7973	.0100	.0077	1.193	.0171	.0371

Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.473	-.0037	.0355	.0925	-.0183	.0457	1.831	.3430
Stddev	.007	.0003	.0001	.0008	.0009	.0006	.004	.0011
%RSD	.2679	7.299	.1983	.8518	4.721	1.228	.2482	.3081

#1	2.471	-.0036	.0355	.0931	-.0185	.0463	1.835	.3440
#2	2.481	-.0040	.0356	.0916	-.0189	.0455	1.826	.3419
#3	2.468	-.0035	.0355	.0927	-.0173	.0452	1.832	.3429

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Sample Name: JC95942-2 Acquired: 10/4/2019 18:54:37 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 11

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	128300.	23412.	4811.9	8019.0
Stddev	708.	64.	20.5	36.3
%RSD	.55195	.27166	.42577	.45301
#1	128840.	23441.	4804.2	7988.8
#2	127500.	23339.	4835.1	8059.3
#3	128550.	23456.	4796.4	8008.8

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Sample Name: JC95973-1 Acquired: 10/4/2019 18:59:05 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 12

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4809	.0028	-0.0003	.0633	.3323	.6111	1.963	.2297
Stddev	.0013	.0001	.0001	.0004	.0006	.0008	.008	.0002
%RSD	.2806	2.583	52.44	.5669	.1859	.1347	.3884	.0872
#1	.4802	.0028	-.0003	.0634	.3330	.6102	1.969	.2299
#2	.4825	.0029	-.0004	.0629	.3321	.6114	1.966	.2295
#3	.4801	.0028	-.0001	.0635	.3318	.6117	1.954	.2297
Elem	Ag3280	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0077	.2167	.4443	.1376	-.0012	.1558	.0047	.0005
Stddev	.0008	.0001	.0012	.0010	.0015	.0011	.0014	.0006
%RSD	10.80	.0681	.2678	.7530	122.5	.6782	29.61	125.3
#1	.0082	.2169	.4434	.1383	-.0020	.1552	.0060	.0006
#2	.0082	.2166	.4439	.1364	-.0021	.1571	.0049	.0010
#3	.0068	.2167	.4457	.1381	.0005	.1553	.0032	-.0002
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	92.41	14.56	120.8	51.18	25.67	1.202	.0002	.0023
Stddev	.08	.02	.6	.08	.05	.008	.0005	.0001
%RSD	.0885	.1077	.5119	.1567	.1932	.6351	322.4	2.810
#1	92.34	14.54	120.8	51.11	25.63	1.210	-.0003	.0023
#2	92.40	14.57	121.5	51.16	25.66	1.197	.0001	.0023
#3	92.50	14.56	120.2	51.26	25.73	1.197	.0008	.0024
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.224	.0214	.0581	6.599	-.0019	.0210	1.112	F -.0515
Stddev	.004	.0003	.0001	.008	.0008	.0002	.004	.0013
%RSD	.3125	1.562	.1481	.1224	41.90	.7324	.4041	2.586
#1	1.226	.0217	.0581	6.594	-.0022	.0208	1.109	-.0500
#2	1.220	.0211	.0580	6.596	-.0010	.0211	1.109	-.0520
#3	1.226	.0216	.0581	6.609	-.0024	.0210	1.117	-.0525

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Sample Name: JC95973-1 Acquired: 10/4/2019 18:59:05 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 12

Elem	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	
Avg	.1370	3.586	.7169	
Stddev	.0009	.009	.0018	
%RSD	.6510	.2389	.2539	
#1	.1379	3.580	.7162	
#2	.1369	3.581	.7154	
#3	.1361	3.596	.7189	
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	130080.	23897.	4875.9	8101.4
Stddev	353.	85.	13.1	4.2
%RSD	.27162	.35474	.26958	.05215
#1	129710.	23967.	4885.5	8100.3
#2	130410.	23803.	4881.2	8106.0
#3	130130.	23921.	4860.9	8097.8

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Sample Name: JC95975-2 Acquired: 10/4/2019 19:03:40 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 13

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4440	.0047	-0.0010	.0629	.1713	.1048	2.551	.1410
Stddev	.0014	.0001	.0001	.0006	.0016	.0002	.035	.0004
%RSD	.3222	1.860	12.16	.8909	.9177	.1938	1.360	.3171
#1	.4428	.0047	-.0010	.0635	.1723	.1049	2.545	.1415
#2	.4456	.0046	-.0009	.0626	.1722	.1050	2.588	.1409
#3	.4435	.0047	-.0011	.0625	.1695	.1046	2.519	.1406
Elem	Ag3280	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0108	.1882	.3224	.0332	.0010	.0486	.0072	.0012
Stddev	.0001	.0007	.0019	.0006	.0023	.0013	.0015	.0007
%RSD	1.042	.3495	.5746	1.936	227.9	2.750	21.11	60.40
#1	.0107	.1883	.3238	.0324	.0001	.0500	.0059	.0010
#2	.0107	.1888	.3203	.0337	-.0007	.0486	.0069	.0019
#3	.0109	.1875	.3230	.0334	.0037	.0473	.0089	.0006
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	84.65	8.344	148.4	26.62	12.35	.4228	.0054	.0024
Stddev	.20	.021	.3	.08	.06	.0104	.0009	.0001
%RSD	.2330	.2519	.2295	.3119	.4490	2.452	16.53	6.075
#1	84.52	8.329	148.0	26.68	12.35	.4198	.0059	.0023
#2	84.88	8.368	148.7	26.64	12.41	.4143	.0060	.0025
#3	84.56	8.336	148.4	26.52	12.29	.4344	.0044	.0025
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.303	.0186	.0624	4.968	-.0039	.0286	.7844	F -.0395
Stddev	.007	.0005	.0002	.013	.0012	.0002	.0039	.0007
%RSD	.5525	2.842	.3268	.2627	29.79	.7506	.5007	1.725
#1	1.311	.0186	.0622	4.967	-.0026	.0286	.7881	-.0388
#2	1.297	.0192	.0626	4.982	-.0049	.0283	.7803	-.0402
#3	1.301	.0181	.0625	4.956	-.0041	.0288	.7848	-.0395

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Sample Name: JC95975-2 Acquired: 10/4/2019 19:03:40 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 13

Elem	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	
Avg	.0795	3.866	.4646	
Stddev	.0005	.026	.0018	
%RSD	.5686	.6618	.3954	
#1	.0790	3.893	.4649	
#2	.0798	3.843	.4663	
#3	.0797	3.860	.4627	
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	127180.	23267.	4779.3	8132.2
Stddev	589.	97.	20.2	16.2
%RSD	.46298	.41610	.42330	.19963
#1	127260.	23195.	4762.6	8114.9
#2	126560.	23228.	4801.8	8147.0
#3	127730.	23377.	4773.6	8134.7

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Sample Name: JC95975-3 Acquired: 10/4/2019 19:08:15 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 14

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2870	.0036	-0.0002	.0510	.1850	.0952	2.052	.1177
Stddev	.0006	.0000	.0001	.0001	.0009	.0002	.008	.0004
%RSD	.1922	.7116	74.13	.2757	.5053	.2041	.3745	.3672
#1	.2870	.0036	-.0001	.0512	.1861	.0951	2.057	.1179
#2	.2864	.0036	-.0001	.0510	.1844	.0954	2.055	.1179
#3	.2875	.0036	-.0004	.0509	.1846	.0952	2.043	.1172
Elem	Ag3280	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0081	.1525	.2816	.1145	-0.0016	.1337	.0081	.0006
Stddev	.0002	.0008	.0008	.0009	.0009	.0007	.0015	.0010
%RSD	2.065	.5388	.2686	.7444	55.36	.5357	18.04	167.3
#1	.0082	.1522	.2820	.1141	-.0008	.1336	.0089	.0006
#2	.0083	.1518	.2820	.1155	-.0014	.1330	.0064	-.0004
#3	.0080	.1534	.2807	.1139	-.0025	.1344	.0090	.0017
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	70.16	32.83	118.3	29.00	7.500	.5170	.0091	.0031
Stddev	.06	.02	.2	.07	.049	.0058	.0005	.0002
%RSD	.0855	.0728	.1949	.2274	.6520	1.119	5.960	6.412
#1	70.15	32.84	118.4	28.93	7.500	.5224	.0089	.0033
#2	70.23	32.85	118.1	28.99	7.549	.5178	.0097	.0029
#3	70.11	32.80	118.6	29.06	7.451	.5109	.0087	.0031
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.615	.0202	.0867	3.829	-0.0023	.0157	1.211	F -.0300
Stddev	.009	.0004	.0000	.007	.0001	.0001	.003	.0007
%RSD	.5719	1.862	.0136	.1904	3.976	.6899	.2546	2.243
#1	1.623	.0200	.0867	3.838	-.0022	.0158	1.212	-.0294
#2	1.617	.0206	.0868	3.826	-.0023	.0156	1.213	-.0300
#3	1.605	.0200	.0867	3.824	-.0024	.0158	1.207	-.0307

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Sample Name: JC95975-3 Acquired: 10/4/2019 19:08:15 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 14

Elem	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	
Avg	.0549	2.789	.3740	
Stddev	.0012	.010	.0006	
%RSD	2.149	.3624	.1578	
#1	.0550	2.790	.3741	
#2	.0560	2.799	.3733	
#3	.0536	2.779	.3745	
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	125640.	22931.	4717.6	8060.5
Stddev	363.	87.	7.2	2.6
%RSD	.28860	.37907	.15353	.03164
#1	125240.	22994.	4724.0	8059.6
#2	125950.	22967.	4709.8	8058.5
#3	125740.	22832.	4719.1	8063.4

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Sample Name: JC95975-4 Acquired: 10/4/2019 19:12:51 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 15

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4221	.0044	.0008	.0489	.1938	.1939	2.367	.1147
Stddev	.0001	.0000	.0001	.0007	.0005	.0005	.002	.0007
%RSD	.0168	.5651	16.37	1.470	.2620	.2569	.0786	.5798
#1	.4222	.0044	.0008	.0487	.1943	.1939	2.369	.1143
#2	.4222	.0044	.0009	.0497	.1937	.1945	2.365	.1155
#3	.4220	.0044	.0006	.0483	.1933	.1935	2.367	.1144
Elem	Ag3280	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0062	.1982	.5873	.0714	.0004	.2539	.0071	.0040
Stddev	.0003	.0002	.0068	.0015	.0016	.0034	.0006	.0017
%RSD	4.208	.1090	1.164	2.061	384.8	1.322	7.820	43.52
#1	.0059	.1985	.5856	.0731	-.0013	.2531	.0078	.0060
#2	.0063	.1981	.5948	.0705	.0008	.2575	.0068	.0031
#3	.0064	.1981	.5814	.0705	.0018	.2510	.0068	.0029
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	93.75	57.30	128.6	34.39	7.422	.7765	.0177	.0039
Stddev	.25	.12	.2	.12	.029	.0138	.0005	.0003
%RSD	.2647	.2172	.1560	.3595	.3953	1.783	2.904	7.881
#1	93.50	57.16	128.8	34.25	7.427	.7605	.0174	.0041
#2	93.76	57.32	128.5	34.49	7.448	.7855	.0183	.0041
#3	94.00	57.41	128.4	34.43	7.390	.7834	.0174	.0036
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.657	.0226	.1698	3.746	.0010	.0086	1.248	F -.0302
Stddev	.022	.0005	.0007	.002	.0003	.0001	.048	.0009
%RSD	1.338	2.365	.4058	.0650	26.64	1.115	1.034	2.909
#1	1.660	.0225	.1690	3.749	.0012	.0086	3.903	-.0294
#2	1.678	.0232	.1700	3.746	.0008	.0086	3.966	-.0311
#3	1.634	.0222	.1704	3.744	.0008	.0084	3.872	-.0301

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Sample Name: JC95975-4 Acquired: 10/4/2019 19:12:51 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 15

Elem	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	
Avg	.0715	3.407	.4216	
Stddev	.0008	.038	.0013	
%RSD	1.169	1.112	.3101	
#1	.0706	3.391	.4227	
#2	.0722	3.450	.4201	
#3	.0716	3.380	.4220	
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	127160.	23290.	4757.4	8043.4
Stddev	48.	72.	41.4	62.7
%RSD	.03746	.30952	.87069	.77895
#1	127210.	23251.	4777.7	8084.6
#2	127120.	23374.	4709.8	7971.3
#3	127130.	23247.	4784.8	8074.3

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Sample Name: JC95975-5 Acquired: 10/4/2019 19:17:26 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 16

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3516	.0046	-.0007	.0719	.3203	.1488	2.207	.1335
Stddev	.0019	.0000	.0002	.0001	.0012	.0001	.010	.0004
%RSD	.5355	.1448	26.85	.0954	.3840	.0356	.4393	.2936
#1	.3530	.0046	-.0006	.0719	.3216	.1488	2.196	.1338
#2	.3524	.0046	-.0006	.0719	.3201	.1489	2.212	.1336
#3	.3495	.0046	-.0009	.0718	.3191	.1488	2.213	.1330
Elem	Ag3280	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0082	.2624	.3239	.0412	-.0008	.1123	.0080	.0023
Stddev	.0006	.0013	.0006	.0011	.0005	.0015	.0010	.0005
%RSD	7.531	.4916	.1768	2.766	68.06	1.347	12.07	20.78
#1	.0080	.2633	.3233	.0405	-.0013	.1135	.0090	.0027
#2	.0088	.2629	.3244	.0405	-.0003	.1128	.0071	.0018
#3	.0076	.2609	.3241	.0425	-.0007	.1106	.0079	.0025
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	129.9	25.06	160.4	31.72	6.612	1.385	.0353	.0041
Stddev	.6	.10	.7	.20	.030	.013	.0007	.0003
%RSD	.4383	.4174	.4639	.6314	.4555	.9101	1.850	7.179
#1	130.4	25.17	161.1	31.93	6.583	1.396	.0360	.0043
#2	130.1	25.06	160.4	31.71	6.644	1.388	.0349	.0042
#3	129.3	24.96	159.7	31.53	6.610	1.372	.0349	.0037
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.421	.0231	.0961	6.024	.0116	.0342	.7589	F -.0471
Stddev	.001	.0009	.0004	.016	.0010	.0002	.0022	.0007
%RSD	.0579	3.895	.4431	.2689	8.170	.6444	.2894	1.528
#1	1.422	.0240	.0965	6.032	.0115	.0343	.7598	-.0463
#2	1.420	.0231	.0961	6.035	.0126	.0344	.7564	-.0477
#3	1.421	.0222	.0957	6.006	.0107	.0340	.7606	-.0474

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Sample Name: JC95975-5 Acquired: 10/4/2019 19:17:26 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 16

Elem	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	
Avg	.0893	3.019	.5396	
Stddev	.0023	.001	.0059	
%RSD	2.624	.0366	1.102	
#1	.0894	3.018	.5437	
#2	.0916	3.019	.5423	
#3	.0869	3.020	.5328	
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	129000.	23686.	4814.8	8125.6
Stddev	37.	215.	5.4	7.1
%RSD	.02830	.90633	.11142	.08710
#1	128960.	23474.	4820.9	8119.8
#2	129020.	23681.	4810.6	8133.5
#3	129030.	23903.	4812.9	8123.5

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Sample Name: JC95975-6 Acquired: 10/4/2019 19:22:03 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 17

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3569	.0029	.0028	.0392	.2017	.2439	2.074	.1115
Stddev	.0011	.0000	.0001	.0007	.0008	.0011	.020	.0010
%RSD	.3218	1.006	3.430	1.820	.3814	.4591	.9500	.8997
#1	.3557	.0030	.0028	.0396	.2015	.2432	2.096	.1112
#2	.3579	.0029	.0027	.0384	.2011	.2452	2.064	.1107
#3	.3572	.0029	.0028	.0397	.2026	.2432	2.060	.1127
Elem	Ag3280	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0065	.1673	1.095	.0547	-.0002	.3847	.0061	.0014
Stddev	.0004	.0007	.007	.0007	.0002	.0029	.0012	.0005
%RSD	5.995	.4363	.6369	1.188	106.3	.7579	19.45	35.83
#1	.0068	.1681	1.095	.0554	-.0000	.3847	.0064	.0019
#2	.0066	.1671	1.088	.0547	-.0005	.3818	.0048	.0014
#3	.0061	.1667	1.101	.0541	-.0002	.3877	.0071	.0009
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	59.36	159.7	108.7	89.04	5.554	.7873	.0391	.0076
Stddev	.15	.7	.2	.33	.024	.0025	.0006	.0001
%RSD	.2447	.4563	.2296	.3759	.4373	.3146	1.593	1.047
#1	59.29	159.8	108.4	88.80	5.554	.7899	.0394	.0076
#2	59.53	160.4	108.9	89.42	5.578	.7849	.0384	.0077
#3	59.26	158.9	108.7	88.89	5.530	.7870	.0395	.0076
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.665	.0488	.2151	2.644	.0026	.0044	3.253	F -.0223
Stddev	.014	.0003	.0005	.007	.0013	.0000	.027	.0020
%RSD	.8457	.6757	.2323	.2564	49.38	.7476	.8192	9.040
#1	1.665	.0484	.2147	2.642	.0012	.0044	3.243	-.0200
#2	1.651	.0490	.2157	2.651	.0031	.0044	3.233	-.0235
#3	1.679	.0490	.2150	2.638	.0036	.0044	3.283	-.0235

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Sample Name: JC95975-6 Acquired: 10/4/2019 19:22:03 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 17

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	.0468	2.939	.3241
Stddev	.0007	.024	.0007
%RSD	1.543	.7999	.2256

#1	.0468	2.927	.3233
#2	.0475	2.923	.3241
#3	.0461	2.966	.3248

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	125010.	22855.	4619.3	7890.0
Stddev	533.	110.	33.3	55.3
%RSD	.42614	.47963	.72033	.70097

#1	124690.	22846.	4623.1	7900.2
#2	124720.	22750.	4650.6	7939.5
#3	125630.	22969.	4584.4	7830.3

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Sample Name: JC95975-7 Acquired: 10/4/2019 19:26:47 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 18

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4965	.0038	.0032	.0438	.7369	.3173	2.388	.1425
Stddev	.0003	.0000	.0001	.0004	.0003	.0015	.012	.0005
%RSD	.0618	.6407	3.175	.9207	.0342	.4738	.4812	.3281

#1	.4962	.0038	.0033	.0437	.7368	.3160	2.394	.1421
#2	.4968	.0038	.0031	.0434	.7372	.3170	2.375	.1430
#3	.4966	.0037	.0033	.0442	.7367	.3189	2.395	.1424

Elem	Ag3280	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0090	.1864	1.136	.1182	-.0013	.4757	.0094	.0181
Stddev	.0003	.0002	.002	.0015	.0013	.0021	.0025	.0011
%RSD	3.542	.0863	.1768	1.234	96.51	.4368	26.26	6.113

#1	.0091	.1862	1.137	.1177	-.0014	.4769	.0111	.0171
#2	.0086	.1864	1.134	.1198	-.0000	.4733	.0065	.0180
#3	.0092	.1865	1.138	.1170	-.0025	.4768	.0105	.0193

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	71.85	66.41	151.2	42.91	5.438	.6319	.0139	.0103
Stddev	.09	.03	.2	.08	.023	.0059	.0005	.0001
%RSD	.1264	.0418	.1578	.1796	.4243	.9278	3.927	1.155

#1	71.76	66.41	151.3	42.95	5.424	.6317	.0137	.0104
#2	71.94	66.38	150.9	42.82	5.426	.6262	.0135	.0104
#3	71.87	66.43	151.3	42.95	5.465	.6379	.0145	.0102

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.754	.0408	.1142	2.928	.0115	.0050	3.346	F -.0271
Stddev	.002	.0002	.0003	.006	.0004	.0001	.003	.0040
%RSD	.0888	.5262	.2927	.1983	3.834	1.598	.0846	14.69

#1	1.755	.0406	.1139	2.926	.0120	.0050	3.344	-.0232
#2	1.755	.0411	.1144	2.923	.0113	.0050	3.346	-.0271
#3	1.752	.0408	.1145	2.934	.0113	.0051	3.349	-.0311

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Sample Name: JC95975-7 Acquired: 10/4/2019 19:26:47 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 18

Elem	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm
Avg	.0576	3.395	.3719
Stddev	.0010	.007	.0016
%RSD	1.677	.2069	.4419

#1	.0587	3.388	.3709
#2	.0571	3.396	.3710
#3	.0570	3.402	.3738

Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	126540.	23170.	4736.4	8093.2
Stddev	122.	117.	2.9	17.1
%RSD	.09674	.50697	.06101	.21144

#1	126420.	23043.	4739.2	8110.7
#2	126670.	23193.	4736.6	8092.5
#3	126540.	23274.	4733.4	8076.5

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Sample Name: JC95975-8 Acquired: 10/4/2019 19:31:22 Type: Unk
Method: SGS No Vlave3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 19

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3413	.0048	-.0010	.0678	.2571	.1996	2.058	.1350
Stddev	.0005	.0001	.0002	.0002	.0003	.0006	.014	.0004
%RSD	.1476	1.270	17.14	.3682	.1261	.3056	.6753	.3272

#1	.3418	.0047	-.0012	.0680	.2569	.2000	2.045	.1345
#2	.3415	.0047	-.0010	.0679	.2575	.1989	2.057	.1354
#3	.3408	.0048	-.0009	.0675	.2569	.2000	2.073	.1351

Elem	Ag3280	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0071	.2609	.2972	.0408	-.0005	.0829	.0122	.0018
Stddev	.0005	.0006	.0006	.0005	.0011	.0002	.0008	.0009
%RSD	6.878	.2235	.2154	1.279	222.3	.2424	6.463	48.39

#1	.0077	.2603	.2976	.0412	.0002	.0927	.0129	.0022
#2	.0070	.2614	.2975	.0402	.0001	.0930	.0123	.0025
#3	.0067	.2610	.2964	.0410	-.0018	.0931	.0113	.0008

Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	135.2	16.88	161.2	29.07	6.641	1.188	.0220	.0035
Stddev	.1	.01	.2	.04	.034	.014	.0016	.0000
%RSD	.0643	.0556	.1403	.1336	.5098	1.181	7.171	1.282

#1	135.3	16.88	161.4	29.11	6.664	1.174	.0205	.0035
#2	135.1	16.87	161.1	29.08	6.602	1.202	.0237	.0035
#3	135.3	16.89	161.0	29.03	6.656	1.187	.0219	.0035

Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.557	.0205	.0855	6.643	.0028	.0321	.4895	F -.0493
Stddev	.005	.0004	.0001	.019	.0015	.0003	.0008	.0002
%RSD	.2984	1.755	.1724	.2889	54.23	.9697	.1548	.4761

#1	1.557	.0206	.0856	6.630	.0044	.0324	.4901	-.0496
#2	1.562	.0209	.0856	6.665	.0014	.0322	.4886	-.0492
#3	1.553	.0202	.0853	6.633	.0026	.0318	.4898	-.0492

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Sample Name: JC95975-8 Acquired: 10/4/2019 19:31:22 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 19

Elem	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	
Avg	.0953	2.611	.5859	
Stddev	.0005	.005	.0035	
%RSD	.4993	.2124	.6034	
#1	.0958	2.610	.5853	
#2	.0954	2.617	.5897	
#3	.0948	2.606	.5828	
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	126920.	23142.	4784.8	8164.1
Stddev	662.	17.	6.4	12.9
%RSD	.52170	.07278	.13280	.15847
#1	127310.	23129.	4777.9	8161.6
#2	126160.	23137.	4786.2	8152.6
#3	127300.	23161.	4790.4	8178.2

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Sample Name: JC95979-1 Acquired: 10/4/2019 19:36:00 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20

Elem	Li6707	P_1774	Ce4040	
Units	ppm	ppm	ppm	
Avg	.1408	.2524	-.0223	
Stddev	.0001	.0008	.0022	
%RSD	.0842	.3316	9.839	
#1	.1410	.2532	-.0199	
#2	.1408	.2525	-.0226	
#3	.1407	.2515	-.0243	
Int. Std.	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	112180.	20162.	4013.7	7158.2
Stddev	328.	196.	4.7	8.2
%RSD	.29233	.97079	.11701	.11397
#1	112480.	19957.	4014.8	7152.9
#2	111830.	20347.	4017.7	7167.6
#3	112230.	20181.	4008.5	7154.1

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Sample Name: JC95979-1 Acquired: 10/4/2019 19:36:00 Type: Unk
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4091	-.0001	.0002	.0070	.0005	.0776	7.006	.0326
Stddev	.0028	.0001	.0004	.0002	.0003	.0008	.073	.0007
%RSD	.6770	57.05	179.9	3.050	57.32	1.022	1.036	2.046
#1	.4106	-.0002	.0006	.0068	.0002	.0773	6.964	.0323
#2	.4059	-.0001	-.0001	.0069	.0008	.0785	7.090	.0333
#3	.4108	-.0001	.0001	.0072	.0006	.0770	6.965	.0321
Elem	Ag3280	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	W -.0056	.0017	.2029	.0056	.0008	.0064	F -.0124	.0020
Stddev	.0002	.0004	.0002	.0014	.0011	.0005	.0011	.0020
%RSD	3.187	26.15	.1048	25.67	138.6	7.375	8.662	99.59
#1	-.0054	.0019	.2030	.0071	.0010	.0070	-.0112	.0044
#2	-.0057	.0012	.2030	.0043	-.0004	.0062	-.0130	.0009
#3	-.0056	.0019	.2026	.0053	.0018	.0061	-.0131	.0009
Elem	Al3961	Ca3179	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2185	*****	6.144	8.061	.3622	1.044	-.0036	.0020
Stddev	.0188	----	.046	.077	.0866	.038	.0013	.0004
%RSD	8.620	----	.7418	.9568	23.92	3.622	36.18	21.07
#1	.2096	----	6.182	8.120	.2741	1.003	-.0024	.0020
#2	.2057	----	6.093	7.974	.3652	1.052	-.0049	.0023
#3	.2401	----	6.156	8.089	.4473	1.077	-.0035	.0015
Elem	Si2124	Sn1899	Sr4077	Ti3349	W_2079	Zr3391	S_1820	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7916	.0147	2.919	-.0086	.0032	-.0010	6.036	.0092
Stddev	.0031	.0006	.028	.0002	.0015	.0002	.002	.0014
%RSD	.3878	3.929	.9661	2.570	45.71	20.33	.0351	15.43
#1	.7943	.0151	2.890	-.0084	.0030	-.0010	6.037	.0106
#2	.7923	.0140	2.946	-.0088	.0048	-.0008	6.037	.0078
#3	.7883	.0150	2.922	-.0088	.0019	-.0012	6.033	.0091

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Sample Name: CCV Acquired: 10/4/2019 19:40:50 Type: QC
Method: SGS No Valve3(v198) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.904	1.961	1.884	1.968	2.155	1.871	2.106	2.062	.2505
Stddev	.043	.044	.003	.003	.005	.008	.005	.003	.0004
%RSD	2.263	2.237	.1479	.1533	.2502	.4243	.2463	.1277	.1747
#1	1.854	1.910	1.884	1.972	2.149	1.862	2.109	2.065	.2500
#2	1.928	1.987	1.887	1.967	2.159	1.877	2.108	2.063	.2508
#3	1.929	1.985	1.882	1.966	2.157	1.874	2.100	2.059	.2507
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									
Elem	V_2924	Zn2062	As1890	Ti1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.016	2.102	1.875	1.943	2.073	1.921	1.807	38.82	39.87
Stddev	.009	.003	.003	.006	.003	.002	.002	.81	.85
%RSD	.4350	.1274	.1360	.3280	.1608	.0779	.0954	2.092	2.137
#1	2.007	2.102	1.874	1.937	2.076	1.921	1.808	37.89	38.89
#2	2.024	2.105	1.877	1.942	2.073	1.922	1.808	39.26	40.34
#3	2.017	2.099	1.873	1.950	2.070	1.919	1.805	39.33	40.38
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	38.68	40.75	39.05	40.29	1.890	1.813	4.802	1.938	1.934
Stddev	.94	.94	.86	.80	.005	.002	.008	.004	.040
%RSD	2.419	2.319	2.210	1.994	.2789	.1323	.1709	.1822	2.062
#1	37.60	39.66	38.06	39.36	1.887	1.812	4.801	1.935	1.888
#2	39.24	41.30	39.54	40.70	1.896	1.816	4.811	1.942	1.956
#3	39.20	41.30	39.56	40.80	1.887	1.812	4.795	1.938	1.958
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

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Sample Name: CCV		Acquired: 10/4/2019 19:40:50		Type: QC				
Method: SGS No Vlave3(v198)		Mode: CONC		Corr. Factor: 1.000000				
User: admin		Custom ID1:		Custom ID2:				
Comment:				Custom ID3:				
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.902	1.814	1.928	1.859	F 1.760	1.862	2.039	1.918
Stddev	.003	.002	.005	.007	.005	.040	.004	.007
%RSD	.1414	.1040	.2750	.3747	.3041	2.158	.1871	.3473
#1	1.901	1.812	1.922	1.851	1.762	1.815	2.035	1.910
#2	1.905	1.816	1.931	1.864	1.764	1.884	2.040	1.922
#3	1.900	1.813	1.931	1.862	1.754	1.886	2.042	1.921
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value					2.000			
Range					-10.00%			
Int. Std.	Y_3600	Y_3710	Y_2243	In2306				
Units	Cts/S	Cts/S	Cts/S	Cts/S				
Avg	121530.	22198.	4562.8	7962.5				
Stddev	385.	504.	5.5	.9				
%RSD	.31697	2.2715	.12119	.01145				
#1	121090.	22773.	4567.2	7962.7				
#2	121810.	21992.	4556.6	7963.3				
#3	121680.	21830.	4564.6	7961.5				

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Sample Name: CCB		Acquired: 10/4/2019 19:45:19		Type: QC				
Method: SGS No Vlave3(v198)		Mode: CONC		Corr. Factor: 1.000000				
User: admin		Custom ID1:		Custom ID2:				
Comment:				Custom ID3:				
Elem	Ti3349	W_2079	Zr3391	S_1820	Bi2230	Li6707	P_1774	Ce4040
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	-.0047	-.0005	-.0124	.0019	.0006	-.0089	-.0028
Stddev	.0001	.0009	.0001	.0011	.0002	.0003	.0005	.0021
%RSD	44.98	18.45	20.21	9.214	10.21	48.53	5.133	74.83
#1	.0003	-.0038	-.0005	-.0132	.0019	.0002	-.0090	-.0004
#2	.0005	-.0047	-.0004	-.0111	.0021	.0007	-.0084	-.0037
#3	.0002	-.0055	-.0006	-.0128	.0017	.0007	-.0093	-.0044
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								
Int. Std.	Y_3600	Y_3710	Y_2243	In2306				
Units	Cts/S	Cts/S	Cts/S	Cts/S				
Avg	121880.	22065.	4615.5	7869.6				
Stddev	635.	2.	4.1	2.5				
%RSD	.52135	.00706	.08907	.03188				
#1	121350.	22064.	4620.2	7868.8				
#2	122580.	22063.	4613.8	7872.4				
#3	121710.	22066.	4612.6	7867.6				

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Sample Name: CCB		Acquired: 10/4/2019 19:45:19			Type: QC				
Method: SGS No Vlave3(v198)		Mode: CONC		Corr. Factor: 1.000000					
User: admin		Custom ID1:		Custom ID2:		Custom ID3:			
Comment:									
Elem	Ba4554	Be3130	Cd2288	Co2286	Cr2677	Cu3247	Mn2576	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	.0001	.0000	.0003	-.0001	F .0027	.0000	.0001	.0001
Stddev	.0003	.0000	.0002	.0002	.0004	.0005	.0000	.0002	.0003
%RSD	40.80	43.03	3357.	56.30	250.8	17.86	100.9	273.0	249.1
#1	.0006	.0001	.0001	.0003	.0000	.0032	.0001	-.0000	-.0002
#2	.0005	.0000	.0002	.0001	-.0005	.0023	.0000	-.0001	.0002
#3	.0011	.0001	-.0002	.0005	.0001	.0026	.0000	.0003	.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit						.0013			
Low Limit						-.0013			
Elem	V_2924	Zn2062	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0020	-.0006	.0000	.0008	.0010	.0015	.0002	.0127	.0275
Stddev	.0002	.0001	.0007	.0013	.0004	.0012	.0006	.0025	.0082
%RSD	10.06	20.84	24540.	171.8	45.44	80.22	294.1	19.58	29.85
#1	-.0020	-.0007	.0005	.0001	.0005	.0015	.0003	.0120	.0362
#2	-.0018	-.0006	-.0008	.0023	.0014	.0026	-.0005	.0154	.0265
#3	-.0023	-.0004	.0003	-.0001	.0010	.0003	.0008	.0106	.0199
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									
Elem	Fe2599	Mg2790	K_7664	Na5895	B_2089	Mo2020	Si2124	Sn1899	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0017	-.0061	.0585	.1195	-.0022	-.0002	.0015	-.0013	-.0001
Stddev	.0013	.0098	.0287	.0149	.0002	.0002	.0001	.0002	.0000
%RSD	77.12	160.8	49.09	12.44	8.189	138.5	7.282	11.70	37.86
#1	.0032	-.0136	.0405	.1199	-.0020	.0001	.0014	-.0015	-.0001
#2	.0007	-.0096	.0916	.1341	-.0023	-.0003	.0015	-.0012	-.0001
#3	.0012	.0050	.0434	.1044	-.0023	-.0004	.0016	-.0013	-.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

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Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Ba 455.403 { 74}	☒	1	Zr	0.001200	0.000000	No
Be 313.042 {108}	☒	12	V	0.000743	0.000000	No
			Mo	-0.000067	0.000000	No
			Ti	-0.000540	0.000000	No
			Mn	-0.000015	0.000000	No
			Cu	-0.000008	0.000000	No
			Zn	-0.000010	0.000000	No
			Al	0.000000	0.000000	No
			Ni	-0.000050	0.000000	No
			Cr	0.000003	0.000000	No
			Fe	0.000001	0.000000	No
			Mg	0.000000	0.000000	No
Cd 228.802 {448}	☒	11	K	0.000000	0.000000	No
			As	0.017000	0.000000	No
			Ni	-0.000430	0.000000	No
			Fe	0.000005	0.000000	No
			V	0.000110	0.000000	No
			Ba	0.000021	0.000000	No
			Co	-0.001760	0.000000	No
			Mn	0.000013	0.000000	No
			Cr	-0.000050	0.000000	No
			Cu	-0.000009	0.000000	No
			Ti	0.000000	0.000000	No
			Mo	0.000030	0.000000	No
Co 228.616 {448}	☒	7	Cr	0.000051	0.000000	No
			Mo	-0.001058	0.000000	No
			Ni	0.000091	0.000000	No
			Ti	0.001910	0.000000	No
			W	0.000160	0.000000	No
			Cd	0.000012	0.000000	No
			Be	0.000100	0.000000	No
Cr 267.716 {126}	☒	7	Mn	0.000417	0.000000	No
			Mo	-0.000099	0.000000	No
			Ba	0.000013	0.000000	No
			Cu	0.000020	0.000000	No
			Sr	0.000003	0.000000	No
			Fe	-0.000010	0.000000	No
			W	0.000000	0.000000	No
Cu 324.754 {104}2	☒	16	Cr	0.000056	0.000000	No
			V	-0.000411	0.000000	No
			Mo	0.000624	0.000000	No
			Ti	0.000110	0.000000	No
			Fe	-0.000091	0.000000	No
			Sn	0.000103	0.000000	No
			Co	-0.000570	0.000000	No
			Zr	0.000699	0.000000	No
			Si	-0.000007	0.000000	No
			Ag	-0.000077	0.000000	No
			Sb	0.000010	0.000000	No
			B	0.000000	0.000000	No
			Mg	-0.000001	0.000000	No
			Al	0.000002	0.000000	No
			W	0.000000	0.000000	No
			Mn	0.000004	0.000000	No
Mn 257.610 {131}	☒	8	Fe	-0.000084	0.000000	No
			Si	0.000011	0.000000	No
			Ba	0.000012	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Ni	0.000028	0.000000	No
			Mo	0.000000	0.000000	No
			Cr	-0.000110	0.000000	No
			Mg	0.000000	0.000000	No
			Al	0.000000	0.000000	No
Ni 231.604 {446}	☒	10	Fe	0.000032	0.000000	No
			Zn	-0.000021	0.000000	No
			Be	-0.000112	0.000000	No
			Co	-0.000075	0.000000	No
			Tl	0.000209	0.000000	No
			Mo	0.000081	0.000000	No
			V	-0.000032	0.000000	No
			Cu	0.000006	0.000000	No
			Se	0.000286	0.000000	No
			Sn	-0.000026	0.000000	No
Ag 328.068 {103}	☒	15	Mn	0.000162	0.000000	No
			Mo	0.000019	0.000000	No
			Ti	-0.004075	0.000000	No
			Fe	-0.000315	0.000000	No
			V	-0.000520	0.000000	No
			Zn	-0.000090	0.000000	No
			Ca	-0.000004	0.000000	No
			Al	-0.000000	0.000000	No
			Ba	-0.000095	0.000000	No
			Cr	0.000016	0.000000	No
			Si	-0.000000	0.000000	No
			Zr	0.006787	0.000000	No
			W	0.000000	0.000000	No
			Sn	0.000008	0.000000	No
			Ni	0.000020	0.000000	No
V 292.402 {115}	☒	6	Ti	0.000704	0.000000	No
			Mo	-0.000100	0.000000	No
			Sr	0.000000	0.000000	No
			Cr	-0.009262	0.000000	No
			Mn	-0.001020	0.000000	No
			Fe	0.000005	0.000000	No
Zn 206.200 {464}	☒	13	Cr	-0.001272	0.000000	No
			Mo	-0.000125	0.000000	No
			Fe	-0.000001	0.000000	No
			Ba	0.000108	0.000000	No
			Sr	-0.000023	0.000000	No
			Sn	0.000069	0.000000	No
			Cu	0.000156	0.000000	No
			As	0.000449	0.000000	No
			Be	0.000071	0.000000	No
			Bi	-0.002000	0.000000	No
			Mn	0.000055	0.000000	No
			W	0.000000	0.000000	No
			Al	0.000008	0.000000	No
As 189.042 {478}	☒	22	Al	-0.000001	0.000000	No
			Fe	-0.000076	0.000000	No
			Ca	0.000002	0.000000	No
			Mn	-0.000224	0.000000	No
			Mo	0.000960	0.000000	No
			Cr	0.000219	0.000000	No
			V	0.000178	0.000000	No
			Co	-0.000300	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Sn	-0.000085	0.000000	No
			Cd	0.000092	0.000000	No
			Tl	0.000150	0.000000	No
			Si	-0.000050	0.000000	No
			Zn	-0.000052	0.000000	No
			Sr	-0.000090	0.000000	No
			Zr	0.000123	0.000000	No
			Ti	0.000034	0.000000	No
			Cu	0.000100	0.000000	No
			Ag	0.000300	0.000000	No
			Mg	0.000001	0.000000	No
			W	0.000000	0.000000	No
			S	-0.000009	0.000000	No
			B	-0.000013	0.000000	No
Tl 190.856 (477)	☒	24	Cr	0.000227	0.000000	No
			Mo	-0.008100	0.000000	No
			Al	0.000007	0.000000	No
			Fe	-0.000049	0.000000	No
			V	-0.028100	0.000000	No
			Mn	0.001450	0.000000	No
			Si	-0.000062	0.000000	No
			Ca	-0.000001	0.000000	No
			Ti	-0.001830	0.000000	No
			Mg	0.000001	0.000000	No
			Co	0.003300	0.000000	No
			Sr	-0.000060	0.000000	No
			B	0.000056	0.000000	No
			Ba	-0.000122	0.000000	No
			Zn	0.000087	0.000000	No
			As	0.000005	0.000000	No
			Ni	-0.000030	0.000000	No
			Pb	0.000035	0.000000	No
			S	0.000006	0.000000	No
			W	0.000000	0.000000	No
			K	0.000000	0.000000	No
			Sn	-0.000054	0.000000	No
			Ag	0.000700	0.000000	No
			Cu	-0.000078	0.000000	No
Pb 220.353 (453)	☒	22	Al	-0.000074	0.000000	No
			Fe	0.000051	0.000000	No
			Ca	0.000008	0.000000	No
			Mn	0.000125	0.000000	No
			Zn	-0.000036	0.000000	No
			Mo	-0.001500	0.000000	No
			Cu	0.000570	0.000000	No
			V	-0.000093	0.000000	No
			Co	-0.000061	0.000000	No
			Ti	-0.000710	0.000000	No
			Si	0.000025	0.000000	No
			Ba	-0.000012	0.000000	No
			Sb	-0.000190	0.000000	No
			Sr	0.000070	0.000000	No
			W	0.000000	0.000000	No
			Cd	0.000193	0.000000	No
			Cr	-0.000124	0.000000	No
			Zr	-0.000135	0.000000	No
			Ni	0.000491	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			S	0.000001	0.000000	No
			B	0.000000	0.000000	No
			Mg	0.000004	0.000000	No
Se 196.090 {472}	☒	21	Al	0.000010	0.000000	No
			Ca	0.000001	0.000000	No
			Mn	0.000379	0.000000	No
			Mo	-0.000072	0.000000	No
			Fe	-0.000202	0.000000	No
			Co	-0.000881	0.000000	No
			V	-0.000679	0.000000	No
			Sr	0.000042	0.000000	No
			Si	-0.000237	0.000000	No
			Tl	-0.000520	0.000000	No
			Be	-0.000543	0.000000	No
			Zn	-0.000038	0.000000	No
			B	-0.000140	0.000000	No
			Ti	-0.000192	0.000000	No
			Cd	-0.000160	0.000000	No
			Zr	-0.000152	0.000000	No
			Ba	0.000087	0.000000	No
			Mg	-0.000002	0.000000	No
			Cr	0.000053	0.000000	No
			S	0.000008	0.000000	No
			W	0.000000	0.000000	No
Sb 206.833 {463}	☒	14	Fe	-0.000064	0.000000	No
			Al	0.000008	0.000000	No
			Ca	0.000005	0.000000	No
			Ni	0.000098	0.000000	No
			Cr	0.010900	0.000000	No
			V	-0.002450	0.000000	No
			Zn	-0.000084	0.000000	No
			Mo	0.001300	0.000000	No
			Tl	0.000231	0.000000	No
			Sn	-0.007354	0.000000	No
			Mg	0.000002	0.000000	No
			Zr	-0.000291	0.000000	No
			Sr	-0.000049	0.000000	No
			W	-0.010000	0.000000	No
Al 396.152 {85}	☒	5	Si	0.000378	0.000000	No
			Ca	0.000191	0.000000	No
			Mo	0.041162	0.000000	No
			Zr	0.013506	0.000000	No
			Ti	-0.000017	0.000000	No
Ca 317.933 {106}	☒	14	Fe	0.000130	0.000000	No
			W	0.003960	0.000000	No
			Tl	0.004948	0.000000	No
			Be	0.001840	0.000000	No
			Ba	0.003500	0.000000	No
			Cu	-0.001800	0.000000	No
			Cd	0.003700	0.000000	No
			Ni	0.001513	0.000000	No
			B	-0.000210	0.000000	No
			Se	0.002000	0.000000	No
			Co	0.000540	0.000000	No
			Cr	0.000640	0.000000	No
			Al	0.000026	0.000000	No
			As	0.002488	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Fe 259.940 {130}	☒	8	Cr	-0.000566	0.000000	No
			Mn	-0.000025	0.000000	No
			V	-0.000064	0.000000	No
			Cu	0.001043	0.000000	No
			Zn	0.000046	0.000000	No
			Ti	-0.000631	0.000000	No
			Ca	-0.000020	0.000000	No
			Ba	-0.009000	0.000000	No
Mg 279.079 {121}	☒	2	Mo	-0.017699	0.000000	No
			Ti	-0.014200	0.000000	No
K 766.490 { 44}	☒	10	Al	-0.000023	0.000000	No
			Ca	0.000179	0.000000	No
			Mn	0.001430	0.000000	No
			Si	-0.003000	0.000000	No
			V	-0.002000	0.000000	No
			Sn	-0.004700	0.000000	No
			Ba	-0.002700	0.000000	No
			Mo	0.007150	0.000000	No
			Cu	-0.010000	0.000000	No
			Ni	-0.010000	0.000000	No
Na 589.592 { 57}	☒	5	K	-0.000560	0.000000	No
			Ba	0.000900	0.000000	No
			Ca	0.000055	0.000000	No
			Al	0.000040	0.000000	No
			V	-0.005000	0.000000	No
B 208.959 {462}	☒	1	Mo	0.028218	0.000000	No
Mo 202.030 {467}	☒	1	Fe	-0.000010	0.000000	No
Si 212.412 {459}	☒	14	Sr	0.000366	0.000000	No
			Ni	0.000106	0.000000	No
			Mo	0.028291	0.000000	No
			V	0.028723	0.000000	No
			Ti	0.001772	0.000000	No
			Al	0.000024	0.000000	No
			Cd	0.001043	0.000000	No
			Ba	0.000170	0.000000	No
			Sn	0.001790	0.000000	No
			Zn	0.000385	0.000000	No
			As	0.000140	0.000000	No
			Pb	0.000471	0.000000	No
			Ca	0.000011	0.000000	No
			W	0.000000	0.000000	No
Sn 189.989 {478}	☒	5	Ti	-0.002359	0.000000	No
			Mo	0.000011	0.000000	No
			Si	-0.000009	0.000000	No
			Fe	0.000000	0.000000	No
			W	0.000000	0.000000	No
Sr 407.771 { 83}	☒	1	Ca	0.000011	0.000000	No
Ti 334.904 {101}	☒	3	Cr	0.000069	0.000000	No
			Mo	0.001092	0.000000	No
			Si	0.000035	0.000000	No
Y 360.073 { 94}* Y 371.030 { 91}* Y 224.306 {451}* In 230.606 {446}* W 207.911 {462}	☒ ☒ ☒ ☒ ☒	None None None None 18				
			As	-0.000459	0.000000	No
			Mn	-0.000110	0.000000	No
			Mo	-0.000300	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Sr	0.000050	0.000000	No
			V	-0.000140	0.000000	No
			Cd	-0.000650	0.000000	No
			Cr	-0.000390	0.000000	No
			Zn	0.012900	0.000000	No
			Sn	0.001300	0.000000	No
			Zr	0.000763	0.000000	No
			Sb	-0.000200	0.000000	No
			Co	0.000041	0.000000	No
			Ni	-0.000263	0.000000	No
			Be	-0.000130	0.000000	No
			Se	-0.002600	0.000000	No
			Cu	-0.000118	0.000000	No
			Ba	-0.000090	0.000000	No
			Tl	-0.000110	0.000000	No
Zr 339.198 { 99}	☒	6	Mo	0.000415	0.000000	No
			Fe	-0.000033	0.000000	No
			Si	0.000083	0.000000	No
			Ti	0.000049	0.000000	No
			V	0.000120	0.000000	No
			W	0.000100	0.000000	No
S 182.034 {485}	☒	9	Ca	-0.000105	0.000000	No
			Mo	-0.001096	0.000000	No
			Al	-0.000207	0.000000	No
			Fe	-0.000075	0.000000	No
			Mn	0.004790	0.000000	No
			Zn	-0.001538	0.000000	No
			Cd	-0.001300	0.000000	No
			W	0.000000	0.000000	No
			Mg	0.000038	0.000000	No
Bi 223.061 {451}	☒	9	V	-0.000380	0.000000	No
			Co	-0.008710	0.000000	No
			Mg	-0.000002	0.000000	No
			W	-0.003914	0.000000	No
			Cu	-0.001404	0.000000	No
			Fe	0.000167	0.000000	No
			Cr	0.001500	0.000000	No
			Ti	-0.010470	0.000000	No
			Mo	-0.000200	0.000000	No
Li 670.784 { 50}	☒	1	Ca	0.000036	0.000000	No
P 177.495 {490}	☒	None				
Ce 404.076 { 83}	☒	None				

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)
Ba 455.403 { 74}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	0.003315	1.881141	0.000000	1.000000
Be 313.042 {108}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	0.000670	2.670001	0.000000	1.000000
Cd 228.802 {448}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	0.001346	1.420313	0.000000	1.000000
Co 228.616 {448}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	-0.000075	0.817408	0.000000	1.000000
Cr 267.716 {126}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	-0.000073	0.110725	0.000000	1.000000
Cu 324.754 {104}2	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	0.010563	0.234003	0.000000	1.000000
Mn 257.610 {131}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	0.000172	0.899012	0.000000	1.000000
Ni 231.604 {446}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	0.001800	0.539477	0.000000	1.000000
Ag 328.068 {103}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	-0.001642	0.137507	0.000000	1.000000
V 292.402 {115}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	-0.000370	0.116024	0.000000	1.000000
Zn 206.200 {464}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	0.001245	1.603264	0.000000	1.000000
As 189.042 {478}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	-0.000980	0.129656	0.000000	1.000000
Tl 190.856 {477}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	-0.000551	0.066297	0.000000	1.000000
Pb 220.353 {453}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	-0.000034	0.237462	0.000000	1.000000
Se 196.090 {472}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	0.000684	0.128233	0.000000	1.000000
Sb 206.833 {463}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	0.000689	0.202092	0.000000	1.000000
Al 396.152 { 85}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	0.001118	0.035137	0.000000	1.000000
Ca 317.933 {106}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	0.004643	0.062325	0.000000	1.000000
Fe 259.940 {130}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	0.000196	0.053305	0.000000	1.000000
Mg 279.079 {121}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	-0.000117	0.006495	0.000000	1.000000
K 766.490 { 44}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	0.001472	0.017256	0.000000	1.000000
Na 589.592 { 57}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	0.006899	0.054746	0.000000	1.000000
B 208.959 {462}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	0.001532	0.276290	0.000000	1.000000
Mo 202.030 {467}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	-0.000325	0.861049	0.000000	1.000000
Si 212.412 {459}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	0.002709	0.250144	0.000000	1.000000
Sn 189.989 {478}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	0.000318	0.226755	0.000000	1.000000
Sr 407.771 { 83}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	-0.000868	2.892350	0.000000	1.000000
Ti 334.904 {101}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	0.000028	0.202083	0.000000	1.000000
Y 360.073 { 94}*	10/7/2019 9:28:07	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 371.030 { 91}*	10/7/2019 9:28:07	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 224.306 {451}*	10/7/2019 9:28:07	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
In 230.606 {446}*	10/7/2019 9:28:07	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
W 207.911 {462}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	0.002321	0.460179	0.000000	1.000000
Zr 339.198 { 99}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	-0.000177	0.303757	0.000000	1.000000
S 182.034 {485}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	-0.003227	0.072167	0.000000	1.000000
Bi 223.061 {451}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	-0.000818	0.256705	0.000000	1.000000
Li 670.784 { 50}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	0.000904	0.516226	0.000000	1.000000
P 177.495 {490}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	None	-0.004152	0.140475	0.000000	1.000000
Ce 404.076 { 83}	10/7/2019 9:28:07	10/4/2019 11:19:12	Linear	1/Conc	0.000034	0.035363	0.000000	1.000000

Element, Wavelength and Order	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Reslope		QC Norm	
						Slope	Y-int	Slope factor	Offset
Ba 455.403 { 74}	1.000000	0.000000	0.000161	0.000536	OK	1.000000	0.000000	1	0
Be 313.042 {108}	1.000000	0.000000	0.000053	0.000176	OK	1.000000	0.000000	1	0
Cd 228.802 {448}	1.000000	0.000000	0.000166	0.000554	OK	1.000000	0.000000	1	0
Co 228.616 {448}	1.000000	0.000000	0.000265	0.000883	OK	1.000000	0.000000	1	0
Cr 267.716 {126}	1.000000	0.000000	0.000319	0.001065	OK	1.000000	0.000000	1	0
Cu 324.754 {104}2	1.000000	0.000000	0.000333	0.001108	OK	1.000000	0.000000	1	0
Mn 257.610 {131}	1.000000	0.000000	0.000040	0.000132	OK	1.000000	0.000000	1	0
Ni 231.604 {446}	1.000000	0.000000	0.000356	0.001186	OK	1.000000	0.000000	1	0
Ag 328.068 {103}	1.000000	0.000000	0.000418	0.001392	OK	1.000000	0.000000	1	0
V 292.402 {115}	1.000000	0.000000	0.000420	0.001399	OK	1.000000	0.000000	1	0
Zn 206.200 {464}	1.000000	0.000000	0.000123	0.000409	OK	1.000000	0.000000	1	0
As 189.042 {478}	1.000000	0.000000	0.001129	0.003762	OK	1.000000	0.000000	1	0
Tl 190.856 {477}	1.000000	0.000000	0.001544	0.005148	OK	1.000000	0.000000	1	0
Pb 220.353 {453}	1.000000	0.000000	0.001133	0.003778	OK	1.000000	0.000000	1	0
Se 196.090 {472}	1.000000	0.000000	0.001585	0.005283	OK	1.000000	0.000000	1	0
Sb 206.833 {463}	1.000000	0.000000	0.001253	0.004176	OK	1.000000	0.000000	1	0
Al 396.152 { 85}	1.000000	0.000000	0.007822	0.026073	OK	1.000000	0.000000	1	0
Ca 317.933 {106}	1.000000	0.000000	0.002280	0.007600	OK	1.000000	0.000000	1	0
Fe 259.940 {130}	1.000000	0.000000	0.001572	0.005241	OK	1.000000	0.000000	1	0
Mg 279.079 {121}	1.000000	0.000000	0.015021	0.050069	OK	1.000000	0.000000	1	0
K 766.490 { 44}	1.000000	0.000000	0.033945	0.113150	OK	1.000000	0.000000	1	0
Na 589.592 { 57}	1.000000	0.000000	0.009680	0.032266	OK	1.000000	0.000000	1	0
B 208.959 {462}	1.000000	0.000000	0.000629	0.002095	OK	1.000000	0.000000	1	0
Mo 202.030 {467}	1.000000	0.000000	0.000253	0.000845	OK	1.000000	0.000000	1	0
Si 212.412 {459}	1.000000	0.000000	0.001022	0.003406	OK	1.000000	0.000000	1	0
Sn 189.989 {478}	1.000000	0.000000	0.000656	0.002187	OK	1.000000	0.000000	1	0
Sr 407.771 { 83}	1.000000	0.000000	0.000081	0.000270	OK	1.000000	0.000000	1	0
Ti 334.904 {101}	1.000000	0.000000	0.000274	0.000914	OK	1.000000	0.000000	1	0
Y 360.073 { 94}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
Y 371.030 { 91}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
Y 224.306 {451}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
In 230.606 {446}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
W 207.911 {462}	1.000000	0.000000	0.000965	0.003218	OK	1.000000	0.000000	1	0
Zr 339.198 { 99}	1.000000	0.000000	0.000191	0.000638	OK	1.000000	0.000000	1	0
S 182.034 {485}	1.000000	0.000000	0.002378	0.007928	OK	1.000000	0.000000	1	0
Bi 223.061 {451}	1.000000	0.000000	0.001366	0.004552	OK	1.000000	0.000000	1	0
Li 670.784 { 50}	1.000000	0.000000	0.001091	0.003638	OK	1.000000	0.000000	1	0
P 177.495 {490}	1.000000	0.000000	0.001112	0.003707	OK	1.000000	0.000000	1	0
Ce 404.076 { 83}	1.000000	0.000000	0.002677	0.008923	OK	1.000000	0.000000	1	0

SGS North America Inc.

Solids/Soil Metals Digestion Form

Batch Information							
Batch ID	Start Date	Start Time	End Date	End time	QC Samp 1	QC Samp 2	
MP17676	10/3/2019	9:55	10/3/2019	15:40	JC95993-2		
Temperature							
		Block ID	Therm. ID#	Balance ID	Temperature	Correction	Corrected Temp
1	Start	7	1126582	B-41	92	1	93
1	End	7	1126582	NA	92	1	93
2	Start						
2	End			NA			
Methods and Equipment							
	Dig. Method	Heating Method		Auto Pipette #	Digestion Tube Lot #		
	SW846 3050B	Digestion Block		M-74	1904119		
Sample ID	Bottle ID	Final Volume (ML)	Wet Weight (G)	Reagent Groups Added	Spike Groups Added	Comments	
MP17676-MB1	N/A	100	1.01	ABCDE			
MP17676-B1	N/A		0.96	ABCDE	ABCDE		
MP17676-S1	1		1.04	ABCDE	ABCDE		
MP17676-S2	1		0.98	ABCDE	ABCDE		
MP17676-SD1	1		1.02	ABCDE			
JC95931-1	1		1.02	ABCD			
JC95937-1	1		1.02	ABCD			
JC95937-2	1		0.99	ABCD			
JC95942-1	1		1.03	ABCD			
JC95942-2	1		0.96	ABCD			
JC95973-1	2		1.03	ABCD			
JC95975-2	1		1.01	ABCD			
JC95975-3	1		0.98	ABCD			
JC95975-4	1		0.99	ABCD			
JC95975-5	1		1.01	ABCD			
JC95975-6	1		1.05	ABCD			
JC95975-7	1		1.02	ABCD			
JC95975-8	1		1.01	ABCD			
JC95979-1	1		1.01	ABCD			
JC95981-1	1		0.96	ABCD			
JC95993-2	1		1.02	ABCDE			
JC96005-1	1		1.01	ABCD			
JC96005-2	1		0.99	ABCD			
JC96005-3	1		0.97	ABCD			
TD45449-1	1		1.01	ABCDE		*	

Reagents Groups		
Group	Description	MLs Used
A	CONC HNO3	5
B	1:1 HNO3	10
C	H2O2	5
D	CONC HCL	10
E	H2O2	2
F		
G		
H		

Spike Groups		
Group	Description	MLs Used
A	ACCUTEST 13A REV1	1
B	ACCUTEST 14A REV1	1
C	MINERALS 5000PPM	0.5
D	AG 20PPM	1.25
E	SULFUR	2.2
F		
G		
H		

Comments: *STARTED AT 11:15

Analyst TAYLORG Approved by Wendyz Approved on 10/3/2019

Note: Reagent traceability for batch Start Date can be seen on the reagent traceability page for this batch. Serial Dilution samples shown for QC purposes only. Acceptable Temperature range is 90-95 degrees C unless otherwise noted

SGS

Metals Digestion Reagents Information Log

Digestion Batch ID: MP 17676
Matrix: ALLDate: 10/3/19

Standard/Reagent Type	Exp. Date	Standard/Reagent ID
Spiking Solution - (ACCUTEST-13A REV1)	3/26/2020	MP-015-1227
Spiking Solution - (ACCUTEST-14A REV1)	3/26/2020	MP-015-1228
Spiking Solution - 5000 mg/l Minerals	8/21/2020	P2-MEB681527 MFG: INO. VENT.
Spiking Solution - Sulfur 1000ppm	9/25/2021	LOT: 092518 MFG: ABS. STANDARDS
Spiking Solution - Si 1000ppm	9/24/2020	P2-SI676242 MFG: INO. VENT.
Spiking Solution - Bi 1000ppm	8/29/2020	N2-BI669548 MFG: INO. VENT.
Spiking Solution - Se 20ppm	3/30/2020	MP-015-1230
Spiking Solution - Li 1000ppm	8/23/2020	P2-LI675235 MFG: INO. VENT.
Spiking Solution- Ag 20 ppm	3/26/2020	MP-015-1229
Spiking Solution - (ACCUTEST-13B REV1)	3/18/2020	MP-015-1224
Spiking Solution - (ACCUTEST-14B REV1)	3/18/2020	MP-015-1225
Spiking Solution - 1000ppm Minerals	2/22/2020	MP-015-1213
Spiking Solution- P		
Nitric Acid	10/1/2021	LOT: 234822 MFG: J.T. BAKER
Nitric Acid (1:1)	3/30/2020	MP-018-42-312 1:1 HNO3
Hydrochloric Acid	5/17/2022	LOT:4119040 MFG: FISHER
Hydrochloric Acid (1:1)	3/24/2020	MP-018-42-311 1:1 HCL
Hydrogen Peroxide	9/25/2021	LOT: 191365 MFG: FISHER
Soil Lab Control/Soil LC	10/31/2021	LOT: D101-540 MFG: ERA
Teflon Chips(For Soil MB and Blank Spike)	N/A	LOT: 24635764 MFG: SAINT-GOBAIN
Digestion Tubes	N/A	LOT: 1904119 MFG: ENV. EXPRESS
pH Paper	11/1/2021	LOT: 231018 MFG: HYDRION
Filter paper Q8	N/A	LOT: 16939084 MFG: FISHER
Filter paper 0.45µm	N/A	LOT: F9BA55973E MFG: FISHER

Spike witnessed By: SN

Validated By: _____

Validated On: _____

1sd-96961
1sd-56961

MP H

Analyst

Date _____

10/2/07

QC sample #

Post spike for ICP Method 6010D

Spiking solution	Elements	Spike added (Y/N)	Vendor	Intermediate Lot #	Exp Date	Conc (mg/l)	Amt of Spike added (ml)	Digestate sample volume (ml)	Final Digestate volume in ml (Spike + Sample)	Final Conc at the instrument (mg/l)
Mixed ICP intermediate Metals Solution (ACCUTEST-13A-REV1)	Ba, Be, B, Cd, Cr, Co, Cu, Pb, Mn, Ni, P, Se, Sr, Ti, V, Zn	Yes	Inhouse	MA-18-354-153	11/28/19	200	0.2			2
Mixed ICP intermediate Metals Solution (ACCUTEST-14A-REV1)	Sb, As, Mo, Sn, Ti, W, Zr	Yes	Inhouse	MA-18-354-154	11/28/19	200	0.2	1000	20	2
Ag Spike Intermediate	Ag	Yes	Inhouse	MA-18-354-152	11/28/19	20	0.25			0.25
Metals Mix	Ca, Al, Fe, Mg, K, Na	Yes	Changnuo P2-MEB Vestec 67865g		4/25/20	5000	0.1			25
S spike	S					200	0.2			2
Br Spike	Br					200	0.2			2
Li Spike	Li					200	0.2			2
Sr spike	Sr					1000	0.1			5

Reviewed by

Form: DAYT-MET-0095-01-FORM
Rev. Date 7/10/2018

General Chemistry

QC Data Summaries



Includes the following where applicable:

- Percent Solids Raw Data Summary

Percent Solids Raw Data Summary

Page 1 of 1

Job Number: JC95975A
Account: WSPERMAW WSP Environment & Energy
Project: Former TTC Site, One Robert Lane, Glen Head, NY

Sample: JC95975-3 **Analyzed:** 06-OCT-19 by BG **Method:** SM2540 G 18TH ED MOD
ClientID: SS-100-20190927

Wet Weight (Total)	27.83	g
Tare Weight	18.74	g
Dry Weight (Total)	27.31	g
Solids, Percent	94.3	%

Sample: JC95975-4 **Analyzed:** 06-OCT-19 by BG **Method:** SM2540 G 18TH ED MOD
ClientID: SS-101-20190927

Wet Weight (Total)	28.53	g
Tare Weight	19.51	g
Dry Weight (Total)	27.82	g
Solids, Percent	92.1	%

Sample: JC95975-5 **Analyzed:** 06-OCT-19 by BG **Method:** SM2540 G 18TH ED MOD
ClientID: SS-102-20190927

Wet Weight (Total)	31.07	g
Tare Weight	22.01	g
Dry Weight (Total)	30.18	g
Solids, Percent	90.2	%

Sample: JC95975-6 **Analyzed:** 06-OCT-19 by BG **Method:** SM2540 G 18TH ED MOD
ClientID: SS-103-20190927

Wet Weight (Total)	32.5	g
Tare Weight	23.24	g
Dry Weight (Total)	30.72	g
Solids, Percent	80.8	%

Sample: JC95975-7 **Analyzed:** 06-OCT-19 by BG **Method:** SM2540 G 18TH ED MOD
ClientID: SS-104-20190927

Wet Weight (Total)	28.75	g
Tare Weight	19.55	g
Dry Weight (Total)	27.35	g
Solids, Percent	84.8	%

Sample: JC95975-8 **Analyzed:** 06-OCT-19 by BG **Method:** SM2540 G 18TH ED MOD
ClientID: SS-DUPE-20190927

Wet Weight (Total)	33.95	g
Tare Weight	24.24	g
Dry Weight (Total)	32.66	g
Solids, Percent	86.7	%

ENCLOSURE B



FIELD STANDARD OPERATING PROCEDURE #3

SAMPLE PACKAGING AND SHIPMENT PROCEDURE

Shipping samples is a basic but important component of field work. The majority of field activities include the collection of environmental samples. Proper packing and preservation of those samples is critical to ensuring the integrity of our work product. The user is advised to read the entire standard operating procedure (SOP) and review the site health and safety plan (HASP) and/or project safety plan (PSP) before beginning any onsite activities. In accordance with the HASP or PSP, proper personal protective equipment (PPE) must be selected and used appropriately.

3.1 ACRONYMS AND ABBREVIATIONS

CFR	Code of Federal Regulations
DOT	U.S. Department of Transportation
IATA	International Air Transport Association
HASP	Health and safety plan
PPE	Personal protective equipment
PSP	Project safety plan
SOP	Standard operating procedure

3.2 MATERIALS

- Suitable shipping container (e.g., plastic cooler)
- Chain-of-custody forms
- Custody seals
- Sample container custody seals (as necessary)
- Mailing address labels (as necessary)
- Shipping form (with account number, as necessary)
- Tape (e.g., strapping, clear packing)
- Permanent marker
- PPE
- Bubble wrap or other packing material

Temperature-preserved samples:

- Large plastic garbage bag
- Wet ice
- Heavy-duty zipper-style plastic bags
- Universal sorbent materials

Note: Some materials will be supplied by the laboratory, while others are must be supplied by the sampler. Confirm supplier of materials prior to mobilizing to the field.

3.3 PRECONDITIONS AND BACKGROUND

This SOP has been prepared as part of the company's Environmental Quality Management Plan and is designed to provide detailed procedures for common field practices. Compliance with the methods presented in this document is mandatory for all field personnel

and will ensure that the tasks are performed in a safe and consistent manner, are in accordance with federal and state guidance, and are technically defensible.

This SOP is written for the sole use of company employees and will be revised periodically to reflect updates to company policies, work practices, and the applicable state and/or federal guidance. Employees must verify that this document is the most recent version of the company SOPs. Employees are also strongly advised to review relevant state and/or federal guidance, which may stipulate program-specific procedures, in advance of task implementation.

WSP requires that all personnel performing specific project assignments be appropriately qualified, including having required certifications or licenses, and properly trained in accordance with the requirements of their assignment, the Environmental Service Line's field standard operating procedures, and the Quality Management System.

This SOP is designed to provide the user with a general outline for shipping samples and assumes the user is familiar with basic field procedures, such as recording field notes (SOP 1), sample collection and quality assurance procedures (SOP 4), and investigation derived waste management procedures (SOP 5).

Most environmental samples are classified non-hazardous materials due to unknown characteristics and hazardous classes, however environmental samples can meet the definition of U.S. Department of Transportation (DOT) hazardous materials when shipped by air, ground, or rail from a project site to the laboratory (e.g., free product, samples preserved with a hazardous material [TerraCore® samplers]). As such, field staff must work with their assigned company compliance professional to determine whether the sample shipment is subject to any specific requirements (e.g., packaging, marking, labeling, and documentation) under the DOT hazardous materials regulations.

3.4 SAMPLE SHIPMENT PROCEDURES

The two major concerns in shipping samples are incidental breakage during shipment and complying with applicable DOT and courier requirements for hazardous materials shipments.

NOTE: Many couriers, including Federal Express and United Parcel Service, have requirements that the company register with them before shipping hazard materials. In most cases, it is the sampling location, not the company office address, which needs to be registered. Therefore, each project will likely have unique requirements. Please contact your company compliance professional to determine whether or not you will be required to register for your shipment.

Protecting the samples from incidental breakage can be achieved using "common sense." Pack all samples in a manner that will prevent them from moving freely about in the cooler or shipping container. Do not allow glass surfaces to contact each other. When possible, repack the sample containers in the same materials that they were originally received in from the laboratory. Cushion each sample container with plastic bubble wrap, styrofoam, or other nonreactive cushioning material. A more detailed procedure for packing environmental samples is presented below.

3.4.1 NON-HAZARDOUS MATERIAL ENVIRONMENTAL SAMPLES

The first step in preparing your samples for shipment is securing an appropriate shipping container. In most cases, the analytical laboratory will supply the appropriate container for bottle shipment, which can be used to return samples once they have been collected. Be sure that the container is large enough to contain the samples plus a sufficient amount of packing materials, and if applicable, enough wet ice to maintain the samples at the preservation temperature (usually 4 degrees Celsius). Use additional shipping containers as needed so that sample containers are protected from breakage due to overcrowding. Do not use lunch-box sized coolers or soft sided coolers, which do not offer sufficient insulation or protection from damage.

3.4.1.1 TEMPERATURE-PRESERVED SAMPLE CONTAINER PREPARATION

Temperature-preserved samples should be shipped to the laboratory in an insulated container (e.g., cooler). If using a plastic cooler with a drain, securely tape the inside of the drain plug with duct tape or other material to ensure that no water leaks from the cooler during shipment. Place universal sorbent materials (e.g., sorbent pads) in the bottom of the insulated container. The amount of sorbent material must be sufficient to absorb any condensation from the wet ice and a reasonable volume of water from melted wet ice (if a bag were to rupture) or a damaged (aqueous) sample container.

The next step is to line the insulated container with a large, heavy-duty plastic garbage bag. If shipping breakable sample containers (e.g., glass), place bubble wrap or other packing materials on the bottom of the container. Place the samples, including a temperature blank, on the packing materials with sufficient space to allow for the addition of more bubble wrap or other packing material between the sample containers. Place large or heavy sample containers on the bottom of the cooler with lighter samples placed on top to minimize the potential for breakage. Place all sample containers in the shipping container right-side up. Do not overfill the cooler with samples; room must be left for a sufficient volume of wet ice. Wet ice must be double-bagged in heavy-duty zipper-style plastic bags (1 gallon-sized, or less); properly seal both bags before placing in the insulated container. Place the bags of ice on top of or between the samples. Place as much ice as possible into the cooler to ensure the samples arrive at the lab at the required preservation temperature, even if the shipment is delayed. Fill any remaining space in the container with bubble wrap or other packing material to limit the airspace and minimize the shifting of the sample containers and in-transit melting of ice. Securely close the top of the heavy-duty plastic bag and knot or seal with tape.

3.4.1.2 NON-TEMPERATURE-PRESERVED SAMPLE CONTAINER PREPARATION

Non-temperature-preserved samples should be shipped to the laboratory in a durable package (e.g., hard plastic container or cardboard box). If shipping breakable sample containers (e.g., glass), place bubble wrap or other packing materials on the bottom of the container. Place the samples on the packing materials with sufficient space to allow for the addition of more bubble wrap or other packing material between and on top of the sample containers. Place large or heavy sample containers on the bottom of the container with lighter samples placed on top to minimize the potential for breakage. Place all sample containers within the shipping container right-side up. Fill any remaining space in the container with bubble wrap or other packing material to limit the airspace and minimize the shifting of the sample containers and in-transit melting of ice.

3.4.1.3 CONTAINER SHIPMENT

Samples in the container should be cross-checked against the chain-of-custody before signing off on the form and sealing the cooler. Place the original chain-of-custody form (i.e., laboratory copy) into a heavy-duty zipper-style plastic bag, affix/tape the bag to the shipping container's inside lid, and then close the shipping container; as required, include return shipping labels for the laboratory to return company-owned coolers. Only one chain-of-custody form is required to accompany one of the shipping containers per sample shipment; the other coolers in the shipment do not need to include chain-of-custody forms, unless required by the project. At this point, sample shipment preparations are complete if using a laboratory courier.

Once the shipping container is sealed, shake test the shipping container to make sure that there are no loose sample containers. If loose sample containers are detected, open the shipping container, repack the contents, and reseal the shipping container. If sending the sample shipment through a commercial shipping vendor, place two signed and dated chain-of-custody seals on alternate sides of the shipping container lid so that it cannot be opened without breaking the seals. Securely fasten the top of the shipping container shut with clear packing tape; carefully tape over the custody seals to prevent damage during shipping.

Affix a mailing label with the ship to and return to addresses to the top of the shipping container using clear shipping tape. Use the pre-printed return mailing label from the laboratory, if provided, or complete a new mailing label from the shipping carrier. Ship environmental samples to the contracted analytical laboratory using an appropriate delivery schedule. **Note: Samples can be shipped for Saturday delivery once the lab has been verified to be open and receiving samples on the weekend.**

Verify whether the shipment cost should be billed to the sender or recipient, and ensure the internal billing reference section on the mailing label includes either the laboratory's billing reference number, if the shipment is billed to the laboratory, or the project billable number, if the shipment is billed to WSP.

Declare the value of samples on the shipping form for insurance purposes, if applicable. When shipping samples to a lab, identify a declared value equal to the carrier's default value (\$100); additional fees will be charged based on a higher value declared. Our preferred carrier, Federal Express, will only reimburse for the actual value of the cooler and its contents if a sample shipment is lost; they will not reimburse for the cost of having to re-collect the samples. [Please note: if you are shipping something other than samples, such as field equipment, declare the replacement value of the contents.]

Record the tracking numbers from the shipping company forms (i.e., the airbill number) in the field book and retain a copy of the shipping airbill. On the expected delivery date, confirm sample receipt by contacting the laboratory or tracking the package using the tracking number; provide this confirmation information to the project manager.

NOTE: Most shipping carriers adhere to transit schedules with final pickup times each day; these schedules are subject to change and vary by service location. If shipping containers are dropped off at a service location after the final pickup time, transit to the laboratory will not be initiated until the following day, and samples may not be properly preserved. Therefore, confirm transit schedules in advance of each sampling event, and ensure samples are delivered to the carrier before the final pickup time of the day.

3.4.2 HAZARDOUS MATERIALS SAMPLES

Employees rarely ship hazardous materials due to DOT shipping requirements. If you find that your samples could be considered a DOT hazardous material, first coordinate with the assigned company compliance professional and project manager to make a hazardous material classification and, if necessary, establish the necessary protocols and to receive the appropriate training/certification.

NOTE: Employees shipping samples regulated as hazardous materials or exempt hazardous materials by air must have International Air Transport Association (IATA) training. IATA training is a separate training required in addition to DOT hazardous materials training for such shipments. Most of our employees do not have IATA training and therefore, anyone who needs to ship by air MUST consult with a company IATA-trained compliance professional.



FIELD STANDARD OPERATING PROCEDURE #4

SAMPLE COLLECTION AND QUALITY ASSURANCE PROCEDURE

The purpose of this procedure is to assure that sample volumes and preservatives are sufficient for analytical services required under U.S. Environmental Protection Agency (EPA) or other agency approved protocols. This operating procedure describes sample identification procedures, sampling order for select analytes, quality control and quality assurance (QA/QC) sampling procedures, and custody documentation. The user is advised to read the entire standard operating procedure (SOP) and review the site health and safety plan (HASP) and/or project safety plan (PSP) before beginning any onsite activities. In accordance with the HASP, proper personal protective equipment (PPE) must be selected and used appropriately.

4.1 ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius
COC	chain-of-custody [form]
DI	laboratory-grade, analyte-free deionized water
DOT	US Department of Transportation
EDD	electronic data deliverable
EPA	US Environmental Protection Agency
HASP	health and safety plan
ID	identification [number]
MS/MSD	matrix spike and matrix spike duplicate
MSA	master services agreement
PPE	personal protective equipment
PSP	project safety plan
QA	quality assurance
QA/QC	quality assurance/quality control
QAPP	quality assurance project plan
SOP	standard operating procedure
VOCs	volatile organic compounds

4.2 MATERIALS

- Field book
- Indelible (waterproof) markers or pens
- PPE
- Sampling containers and labeling/shipping supplies

- Deionized (DI) water
- Cleaned or dedicated sampling equipment

4.3 PRECONDITIONS AND BACKGROUND

This SOP has been prepared as part of the company's Environmental Quality Management Plan and is designed to provide detailed procedures for common field practices. Compliance with the methods presented in this document is mandatory for all field personnel and will ensure that the tasks are performed in a safe and consistent manner, are in accordance with federal and state guidance, and are technically defensible.

This SOP is written for the sole use of employees and will be revised periodically to reflect updates to company policies, work practices, and the applicable state and/or federal guidance. Employees must verify that this document is the most recent version of the company's SOPs. Employees are also strongly advised to review relevant state and federal guidance, which may stipulate program-specific procedures, in advance of task implementation.

WSP requires that all personnel performing specific project assignments be appropriately qualified, including having required certifications or licenses, and properly trained in accordance with the requirements of their assignment, the Environmental Service Line's field SOPs, and the Quality Management System.

This SOP is designed to provide the user with a general outline for collecting environmental and quality assurance samples and assumes the user is familiar with basic field procedures, such as recording field notes (SOP 1), sample shipment procedures (SOP 3), investigation derived waste management procedures (SOP 5), and equipment decontamination (SOP 6). This SOP does not cover investigation planning, nor does it cover the analysis of the analytical results. These topics are more appropriately addressed in a site-specific work plan or a dedicated quality assurance project plan (QAPP). This SOP does not include an special handling requirements for specific parameters such as low-level mercury or per- and polyfluoroalkyl substances. These requirements should be included in the QAPP.

4.4 SAMPLE IDENTIFICATION PROCEDURES

All sample containers (e.g., glass bottles, plastic jars, foil bags, plungers, etc.) should be identified by an affixed sample label. Unless otherwise approved by your project manager or specified in your site-specific work plan/QAPP, information on the sample container labels must include the site/project name, project/task number, unique alpha-numeric sample identification (ID) number, sample collection date, time of collection using the military or 24-hour clock system (i.e., 0000 to 2400 hours), analytical parameters, preservative, and the initials of the sampling personnel. Employees are advised to use pre-printed waterproof mailing labels (e.g., Avery® 5xxx-series Waterproof Address Labels) for all sample identification. Electronic label templates are available.

The sample identification (ID) number must, unless otherwise approved by your project manager or specified in your site-specific work plan/QAPP, follow the company's naming protocol. This protocol was developed to aid in determining the type of sample collected (e.g., soil, groundwater, vapor, etc.), the sample location, and, where appropriate, the sample depth. This protocol was also designed to ensure consistency across the company.

Construct sample IDs in the following format:

SB-10A (4-6)

Where, in this example:

- SB = the first two or three characters will define the sample type (see list of approved prefixes below); in this case, a soil boring
- 10A = the next two or three alpha-numeric digits (separated by a dash from the sample type identifier) indicate the location of the boring on the site; in this case, boring number 10A
- (4-6) = the depth the sample was collected, with the first number (including decimals, if necessary) indicating the top of the sample interval (in feet) and the second number indicating the bottom of the sample interval (in feet); not all sample types will include depth information.

Additional label information may be added after the last character of the sample ID number (e.g., sample date, underground storage tank number, area of concern number, “Area” number, client identifier, etc.). Separate any additional information from the required portion of the sample name by dash(es).

Sample Prefix	Permitted Use
AA	Ambient outdoor air sample
CC	Concrete core/chip sample
CS	Confirmation/verification soil sample collected from an excavation
HA	Soil sample collected with a hand auger
IAB	Indoor air sample – basement
IAC	Indoor air sample – crawl space
IAF	Indoor air sample – first floor
MW	Soil sample collected from a monitoring well borehole or a groundwater sample collected from a monitoring well
PZ	Groundwater sample collected from a piezometer
SB	Soil sample collected from boreholes that will not be converted to monitoring wells
SED	Sediment sample
SG	Soil gas sample other than a sub-slab sample (e.g., sample collected from a temporary or permanent polyvinyl chloride sample point or stainless steel screen implant)
SL	Sludge sample
SS	Surface soil sample collected using hand tools (e.g., trowel, spoon, etc.) and typically at depths less than 2 feet below ground surface
SSV	Sub-slab vapor sample
SW	Surface water sample
TC	Tree core sample
TP	Soil sample collected from a test pit
WC	Waste characterization sample
WP	Wipe sample
WW	Wastewater

4.5 SAMPLE CONTAINERS, PRESERVATIVES, AND HOLDING TIMES

The first step in sample collection is to verify that the correct number and type of sample containers were provided, and that each contains the appropriate preservatives for the proposed project (i.e., check against the sampling plan requirements outlined in the site-specific QAPP or, for those projects without a site-specific QAPP, the laboratory Task Order). Inspect all containers and lids for flaws (cracks, chips, etc.) before use. Do not use any container with visible defects or discoloration. Report non-receipt and any discrepancies of specific types of sample containers to the team leader or project manager immediately. Make arrangements to have missing or additional sampling containers provided on an expedited basis.

Precautions must be taken to prevent cross-contamination and contamination of the environment when collecting samples. Wear a clean pair of new, disposable gloves each time a different sample is collected and don the gloves immediately prior to collection. This limits the possibility of cross-contamination from accidental contact with gloves soiled during collection of the previous sample. The gloves must not contact the medium being sampled and must be changed any time during sample collection when their cleanliness is compromised. *In no case should gloved hands be used as a sampling device: always use the appropriate sampler to move the sample from the sampling device to the laboratory-supplied containers.*

Sample collection must follow all appropriate SOPs, state and federal regulations, or guidance, for the collection of environmental samples; the recommended order of sample collection is:

- Geochemical measurements (e.g., temperature, pH, specific conductance)
- Volatile organic compounds (VOCs)
- Extractable organics, petroleum hydrocarbons, aggregate organics, and oil and grease
- Per- and Polyfluoroalkyl substances
- Total metals
- Dissolved metals
- Inorganic non-metallic and physical and aggregate properties
- Microbiological samples
- Radionuclides

Fill the sample bottles to the appropriate level for the parameter analyzed including eliminating head space, as appropriate. Collected samples that require thermal preservation must be immediately (within 15 minutes) placed in a cooler with wet ice and maintained at a preservation temperature of 4° Celsius (°C).

4.6 FIELD QUALITY ASSURANCE/QUALITY CONTROL SAMPLES

Field quality assurance/quality control (QA/QC) samples may include equipment blanks, trip blanks, temperature blanks, duplicates, matrix spike and matrix spike duplicate samples, field blanks, and split samples. The project manager or QAPP must specify the type and frequency of QA/QC sample collection. The QA/QC sample identification number must, unless otherwise approved by your project manager or specified in your site-specific work plan, follow the company's naming protocol as discussed in the sections below. QA/QC samples must be clearly identified on our copy of the chain-of-custody (COC) form (described below) and in the field book. Failure to properly collect and submit required QA/QC samples can result in invalidation of an entire sampling event.

Several blanks, discussed below, require laboratory-grade analyte-free, deionized water (DI) be used. Only if all options to obtain laboratory-grade DI have been exhausted should store-grade distilled water be used to prepare blanks. If store-grade distilled water is used, be sure to record the source and lot number in the field book.

Collect, preserve, transport and document split samples using the same protocols as the related samples.

4.6.1 EQUIPMENT BLANKS

Equipment blanks, or rinsate blanks, are used to document contamination attributable to using non-dedicated equipment (i.e., equipment that must be decontaminated after each use). Collect equipment blanks in the field at a rate of one per type of sampling equipment per day, unless otherwise specified. If the site-specific work plan or QAPP indicates that an equipment blank is to be collected from dedicated sampling equipment, collect the equipment blank in the field before sampling begins. If field decontamination of sampling equipment is required, prepare the equipment blanks after the equipment has been used and field-decontaminated at least once.

Prepare equipment blanks by filling or rinsing the pre-cleaned equipment with DI and collecting the rinsate in the appropriate sample containers. Record the type of sampling equipment used to prepare the blank and how the equipment blank was generated in the field book. Decontamination of the equipment following equipment blank procurement is not required.

The samples must be labeled, preserved, and filtered (if required) in the same manner as the environmental samples. Have the equipment blanks analyzed for all the analytes for which the environmental samples are being analyzed, unless otherwise specified. Designate equipment blanks using "EB", followed by the date, and in the order of equipment blanks collected that day. For example, the first equipment blank collected on July 4, 2015, would be designated EB070415-1.

4.6.2 TRIP BLANKS

Trip blanks are used to document VOC contamination attributable to shipping and field handling procedures. Trip blanks are only required when analyzing samples for VOCs. The blanks are prepared by the analytical laboratory and shipped along with the empty sample containers. These pre-filled blanks should accompany the environmental sample containers wherever they are stored onsite (i.e., keep the trip blank sample bottles in the same shipping container used to ship and store VOC sample bottles during the sampling event). Never open the laboratory-supplied trip blank sample bottles. Only as a last resort, store-grade distilled water, can be poured into empty VOC sample bottles to generate event-specific trip blanks (or augment the laboratory-supplied ones, if they are provided in insufficient numbers).

The trip blanks, even those provided by the analytical laboratory, should be labeled in the field like other environmental samples collected during the investigation activities. Identify trip blanks using the prefix “TB”, followed by the date. For example, the trip blank shipped with a cooler of samples on July 4, 2019, would be designated TB070419-1. If a second trip blank is needed on that same day, the designation would be TB070419-2. A minimum of one trip blank should accompany each shipping container of VOC samples, unless more stringent project requirements are in place. The number of trip blanks needed per shipment can be minimized by shipping all the VOC samples in the same shipping container (if possible).

4.6.3 FIELD BLANKS

The field blank is analogous to the trip blank in that it is designed to assess and document any contamination to the environmental samples that can be attributable to the (ambient) field conditions. Not all projects require the use of field blanks. Their use, if required, and the frequency of collection (often 1 blank per 10 or 20 environmental samples collected) is detailed in the QAPP and the site-specific work plan. The sample is collected by pouring DI water into empty glassware at the site during the sampling event. The intent is to expose the field blank to the same conditions in the atmosphere as those present when the environmental samples were collected.

Identify field blanks using the prefix “FB”, followed by the date. For example, the field blank shipped collected on August 22, 2019, would be designated FB082219. If a second field blank is needed on that same day, the designation would be FB082219-2. At least one field blank should be collected for each analytical parameter identified in the sampling event.

4.6.4 TEMPERATURE BLANKS

Temperature blanks are used to determine if the samples are at the appropriate temperature for preservation at the time the sample container (cooler) is received by the analytical laboratory. The temperature is determined by measuring the temperature blank, which provides a proxy for the temperature of the sample container upon arrival at the laboratory. These temperature blanks are typically provided by the laboratory and should be included in each sample cooler used to ship and store the sample bottles during the sampling event. If laboratory-provided temperature blanks are not available, fill a clean, unpreserved sample bottle with potable, DI, or store-grade distilled water and identify the bottle as a temperature blank.

4.6.5 DUPLICATES

Duplicate samples, which are used for measuring the variability and documenting the precision of the sampling process, should be collected at a rate of at least 1 duplicate per 20 environmental samples collected, unless specific project requirements (as detailed in a QAPP) are in place. Be sure that the location selected for duplication has sufficient sample volume and is within the area of contamination, if known. Under no circumstances can equipment or trip blanks be used as duplicates.

Collect each duplicate sample at the same time, from the same sample aliquot, and in the same sampling order (i.e., volatile organic compounds, then semivolatile organic compounds, then inorganics, etc.) as the corresponding environmental sample. Sample bottle aqueous duplicate samples, for example, should be alternately filled with the environmental sample bottles (i.e., the actual sample bottle and the bottle to be used for the duplicate) from the same sampling device. If the sampling device does not hold enough volume to fill the sample containers, fill the first container with equal portions of the sample, and pour the remaining sample into the next

sample containers. Obtain additional sample volume and pour the first portion into the last sample container, and pour the remaining portions into the first containers. Continue with these steps until all containers have been filled.

Duplicate samples will be assigned arbitrary sample ID and a false collection time so that they are not identified as duplicates by the laboratory (i.e., submit the duplicate samples as *blind* to the lab). The blind duplicate sample "location designation" will be left up to the project manager; however, in no case will "Dup" be allowed to appear in the sample name. The duplicate samples should be analyzed for the same analytes as the original environmental sample. Be sure to record the sampling method, duplicate sample ID, the false time, and the actual time of collection in the field notebook. The duplicate should also be indicated in separate documentation, such as on our carbon copy of the chain-of-custody (i.e., the yellow copy), and not on the original chain-of-custody that accompanies the samples to the laboratory.

4.6.5 MATRIX SPIKE AND MATRIX SPIKE DUPLICATES

Matrix spike and matrix spike duplicate samples (i.e., MS/MSD samples) are used to determine the bias (accuracy) and precision of an analytical method for a specific sample matrix. Many of the company's projects require the collection of MS/MSD samples; however, laboratory generated MS/MSD samples are sufficient for some projects (as detailed in the QAPP or site-specific work plan). Collect MS/MSD samples at a rate of 1 MS and 1 MSD (i.e., 2 samples) for every 20 environmental samples, unless more stringent project requirements (as detailed in a QAPP) are in place. Clearly convey the MS/MSD identity to the laboratory by adding "MS" or "MSD" after the sample name (e.g., MW-01MS) and/or in the comments section of the chain-of-custody on the same line as the parent sample. Under no circumstances can equipment or trip blanks be used as MS/MSD samples.

4.6.6 SPLIT SAMPLES

Split samples may be collected as a means of determining compliance or as an added measure of quality control. Split samples measure the variability between laboratories and not the variability of sample collection and laboratory procedures (i.e., they are not equivalent to duplicate samples). The split samples must be subsamples of the same parent material used for the environmental sample: soil should be collected from the same in-place material (for VOCs) or, for non-discrete samples, the same mixing vessel after homogenization. Collect aqueous split samples using the same alternating bottle approach detailed in the duplicate sample description above. These procedures will ensure that the split samples are valid and are representative of the environmental sample collected as part of the investigation.

Collecting split samples of soil, sediment, waste, and sludge is not recommended because the homogenization necessary for a true split sample in these matrices is not possible and the resulting laboratory results would not be comparable.

Split samples should have the same sample location designation (e.g., MW-01, SB-03 (4-6)), but are differentiated from each other by inserting the laboratory analyzing or the agency/consultant collecting the sample after the sample location (e.g., MW-01-WSP and MW-01-EPA).

4.7 CUSTODY DOCUMENTATION

Sample custody protocols are used to demonstrate that the samples and sample containers were handled and transferred in such a manner as to prevent tampering. Legal COC begins when the pre-cleaned sample containers are dispatched to the field from the laboratory and continues through sample analysis and eventual disposal of the sample and sample containers. Maintaining custody requires that samples must be in the actual possession or view of a person who is authorized to handle the samples (e.g., sample collector, laboratory technician, etc.), secured by the same person to prevent tampering, or stored in a designated secure area.

It is a good idea to limit, to the extent possible, the number of individuals who physically handle the samples. Samples must be placed in locked storage (e.g., locked vehicle, locked storeroom, etc.) when not in the possession or view of authorized personnel. Do not leave samples in unoccupied motel or hotel rooms or other areas where access cannot be controlled by the person(s) responsible for custody without first securing samples and shipping or storage containers with tamper indications in place (i.e., custody seals).

The COC form is used to trace sample possession from the time of collection to receipt at the analytical laboratory. It is recommended that the company's COC be used rather than the laboratory-supplied COC form to ensure that all necessary data are recorded. Submit one COC form per sample shipment, unless more stringent project requirements are in place (as detailed in the QAPP or site-specific work plan). The COC needs to have a unique COC number (pre-printed on the form), accompany all the samples, and include all appropriate project-specific information, such as:

- Project number, name, and location
- Sampler's printed name(s) and signature(s)
- Sample identification number
- Date and time (using the 24-hour clock) of collection
- Sample matrix (e.g., soil, aqueous, solid, etc.)
- Total number of containers per sample
- Parameters requested for analysis including number of containers per analyte.
- Remarks (e.g., irreducible headspace, field filtered sample, expected concentration range, specific turn-around time requested, etc.)
- Signatures of all persons involved in the chain of possession in chronological order
- Requested turn-around-time
- Name and location of analytical laboratory
- Custody seal numbers
- Shipping courier name and tracking information
- Internal temperature of shipping container upon shipment to laboratory, as needed
- Internal temperature of shipping container upon delivery to laboratory
- Employee contact information

Affix custody seals to all storage and shipping container closures when transferring or shipping sample container kits or samples to an off-property party. Place the seal so that the closure cannot be opened without breaking the seal. In the field book, record the time, date and signatures of responsible personnel affixing and breaking all seals for each sample container and shipping container. Affix new custody seals every time a seal is broken until continuation of evidentiary custody is no longer required.

FIELD STANDARD OPERATING PROCEDURE #9

SOIL SAMPLING PROCEDURE

The soil sampling procedures outlined in this standard operating procedure (SOP) are designed to ensure that collected soil samples are representative of current site conditions. Soil samples can be collected for onsite screening or for laboratory analysis. The user is advised to read the entire SOP and review the site health and safety plan (HASP) and/or project safety plan (PSP) before beginning any onsite activities. In accordance with the HASP, proper personal protective equipment (PPE) must be selected and used appropriately.

9.1 ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
HASP	health and safety plan
IDW	investigation derived waste
PID	photoionization detector
PPE	personal protective equipment
PSP	project safety plan
QAPP	quality assurance project plan
QA/QC	quality assurance/quality control
SOP	standard operating procedure
USCS	Unified Soil Classification System

9.2 MATERIALS

- Field book
- PPE
- Air quality monitoring equipment, (e.g., photoionization detector [PID]), as needed
- Field test kits, as needed
- Sampling containers and labeling/shipping supplies
- Ruler or tape measure
- Zipper-style plastic bags, as needed
- Plastic sheeting
- Soil sampling method specific materials, as needed:
- Stainless steel trowels, probes, or shovels
- Stainless steel spatulas or spoons
- Bucket augers, auger extension rods, auger handle, pipe wrenches
- Split-spoon samplers, pipe wrenches
- Direct-push acetate liners, including catchers and opening tools, as needed
- Shelby tube samplers, plastic or wax caps
- Mixing tray or bowl
- Munsell color chart
- Decontamination supplies

9.3 PRECONDITIONS AND BACKGROUND

This SOP has been prepared as part of the company's Environmental Quality Management Plan and is designed to provide detailed procedures for common field practices. Compliance with the methods presented in this document is mandatory for all field personnel and will ensure that the tasks are performed in a safe and consistent manner, are in accordance with federal and state guidance, and are technically defensible.

This SOP is written for the sole use of company employees and will be revised periodically to reflect updates to company policies, work practices, and the applicable state and/or federal guidance. Employees must verify that this document is the most recent version of the company SOPs. Employees are also strongly advised to review relevant state and/or federal guidance, which may stipulate program-specific procedures, in advance of task implementation.

WSP requires that all personnel performing specific project assignments be appropriately qualified, including having required certifications or licenses, and properly trained in accordance with the requirements of their assignment, the Environmental Service Line's field SOPs, and the Quality Management System.

This SOP is designed to provide the user with a general outline for conducting soil sampling and assumes the user is familiar with basic field procedures, such as recording field notes (SOP 1), utility location (SOP 2), sample shipment procedures (SOP 3), sample collection and quality assurance procedures (SOP 4), investigation-derived waste (IDW) management procedures (SOP 5), equipment decontamination (SOP 6), and use and calibration of sampling and monitoring equipment (SOPs 7 and 8). This SOP does not cover investigation planning, nor does it cover the evaluation of the analytical results. These topics are more appropriately addressed in a project-specific work plan. Before soil sampling, be sure to review the project-specific work plan or Quality Assurance Project Plan (QAPP) and any applicable state and federal guidelines or sampling procedures.

Consult and involve your assigned compliance professional during all phases of soil sampling. Do not ship hazardous waste samples without first consulting a company compliance professional.

All sampling and monitoring references must be available for consultation in the field, including:

- Company's SOPs
- Applicable state and federal guidelines or sampling procedures
- Manufacturer's manuals
- Project-specific work plan, PSP and/or HASP, and QAPP

9.4 GENERAL PROCEDURES

Soil samples are collected using a variety of techniques and equipment, depending on the type (e.g., surface, subsurface) and purpose (e.g., lithological logging, headspace evaluation, laboratory analysis) of the sampling, and most sampling events employ more than one equipment type or methodology. Subsurface soil sampling, for example, often includes sample collection from split-spoon, macro-core, or other dedicated sampling devices advanced into the subsurface. Recovered cores are often logged (using a Munsell color chart and other logging aids), screened for volatile organic compounds (VOCs) using a PID, and sampled for laboratory analysis using disposable stainless steel spoons or other discrete sampling devices.

Each sampling configuration is associated with a unique set of sampling equipment requirements and techniques. The selected procedures and equipment are project-specific and should be discussed by the project team before arriving onsite. All types of soil sampling, regardless of the equipment used, share common handling and management procedures that are designed to ensure the integrity of the samples collected. These procedures include:

- The use of new, disposable or decontaminated sampling equipment
- The use and rotation of the appropriate PPE
- Selection of a suitable sampling location and staging area

Wear a clean pair of new, disposable gloves each time a different sample is collected and don the gloves immediately prior to collection. This limits the possibility of cross-contamination from accidental contact with gloves soiled during collection of the

previous sample. The gloves must not come in contact with the medium being sampled and must be changed any time during sample collection when their cleanliness is compromised. ***Gloved hands should not be used as a sampling device; always use the appropriate equipment to move the sample from the sampling device to the laboratory-supplied containers.*** If the soil cannot be transferred directly from the sampling device to the laboratory-supplied containers, use a stainless steel spoon or spatula to transfer the soil from the sampling device to the laboratory-supplied containers.

9.4.1 EQUIPMENT SELECTION

Collect all samples using either new, disposable equipment, such as polyethylene liners or single-use stainless steel spoons; or properly decontaminated sampling equipment, such as hand augers, split-spoon samplers, or trowels. Soil sampling equipment should be selected based on the analytical requirements of the project and the project-specific conditions likely to be encountered. The equipment should be constructed of non-reactive, non-leachable materials (e.g., stainless steel, Teflon®, Teflon®-coated steel, polyethylene, polypropylene) which are compatible with the chemical constituents at the site. When choosing sampling equipment, give consideration to:

- the types of soil or fill present
- the required depth of the sample
- the volume of sample required
- the analytes of interest

Select the types of equipment and decontamination procedures based on the types of sampling to be performed. Decontamination may require multiple steps or differing cleaning methods, depending on the sampling goals (see SOP 6 for decontamination procedures). In no case should disposable, single use materials (e.g., acetate liners, soil baskets) be used to collect more than one sample.

9.4.2 SAMPLING CONSIDERATIONS

In preparing for sampling, you should perform the following activities (with all observations and measurements noted in the field book):

- Perform a quick reconnaissance of the site to identify sampling locations and evaluate the accessibility (physical obstructions, slope, overhead and underground utilities) to the sampling location.
- Record the approximate ambient air temperature, precipitation, wind (direction and speed), tide, and other field conditions in the field book. In addition, any site-specific conditions or situations that could potentially affect the samples should be recorded.
- Record a description of the sampling location and the approximate distance to and direction from at least one permanent feature.
- Should any sample location require a vertical or horizontal offset from the proposed location, indicate the reason and record the actual sample location in the field book.

Survey the breathing zone around the sampling location with the appropriate air quality meter(s), as necessary (see HASP), to ensure that the level of PPE is appropriate. When sampling soil, it is important to find a suitable sampling location away from any sources of cross-contamination that could compromise the integrity of the samples. Consider the following:

- Position the sample collection area away from fuel-powered equipment, such as drill rigs or excavators, and upwind of other site activities (e.g., purging, sampling, decontamination) that could influence the sample. This is particularly important when screening samples in the field for VOCs with a PID, but should not be limited to the active sample collection.
- Store samples already collected from the field for laboratory analysis in clean containers in an ice-filled cooler (as required) and securely stage, if possible, in an uncontaminated area of the site.

9.5 SOIL SAMPLE COLLECTION

Soil samples can be collected from surface or subsurface depths, depending on the project requirements. Surface soils are generally those collected at depths less than 2 feet below ground surface (bgs) and can be collected using trowels, soil probes, shovels, or hand augers. Be aware that some states have specific definitions of what constitutes a surface soil sample. Subsurface soils are generally

deeper and require specialized equipment to recover the samples. In most cases, subsurface soils will be collected using a drill rig or excavator to prevent the soil from being mixed with soils from a shallower interval.

Push or drive the method-specific sampling equipment (e.g., trowel, hand auger, hollow corers, split-spoon, direct push sampler, roto sonic core barrel sampler, excavator bucket) into the soil to the desired sampling depth using decontaminated equipment. Record in the field book the depth interval through which the sampler was advanced and, when using a drilling rig and split-spoon sampler, the number of blows needed to drive the sampler 6 inches. If additional soil is needed to provide sufficient sample volume, repeat this step taking care to ensure that the same depth interval is collected during the resample. Use core catchers on the leading end of the sampler (if available) for soils that lack cohesiveness and are subject to falling out of the sampler (i.e., poor recovery).

Withdraw the sampling equipment from the interval, open the sampler (as appropriate), and collect the sample in a safe location (e.g., avoid entering an excavation by collecting the sample from an excavator bucket at ground surface). When collecting a sample from an excavator bucket, the sampler should watch the bucket as the excavated material is retrieved and collect the sample from the desired sampling material.

Recovered soils should be placed on plastic sheeting in a consistent manner such that the orientation of the sample (i.e., which end is “up”) and the depth interval is readily apparent to the sampling personnel. Measure the length of the material recovered relative to the interval the sampler was advanced in percent notation (e.g., 75%) or as a fraction of the total length of the sample interval (i.e., [3/4] indicating 3 out of 4 feet) and record this information in the field book. If field screening for organic vapors is required, break or cut the soil core every 3 to 4 inches and quickly scan the breaks in the core material with the appropriate air quality monitoring equipment (e.g., PID) and record the readings and approximate depth in the field book. These measurements can be used to select appropriate soil samples for VOC or headspace analysis, if required (see procedures below).

9.5.1 UNDISTURBED SAMPLE COLLECTION

Undisturbed soil samples collected for geotechnical parameters (e.g., porosity, permeability) generally require the use of specialized undisturbed sampling equipment (e.g., Shelby tube or sealed Geoprobe® liner) and collection procedures. The sampling device, once retrieved, is typically capped or sealed (to maintain the sample in its relatively undisturbed state), labeled with the sample name, orientation of the sample (i.e., top and bottom), depth interval, and shipped to the appropriate geotechnical laboratory. Follow sample labeling, preparation, and shipping procedures in SOPs 3 and 4.

9.5.2 VOLATILE ORGANIC COMPOUND SAMPLING

Analytical soil samples for VOC analysis should be collected immediately after screening with the PID to avoid loss of constituents to the atmosphere. Transfer the soil from the portion of the soil core to be sampled (usually the area where the highest PID readings were observed) directly into the sample containers; do not homogenize soils for VOC analysis. Place the soil in the sampling container such that no headspace is present above the soil when the cover is placed on the jar. If U.S. Environmental Protection Agency Method 5035 (e.g., Encore® samplers) is required, follow manufacturer’s specifications and company recommended shipping procedures. Collect quality assurance/quality control (QA/QC) samples, if appropriate, in accordance with SOP 4, the project-specific work plan, and the QAPP.

9.5.3 SOIL HEADSPACE ANALYSIS

Collect soil samples for field-based headspace analysis, if required as part of the project-specific work plan, after collecting the VOC sample. First, examine the soil and remove coarse gravel, organic material (e.g., roots, grass, and woody material) and any other debris. Transfer the soil from the portion of the soil core to be sampled and place in a heavy-duty zipper-style plastic bag and seal the bag. Label the sample indicating the sampling location, depth, and date. Shake the sample vigorously for approximately 15 seconds to disaggregate the sample and expose as much surface area of the soil as possible (to release the VOCs to the atmosphere within the bag). If necessary, warm the sample to room temperature (70° Fahrenheit, [°F]) by placing the bag in a heated room or vehicle. This step is critical when the ambient temperature is below 32°F.

The VOCs, if present, will volatilize into the sealed bag. Allow the bag to stand (to achieve equilibrium) for approximately 15 minutes. Carefully open the bag slightly and place the tip of the PID into the opening. Do not insert the tip of the probe into the soil material and avoid the uptake of water droplets. Allow the PID to equilibrate and record the highest PID measurement noted. Erratic PID responses may result from high organic vapor concentrations or elevated headspace moisture. If these conditions exist, qualify the headspace data in the field book. It is also important to record the ambient temperature, humidity, and whether moisture was present in plastic bag. Duplicate 10% of the headspace samples by collecting two samples from the same location. Generally, duplicate sample values should be consistent to $\pm 20\%$. Samples collected for headspace screening cannot be retained for laboratory analysis.

9.5.4 SEMI- AND NON-VOLATILE ANALYTICAL SAMPLE COLLECTION

For metal sulfide analysis, sediment should be maintained in anoxic conditions to limit exposure to oxygen. Samples should be collected immediately and stored with zero headspace.

Collect remaining organic samples then inorganic samples in the following order of volatilization sensitivity:

- Extractable organics, petroleum hydrocarbons, aggregate organics, and oil and grease
- Metals
- Inorganic non-metallic and physical and aggregate properties
- Microbiological samples
- Radionuclides

If homogenization is required, mix the soils (using stainless steel bowls and spoons, or other appropriate equipment) to a homogeneous particle size and texture. Transfer the soils from the sampler or mixing bowl to the sample container using a decontaminated or dedicated stainless steel spoon or spatula. Collect QA/QC samples in accordance with SOP 4, the project-specific work plan, and the QAPP.

If approved by the appropriate regulatory agency and specified in the project-specific work plan, composite soil samples can be collected to minimize the total number of analytical samples. Composite samples consist of equal aliquots (same sample size) of soil from each location being sampled (e.g., from each borehole or from multiple areas of a soil pile), by mixing the soil to a homogeneous particle size and texture using new or decontaminated stainless steel bowls and a stainless steel spoon or trowel. Transfer the contents to the appropriate laboratory supplied sample container using a stainless steel spoon. Collect QA/QC samples in accordance with SOP 4, the project-specific work plan, and the QAPP, if required.

If necessary, conduct field tests or screening on soils in accordance with the project-specific work plan and manufacturer's specifications for field testing equipment.

9.5.5 SAMPLE LABELING AND PREPARATION FOR SHIPMENT

Once collected, prepare the soil samples for offsite laboratory analysis:

- 1 Clean the outside of the sample container with paper towels or appropriate materials, if necessary
- 2 Affix a sample tag or label to each sample container and complete all required information (sample number, date, time, depth interval, sampler's initials, analysis, preservatives, place of collection)
- 3 Place clear tape over the tag or label (if non-waterproof labels are used)
- 4 Preserve samples immediately after collection by placing them into an insulated cooler filled with bagged wet ice to maintain a temperature of approximately 4°Celsius (if required by analytical method)
- 5 Record the sample designation, date, time, depth interval, number of sampling containers, analytical methods, and the sampler's name in the field book and on the chain-of-custody form
- 6 Complete the chain-of-custody forms with appropriate sampling information, including:
 - Location
 - Sample name
 - Sample collection date and time

- Number of sample containers
- Analytical method

7 Complete sample packing and ship in accordance with proper procedures

Do not ship hazardous waste samples without first consulting a company compliance professional.

9.6 SOIL CLASSIFICATION

Soil classification should be performed whenever soil samples are being collected to provide context for the analysis. Unless required to follow a different soil classification (e.g., US Department of Agriculture), follow the Unified Soil Classification System (USCS) logging procedures as described in ATSM D2488¹. The emphasis of soil classification in the field must be on describing the soils using ALL of the required descriptors; categorization of the USCS group name or symbol alone may not provide details about the soils that could later prove useful. Avoid geologic interpretation or the use of local formation names, which are often difficult to determine in the field without the regional framework. Record ALL of the following information for each sample interval/soil type in the field book:

- Depth interval
- USCS group name (e.g., lean clay, elastic silt, well-graded gravel)
- USCS group symbol (e.g., cl, mh, gw)
- Color, using Munsell chart (in moist condition)
- Percent of cobbles, boulders, gravel, sand, and fines (approximate; by volume). Use the following standard descriptors for the textural percentages:
 - Trace: <5%²
 - Few: 5-10%
 - Little: 15-25%
 - Some: 30-45%
 - Mostly: 50-100%
- Particle-size range:
 - Gravel—fine (0.2-inch to 0.75-inch), medium, coarse (0.75-inch to 3 inch)
 - Sand—fine (0.003-inch to 0.02-inch), medium (0.02-inch to 0.08-inch), coarse (0.08-inch to 0.2-inch)
 - Fines – clay or silt
- For gravel and sand:
 - Particle angularity: angular, subangular, subrounded, rounded
 - Particle shape: (if appropriate) flat, elongated, flat and elongated
 - Maximum particle size or dimension
 - Hardness (under hammer blow) of coarse sand and larger particles
- For fine-grained soil (i.e., clay and silt):
 - Plasticity: non-plastic, low, medium, high
 - Dry strength: none, low, medium, high, very high
 - Dilatancy: none, slow, rapid
 - Toughness: low, medium, high
- Odor (mention only if organic or unusual; factual descriptions only, no interpretations)
- Moisture: dry, moist, wet
- Additional comments: presence of roots or root holes, presence of mica, gypsum, etc., surface coatings on coarse-grained particles, caving or sloughing of auger hole or trench sides, difficulty in augering or excavating, etc.

For intact samples also include:

- Consistency (fine-grained soils only): very soft, soft, firm, hard, very hard
- Structure: stratified, laminated, fissured, lensed, homogeneous

¹ Note that certain states/regulatory programs may require soil classification under a secondary system (e.g., US Department of Agriculture) or the use of hydrochloric acid to test the reaction with soil (none, weak, strong).

² The use of “Trace” for describing the fraction of clay soils is inappropriate for field-based logs as clay contents of less than 20% in fine-grained soils cannot be reliably determined in the field.

- Cementation: weak, moderate, strong

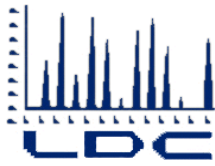
Example descriptions, using the information listed above, would read as follows:

- 8-10' – Well Graded Sand, SW (5YR 2/6) fine- to medium-grained sand, trace medium sub-angular rounded gravel (less than 0.5-inch diameter); medium dense to dense; wet; moderate petroleum-like odor between 9 feet bgs and 10 feet bgs.
- 10-12' – Lean Clay with Gravel, CL (5YR 2/6) some fine- to coarse-grained angular to subangular gravels (less than 0.25-inch diameter), trace fine- to medium-grained rounded sands; very stiff; low plasticity; low dry strength; no dilatancy; moist; no odors.

9.7 CLOSING NOTES

Once sampling is completed, restore and mark all sample locations with spray paint, stakes, or other appropriate marker for future reference or survey, including collecting Global Positioning System coordinates and photographs, or survey in accordance with the project-specific work plan. Decontaminate all equipment prior to departure and properly manage all PPE and IDW in conformance with SOP 6, the project-specific work plan, and applicable regulations.

ENCLOSURE C



LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

WSP Group
300 Trade Center, Suite 4690
Woburn, MA 01801
ATTN: Mr. Dave P. Bouchard
Dave.Bouchard@wspgroup.com

January 7, 2020

SUBJECT: Former Trans Technology Corporation, Glen Head, NY, Data Validation

Dear Mr. Bouchard,

Enclosed is the final validation report for the fraction listed below. This SDG was received on October 28, 2019. Attachment 1 is a summary of the samples that were reviewed for analysis.

LDC Project #46299:

SDG#

Fraction

JC95975A

Lead

The data validation was performed under Category B guidelines. The analyses were validated using the following documents, as applicable to each method:

- USEPA Region 2 Standard Operating Procedure for the Evaluation of Metals for the Contract Laboratory Program, SOP HW-2a, Revision 15; December 2012
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; EPA 540-R-2017-001; January 2017
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

Christina Rink
crink@lab-data.com
Project Manager/Senior Chemist

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Site: Former TransTechnology Corporation – Glen Head, NY
Laboratory: SGS North America, Inc.
Report No.: JC95975A
Reviewer: Christina Rink/Laboratory Data Consultants for WSP Group – Woburn, MA
Date: November 12, 2019

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
SS-100-20190927	JC95975-3	Soil
SS-101-20190927	JC95975-4	Soil
SS-102-20190927	JC95975-5	Soil
SS-103-20190927	JC95975-6	Soil
SS-104-20190927	JC95975-7	Soil
SS-DUPE-20190927	JC95975-8	Soil

Associated QC Samples(s):

Field/Trip Blanks: None Associated

Field Duplicate pair: SS-103-20190927 and SS-DUPE-20190927

The above-listed soil samples were collected on September 27, 2019 and were analyzed for metals by SW-846 method 6010D. The data validation was performed in accordance with the USEPA Region 2 *Standard Operating Procedure for the Evaluation of Metals for the Contract Laboratory Program*, SOP HW-2a, Revision 15 (December 2012) and the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review*, EPA 540-R-2017-001 (January 2017), modified as necessary to accommodate the non-CLP methodologies used.

The inorganic data were evaluated based on the following parameters:

- Overall Evaluation of Data and Potential Usability Issues
- Data Completeness
- Holding Times and Sample Preservation
- Instrument Calibration
- Contract Required Quantitation Limit (CRQL) Standard Recoveries
- Blank Analysis Results
- Inductively Coupled Plasma (ICP) Interference Check Sample (ICS) Results
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
- Laboratory Duplicate Results
- Field Duplicate Results
- Laboratory Control Sample (LCS)/Standard Reference Material (SRM) Results
- Serial Dilution Results
- Moisture Content
- Detection Limits Results
- Sample Quantitation Results

Overall Evaluation of Data and Potential Usability Issues

All results are usable as reported.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP category B laboratory deliverables.

Holding Times and Sample Preservation

All criteria were met.

Instrument Calibration

All criteria were met.

CRQL Standard Recoveries

All criteria were met.

Blank Results

Contamination was not detected in the laboratory blank samples.

A field blank was not associated with this sample set. Validation action was not required on this basis.

ICP ICS Results

Analytes were recovered within the control limits in the ICSAB sample analysis.

Positive result for lead was detected above the reporting limit (RL) in the ICSA solution analysis associated with all samples. Sample interferent levels were reviewed. All interferent levels in the samples were lower than the ICSA solution. No data was qualified based on the ICSA contamination.

MS/MSD Results

MS/MSD analyses were not associated with this sample set. Validation action was not required on this basis.

Laboratory Duplicate Results

Laboratory duplicates were not associated with this sample set. Validation action was not required on this basis.

Field Duplicate Results

Samples SS-103-20190927 and SS-DUPE-20190927 were submitted as the field duplicate pair with this sample group. The following table summarizes the concentrations and validation actions taken.

Analyte	Concentration (mg/Kg)		RPD
	SS-103-20190927	SS-DUPE-20190927	
Lead	45.3	10.6	124

LCS/SRM Results

All criteria were met.

Serial Dilution Results

A serial dilution analysis was not associated with this sample set. Validation action was not required on this basis.

Moisture Content

All criteria were met.

Detection Limits Results

No result was reported below the reporting limit (RL) and above the method detection limit (MDL) in the metals analyses.

Dilutions were not required for metals analyses.

Sample Quantitation Results

Calculations were spot-checked; no discrepancies were noted.

DATA VALIDATION QUALIFIERS

- U - The analyte was analyzed for, but due to blank contamination was flagged as nondetect (U). The result is usable as a nondetect.
- J - Data are flagged (J) when a QC analysis fails outside the primary acceptance limits. The qualified “J” data are not excluded from further review or consideration. However, only one flag (J) is applied to a sample result, even though several associated QC analyses may fail. The ‘J’ data may be biased high or low or the direction of the bias may be indeterminable.
- UJ - The analyte was not detected above the reported sample quantitation limit. Data are flagged (UJ) when a QC analysis fails outside the primary acceptance limits. The qualified “UJ” data are not excluded from further review or consideration. However, only one flag is applied to a sample result, even though several associated QC analyses may fail. The ‘UJ’ data may be biased low.
- R - Data rejected (R) on the basis of an unacceptable QC analysis should be excluded from further review or consideration. Data are rejected when associated QC analysis results exceed the expanded control limits of the QC criteria. The rejected data are known to contain significant errors based on documented information. The data user must not use the rejected data to make environmental decisions. The presence or absence of the analyte cannot be verified.

LDC #: 46299A4b

VALIDATION COMPLETENESS WORKSHEET

SDG #: JC95975A

Category B

Laboratory: SGS North America, Inc.

Date: 11/8/19

Page: 1 of 1

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: Lead (EPA SW 846 Method 6010D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A A	
II.	Instrument Calibration	A	
III.	ICP Interference Check Sample (ICS) Analysis	ASW	
IV.	Laboratory Blanks	A	
V.	Field Blanks	N	
VI.	Matrix Spike/Matrix Spike Duplicates	N	
VII.	Duplicate sample analysis	N	
VIII.	Serial Dilution	N	
IX.	Laboratory control samples	A	
X.	Field Duplicates	SW (4,6)	
XI.	Sample Result Verification	A	no < RL
XII.	Overall Assessment of Data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

SB=Source blank
OTHER:

	Client ID	Lab ID	Matrix	Date
1	SS-100-20190927	JC95975-3	Soil	09/27/19
2	SS-101-20190927	JC95975-4	Soil	09/27/19
3	SS-102-20190927	JC95975-5	Soil	09/27/19
4	SS-103-20190927	JC95975-6	Soil	09/27/19
5	SS-104-20190927	JC95975-7	Soil	09/27/19
6	SS-DUPE-20190927	JC95975-8	Soil	09/27/19
7				
8				
9				
10				
11				
12				
13				
14				

Notes:

LDC #: 46299 Ah

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: OR
2nd Reviewer: KUC**Method:**Metals (EPA SW 846 Method 6010/6020/7000)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. ICP/MS Tune				
Were all isotopes in the tuning solution mass resolution within 0.1 amu?			/	
Were %RSD of isotopes in the tuning solution $\leq 5\%$?			/	
III. Calibration				
Were all instruments calibrated daily, each set-up time?	/			
Were the proper number of standards used?	/			
Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury) QC limits?	/			
Were the low standard checks within 70-130%			/	
Were all initial calibration correlation coefficients within limits as specified by the method?	/			
IV. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		/		
V. ICP Interference Check Sample				
Were ICP interference check samples performed daily?	/			
Were the AB solution percent recoveries (%R) with the 80-120% QC limits?	/			
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.			/	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.			/	
Were the MS/MSD or duplicate relative percent differences (RPD) $\leq 20\%$ for waters and $\leq 35\%$ for soil samples? A control limit of $\pm RL$ ($\pm 2X RL$ for soil) was used for samples that were $\leq 5X$ the RL, including when only one of the duplicate sample values were $\leq 5X$ the RL.			/	
VII. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% QC limits for water samples and laboratory established QC limits for soils?	/			

LDC #: 46299A4b

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
Reviewer: OR
2nd Reviewer: JK

Validation Area	Yes	No	NA	Findings/Comments
VIII. Internal Standards (EPA SW 846 Method 6020/EPA 200.8)				
Were all the percent recoveries (%R) within the 30-120% (6020)/60-125% (200.8) of the intensity of the internal standard in the associated initial calibration?			/	
If the %Rs were outside the criteria, was a reanalysis performed?			/	
IX. ICP Serial Dilution				
Was an ICP serial dilution analyzed if analyte concentrations were > 50X the MDL (ICP)/>100X the MDL (ICP/MS)?	/		/	
Were all percent differences (%Ds) < 10%?			/	
Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data.			/	
X. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XI. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XII. Field duplicates				
Field duplicate pairs were identified in this SDG.	/			
Target analytes were detected in the field duplicates.	/			
XIII. Field blanks				
Field blanks were identified in this SDG.		/	/	
Target analytes were detected in the field blanks.			/	

LDC #:

VALIDATION FINDINGS WORKSHEET

ICP Interference Check Sample

Page: 1 of 1

Reviewer: CR

2nd Reviewer: luc

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were ICP interference check samples performed as required?

Y	N	N/A	Were the AB solution percent recoveries (%R) within the control limits of 80-120% ?

LEVEL IV ONLY:

Y N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

[illegible]

Comments: _____

LDC#: 46299A4b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: [Signature]
2nd Reviewer: [Signature]

METHOD: Metals (EPA Method 6010B/7000)

Analyte	Concentration (mg/Kg)		RPD
	4	6	
Lead	45.3	10.6	124

V:\FIELD DUPLICATES\Field Duplicates\FD_inorganic\2019\46299A4b.wpd

LDC #: 46299 AB

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Page: 1 of 1
Reviewer: a
2nd Reviewer: ka

METHOD: Trace metals (EPA SW 846 Method 6010/6020/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$

Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
True = concentration (in ug/L) of each analyte in the ICV or CCV source

Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	Recalculated	Reported	Acceptable (Y/N)
					%R	%R	
ICV	ICP (Initial calibration) 11-28	Pb	1916	2000	95.8	96.0	Y
	ICP/MS (Initial calibration)						
	CVAA (Initial calibration)						
CCV9	ICP (Continuing calibration) 18-45	Pb	2071	2000	103.6	103.5	Y
	ICP/MS (Continuing calibration)						
	CVAA (Continuing calibration)						

Comments:

LDC #: 46299A46**VALIDATION FINDINGS WORKSHEET**
Level IV Recalculation WorksheetPage: 1 of 1
Reviewer: Q
2nd Reviewer: RK**METHOD:** Trace Metals (EPA SW 846 Method 6010/6020/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$

Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation,
Found = SSR (spiked sample result) - SR (sample result).
True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$

Where, S = Original sample concentration
D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$$\%D = \frac{|I-SDR|}{I} \times 100$$

Where, I = Initial Sample Result (mg/L)
SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	Found / S / I (units)	True / D / SDR (units)	Recalculated	Reported	Acceptable (Y/N)
					%R / RPD / %D	%R / RPD / %D	
ISAB	ICP interference check	Pb	925.3	1000	92.5	92.5	Y
LCS	Laboratory control sample		204.479	208	98.3	97.9	Y
	Matrix spike		(SSR-SR)				
	Duplicate						
	ICP serial dilution						

Comments: _____

Former Trans Technology Corporation, Glen Head, NY - LDC# 46299

SDG: JC95975A

Analytical Method		6010D										
Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
S-100-20190927-ACTD-JC95975ASO	JC95975-3	Lead	10/4/2019	14.5	Y	Y				2.2	2.2	mg/kg
S-101-20190927-ACTD-JC95975ASO	JC95975-4	Lead	10/4/2019	27.8	Y	Y				2.2	2.2	mg/kg
S-102-20190927-ACTD-JC95975ASO	JC95975-5	Lead	10/4/2019	12.3	Y	Y				2.2	2.2	mg/kg
S-103-20190927-ACTD-JC95975ASO	JC95975-6	Lead	10/4/2019	45.3	Y	Y				2.4	2.4	mg/kg
S-104-20190927-ACTD-JC95975ASO	JC95975-7	Lead	10/4/2019	55.0	Y	Y				2.3	2.3	mg/kg
S-DUPE-20190927-ACTD-JC95975ASO	JC95975-8	Lead	10/4/2019	10.6	Y	Y				2.3	2.3	mg/kg

QA LEVEL 2A - DATA VERIFICATION/DATA VALIDATION CHECKLIST

Project Name: Former TransTechnology Corporation Glen Head, NY

Project Number/Phase/Task: 31400522.001 Task 1

Reviewing Company: WSP

Project Manager: David P. Bouchard

Data Evaluator: Dana Shaw

Data Evaluation Date: May 25, 2023

Checked by: Michael Shadle

Review Date: June 1, 2023

Laboratory: SGS Dayton, NJ

Lab SDG #: JD64940

Matrix: ☐ Aqueous ☒ Soil ☐ Sediment ☐ Waste ☐ Air ☐ Other:

Analytical Methods: See Table 1

Sample Information: See Table 1

Work Plan or QAPP: None

Data Validation Guidance:

- SOP HW-3a EPA Region 2 Data Validation Guidelines.

COC and Sample Receipt

YES NO NA

COMMENT

- | | | | | |
|--|-------------------------------------|--------------------------|--------------------------|----|
| a) COC complete and correct? | ☒ | ☐ | | |
| b) COC documents release of custody. (signed and dated)? | ☒ | ☐ | | |
| c) Field QC types provided (note types)? | ☒ | ☐ | ☐ | FD |
| d) Did the cooler contents match the COC? | ☒ | ☐ | | |
| e) Were samples received in good condition? | ☒ | ☐ | | |
| f) Were cooler temperatures within control limits? | ☒ | ☐ | | |

Data Package Information

YES NO NA

COMMENT

- | | | | | |
|---|-------------------------------------|--------------------------|--------------------------|--|
| a) Laboratory name and location documented? | ☒ | ☐ | | |
| b) All samples on COC reported in data package? | ☒ | ☐ | | |
| c) Requested analytical methods used? | ☒ | ☐ | | |
| d) Requested sample preparation methods used? | ☒ | ☐ | ☐ | |
| e) Requested analyte list reported? | ☒ | ☐ | | |
| f) Requested units reported? | ☒ | ☐ | ☐ | |
| g) Did the laboratory define the qualifiers used? | ☒ | ☐ | | |
| h) Data package contains all information necessary to complete the data quality review? | ☒ | ☐ | | |

Analytical Assessment

YES NO NA

COMMENT

- | | | | | |
|---|-------------------------------------|-------------------------------------|--------------------------|--|
| a) Solid samples reported on a dry-weight basis? | ☒ | ☐ | ☐ | |
| b) Were solid samples percent moisture criteria acceptable? | ☒ | ☐ | ☐ | |
| c) Were sample dilutions noted? | ☒ | ☐ | | All samples were analyzed at 1x dilution |
| d) Were detected concentrations less than the QL qualified by the laboratory? | ☐ | ☒ | | |

Analytical Assessment

YES NO NA

COMMENT

- e) Were detected concentrations above the calibration range reported by the laboratory? ☒ ☐
- f) Did the laboratory satisfy the requested sensitivity requirements? ☒ ☐

Laboratory Case Narrative

YES NO NA

COMMENT

- a) Do the laboratory narrative or laboratory qualifiers indicate deficiencies? ☒ ☐ ☐
- b) Were all deficiencies noted in the laboratory qualifiers or narrative? ☒ ☐ ☐

Sample Preservation and Holding Time

YES NO NA

COMMENT

- a) Were samples properly preserved? ☒ ☐
- b) Were holding times met for sample preparation? ☒ ☐ ☐
- c) Were holding times met for sample analysis? ☒ ☐

Blanks

YES NO NA

COMMENTS

- a) Were blanks analyzed at the appropriate frequency? ☒ ☐
- b) Were any analytes detected in the associated preparation/method blank? ☐ ☒
- c) Were any analytes detected in the associated trip blanks? ☐ ☐ ☒
- d) Were any analytes detected in the associated field or equipment/rinsate blanks? ☐ ☐ ☒
- e) Were any analytes detected in the associated storage blanks? ☐ ☐ ☒

Only required for CLP methods

Surrogates or Deuterated Monitoring Compounds

YES NO NA

COMMENTS

- a) Were the correct surrogate compounds added to each sample? ☐ ☐ ☒
- b) Were surrogate recoveries within control limits? ☐ ☐ ☒
- c) If not, were samples analyzed at dilution factors of 20x or greater? ☐ ☐ ☒

LCS/LCSD

YES NO NA

COMMENTS

- a) Were LCS/LCSD reported at the appropriate frequency? ☒ ☐
- b) Were proper analytes included in the LCS/LCSD? ☒ ☐
- c) Were LCS/LCSD recoveries within control limits? ☒ ☐
- d) Were RPD values within control limits (if LCSD was analyzed)? ☐ ☐ ☒

MS/MSDs

YES NO NA

COMMENTS

- a) Were project-specific MS (and MSD) reported? ☐ ☒
- b) Were proper analytes reported in the MS/MSD? ☐ ☐ ☒
- c) Were project-specific MS/MSD recoveries within control limits? ☐ ☐ ☒

MS/MSDs	YES	NO	NA	COMMENTS
d) If not, were sample concentrations greater than 4x the spiking concentration?	☐	☐	☒	
e) Was the RPD or absolute difference within control limits (if project-specific MSD analyzed)?	☐	☐	☒	
f) Were project-specific post-digestion spikes analyzed?	☐	☐	☒	
g) Were project-specific post-digestion spike recoveries within control limits?	☐	☐	☒	

Duplicates	YES	NO	NA	COMMENTS
a) Were project-specific laboratory duplicates reported?	☐	☒	☐	
b) Was laboratory duplicate RPD or absolute difference criteria acceptable?	☐	☐	☒	
c) Were field duplicates reported?	☒	☐	☐	SS-1000
d) Was field duplicate RPD or absolute difference criteria acceptable?	☒	☐	☐	

ICP Serial Dilution (SD)	YES	NO	NA	COMMENTS
a) Was project-specific ICP SD data provided?	☐	☐	☒	
b) Were project-specific ICP SD within acceptable criteria?	☐	☐	☒	

Overall Evaluation	YES	NO	NA	COMMENTS
a) Were there any other technical problems not previously addressed?	☐	☒		
b) Were data acceptable and usable, except where noted?	☒	☐		

Comments/Notes:

None.

Table 1

**Sample Collection and Analysis Summary - Surface Soil Evaluation April 2023
Former TransTechnology Corporation Facility
Glen Head, New York**

SDG	Field Identification	Collection Date	Location	Lab Identification	Matrix	QC Samples	Analyses Lead by 6010D
JD64940	SS-100	4/28/2023	SS-100	JD64940-1	Soil	-	X
JD64940	SS-101	4/28/2023	SS-101	JD64940-2	Soil	-	X
JD64940	SS-102	4/28/2023	SS-102	JD64940-3	Soil	-	X
JD64940	SS-1000	4/28/2023	SS-1000	JD64940-4	Soil	FD (SS-102)	X
JD64940	SS-103	4/28/2023	SS-103	JD64940-5	Soil	-	X
JD64940	SS-104	4/28/2023	SS-104	JD64940-6	Soil	-	X

Abbreviations:

FD: Field Duplicate

QC: Quality Control

SDG: Sample Delivery Group

Table 2

Qualifier Summary Table - Surface Soil Evaluation April 2023
Former TransTechnology Corporation Facility
Glen Head, New York

<i>Sample Name</i>	<i>Constituent</i>	<i>New Result</i>	<i>New RL</i>	<i>New MDL</i>	<i>Qualifier</i>	<i>Reason</i>
All Samples	-	-	-	-	-	Laboratory applied U-qualifiers indicating non-detect results and J-qualifiers indicating estimated results below the reporting limit are retained unless other qualification is indicated in this table. All other qualifiers are removed.

Abbreviations:

MDL: Method Detection Limit

RL: Reporting Limit