From:	Wilson, Ashley
To:	
Cc:	"non responsive based on revised scope" Scurato, Jesse; Van Reed, Paul
Subject:	Case# 47639, SDG# MC0AA3 - Validated Data for Shilo Church Road Site
Date:	Tuesday, July 17, 2018 3:16:00 PM
Attachments:	47639 MC0AA3 LTR.pdf 47639_MC0AA3_DVR.pdf 47639_MC0AA3_SSR.pdf EQuIS 1_47639_MC0AA3_VAL.xls EQuIS 2_47639_MC0AA3_VAL.xls EQuIS 3_47639_MC0AA3_VAL.xls EQuIS_47639_MC0AA3_VAL.xls

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Christine Wagner
US EPA Region 3
1650 Arch Street
Philadelphia, PA 19103-2029

Christine,

Attached to this message you will find electronic files containing the validation report and validated data for Shilo Church Road Site, Case# 47639, SDG# MC0AA3. The validation of this case was completed by the Region III Environmental Services Assistance Team (ESAT).

Please contact ESAT's RPO, Brandon McDonald by phone at 410-305-2607 or e-mail at McDonald.Brandon@epa.gov if additional assistance is needed.

TO # 0002 TDF # 0618025

Ashley Wilson | Data Technican | 410-305-3013 | Wilson.Ashley@epa.gov
ICF INTERNATIONAL | 701 Mapes Road, Fort Meade, MD 20755

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
Environmental Sciences Center
701 Mapes Road
Fort Meade, Maryland 20755-5350

DATE: 7/16/2018

SUBJECT: Region III Data QA Review

FROM: Brandon McDonald
Region III ESAT RPO(3EA22)

TO: CHRIS WAGNER
Hazardous Site Cleanup Division (HSCD)

Attached is the data validation report for the SHILO CHURCH ROAD SITE site for RAS# 47639; SDG# MC0AA3 completed by the Region III Environmental Services Assistance Team(ESAT) contractor, ICF International, under the direction of Region III EAID.

If you have any questions regarding this review, please call Brandon McDonald at (410) 305-2607 or you can call Eric Graybill at (410)-305-2665.

Attachment

cc: "non responsive based on revised scope" [redacted] WESTON SOLUTIONS)
(WESTON SOLUTIONS)

TO: #0002 TDF: #0618025

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ICF
ESAT Region 3
US Environmental Protection Agency Environmental Science Center
701 Mapes Road Ft. Meade, MD 20755-5350
Phone 410-305-3012

Date: July 9, 2018

To: Brandon McDonald
ESAT Region 3 Project Officer

From: "non responsive based on revised scope" [redacted]
Validator

"non responsive based on revised scope" [redacted]
Reviewer

Subject: Inorganic Data Validation (S4VEM)
Shilo Church Road
47639 MC0AA3

Overview

This data package consisted of twelve (12) water samples, including a field duplicate pair, analyzed for total metals by ICP-MS, for mercury (Hg) by cold vapor atomic absorption technique, and for cyanide (CN^-) by spectrophotometry.

Analyses were performed by Shealy Environmental Services (EQI) according to Contract Laboratory Program (CLP) Statement of Work (SOW) ISM02.4.

Data were validated according to the National Functional Guidelines for Inorganic Superfund Methods Data Review and applicable USEPA Region 3 modifications. Electronic validation was performed by the Electronic Data eXchange & Evaluation System (EXES). The validation report has been assigned the Superfund Data Validation Level Stage_4_Validation_Electronic_Manual (S4VEM).

The following validation narrative is an evaluation of laboratory reported data based on the electronic data package available through the EXES Data Manager dated June 7, 2018.

Summary

No significant data quality outliers or technical deficiencies were identified that would require rejection of sample results. Less significant data quality outliers resulting in estimation of sample results were identified including, but not limited to, serial dilution percent difference and blank contamination as detailed below.

Minor Problems

The percent difference (%D) in the ICP serial dilution analysis was outside the control limit (>10%) for sodium (Na). Detected concentrations for Na are estimated due to possible physical or chemical interferences in the sample matrix and have been qualified “J”.

Laboratory instrumentation reported negative values for Hg, thallium (Tl) and vanadium (V) greater than absolute values of the Method Detection Limits (MDLs) in blank analyses. The detected concentration reported for V in sample MC0AA5 which was less than the Contract Required Quantitation Limit (CRQL) was reported at the CRQL and qualified "UJ". Quantitation limits for these analytes are estimated and qualified "UJ".

Notes

Aluminum (Al), chromium (Cr), lead (Pb), and magnesium (Mg) have been detected in laboratory blanks associated with the samples in this SDG. Affected samples which reported detected concentrations for these analytes less than the CRQL have been reported at the CRQL and qualified "U".

Analytes detected below CRQLs not attributed to blank contamination are estimated and have been qualified "J".

Matrix spike, laboratory duplicate, and laboratory control sample analyses were within control limits.

Results reported for field duplicate pair MC0AA0/MC0AA1 were within control limits of 25 Relative Percent Difference (RPD) or ± CRQL for all analytes. No data were qualified based on field duplicate precision.

Glossary of Inorganic Data Qualifier Codes

Validation Qualifiers	In order of descending precedence. Only one of these qualifiers may apply to any result.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit
B	The result is presumed a blank contaminant. This qualifier is used for drinking water samples only.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: LCS001	Method: Metals by ICP-MS	Matrix: Water	MA Number:
Sample Location:	pH:	Sample Date:	Sample Time:
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Spike	43.0		ug/L	43.0		1	YES	S4VEM
Antimony	Spike	4.0		ug/L	4.0		1	YES	S4VEM
Arsenic	Spike	2.2		ug/L	2.2		1	YES	S4VEM
Barium	Spike	19.5		ug/L	19.5		1	YES	S4VEM
Beryllium	Spike	2.0		ug/L	2.0		1	YES	S4VEM
Cadmium	Spike	2.1		ug/L	2.1		1	YES	S4VEM
Calcium	Spike	987		ug/L	987		1	YES	S4VEM
Chromium	Spike	4.3		ug/L	4.3		1	YES	S4VEM
Cobalt	Spike	2.0		ug/L	2.0		1	YES	S4VEM
Copper	Spike	4.3		ug/L	4.3		1	YES	S4VEM
Iron	Spike	419		ug/L	419		1	YES	S4VEM
Lead	Spike	1.9		ug/L	1.9		1	YES	S4VEM
Magnesium	Spike	1050		ug/L	1050		1	YES	S4VEM
Manganese	Spike	2.0		ug/L	2.0		1	YES	S4VEM
Nickel	Spike	2.2		ug/L	2.2		1	YES	S4VEM
Potassium	Spike	1080		ug/L	1080		1	YES	S4VEM
Selenium	Spike	11.3		ug/L	11.3		1	YES	S4VEM
Silver	Spike	2.1		ug/L	2.1		1	YES	S4VEM
Sodium	Spike	1090		ug/L	1090		1	YES	S4VEM
Thallium	Spike	1.9		ug/L	1.9		1	YES	S4VEM
Vanadium	Spike	8.3		ug/L	8.3		1	YES	S4VEM
Zinc	Spike	4.7		ug/L	4.7		1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AA0	Method: Cyanide	Matrix: Water	MA Number:
Sample Location: L.P.B.M. HW	pH: 13.0	Sample Date: 05/15/2018	Sample Time: 10:47:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Cyanide	Target	10.0	U	ug/L	10.0	U	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AA0	Method: Mercury by Cold Vapor	Matrix: Water	MA Number:
Sample Location: L.P.B.M. HW	pH: 1.0	Sample Date: 05/15/2018	Sample Time: 10:47:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.20	UJ	ug/L	0.20	U	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AA0	Method: Metals by ICP-MS	Matrix: Water	MA Number:
Sample Location: L.P.B.M. HW	pH: 1.0	Sample Date: 05/15/2018	Sample Time: 10:47:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	20.0	U	ug/L	4.4	J	1	YES	S4VEM
Antimony	Target	0.21	J	ug/L	0.21	J	1	YES	S4VEM
Arsenic	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Barium	Target	18.1		ug/L	18.1		1	YES	S4VEM
Beryllium	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Cadmium	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Calcium	Target	3020		ug/L	3020		1	YES	S4VEM
Chromium	Target	2.0	U	ug/L	0.90	J	1	YES	S4VEM
Cobalt	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Copper	Target	114		ug/L	114		1	YES	S4VEM
Iron	Target	246		ug/L	246		1	YES	S4VEM
Lead	Target	2.9		ug/L	2.9		1	YES	S4VEM
Magnesium	Target	702		ug/L	702		1	YES	S4VEM
Manganese	Target	3.4		ug/L	3.4		1	YES	S4VEM
Nickel	Target	0.47	J	ug/L	0.47	J	1	YES	S4VEM
Potassium	Target	1530		ug/L	1530		1	YES	S4VEM
Selenium	Target	5.0	U	ug/L	5.0	U	1	YES	S4VEM
Silver	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Sodium	Target	5390	J	ug/L	5390		1	YES	S4VEM
Thallium	Target	1.0	UJ	ug/L	1.0	U	1	YES	S4VEM
Vanadium	Target	5.0	UJ	ug/L	5.0	U	1	YES	S4VEM
Zinc	Target	10.8		ug/L	10.8		1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AA1	Method: Cyanide	Matrix: Water	MA Number:
Sample Location: L.P.B.M. HW	pH: 13.0	Sample Date: 05/15/2018	Sample Time: 10:47:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Cyanide	Target	10.0	U	ug/L	10.0	U	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AA1	Method: Mercury by Cold Vapor	Matrix: Water	MA Number:
Sample Location: L.P.B.M. HW	pH: 1.0	Sample Date: 05/15/2018	Sample Time: 10:47:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.20	UJ	ug/L	0.20	U	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AA1	Method: Metals by ICP-MS	Matrix: Water	MA Number:
Sample Location: L.P.B.M. HW	pH: 1.0	Sample Date: 05/15/2018	Sample Time: 10:47:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	20.0	U	ug/L	2.2	J	1	YES	S4VEM
Antimony	Target	2.0	U	ug/L	2.0	U	1	YES	S4VEM
Arsenic	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Barium	Target	18.5		ug/L	18.5		1	YES	S4VEM
Beryllium	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Cadmium	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Calcium	Target	3150		ug/L	3150		1	YES	S4VEM
Chromium	Target	2.0	U	ug/L	0.76	J	1	YES	S4VEM
Cobalt	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Copper	Target	124		ug/L	124		1	YES	S4VEM
Iron	Target	208		ug/L	208		1	YES	S4VEM
Lead	Target	2.7		ug/L	2.7		1	YES	S4VEM
Magnesium	Target	734		ug/L	734		1	YES	S4VEM
Manganese	Target	3.3		ug/L	3.3		1	YES	S4VEM
Nickel	Target	0.44	J	ug/L	0.44	J	1	YES	S4VEM
Potassium	Target	1580		ug/L	1580		1	YES	S4VEM
Selenium	Target	5.0	U	ug/L	5.0	U	1	YES	S4VEM
Silver	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Sodium	Target	5570	J	ug/L	5570		1	YES	S4VEM
Thallium	Target	1.0	UJ	ug/L	1.0	U	1	YES	S4VEM
Vanadium	Target	5.0	UJ	ug/L	5.0	U	1	YES	S4VEM
Zinc	Target	10.9		ug/L	10.9		1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AA2	Method: Cyanide	Matrix: Water	MA Number:
Sample Location: L.P.B.M. HW	pH: 13.0	Sample Date: 05/15/2018	Sample Time: 11:15:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Cyanide	Target	10.0	U	ug/L	10.0	U	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AA2	Method: Mercury by Cold Vapor	Matrix: Water	MA Number:
Sample Location: L.P.B.M. HW	pH: 1.0	Sample Date: 05/15/2018	Sample Time: 11:15:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.20	UJ	ug/L	0.20	U	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AA2	Method: Metals by ICP-MS	Matrix: Water	MA Number:
Sample Location: L.P.B.M. HW	pH: 1.0	Sample Date: 05/15/2018	Sample Time: 11:15:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	20.0	U	ug/L	7.3	J	1	YES	S4VEM
Antimony	Target	2.0	U	ug/L	2.0	U	1	YES	S4VEM
Arsenic	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Barium	Target	41.3		ug/L	41.3		1	YES	S4VEM
Beryllium	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Cadmium	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Calcium	Target	4380		ug/L	4380		1	YES	S4VEM
Chromium	Target	2.0	U	ug/L	0.65	J	1	YES	S4VEM
Cobalt	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Copper	Target	32.6		ug/L	32.6		1	YES	S4VEM
Iron	Target	25.6	J	ug/L	25.6	J	1	YES	S4VEM
Lead	Target	2.4		ug/L	2.4		1	YES	S4VEM
Magnesium	Target	928		ug/L	928		1	YES	S4VEM
Manganese	Target	4.1		ug/L	4.1		1	YES	S4VEM
Nickel	Target	0.39	J	ug/L	0.39	J	1	YES	S4VEM
Potassium	Target	2070		ug/L	2070		1	YES	S4VEM
Selenium	Target	5.0	U	ug/L	5.0	U	1	YES	S4VEM
Silver	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Sodium	Target	6880	J	ug/L	6880		1	YES	S4VEM
Thallium	Target	1.0	UJ	ug/L	1.0	U	1	YES	S4VEM
Vanadium	Target	5.0	UJ	ug/L	5.0	U	1	YES	S4VEM
Zinc	Target	23.5		ug/L	23.5		1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AA3	Method: Cyanide	Matrix: Water	MA Number:
Sample Location: S.C.R	pH: 13.0	Sample Date: 05/16/2018	Sample Time: 17:45:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Cyanide	Target	10.0	U	ug/L	10.0	U	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AA3	Method: Mercury by Cold Vapor	Matrix: Water	MA Number:
Sample Location: S.C.R	pH: 1.0	Sample Date: 05/16/2018	Sample Time: 17:45:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.20	UJ	ug/L	0.20	U	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AA3	Method: Metals by ICP-MS	Matrix: Water	MA Number:
Sample Location: S.C.R	pH: 1.0	Sample Date: 05/16/2018	Sample Time: 17:45:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	172		ug/L	172		1	YES	S4VEM
Antimony	Target	2.0	U	ug/L	2.0	U	1	YES	S4VEM
Arsenic	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Barium	Target	28.7		ug/L	28.7		1	YES	S4VEM
Beryllium	Target	0.20	J	ug/L	0.20	J	1	YES	S4VEM
Cadmium	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Calcium	Target	3640		ug/L	3640		1	YES	S4VEM
Chromium	Target	2.0	U	ug/L	0.69	J	1	YES	S4VEM
Cobalt	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Copper	Target	24.2		ug/L	24.2		1	YES	S4VEM
Iron	Target	183	J	ug/L	183	J	1	YES	S4VEM
Lead	Target	2.0		ug/L	2.0		1	YES	S4VEM
Magnesium	Target	546		ug/L	546		1	YES	S4VEM
Manganese	Target	3.5		ug/L	3.5		1	YES	S4VEM
Nickel	Target	0.23	J	ug/L	0.23	J	1	YES	S4VEM
Potassium	Target	1690		ug/L	1690		1	YES	S4VEM
Selenium	Target	5.0	U	ug/L	5.0	U	1	YES	S4VEM
Silver	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Sodium	Target	5710	J	ug/L	5710		1	YES	S4VEM
Thallium	Target	1.0	UJ	ug/L	1.0	U	1	YES	S4VEM
Vanadium	Target	5.0	UJ	ug/L	5.0	U	1	YES	S4VEM
Zinc	Target	25.8		ug/L	25.8		1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AA4	Method: Cyanide	Matrix: Water	MA Number:
Sample Location: L.P.B.M. HW	pH: 13.0	Sample Date: 05/17/2018	Sample Time: 09:16:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Cyanide	Target	10.0	U	ug/L	10.0	U	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AA4	Method: Mercury by Cold Vapor	Matrix: Water	MA Number:
Sample Location: L.P.B.M. HW	pH: 1.0	Sample Date: 05/17/2018	Sample Time: 09:16:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.20	UJ	ug/L	0.20	U	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AA4	Method: Metals by ICP-MS	Matrix: Water	MA Number:
Sample Location: L.P.B.M. HW	pH: 1.0	Sample Date: 05/17/2018	Sample Time: 09:16:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	20.0	U	ug/L	7.4	J	1	YES	S4VEM
Antimony	Target	2.0	U	ug/L	2.0	U	1	YES	S4VEM
Arsenic	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Barium	Target	32.5		ug/L	32.5		1	YES	S4VEM
Beryllium	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Cadmium	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Calcium	Target	3800		ug/L	3800		1	YES	S4VEM
Chromium	Target	2.0	U	ug/L	0.54	J	1	YES	S4VEM
Cobalt	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Copper	Target	100		ug/L	100		1	YES	S4VEM
Iron	Target	17.7	J	ug/L	17.7	J	1	YES	S4VEM
Lead	Target	2.4		ug/L	2.4		1	YES	S4VEM
Magnesium	Target	994		ug/L	994		1	YES	S4VEM
Manganese	Target	2.6		ug/L	2.6		1	YES	S4VEM
Nickel	Target	0.12	J	ug/L	0.12	J	1	YES	S4VEM
Potassium	Target	2060		ug/L	2060		1	YES	S4VEM
Selenium	Target	5.0	U	ug/L	5.0	U	1	YES	S4VEM
Silver	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Sodium	Target	6110	J	ug/L	6110		1	YES	S4VEM
Thallium	Target	1.0	UJ	ug/L	1.0	U	1	YES	S4VEM
Vanadium	Target	5.0	UJ	ug/L	5.0	U	1	YES	S4VEM
Zinc	Target	24.1		ug/L	24.1		1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AA5	Method: Cyanide	Matrix: Water	MA Number:
Sample Location: L.P.B.M. HW	pH: 13.0	Sample Date: 05/16/2018	Sample Time: 10:15:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Cyanide	Target	10.0	U	ug/L	10.0	U	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AA5	Method: Mercury by Cold Vapor	Matrix: Water	MA Number:
Sample Location: L.P.B.M. HW	pH: 1.0	Sample Date: 05/16/2018	Sample Time: 10:15:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.20	UJ	ug/L	0.20	U	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AA5	Method: Metals by ICP-MS	Matrix: Water	MA Number:
Sample Location: L.P.B.M. HW	pH: 1.0	Sample Date: 05/16/2018	Sample Time: 10:15:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	20.0	U	ug/L	9.0	J	1	YES	S4VEM
Antimony	Target	2.0	U	ug/L	2.0	U	1	YES	S4VEM
Arsenic	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Barium	Target	16.4		ug/L	16.4		1	YES	S4VEM
Beryllium	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Cadmium	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Calcium	Target	8970		ug/L	8970		1	YES	S4VEM
Chromium	Target	6.7		ug/L	6.7		1	YES	S4VEM
Cobalt	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Copper	Target	22.0		ug/L	22.0		1	YES	S4VEM
Iron	Target	153	J	ug/L	153	J	1	YES	S4VEM
Lead	Target	1.2		ug/L	1.2		1	YES	S4VEM
Magnesium	Target	5680		ug/L	5680		1	YES	S4VEM
Manganese	Target	1.2		ug/L	1.2		1	YES	S4VEM
Nickel	Target	1.4		ug/L	1.4		1	YES	S4VEM
Potassium	Target	972		ug/L	972		1	YES	S4VEM
Selenium	Target	5.0	U	ug/L	5.0	U	1	YES	S4VEM
Silver	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Sodium	Target	4360	J	ug/L	4360		1	YES	S4VEM
Thallium	Target	1.0	UJ	ug/L	1.0	U	1	YES	S4VEM
Vanadium	Target	5.0	UJ	ug/L	3.8	J	1	YES	S4VEM
Zinc	Target	14.0		ug/L	14.0		1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AA6	Method: Cyanide	Matrix: Water	MA Number:
Sample Location: L.P.B.M. HW	pH: 13.0	Sample Date: 05/16/2018	Sample Time: 18:35:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Cyanide	Target	10.0	U	ug/L	10.0	U	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AA6	Method: Mercury by Cold Vapor	Matrix: Water	MA Number:
Sample Location: L.P.B.M. HW	pH: 1.0	Sample Date: 05/16/2018	Sample Time: 18:35:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.20	UJ	ug/L	0.20	U	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AA6	Method: Metals by ICP-MS	Matrix: Water	MA Number:
Sample Location: L.P.B.M. HW	pH: 1.0	Sample Date: 05/16/2018	Sample Time: 18:35:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	20.0	U	ug/L	3.7	J	1	YES	S4VEM
Antimony	Target	2.0	U	ug/L	2.0	U	1	YES	S4VEM
Arsenic	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Barium	Target	79.1		ug/L	79.1		1	YES	S4VEM
Beryllium	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Cadmium	Target	0.15	J	ug/L	0.15	J	1	YES	S4VEM
Calcium	Target	14900		ug/L	14900		1	YES	S4VEM
Chromium	Target	2.0	U	ug/L	0.93	J	1	YES	S4VEM
Cobalt	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Copper	Target	16.0		ug/L	16.0		1	YES	S4VEM
Iron	Target	27.7	J	ug/L	27.7	J	1	YES	S4VEM
Lead	Target	1.5		ug/L	1.5		1	YES	S4VEM
Magnesium	Target	1460		ug/L	1460		1	YES	S4VEM
Manganese	Target	2.9		ug/L	2.9		1	YES	S4VEM
Nickel	Target	0.45	J	ug/L	0.45	J	1	YES	S4VEM
Potassium	Target	1890		ug/L	1890		1	YES	S4VEM
Selenium	Target	5.0	U	ug/L	5.0	U	1	YES	S4VEM
Silver	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Sodium	Target	7570	J	ug/L	7570		1	YES	S4VEM
Thallium	Target	1.0	UJ	ug/L	1.0	U	1	YES	S4VEM
Vanadium	Target	5.0	UJ	ug/L	5.0	U	1	YES	S4VEM
Zinc	Target	76.6		ug/L	76.6		1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AA7	Method: Cyanide	Matrix: Water	MA Number:
Sample Location: L.P.B.M. HW	pH: 13.0	Sample Date: 05/16/2018	Sample Time: 18:45:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Cyanide	Target	10.0	U	ug/L	10.0	U	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AA7	Method: Mercury by Cold Vapor	Matrix: Water	MA Number:
Sample Location: L.P.B.M. HW	pH: 1.0	Sample Date: 05/16/2018	Sample Time: 18:45:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.20	UJ	ug/L	0.20	U	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AA7	Method: Metals by ICP-MS	Matrix: Water	MA Number:
Sample Location: L.P.B.M. HW	pH: 1.0	Sample Date: 05/16/2018	Sample Time: 18:45:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	20.0	U	ug/L	4.6	J	1	YES	S4VEM
Antimony	Target	2.0	U	ug/L	2.0	U	1	YES	S4VEM
Arsenic	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Barium	Target	54.3		ug/L	54.3		1	YES	S4VEM
Beryllium	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Cadmium	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Calcium	Target	9580		ug/L	9580		1	YES	S4VEM
Chromium	Target	2.0	U	ug/L	1.0	J	1	YES	S4VEM
Cobalt	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Copper	Target	11.0		ug/L	11.0		1	YES	S4VEM
Iron	Target	529		ug/L	529		1	YES	S4VEM
Lead	Target	1.0	U	ug/L	0.29	J	1	YES	S4VEM
Magnesium	Target	1770		ug/L	1770		1	YES	S4VEM
Manganese	Target	2.2		ug/L	2.2		1	YES	S4VEM
Nickel	Target	0.22	J	ug/L	0.22	J	1	YES	S4VEM
Potassium	Target	1700		ug/L	1700		1	YES	S4VEM
Selenium	Target	5.0	U	ug/L	5.0	U	1	YES	S4VEM
Silver	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Sodium	Target	8080	J	ug/L	8080		1	YES	S4VEM
Thallium	Target	1.0	UJ	ug/L	1.0	U	1	YES	S4VEM
Vanadium	Target	5.0	UJ	ug/L	5.0	U	1	YES	S4VEM
Zinc	Target	43.7		ug/L	43.7		1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AA8	Method: Cyanide	Matrix: Water	MA Number:
Sample Location: L.P.B.M. HW	pH: 13.0	Sample Date: 05/16/2018	Sample Time: 19:16:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Cyanide	Target	10.0	U	ug/L	10.0	U	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AA8	Method: Mercury by Cold Vapor	Matrix: Water	MA Number:
Sample Location: L.P.B.M. HW	pH: 1.0	Sample Date: 05/16/2018	Sample Time: 19:16:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.20	UJ	ug/L	0.20	U	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AA8	Method: Metals by ICP-MS	Matrix: Water	MA Number:
Sample Location: L.P.B.M. HW	pH: 1.0	Sample Date: 05/16/2018	Sample Time: 19:16:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	20.0	U	ug/L	1.1	J	1	YES	S4VEM
Antimony	Target	2.0	U	ug/L	2.0	U	1	YES	S4VEM
Arsenic	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Barium	Target	29.4		ug/L	29.4		1	YES	S4VEM
Beryllium	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Cadmium	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Calcium	Target	14500		ug/L	14500		1	YES	S4VEM
Chromium	Target	2.0	U	ug/L	0.72	J	1	YES	S4VEM
Cobalt	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Copper	Target	1.2	J	ug/L	1.2	J	1	YES	S4VEM
Iron	Target	90.5	J	ug/L	90.5	J	1	YES	S4VEM
Lead	Target	1.0	U	ug/L	0.21	J	1	YES	S4VEM
Magnesium	Target	3290		ug/L	3290		1	YES	S4VEM
Manganese	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Nickel	Target	0.23	J	ug/L	0.23	J	1	YES	S4VEM
Potassium	Target	1820		ug/L	1820		1	YES	S4VEM
Selenium	Target	5.0	U	ug/L	5.0	U	1	YES	S4VEM
Silver	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Sodium	Target	10600	J	ug/L	10600		1	YES	S4VEM
Thallium	Target	1.0	UJ	ug/L	1.0	U	1	YES	S4VEM
Vanadium	Target	5.0	UJ	ug/L	5.0	U	1	YES	S4VEM
Zinc	Target	29.3		ug/L	29.3		1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AB2	Method: Cyanide	Matrix: Water	MA Number:
Sample Location: S.C.R	pH: 13.0	Sample Date: 05/16/2018	Sample Time: 18:05:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Cyanide	Target	10.0	U	ug/L	10.0	U	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AB2	Method: Mercury by Cold Vapor	Matrix: Water	MA Number:
Sample Location: S.C.R	pH: 1.0	Sample Date: 05/16/2018	Sample Time: 18:05:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.20	UJ	ug/L	0.20	U	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AB2	Method: Metals by ICP-MS	Matrix: Water	MA Number:
Sample Location: S.C.R	pH: 1.0	Sample Date: 05/16/2018	Sample Time: 18:05:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	20.0	U	ug/L	3.1	J	1	YES	S4VEM
Antimony	Target	2.0	U	ug/L	2.0	U	1	YES	S4VEM
Arsenic	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Barium	Target	49.0		ug/L	49.0		1	YES	S4VEM
Beryllium	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Cadmium	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Calcium	Target	21200		ug/L	21200		1	YES	S4VEM
Chromium	Target	2.0	U	ug/L	0.48	J	1	YES	S4VEM
Cobalt	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Copper	Target	4.4		ug/L	4.4		1	YES	S4VEM
Iron	Target	24.0	J	ug/L	24.0	J	1	YES	S4VEM
Lead	Target	1.0	U	ug/L	0.65	J	1	YES	S4VEM
Magnesium	Target	2380		ug/L	2380		1	YES	S4VEM
Manganese	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Nickel	Target	0.34	J	ug/L	0.34	J	1	YES	S4VEM
Potassium	Target	2050		ug/L	2050		1	YES	S4VEM
Selenium	Target	5.0	U	ug/L	5.0	U	1	YES	S4VEM
Silver	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Sodium	Target	7770	J	ug/L	7770		1	YES	S4VEM
Thallium	Target	1.0	UJ	ug/L	1.0	U	1	YES	S4VEM
Vanadium	Target	5.0	UJ	ug/L	5.0	U	1	YES	S4VEM
Zinc	Target	9.5		ug/L	9.5		1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AB3	Method: Cyanide	Matrix: Water	MA Number:
Sample Location: S.C.R	pH: 13.0	Sample Date: 05/17/2018	Sample Time: 10:16:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Cyanide	Target	10.0	U	ug/L	10.0	U	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AB3	Method: Mercury by Cold Vapor	Matrix: Water	MA Number:
Sample Location: S.C.R	pH: 1.0	Sample Date: 05/17/2018	Sample Time: 10:16:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.20	UJ	ug/L	0.20	U	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AB3	Method: Metals by ICP-MS	Matrix: Water	MA Number:
Sample Location: S.C.R	pH: 1.0	Sample Date: 05/17/2018	Sample Time: 10:16:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	20.0	U	ug/L	3.2	J	1	YES	S4VEM
Antimony	Target	2.0	U	ug/L	2.0	U	1	YES	S4VEM
Arsenic	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Barium	Target	10.0	U	ug/L	10.0	U	1	YES	S4VEM
Beryllium	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Cadmium	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Calcium	Target	192	J	ug/L	192	J	1	YES	S4VEM
Chromium	Target	2.0	U	ug/L	0.48	J	1	YES	S4VEM
Cobalt	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Copper	Target	3.5		ug/L	3.5		1	YES	S4VEM
Iron	Target	24.2	J	ug/L	24.2	J	1	YES	S4VEM
Lead	Target	1.0	U	ug/L	0.14	J	1	YES	S4VEM
Magnesium	Target	500	U	ug/L	3.3	J	1	YES	S4VEM
Manganese	Target	0.46	J	ug/L	0.46	J	1	YES	S4VEM
Nickel	Target	0.099	J	ug/L	0.099	J	1	YES	S4VEM
Potassium	Target	711		ug/L	711		1	YES	S4VEM
Selenium	Target	5.0	U	ug/L	5.0	U	1	YES	S4VEM
Silver	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Sodium	Target	36900	J	ug/L	36900		1	YES	S4VEM
Thallium	Target	1.0	UJ	ug/L	1.0	U	1	YES	S4VEM
Vanadium	Target	5.0	UJ	ug/L	5.0	U	1	YES	S4VEM
Zinc	Target	7.0		ug/L	7.0		1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AB3D	Method: Cyanide	Matrix: Water	MA Number:
Sample Location:	pH: 13.0	Sample Date: 05/17/2018	Sample Time: 10:16:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Cyanide	Target	10.0	U	ug/L	10.0	U	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AB3D	Method: Mercury by Cold Vapor	Matrix: Water	MA Number:
Sample Location:	pH: 1.0	Sample Date: 05/17/2018	Sample Time: 10:16:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.20	U	ug/L	0.20	U	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AB3D	Method: Metals by ICP-MS	Matrix: Water	MA Number:
Sample Location:	pH: 1.0	Sample Date: 05/17/2018	Sample Time: 10:16:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	1.6	J	ug/L	1.6	J	1	YES	S4VEM
Antimony	Target	2.0	U	ug/L	2.0	U	1	YES	S4VEM
Arsenic	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Barium	Target	10.0	U	ug/L	10.0	U	1	YES	S4VEM
Beryllium	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Cadmium	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Calcium	Target	180	J	ug/L	180	J	1	YES	S4VEM
Chromium	Target	0.49	J	ug/L	0.49	J	1	YES	S4VEM
Cobalt	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Copper	Target	3.4		ug/L	3.4		1	YES	S4VEM
Iron	Target	25.8	J	ug/L	25.8	J	1	YES	S4VEM
Lead	Target	0.13	J	ug/L	0.13	J	1	YES	S4VEM
Magnesium	Target	2.8	J	ug/L	2.8	J	1	YES	S4VEM
Manganese	Target	0.46	J	ug/L	0.46	J	1	YES	S4VEM
Nickel	Target	0.11	J	ug/L	0.11	J	1	YES	S4VEM
Potassium	Target	666		ug/L	666		1	YES	S4VEM
Selenium	Target	5.0	U	ug/L	5.0	U	1	YES	S4VEM
Silver	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Sodium	Target	35800		ug/L	35800		1	YES	S4VEM
Thallium	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Vanadium	Target	5.0	U	ug/L	5.0	U	1	YES	S4VEM
Zinc	Target	6.6		ug/L	6.6		1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AB3L	Method: Metals by ICP-MS	Matrix: Water	MA Number:
Sample Location:	pH: 1.0	Sample Date:	Sample Time:
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	4.4	J	ug/L	4.4	J	5	YES	S4VEM
Antimony	Target	10.0	U	ug/L	10.0	U	5	YES	S4VEM
Arsenic	Target	5.0	U	ug/L	5.0	U	5	YES	S4VEM
Barium	Target	50.0	U	ug/L	50.0	U	5	YES	S4VEM
Beryllium	Target	5.0	U	ug/L	5.0	U	5	YES	S4VEM
Cadmium	Target	5.0	U	ug/L	5.0	U	5	YES	S4VEM
Calcium	Target	208	J	ug/L	208	J	5	YES	S4VEM
Chromium	Target	10.0	U	ug/L	10.0	U	5	YES	S4VEM
Cobalt	Target	5.0	U	ug/L	5.0	U	5	YES	S4VEM
Copper	Target	3.4	J	ug/L	3.4	J	5	YES	S4VEM
Iron	Target	1000	U	ug/L	1000	U	5	YES	S4VEM
Lead	Target	5.0	U	ug/L	5.0	U	5	YES	S4VEM
Magnesium	Target	2500	U	ug/L	2500	U	5	YES	S4VEM
Manganese	Target	5.0	U	ug/L	5.0	U	5	YES	S4VEM
Nickel	Target	5.0	U	ug/L	5.0	U	5	YES	S4VEM
Potassium	Target	689	J	ug/L	689	J	5	YES	S4VEM
Selenium	Target	25.0	U	ug/L	25.0	U	5	YES	S4VEM
Silver	Target	5.0	U	ug/L	5.0	U	5	YES	S4VEM
Sodium	Target	42500		ug/L	42500	*	5	YES	S4VEM
Thallium	Target	5.0	U	ug/L	5.0	U	5	YES	S4VEM
Vanadium	Target	25.0	U	ug/L	25.0	U	5	YES	S4VEM
Zinc	Target	7.7	J	ug/L	7.7	J	5	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AB3S	Method: Cyanide	Matrix: Water	MA Number:
Sample Location:	pH: 13.0	Sample Date: 05/17/2018	Sample Time: 10:16:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Cyanide	Spike	104		ug/L	104		1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AB3S	Method: Mercury by Cold Vapor	Matrix: Water	MA Number:
Sample Location:	pH: 1.0	Sample Date: 05/17/2018	Sample Time: 10:16:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Spike	1.0		ug/L	1.0		1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AB3S	Method: Metals by ICP-MS	Matrix: Water	MA Number:
Sample Location:	pH: 1.0	Sample Date: 05/17/2018	Sample Time: 10:16:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Antimony	Spike	105		ug/L	105		1	YES	S4VEM
Arsenic	Spike	40.3		ug/L	40.3		1	YES	S4VEM
Barium	Spike	1970		ug/L	1970		1	YES	S4VEM
Beryllium	Spike	50.8		ug/L	50.8		1	YES	S4VEM
Cadmium	Spike	54.2		ug/L	54.2		1	YES	S4VEM
Chromium	Spike	204		ug/L	204		1	YES	S4VEM
Cobalt	Spike	501		ug/L	501		1	YES	S4VEM
Copper	Spike	273		ug/L	273		1	YES	S4VEM
Lead	Spike	19.6		ug/L	19.6		1	YES	S4VEM
Manganese	Spike	501		ug/L	501		1	YES	S4VEM
Nickel	Spike	538		ug/L	538		1	YES	S4VEM
Selenium	Spike	103		ug/L	103		1	YES	S4VEM
Silver	Spike	54.0		ug/L	54.0		1	YES	S4VEM
Thallium	Spike	50.4		ug/L	50.4		1	YES	S4VEM
Vanadium	Spike	486		ug/L	486		1	YES	S4VEM
Zinc	Spike	566		ug/L	566		1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AB4	Method: Cyanide	Matrix: Water	MA Number:
Sample Location: L.P.B.M. HW	pH: 13.0	Sample Date: 05/17/2018	Sample Time: 16:40:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Cyanide	Target	10.0	U	ug/L	10.0	U	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AB4	Method: Mercury by Cold Vapor	Matrix: Water	MA Number:
Sample Location: L.P.B.M. HW	pH: 1.0	Sample Date: 05/17/2018	Sample Time: 16:40:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.20	UJ	ug/L	0.20	U	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: MC0AB4	Method: Metals by ICP-MS	Matrix: Water	MA Number:
Sample Location: L.P.B.M. HW	pH: 1.0	Sample Date: 05/17/2018	Sample Time: 16:40:00
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	20.0	U	ug/L	0.90	J	1	YES	S4VEM
Antimony	Target	2.0	U	ug/L	2.0	U	1	YES	S4VEM
Arsenic	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Barium	Target	39.8		ug/L	39.8		1	YES	S4VEM
Beryllium	Target	0.23	J	ug/L	0.23	J	1	YES	S4VEM
Cadmium	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Calcium	Target	10400		ug/L	10400		1	YES	S4VEM
Chromium	Target	2.0	U	ug/L	0.63	J	1	YES	S4VEM
Cobalt	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Copper	Target	11.5		ug/L	11.5		1	YES	S4VEM
Iron	Target	25.5	J	ug/L	25.5	J	1	YES	S4VEM
Lead	Target	1.0	U	ug/L	0.58	J	1	YES	S4VEM
Magnesium	Target	2130		ug/L	2130		1	YES	S4VEM
Manganese	Target	2.1		ug/L	2.1		1	YES	S4VEM
Nickel	Target	0.24	J	ug/L	0.24	J	1	YES	S4VEM
Potassium	Target	2280		ug/L	2280		1	YES	S4VEM
Selenium	Target	5.0	U	ug/L	5.0	U	1	YES	S4VEM
Silver	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Sodium	Target	9490	J	ug/L	9490		1	YES	S4VEM
Thallium	Target	1.0	UJ	ug/L	1.0	U	1	YES	S4VEM
Vanadium	Target	5.0	UJ	ug/L	5.0	U	1	YES	S4VEM
Zinc	Target	18.6		ug/L	18.6		1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: PBW001	Method: Mercury by Cold Vapor	Matrix: Water	MA Number:
Sample Location:	pH:	Sample Date:	Sample Time:
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target			ug/L	-0.036	J	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: PBW001	Method: Metals by ICP-MS	Matrix: Water	MA Number:
Sample Location:	pH:	Sample Date:	Sample Time:
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	2.7	J	ug/L	2.7	J	1	YES	S4VEM
Antimony	Target	2.0	U	ug/L	2.0	U	1	YES	S4VEM
Arsenic	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Barium	Target	10.0	U	ug/L	10.0	U	1	YES	S4VEM
Beryllium	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Cadmium	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Calcium	Target	500	U	ug/L	500	U	1	YES	S4VEM
Chromium	Target	0.45	J	ug/L	0.45	J	1	YES	S4VEM
Cobalt	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Copper	Target	2.0	U	ug/L	2.0	U	1	YES	S4VEM
Iron	Target	200	U	ug/L	200	U	1	YES	S4VEM
Lead	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Magnesium	Target	2.5	J	ug/L	2.5	J	1	YES	S4VEM
Manganese	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Nickel	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Potassium	Target	82.3	J	ug/L	82.3	J	1	YES	S4VEM
Selenium	Target	5.0	U	ug/L	5.0	U	1	YES	S4VEM
Silver	Target	1.0	U	ug/L	1.0	U	1	YES	S4VEM
Sodium	Target	33.8	J	ug/L	33.8	J	1	YES	S4VEM
Thallium	Target	-0.020	J	ug/L	-0.020	J	1	YES	S4VEM
Vanadium	Target	-1.1	J	ug/L	-1.1	J	1	YES	S4VEM
Zinc	Target	2.0	U	ug/L	2.0	U	1	YES	S4VEM

Sample Summary Report

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Sample Number: PBW005	Method: Cyanide	Matrix: Water	MA Number:
Sample Location:	pH:	Sample Date:	Sample Time:
% Moisture:		% Solids:	

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Cyanide	Target	10.0	U	ug/L	10.0	U	1	YES	S4VEM

USEPA CLP COC (REGION COPY)

DateShipped: 5/17/2018
CarrierName: FedEx
AirbillNo: 7722 4430 8712

CHAIN OF CUSTODY RECORD

Shiloh Church Road/VA
Case #: 47639
Cooler #: 1

No: 3-05-16-18-082032-0001

Lab: Shealy Environmental Services
Lab Contact: [redacted]
Lab Phone: 803-791-9700

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	Sample Type
SCR-051518-RW-001	MC0AA0	Water/ START (DK)	Grab	Cyanide(21), ICP-MS(21)	1002 (NaOH to pH >12), 1003 (HNO3 to pH < 2) (2)	L.P.B.M. HW	05/15/2018 10:47	Field Sample
SCR-051518-RW-001D	MC0AA1	Water/ START (DK)	Grab	Cyanide(21), ICP-MS(21)	1011 (NaOH to pH >12), 1012 (HNO3 to pH < 2) (2)	L.P.B.M. HW	05/15/2018 10:47	Field Duplicate of M/C0AA0
SCR-051518-RW-002	MC0AA2	Water/ START (DK)	Grab	Cyanide(21), ICP-MS(21)	1020 (NaOH to pH >12), 1021 (HNO3 to pH < 2) (2)	L.P.B.M. HW	05/15/2018 11:15	Field Sample
SCR-051618-RW-005	MC0AA5	Water/ START (DK)	Grab	Cyanide(21), ICP-MS(21)	1047 (NaOH to pH >12), 1048 (HNO3 to pH < 2) (2)	L.P.B.M. HW	05/16/2018 10:15	Field Sample
SCR-051618-RW-006	MC0AA6	Water/ START (DK)	Grab	Cyanide(21), ICP-MS(21)	1056 (NaOH to pH >12), 1057 (HNO3 to pH < 2) (2)	L.P.B.M. HW	05/16/2018 18:35	Field Sample

Special Instructions:	**Shipment for Case Complete? N**
	Samples Transferred From Chain of Custody #
Analysis Key: Cyanide=Cyanide by ISM02.4, ICP-MS=TAL Metals+Hg by ISM02.4 (ICP-MS)	

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt

USEPA CLP COC (REGION COPY)
DateShipped: 17-May-18
CarrierName: FedEx
AirbillNo: 772255204398

CHAIN OF CUSTODY RECORD
Shiloh Church Road/VA
Case #: 47639
Cooler #: 6

No: 3-05-17-18-065640-0006
Lab: Shealy Environmental Services
Lab Contact: [redacted]
Lab Phone: 803-791-9700

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	Sample Type
SCR-051618-RW-003	MC0AA3	Water/ START (DK)	Grab	Cyanide(21), ICP-MS(21)	1029 (NaOH to pH >12), 1030 (HNO3 to pH < 2) (2)	S.C.R	05-16-2018 17:45	Field Sample
SCR-051618-RW-004	MC0AA4	Water/ START (DK)	Grab	Cyanide(21), ICP-MS(21)	1038 (NaOH to pH >12), 1039 (HNO3 to pH < 2) (2)	L.P.B.M. HW	05-17-2018 09:16	Field Sample
SCR-051618-RW-007	MC0AA7	Water/ START (DK)	Grab	Cyanide(21), ICP-MS(21)	1065 (NaOH to pH >12), 1066 (HNO3 to pH < 2) (2)	L.P.B.M. HW	05-16-2018 18:45	Field Sample
SCR-051618-RW-008	MC0AA8	Water/ START (DK)	Grab	Cyanide(21), ICP-MS(21)	1074 (NaOH to pH >12), 1075 (HNO3 to pH < 2) (2)	L.P.B.M. HW	05-16-2018 19:16	Field Sample
SCR-051618-RW-010	MC0AB2	Water/ START (DK)	Grab	Cyanide(21), ICP-MS(21)	1104 (NaOH to pH >12), 1105 (HNO3 to pH < 2) (2)	S.C.R	05-16-2018 18:05	Field Sample
SCR-051618-RW-011	MC0AB3	Water/ START (DK)	Grab	Cyanide(21), ICP-MS(21)	1113 (NaOH to pH >12), 1114 (HNO3 to pH < 2) (2)	S.C.R	05-17-2018 10:16	Field Sample

Sample(s) to be used for Lab QC: SCR-051618-RW-011 Tag 1113, SCR-051618-RW-011 Tag 1114	**Shipment for Case Complete? N**
	Samples Transferred From Chain of Custody #
Analysis Key: Cyanide=Cyanide by ISM02.4, ICP-MS=TAL Metals+Hg by ISM02.4 (ICP-MS)	

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt

USEPA CLP COC (REGION COPY)
DateShipped: 18-May-18
CarrierName: FedEx
AirbillNo: 7722 6487 6516

CHAIN OF CUSTODY RECORD
Shiloh Church Road/VA
Case #: 47639
Cooler #: 12

No: 3-05-17-18-185329-0012
Lab: Shealy Environmental Services
Lab Contact: Robert Zhu
Lab Phone: 803-791-9700

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	Sample Type
SCR-051718-RW-012	MC0AB4	Water/ START (DK)	Grab	Cyanide(21), ICP-MS(21)	1130 (NaOH to pH >12), 1131 (HNO3 to pH < 2) (2)	L.P.B.M. HW	05-17-2018 16:40	Field Sample

Special Instructions:	**Shipment for Case Complete? N**
	Samples Transferred From Chain of Custody #
Analysis Key: Cyanide=Cyanide by ISM02.4, ICP-MS=TAL Metals+Hg by ISM02.4 (ICP-MS)	

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt

SHEALY ENVIRONMENTAL SERVICES

ISM02.4 SUMMARY DATA PACKAGE

LAB CODE: EQI
CONTRACT: EPW-14-035

This Sample Data Package includes data of all analysis requested For each particular Case/SDG.

The Sample Data Package will include:

- SDG Cover Page
- Traffic Report/Chain of Custody
- Sample Log-In Sheet (DC-1)
- CSF Inventory Sheet (DC-2)
- SDG Narrative

The following analysis are included in this package, if applicable:

- ICP-AES Data
- ICP-MS Data
- Mercury Data
- Cyanide Data
- Miscellaneous Data

SDG Cover Sheet, TR/COC, DC-1, DC-2

SDG COVER PAGE

Lab Name: Shealy Environmental Services Contract: EPW14035

Lab Code: EQI Case No.: 47639 MA No.: N/A SDG No.: MC0AA3

SOW No.: ISM02.4

Analysis Method

EPA Sample No.	Lab Sample ID	ICP-AES	ICP-MS	Mercury	Cyanide
MC0AA0	TE18019-007		X	X	X
MC0AA1	TE18019-008		X	X	X
MC0AA2	TE18019-009		X	X	X
MC0AA3	TE18019-001		X	X	X
MC0AA4	TE18019-002		X	X	X
MC0AA5	TE18019-010		X	X	X
MC0AA6	TE18019-011		X	X	X
MC0AA7	TE18019-003		X	X	X
MC0AA8	TE18019-004		X	X	X
MC0AB2	TE18019-005		X	X	X
MC0AB3	TE18019-006		X	X	X
MC0AB4	TE18019-012		X	X	X

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the SDG Narrative. Release of the data contained in this hardcopy Complete SDG File and in the electronic data submitted has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: "non responsive based on revised scope" [redacted] Name: "non responsive based on revised scope" [redacted]

Date: Title: Technical Director

Contract Laboratory Program

Sample Delivery Group (SDG) Definition Sheet

SDG Number	MC0AA3	Case Number	47639	Contract Number	EPW14035
Lab Code	EQI	SDG Turnaround	21 days	Delivery CLIN(s)	n/a

First Sample Received in SDG	MC0AA0	Last Sample Received in SDG	MC0AB4
First Sample Receipt Date	05/18/2018	Last Sample Receipt Date	05/19/2018

USEPA Sample Numbers in SDG (Listed in Numerical Order)

CLP Sample ID		Sample Type	Requested Analytical CLIN(s)/SubCLIN(s)	Solicitation Number	MA Number(s)
1	MC0AA0	Water	ICP-MS Metals, Hg, Cyanide	N/A	N/A
2	MC0AA1	Water	ICP-MS Metals, Hg, Cyanide	N/A	N/A
3	MC0AA2	Water	ICP-MS Metals, Hg, Cyanide	N/A	N/A
4	MC0AA3	Water	ICP-MS Metals, Hg, Cyanide	N/A	N/A
5	MC0AA4	Water	ICP-MS Metals, Hg, Cyanide	N/A	N/A
6	MC0AA5	Water	ICP-MS Metals, Hg, Cyanide	N/A	N/A
7	MC0AA6	Water	ICP-MS Metals, Hg, Cyanide	N/A	N/A
8	MC0AA7	Water	ICP-MS Metals, Hg, Cyanide	N/A	N/A
9	MC0AA8	Water	ICP-MS Metals, Hg, Cyanide	N/A	N/A
10	MC0AB2	Water	ICP-MS Metals, Hg, Cyanide	N/A	N/A
11	MC0AB3	Water	ICP-MS Metals, Hg, Cyanide	N/A	N/A
12	MC0AB4	Water	ICP-MS Metals, Hg, Cyanide	N/A	N/A
13					
14			"non responsive based on revised scope" [redacted]	5/30/18	
15					
16					
17					
18					
19					
20					

Note: *There are a maximum of 20* ***field*** *samples (excluding PE samples) in an SDG. Attach TR/COC Records to this form in alphanumeric order (the order listed above on this form).*

Signature "non responsive based on revised scope" [redacted] Date 5/30/18

MC0AA3

USEPA CLP COC (LAB COPY)

DateShipped: 17-May-18
CarrierName: FedEx
AirbillNo: 772255204398

CHAIN OF CUSTODY RECORD

Case #: 47639
Cooler #: 6

No: 3-05-17-18-065640-0006

Lab: Shealy Environmental Services
Lab Contact: [redacted]
Lab Phone: 803-791-9700

EPW14035

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
SCR-051618-RW-003	MC0AA3	Water/ START (DK)	Grab	Cyanide(21), ICP-MS(21)	1029 (NaOH to pH >12), 1030 (HNO3 to pH < 2) (2)	S.C.R	05-16-2018 17:45	
SCR-051618-RW-004	MC0AA4	Water/ START (DK)	Grab	Cyanide(21), ICP-MS(21)	1038 (NaOH to pH >12), 1039 (HNO3 to pH < 2) (2)	L.P.B.M. HW	05-17-2018 09:16	
SCR-051618-RW-007	MC0AA7	Water/ START (DK)	Grab	Cyanide(21), ICP-MS(21)	1065 (NaOH to pH >12), 1066 (HNO3 to pH < 2) (2)	L.P.B.M. HW	05-16-2018 18:45	
SCR-051618-RW-008	MC0AA8	Water/ START (DK)	Grab	Cyanide(21), ICP-MS(21)	1074 (NaOH to pH >12), 1075 (HNO3 to pH < 2) (2)	L.P.B.M. HW	05-16-2018 19:16	
SCR-051618-RW-010	MC0AB2	Water/ START (DK)	Grab	Cyanide(21), ICP-MS(21)	1104 (NaOH to pH >12), 1105 (HNO3 to pH < 2) (2)	S.C.R	05-16-2018 18:05	
SCR-051618-RW-011	MC0AB3	Water/ START (DK)	Grab	Cyanide(21), ICP-MS(21)	1113 (NaOH to pH >12), 1114 (HNO3 to pH < 2) (2)	S.C.R	05-17-2018 10:16	

"non responsive based on revised scope" [redacted]

05-17-18

Sample(s) to be used for Lab QC: SCR-051618-RW-011 Tag 1113, SCR-051618-RW-011 Tag 1114	**Shipment for Case Complete? N**
	Samples Transferred From Chain of Custody #
Analysis Key: Cyanide=Cyanide by ISM02.4, ICP-MS=TAL Metals+Hg by ISM02.4 (ICP-MS)	

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
Samples for Analysis,	"non responsive based on revised scope" [redacted] (Weston)	05-17-18 1400			
			"non responsive based on revised scope" [redacted] SESI/EQI	5/18/18 0940	o/c T=4.5°C

~~MC0AA5~~ MC0AA3

USEPA CLP COC (LAB COPY)

DateShipped: 17-May-18
CarrierName: FedEx
AirbillNo: 7722 4430 8712

CHAIN OF CUSTODY RECORD

Case #: 47639
Cooler #: 1

No: 3-05-16-18-082032-0001 SDG 5/18/18

Lab: Shealy Environmental Services
Lab Contact: [redacted]
Lab Phone: 803-791-9700

EPW14035

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
SCR-051518-RW-001	MC0AA0	Water/ START (DK)	Grab	Cyanide(21), ICP-MS(21)	1002 (NaOH to pH >12), 1003 (HNO3 to pH < 2) (2)	L.P.B.M. HW	05-15-2018 10:47	
SCR-051518-RW-001D	MC0AA1	Water/ START (DK)	Grab	Cyanide(21), ICP-MS(21)	1011 (NaOH to pH >12), 1012 (HNO3 to pH < 2) (2)	L.P.B.M. HW	05-15-2018 10:47	
SCR-051518-RW-002	MC0AA2	Water/ START (DK)	Grab	Cyanide(21), ICP-MS(21)	1020 (NaOH to pH >12), 1021 (HNO3 to pH < 2) (2)	L.P.B.M. HW	05-15-2018 11:15	
SCR-051618-RW-005	MC0AA5	Water/ START (DK)	Grab	Cyanide(21), ICP-MS(21)	1047 (NaOH to pH >12), 1048 (HNO3 to pH < 2) (2)	L.P.B.M. HW	05-16-2018 10:15	
SCR-051618-RW-006	MC0AA6	Water/ START (DK)	Grab	Cyanide(21), ICP-MS(21)	1056 (NaOH to pH >12), 1057 (HNO3 to pH < 2) (2)	L.P.B.M. HW	05-16-2018 18:35	

"non responsive based on revised scope" [redacted]

Special Instructions:

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: Cyanide=Cyanide by ISM02.4, ICP-MS=TAL Metals+Hg by ISM02.4 (ICP-MS)

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
Samples for Analysis	[redacted] Weston)	05-17-18 1200			
			[redacted] (SESI-EGI)	5-18-18 0940	OK T=3.8°C

"non responsive based on revised scope"

MC0AA3

USEPA CLP COC (LAB COPY)

DateShipped: 18-May-18
CarrierName: FedEx
AirbillNo: 7722 6487 6516

CHAIN OF CUSTODY RECORD

Case #: 47639
Cooler #: 12

No: 3-05-17-18-185329-0012

Lab: Shealy Environmental Services
Lab Contact: [redacted]
Lab Phone: 803-791-9700

EPW14035

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
SCR-051718-RW-012	MC0AB4	Water/ START (DK)	Grab	Cyanide(21), ICP-MS(21)	1130 (NaOH to pH >12), 1131 (HNO3 to pH < 2) (2)	L.P.B.M. HW	05-17-2018 16:40	
~~SCR-051818-RW-009~~	~~MC0AB5~~	~~Water/ START (DK)~~	~~Grab~~	~~Cyanide(21), ICP-MS(21)~~	~~1139 (NaOH to pH >12), 1140 (HNO3 to pH < 2) (2)~~	~~L.P.B.M. HW~~	~~05-18-2018~~	
							(NOT SAMPLED)	

"non responsive based on revised scope" [redacted]

05-18-18

Special Instructions:	Shipment for Case Complete? N Samples Transferred From Chain of Custody #
Analysis Key: Cyanide=Cyanide by ISM02.4, ICP-MS=TAL Metals+Hg by ISM02.4 (ICP-MS)	

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
Samples for Analysis	"non responsive based on revised scope" [redacted] Weston	05-18-18 1245			
			"non responsive based on revised scope" [redacted] ESI/CCI	0915 5/19/18	ok

T=5.4°C

FORM DC-1
SAMPLE LOG-IN SHEET

Lab Name SESI/FQT [redacted]		Page 1 of 1
Received By (Print Name) [redacted]		Log-in Date 5/18/18
Received By (Signature) [redacted]		
Case Number 47639	SDG No. MC0AA3	MA No. NA

Remarks:	
1. Custody Seal(s)	Present/Absent* Intact/Broken
2. Custody Seal Nos.	NA
3. Traffic Reports/Chain of Custody Records or Packing Lists	Present/Absent*
4. Airbill	Airbill/Sticker Present/Absent*
5. Airbill No.	772255204398
6. Sample Tags Sample Tag Numbers	Present/Absent* Listed/Not Listed on Traffic Report/Chain of Custody Record
7. Sample Condition	Intact/Broken*/ Leaking
8. Shipping Container Temperature Indicator Bottle	Present/Absent*
9. Shipping Container Temperature	4.5°C
10. Does information on Traffic Reports/Chain of Custody Records and Sample Tags agree?	Yes/No*
11. Date Received at Lab	5/18/18
12. Time Received	0940

pH strip ID: 18-770

	EPA Sample #	Aqueous/ Water Sample pH CN	Aqueous/ Water Sample pH Met.	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample Shipment, etc.
1	MC0AA3	13.0	1.0	1029, 1030	TE18019-001	ok
2	MC0AA4			1038, 1039	-002	
3	MC0AA7			1065, 1066	-003	
4	MC0AA8			1074, 1075	-004	
5	MC0AB2			1104, 1105	-005	
6	MC0AB3			1113, 1114	-006	
7						
8						
9						
10						
11						
12					[redacted]	
13					5/18/18	
14						
15						
16						
17						
18						
19						
20						
21						
22						

* Contact SMO a[redacted]olution

Reviewed By	[redacted]	Logbook No.	NA
Date	5/28/18	Logbook Page No.	NA

FORM DC-1

SAMPLE LOG-IN SHEET

Lab Name SESI/EQI [redacted]		Page 1 of 1
Received By (Print Name) [redacted]		Log-in Date 5/18/18
Received By (Signature) [redacted]		
Case Number 47639	[redacted]o. MC0AA3	MA No. NA

Remarks:	
1. Custody Seal(s)	Present/Absent* Intact/Broken
2. Custody Seal Nos.	NA
3. Traffic Reports/Chain of Custody Records or Packing Lists	Present/Absent*
4. Airbill	Airbill/Sticker Present/Absent*
5. Airbill No.	772244308712
6. Sample Tags Sample Tag Numbers	Present/Absent* Listed/Not Listed on Traffic Report/Chain of Custody Record
7. Sample Condition	Intact/Broken*/ Leaking
8. Shipping Container Temperature Indicator Bottle	Present/Absent*
9. Shipping Container Temperature	3.8°C
10. Does information on Traffic Reports/Chain of Custody Records and Sample Tags agree?	Yes/No*
11. Date Received at Lab	5/18/18
12. Time Received	0940

pH strip ID: 18770

	EPA Sample #	Aqueous/ Water Sample pH CN	Aqueous/ Water Sample pH Met.	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample Shipment, etc.
1	MC0AA0	13.0	1.0	1002, 1003	TE18019-007	ok
2	MC0AA1			1011, 1012	-008	
3	MC0AA2			1020, 1021	-009	
4	MC0AA5			1047, 1048	-010	
5	MC0AA6			1056, 1057	-011	
6						
7						
8						
9						
10						
11						
12					[redacted] 5/18/18	
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

* Contact SMO [redacted] of resolution

Reviewed By [redacted]	Logbook No. NA
Date [redacted]	Logbook Page No. NA

FORM DC-1
SAMPLE LOG-IN SHEET

Lab Name SESI/EQI [redacted]		Page 1 of 1
Received By (Print Name) [redacted]		Log-in Date 5/19/18
Received By (Signature) [redacted]		
Case Number 47639	MC0AA3	MA No. NA

Remarks:	
1. Custody Seal(s)	Present/Absent* Intact/Broken
2. Custody Seal Nos.	NA
3. Traffic Reports/Chain of Custody Records or Packing Lists	Present/Absent*
4. Airbill	Airbill/Sticker Present/Absent*
5. Airbill No.	7722 6487 6516
6. Sample Tags Sample Tag Numbers	Present/Absent* Listed/Not Listed on Traffic Report/Chain of Custody Record
7. Sample Condition	Intact/Broken*/ Leaking
8. Shipping Container Temperature Indicator Bottle	Present/Absent*
9. Shipping Container Temperature	5.4°C
10. Does information on Traffic Reports/Chain of Custody Records and Sample Tags agree?	Yes/No*
11. Date Received at Lab	5/19/18
12. Time Received	0915

	EPA Sample #	Aqueous/ Water Sample pH	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample Shipment, etc.
1	MC0AB4	CN 13.0 / Met. 1.0	1130, 1131	TE180119-012	ok
2					
3					
4					
5					
6					
7					
8					
9				[redacted] 5/19/18	
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

* Contact SMO a[redacted]esolution

Reviewed By	[redacted]	Logbook No.	NA
Date	5/20/18	Logbook Page No.	NA

FORM DC-2
FULL INORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

LAB NAME Shealy Environmental Services, Inc.

LAB CODE EQI

CONTRACT NO. EPW-14-035

CASE NO. 47639 SDG NO. MC0AA3

MA NO.

SOW NO. ISM02.4

All documents delivered in the Complete SDG File must be original documents where possible. (Reference - Exhibit B Section 2.4)

		PAGE NOs.		CHECK	
		FROM	TO	LAB	REGION
1.	SDG Cover Page	1	4	X	
2.	Traffic Report/Chain of Custody Record(s)	5	7	X	
3.	Sample Log-In Sheet (DC-1)	8	10	X	
4.	CSF Inventory Sheet (DC-2)	11	14	X	
5.	SDG Narrative	15	17	X	
Inorganic Analysis					
ICP-AES					
6.	Inorganic Analysis Data Sheet (Form 1-IN)	N/A	N/A	X	
7.	Initial and Continuing Calibration Verification (Form 2-IN)	N/A	N/A	X	
8.	Blanks (Form 3-IN)	N/A	N/A	X	
9.	ICP Interference Check Sample (Form 4-IN)	N/A	N/A	X	
10.	Matrix Spike Sample Recovery (Form 5A-IN)	N/A	N/A	X	
11.	Post-Digestion/Distillation Spike Sample Recovery (Form 5B-IN)	N/A	N/A	X	
12.	Duplicates (Form 6-IN)	N/A	N/A	X	
13.	Laboratory Control Sample (Form 7-IN)	N/A	N/A	X	
14.	ICP-AES and ICP-MS Serial Dilutions (Form 8-IN)	N/A	N/A	X	
15.	Method Detection Limit (Form 9-IN)	N/A	N/A	X	
16.	ICP-AES Interelement Correction Factors (Form 10A-IN)	N/A	N/A	X	
17.	ICP-AES Interelement Correction Factors (Form 10B-IN)	N/A	N/A	X	
18.	Analysis Log (Form 12-IN)	N/A	N/A	X	
19.	Initial Calibration (Form 15-IN)	N/A	N/A	X	

FORM DC-2
FULL INORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

		PAGE NOs.		CHECK	
		FROM	TO	LAB	REGION
20.	Initial Calibration Summary (Form 16-IN)	N/A	N/A	X	
21.	ICP-AES Raw Data	N/A	N/A	X	
22.	ICP-AES Preparation Log Books, Preparation records, Analysis records, and PE Instructions	N/A	N/A	X	
ICP-MS					
23.	Inorganic Analysis Data Sheet (Form 1-IN)	18	32	X	
24.	Initial and Continuing Calibration Verification (Form 2-IN)	33	35	X	
25.	Blanks (Form 3-IN)	36	36	X	
26.	ICP Interference Check Sample (Form 4-IN)	37	37	X	
27.	Matrix Spike Sample Recovery (Form 5A-IN)	38	38	X	
28.	Post-Digestion/Distillation Spike Sample Recovery (Form 5B-IN)	N/A	N/A	X	
29.	Duplicates (Form 6-IN)	39	39	X	
30.	Laboratory Control Sample (Form 7-IN)	40	40	X	
31.	ICP-AES and ICP-MS Serial Dilutions (Form 8-IN)	41	41	X	
32.	Method Detection Limit (Form 9-IN)	42	42	X	
33.	ICP-MS Internal Standard Association (Form 11-IN)	43	43	X	
34.	Analysis Log (Form 12-IN)	44	45	X	
35.	ICP-MS Tune (Form 13-IN)	46	46	X	
36.	ICP-MS Internal Standards Relative Intensity Summary (Form 14-IN)	47	48	X	
37.	Initial Calibration (Form 15-IN)	49	51	X	
38.	Initial Calibration Summary (Form 16-IN)	52	52	X	
39.	ICP-MS Raw Data	53	197	X	
40.	ICP-MS Preparation Log Books, Preparation records, Analysis records, and PE Instructions	198	225	X	
Mercury					
41.	Inorganic Analysis Data Sheet (Form 1-IN)	226	240	X	
42.	Initial and Continuing Calibration Verification (Form 2-IN)	241	243	X	
43.	Blanks (Form 3-IN)	244	244	X	
44.	Matrix Spike Sample Recovery (Form 5A-IN)	245	245	X	
45.	Duplicates (Form 6-IN)	246	246	X	
46.	Method Detection Limit (Form 9-IN)	247	247	X	
47.	Analysis Log (Form 12-IN)	248	248	X	
48.	Initial Calibration (Form 15-IN)	249	250	X	

FORM DC-2
FULL INORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

49.	Initial Calibration Summary (Form 16-IN)	251	251	X	
50.	Mercury Raw Data	252	254	X	
51.	Mercury Preparation Log Books, Preparation records, Analysis records, and PE Instructions	255	264	X	
Cyanide					
52.	Inorganic Analysis Data Sheet (Form 1-IN)	265	279	X	
53.	Initial and Continuing Calibration Verification (Form 2-IN)	280	281	X	
54.	Blanks (Form 3-IN)	282	282	X	
55.	Matrix Spike Sample Recovery (Form 5A-IN)	283	283	X	
56.	Post-Digestion/Distillation Spike Sample Recovery (Form 5B-IN)	N/A	N/A	X	
57.	Duplicates (Form 6-IN)	284	284	X	
58.	Method Detection Limit (Form 9-IN)	285	285	X	
59.	Analysis Log (Form 12-IN)	286	286	X	
60.	Initial Calibration (Form 15-IN)	287	288	X	
61.	Initial Calibration Summary (Form 16-IN)	289	289	X	
62.	Cyanide Raw Data	290	296	X	
63.	Cyanide Preparation Log Books, Preparation records, Analysis records, and PE Instructions	297	305	X	
Additional					
64.	Percent Solids Determination Log	N/A	N/A	X	
65.	EPA Shipping/Receiving Documents	306	312	X	
	Airbill (No. of Shipments 3)	307	309	X	
	Sample Tags	N/A	N/A	X	
	Sample Log-In Sheet (Lab)	310	312	X	
66.	Misc. Shipping/Receiving Records (list all individual records) Communication Logs	N/A	N/A	X	
67.	Internal Lab Sample Transfer Records & Tracking Sheets (describe or list)	313	313	X	
68.	Other Records (describe or list)				
	Communication Logs	314	315	X	
	Precautionary measures information				

FORM DC-2
FULL INORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

69. Comments:

"non responsive based on revised scope"

Completed by:
(CLP Lab) [redacted] [redacted] Technical Director 6/6/2018
(Signature) (Print Name & Title) (Date)

Audited by:
(EPA)
(Signature) (Print Name & Title) (Date)

Narrative

Shealy Environmental Services, Inc.

SDG Narrative
Date: 6/6/2018
Case 47639
SDG MC0AA3
SOW ISM02.4
Contract Number: EPW14035

ICP-AES Thermo Sci ICAP 7600 (ICP5) Software: Qtegra Version: 2.8.2944.202 Operating System:Windows 7 Thermo Sci ICAP 6500 (ICP4) Software: iTEVA Version: 2.8.0.97 Operating System:Windows 7 **ICP-MS** Thermo Elemental X-2 (ICPMS2) Software: PlasmaLab Version: 2.6.2.337 Operating System: Windows 7 **MERCURY** Leeman Labs Hydra AA (Hg3) Software: WinHg Runner 1.7 Version: Rev 0.12 Operating System: Windows 7 Leeman Labs Hydra II (Hg4) Software: Envoy 2.0 sp.0 Version: Rev 6.1 Operating System: Windows 7	Water sample: Final concentration (ug/L) = C * DF Soil sample: Final concentration (mg/Kg) = $\frac{C*V*DF}{W*S}$ Where, C = the instrument readout in ug/L V = final sample volume in liter W = the wet sample weight (g) S = %solids/100 DF = Dilution Factor
Cyanide Lachat QuickChem FIA+ Software: Omnion Version: 3.0.220.06 Operating System: Windows XP	Water sample: Final concentration (ug/L) = $\frac{A*D*F}{B}$ Soil sample: Final concentration (mg/Kg) = $\frac{A*D*F}{B*E}$ Where, A = Concentration from regression analysis curve (ug/L) B = Volume of original sample (Water) or wet weight of original sample (Soil) D = Dilution factor E = %solids/100 F = Sample receiving solution volume (0.0060L)

Sample Receiving

The twelve (12) water samples in this SDG were received in sealed shipping containers on May 18, 20, 2018 with temperatures of 4.5°C, 3.8°C and May 19, 2018 with a temperature of 5.4°C.

For a cross reference of laboratory ID to EPA Sample Numbers, please see the SDG Cover Page on page 3 of this CSF file.

Target Analyte

Cyanide and mercury are required for this SDG. The target analytes for ICP-MS are listed below:

Target Analytes	ICP-MS
Aluminum	Yes
Antimony	Yes
Arsenic	Yes
Barium	Yes
Beryllium	Yes
Cadmium	Yes
Calcium	Yes
Chromium	Yes
Cobalt	Yes
Copper	Yes
Iron	Yes
Lead	Yes
Magnesium	Yes
Manganese	Yes
Nickel	Yes
Potassium	Yes
Selenium	Yes
Silver	Yes
Sodium	Yes
Thallium	Yes
Vanadium	Yes
Zinc	Yes

ICP-MS

The percent difference for sodium was outside acceptance criteria on the serial dilution. All of the data for samples received that were associated with this serial dilution sample have been flagged with an "*".

Mercury – Not applicable

Cyanide – Not applicable

ICP-MS Metals

Inorganic Analysis Data Sheet (Form 1-IN)
Initial and Continuing Calibration Verification (Form 2-IN)
Blanks (Form 3-IN)
ICP Interference Check Sample (Form 4-IN)
Matrix Spike Sample Recovery (Form 5A-IN)
Post Digestion/Distillation Spike Sample Recovery (Form 5B-IN)
Duplicates (Form 6-IN)
Laboratory Control Sample (Form 7-IN)
ICP-AES and ICP-MS Serial Dilutions (Form 8-IN)
Method Detection Limit (Form 9-IN)
ICP-MS Internal Standard Association (Form 11-IN)
Analysis Log (Form 12-IN)
ICP-MS Tune (Form 12-IN)
ICP-MS Internal Standards Relative Intensity Summary (Form 14-IN)
Initial Calibration (Form 15-IN)
Initial Calibration Summary (Form 16-IN)
ICP-MS Raw Data
ICP-MS Preparation Log Books, Preparation Records,
Analysis Records

ICP-MS
Sample Analysis Data Sheet

SDG COVER PAGE

Lab Name: Shealy Environmental Services, In

Contract: EPW14035

Lab Code: EQI

Case No: 47639

MA No.:

SDG No: MC0AA3

SOW No.: ISM02.4

EPA Sample No.	Lab Sample ID	Analysis Method ICP-AES	ICP-MS	Mercury	Cyanide
MC0AA0	TE18019 007		X		
MC0AA1	TE18019-008		X		
MC0AA2	TE18019-009		X		
MC0AA3	TE18019-001		X		
MC0AA4	TE18019 002		X		
MC0AA5	TE18019-010		X		
MC0AA6	TE18019-011		X		
MC0AA7	TE18019-003		X		
MC0AA8	TE18019 004		X		
MC0AB2	TE18019-005		X		
MC0AB3	TE18019-006		X		
MC0AB3D	TE18019-006D		X		
MC0AB S	TE18019 006S		X		
MC0AB4	TE18019-012		X		

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the SDG Narrative. Release of the data contained in this hardcopy data package and in the electronic data submitted has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: "non responsive based on revised scope" [redacted]

Name: "non responsive based on revised scope" [redacted]

Date: 6/6/2018

Title: Technical Director

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AA0

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 007

% Solids: Date Re eived: 05/18/2018

Analyti al Method: ICP MS

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration		Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	4.4	▪	J	06/05/2018	19:15:36
7440-36-0	Antimony	0.21	▪	J	06/05/2018	19:15:36
7440-38-2	Arsenic	1.0	▪	U	06/05/2018	19:15:36
7440-39-3	Barium	18.1	▪		06/05/2018	19:15:36
7440-41-7	Beryllium	1.0	▪	U	06/05/2018	19:15:36
7440-43-9	Cadmium	1.0	▪	U	06/05/2018	19:15:36
7440-70-2	Calcium	3020	▪		06/05/2018	19:15:36
7440-47-3	Chromium	0.90	▪	J	06/05/2018	19:15:36
7440-48-4	Cobalt	1.0	▪	U	06/05/2018	19:15:36
7440-50-8	Copper	114	▪		06/05/2018	19:15:36
7439-89-6	Iron	246	▪		06/05/2018	19:15:36
7439-92-1	Lead	2.9	▪		06/05/2018	19:15:36
7439-96-5	Manganese	3.4	▪		06/05/2018	19:15:36
7439-95-4	Magnesium	702	▪		06/05/2018	19:15:36
7440-02-0	Nickel	0.47	▪	J	06/05/2018	19:15:36
7440-09-7	Potassium	1530	▪		06/05/2018	19:15:36
7782-49-2	Selenium	5.0	▪	U	06/05/2018	19:15:36
7440-22-4	Silver	1.0	▪	U	06/05/2018	19:15:36
7440-23-5	Sodium	5390	▪	*	06/05/2018	19:15:36
7440-28-0	Thallium	1.0	▪	U	06/05/2018	19:15:36
7440-62-2	Vanadium	5.0	▪	U	06/05/2018	19:15:36
7440-66-6	Zinc	10.8	▪		06/05/2018	19:15:36

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AA1

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 008

% Solids: Date Re eived: 05/18/2018

Analyti al Method: ICP MS

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration		Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	2.2	▪	J	06/05/2018	19:21:24
7440-36-0	Antimony	2.0	▪	U	06/05/2018	19:21:24
7440-38-2	Arsenic	1.0	▪	U	06/05/2018	19:21:24
7440-39-3	Barium	18.5	▪		06/05/2018	19:21:24
7440-41-7	Beryllium	1.0	▪	U	06/05/2018	19:21:24
7440-43-9	Cadmium	1.0	▪	U	06/05/2018	19:21:24
7440-70-2	Calcium	3150	▪		06/05/2018	19:21:24
7440-47-3	Chromium	0.76	▪	J	06/05/2018	19:21:24
7440-48-4	Cobalt	1.0	▪	U	06/05/2018	19:21:24
7440-50-8	Copper	124	▪		06/05/2018	19:21:24
7439-89-6	Iron	208	▪		06/05/2018	19:21:24
7439-92-1	Lead	2.7	▪		06/05/2018	19:21:24
7439-96-5	Manganese	3.3	▪		06/05/2018	19:21:24
7439-95-4	Magnesium	734	▪		06/05/2018	19:21:24
7440-02-0	Nickel	0.44	▪	J	06/05/2018	19:21:24
7440-09-7	Potassium	1580	▪		06/05/2018	19:21:24
7782-49-2	Selenium	5.0	▪	U	06/05/2018	19:21:24
7440-22-4	Silver	1.0	▪	U	06/05/2018	19:21:24
7440-23-5	Sodium	5570	▪	*	06/05/2018	19:21:24
7440-28-0	Thallium	1.0	▪	U	06/05/2018	19:21:24
7440-62-2	Vanadium	5.0	▪	U	06/05/2018	19:21:24
7440-66-6	Zinc	10.9	▪		06/05/2018	19:21:24

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AA2

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 009

% Solids: Date Re eived: 05/18/2018

Analyti al Method: ICP MS

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration		Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	7.3	▪	J	06/05/2018	19:27:11
7440-36-0	Antimony	2.0	▪	U	06/05/2018	19:27:11
7440-38-2	Arsenic	1.0	▪	U	06/05/2018	19:27:11
7440-39-3	Barium	41.3	▪		06/05/2018	19:27:11
7440-41-7	Beryllium	1.0	▪	U	06/05/2018	19:27:11
7440-43-9	Cadmium	1.0	▪	U	06/05/2018	19:27:11
7440-70-2	Calcium	4380	▪		06/05/2018	19:27:11
7440-47-3	Chromium	0.65	▪	J	06/05/2018	19:27:11
7440-48-4	Cobalt	1.0	▪	U	06/05/2018	19:27:11
7440-50-8	Copper	32.6	▪		06/05/2018	19:27:11
7439-89-6	Iron	25.6	▪	J	06/05/2018	19:27:11
7439-92-1	Lead	2.4	▪		06/05/2018	19:27:11
7439-96-5	Manganese	4.1	▪		06/05/2018	19:27:11
7439-95-4	Magnesium	928	▪		06/05/2018	19:27:11
7440-02-0	Nickel	0.39	▪	J	06/05/2018	19:27:11
7440-09-7	Potassium	2070	▪		06/05/2018	19:27:11
7782-49-2	Selenium	5.0	▪	U	06/05/2018	19:27:11
7440-22-4	Silver	1.0	▪	U	06/05/2018	19:27:11
7440-23-5	Sodium	6880	▪	*	06/05/2018	19:27:11
7440-28-0	Thallium	1.0	▪	U	06/05/2018	19:27:11
7440-62-2	Vanadium	5.0	▪	U	06/05/2018	19:27:11
7440-66-6	Zinc	23.5	▪		06/05/2018	19:27:11

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AA

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 001

% Solids: Date Re eived: 05/18/2018

Analyti al Method: ICP MS

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	172		06/05/2018	18:00:24
7440-36-0	Antimony	2.0	U	06/05/2018	18:00:24
7440-38-2	Arsenic	1.0	U	06/05/2018	18:00:24
7440-39-3	Barium	28.7		06/05/2018	18:00:24
7440-41-7	Beryllium	0.20	J	06/05/2018	18:00:24
7440-43-9	Cadmium	1.0	U	06/05/2018	18:00:24
7440-70-2	Calcium	3640		06/05/2018	18:00:24
7440-47-3	Chromium	0.69	J	06/05/2018	18:00:24
7440-48-4	Cobalt	1.0	U	06/05/2018	18:00:24
7440-50-8	Copper	24.2		06/05/2018	18:00:24
7439-89-6	Iron	183	J	06/05/2018	18:00:24
7439-92-1	Lead	2.0		06/05/2018	18:00:24
7439-96-5	Manganese	3.5		06/05/2018	18:00:24
7439-95-4	Magnesium	546		06/05/2018	18:00:24
7440-02-0	Nickel	0.23	J	06/05/2018	18:00:24
7440-09-7	Potassium	1690		06/05/2018	18:00:24
7782-49-2	Selenium	5.0	U	06/05/2018	18:00:24
7440-22-4	Silver	1.0	U	06/05/2018	18:00:24
7440-23-5	Sodium	5710	*	06/05/2018	18:00:24
7440-28-0	Thallium	1.0	U	06/05/2018	18:00:24
7440-62-2	Vanadium	5.0	U	06/05/2018	18:00:24
7440-66-6	Zinc	25.8		06/05/2018	18:00:24

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AA4

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 002

% Solids: Date Re eived: 05/18/2018

Analyti al Method: ICP MS

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration		Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	7.4	▪	J	06/05/2018	18:06:11
7440-36-0	Antimony	2.0	▪	U	06/05/2018	18:06:11
7440-38-2	Arsenic	1.0	▪	U	06/05/2018	18:06:11
7440-39-3	Barium	32.5	▪		06/05/2018	18:06:11
7440-41-7	Beryllium	1.0	▪	U	06/05/2018	18:06:11
7440-43-9	Cadmium	1.0	▪	U	06/05/2018	18:06:11
7440-70-2	Calcium	3800	▪		06/05/2018	18:06:11
7440-47-3	Chromium	0.54	▪	J	06/05/2018	18:06:11
7440-48-4	Cobalt	1.0	▪	U	06/05/2018	18:06:11
7440-50-8	Copper	100.0	▪		06/05/2018	18:06:11
7439-89-6	Iron	17.7	▪	J	06/05/2018	18:06:11
7439-92-1	Lead	2.4	▪		06/05/2018	18:06:11
7439-96-5	Manganese	2.6	▪		06/05/2018	18:06:11
7439-95-4	Magnesium	994	▪		06/05/2018	18:06:11
7440-02-0	Nickel	0.12	▪	J	06/05/2018	18:06:11
7440-09-7	Potassium	2060	▪		06/05/2018	18:06:11
7782-49-2	Selenium	5.0	▪	U	06/05/2018	18:06:11
7440-22-4	Silver	1.0	▪	U	06/05/2018	18:06:11
7440-23-5	Sodium	6110	▪	*	06/05/2018	18:06:11
7440-28-0	Thallium	1.0	▪	U	06/05/2018	18:06:11
7440-62-2	Vanadium	5.0	▪	U	06/05/2018	18:06:11
7440-66-6	Zinc	24.1	▪		06/05/2018	18:06:11

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AA5

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 010

% Solids: Date Re eived: 05/18/2018

Analyti al Method: ICP MS

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration		Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	9.0		J	06/05/2018	19:32:58
7440-36-0	Antimony	2.0		U	06/05/2018	19:32:58
7440-38-2	Arsenic	1.0		U	06/05/2018	19:32:58
7440-39-3	Barium	16.4			06/05/2018	19:32:58
7440-41-7	Beryllium	1.0		U	06/05/2018	19:32:58
7440-43-9	Cadmium	1.0		U	06/05/2018	19:32:58
7440-70-2	Calcium	8970			06/05/2018	19:32:58
7440-47-3	Chromium	6.7			06/05/2018	19:32:58
7440-48-4	Cobalt	1.0		U	06/05/2018	19:32:58
7440-50-8	Copper	22.0			06/05/2018	19:32:58
7439-89-6	Iron	153		J	06/05/2018	19:32:58
7439-92-1	Lead	1.2			06/05/2018	19:32:58
7439-96-5	Manganese	1.2			06/05/2018	19:32:58
7439-95-4	Magnesium	5680			06/05/2018	19:32:58
7440-02-0	Nickel	1.4			06/05/2018	19:32:58
7440-09-7	Potassium	972			06/05/2018	19:32:58
7782-49-2	Selenium	5.0		U	06/05/2018	19:32:58
7440-22-4	Silver	1.0		U	06/05/2018	19:32:58
7440-23-5	Sodium	4360		*	06/05/2018	19:32:58
7440-28-0	Thallium	1.0		U	06/05/2018	19:32:58
7440-62-2	Vanadium	3.8		J	06/05/2018	19:32:58
7440-66-6	Zinc	14.0			06/05/2018	19:32:58

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AA6

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 011

% Solids: Date Re eived: 05/18/2018

Analyti al Method: ICP MS

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration		Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	3.7	▪	J	06/05/2018	19:38:45
7440-36-0	Antimony	2.0	▪	U	06/05/2018	19:38:45
7440-38-2	Arsenic	1.0	▪	U	06/05/2018	19:38:45
7440-39-3	Barium	79.1	▪		06/05/2018	19:38:45
7440-41-7	Beryllium	1.0	▪	U	06/05/2018	19:38:45
7440-43-9	Cadmium	0.15	▪	J	06/05/2018	19:38:45
7440-70-2	Calcium	14900	▪		06/05/2018	19:38:45
7440-47-3	Chromium	0.93	▪	J	06/05/2018	19:38:45
7440-48-4	Cobalt	1.0	▪	U	06/05/2018	19:38:45
7440-50-8	Copper	16.0	▪		06/05/2018	19:38:45
7439-89-6	Iron	27.7	▪	J	06/05/2018	19:38:45
7439-92-1	Lead	1.5	▪		06/05/2018	19:38:45
7439-96-5	Manganese	2.9	▪		06/05/2018	19:38:45
7439-95-4	Magnesium	1460	▪		06/05/2018	19:38:45
7440-02-0	Nickel	0.45	▪	J	06/05/2018	19:38:45
7440-09-7	Potassium	1890	▪		06/05/2018	19:38:45
7782-49-2	Selenium	5.0	▪	U	06/05/2018	19:38:45
7440-22-4	Silver	1.0	▪	U	06/05/2018	19:38:45
7440-23-5	Sodium	7570	▪	*	06/05/2018	19:38:45
7440-28-0	Thallium	1.0	▪	U	06/05/2018	19:38:45
7440-62-2	Vanadium	5.0	▪	U	06/05/2018	19:38:45
7440-66-6	Zinc	76.6	▪		06/05/2018	19:38:45

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AA7

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 00

% Solids: Date Re eived: 05/18/2018

Analyti al Method: ICP MS

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration		Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	4.6	'	J	06/05/2018	18:11:58
7440-36-0	Antimony	2.0	'	U	06/05/2018	18:11:58
7440-38-2	Arsenic	1.0	'	U	06/05/2018	18:11:58
7440-39-3	Barium	54.3	'		06/05/2018	18:11:58
7440-41-7	Beryllium	1.0	'	U	06/05/2018	18:11:58
7440-43-9	Cadmium	1.0	'	U	06/05/2018	18:11:58
7440-70-2	Calcium	9580	'		06/05/2018	18:11:58
7440-47-3	Chromium	1.0	'	J	06/05/2018	18:11:58
7440-48-4	Cobalt	1.0	'	U	06/05/2018	18:11:58
7440-50-8	Copper	11.0	'		06/05/2018	18:11:58
7439-89-6	Iron	529	'		06/05/2018	18:11:58
7439-92-1	Lead	0.29	'	J	06/05/2018	18:11:58
7439-96-5	Manganese	2.2	'		06/05/2018	18:11:58
7439-95-4	Magnesium	1770	'		06/05/2018	18:11:58
7440-02-0	Nickel	0.22	'	J	06/05/2018	18:11:58
7440-09-7	Potassium	1700	'		06/05/2018	18:11:58
7782-49-2	Selenium	5.0	'	U	06/05/2018	18:11:58
7440-22-4	Silver	1.0	'	U	06/05/2018	18:11:58
7440-23-5	Sodium	8080	'	*	06/05/2018	18:11:58
7440-28-0	Thallium	1.0	'	U	06/05/2018	18:11:58
7440-62-2	Vanadium	5.0	'	U	06/05/2018	18:11:58
7440-66-6	Zinc	43.7	'		06/05/2018	18:11:58

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AA8

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 004

% Solids: Date Re eived: 05/18/2018

Analyti al Method: ICP MS

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration		Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	1.1	'	J	06/05/2018	18:17:46
7440-36-0	Antimony	2.0	'	U	06/05/2018	18:17:46
7440-38-2	Arsenic	1.0	'	U	06/05/2018	18:17:46
7440-39-3	Barium	29.4	'		06/05/2018	18:17:46
7440-41-7	Beryllium	1.0	'	U	06/05/2018	18:17:46
7440-43-9	Cadmium	1.0	'	U	06/05/2018	18:17:46
7440-70-2	Calcium	14500	'		06/05/2018	18:17:46
7440-47-3	Chromium	0.72	'	J	06/05/2018	18:17:46
7440-48-4	Cobalt	1.0	'	U	06/05/2018	18:17:46
7440-50-8	Copper	1.2	'	J	06/05/2018	18:17:46
7439-89-6	Iron	90.5	'	J	06/05/2018	18:17:46
7439-92-1	Lead	0.21	'	J	06/05/2018	18:17:46
7439-96-5	Manganese	1.0	'	U	06/05/2018	18:17:46
7439-95-4	Magnesium	3290	'		06/05/2018	18:17:46
7440-02-0	Nickel	0.23	'	J	06/05/2018	18:17:46
7440-09-7	Potassium	1820	'		06/05/2018	18:17:46
7782-49-2	Selenium	5.0	'	U	06/05/2018	18:17:46
7440-22-4	Silver	1.0	'	U	06/05/2018	18:17:46
7440-23-5	Sodium	10600	'	*	06/05/2018	18:17:46
7440-28-0	Thallium	1.0	'	U	06/05/2018	18:17:46
7440-62-2	Vanadium	5.0	'	U	06/05/2018	18:17:46
7440-66-6	Zinc	29.3	'		06/05/2018	18:17:46

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AB2

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 005

% Solids: Date Re eived: 05/18/2018

Analyti al Method: ICP MS

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration		Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	3.1	▪	J	06/05/2018	18:23:31
7440-36-0	Antimony	2.0	▪	U	06/05/2018	18:23:31
7440-38-2	Arsenic	1.0	▪	U	06/05/2018	18:23:31
7440-39-3	Barium	49.0	▪		06/05/2018	18:23:31
7440-41-7	Beryllium	1.0	▪	U	06/05/2018	18:23:31
7440-43-9	Cadmium	1.0	▪	U	06/05/2018	18:23:31
7440-70-2	Calcium	21200	▪		06/05/2018	18:23:31
7440-47-3	Chromium	0.48	▪	J	06/05/2018	18:23:31
7440-48-4	Cobalt	1.0	▪	U	06/05/2018	18:23:31
7440-50-8	Copper	4.4	▪		06/05/2018	18:23:31
7439-89-6	Iron	24.0	▪	J	06/05/2018	18:23:31
7439-92-1	Lead	0.65	▪	J	06/05/2018	18:23:31
7439-96-5	Manganese	1.0	▪	U	06/05/2018	18:23:31
7439-95-4	Magnesium	2380	▪		06/05/2018	18:23:31
7440-02-0	Nickel	0.34	▪	J	06/05/2018	18:23:31
7440-09-7	Potassium	2050	▪		06/05/2018	18:23:31
7782-49-2	Selenium	5.0	▪	U	06/05/2018	18:23:31
7440-22-4	Silver	1.0	▪	U	06/05/2018	18:23:31
7440-23-5	Sodium	7770	▪	*	06/05/2018	18:23:31
7440-28-0	Thallium	1.0	▪	U	06/05/2018	18:23:31
7440-62-2	Vanadium	5.0	▪	U	06/05/2018	18:23:31
7440-66-6	Zinc	9.5	▪		06/05/2018	18:23:31

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AB

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 006

% Solids: Date Re eived: 05/18/2018

Analyti al Method: ICP MS

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration		Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	3.2	▪	J	06/05/2018	18:29:19
7440-36-0	Antimony	2.0	▪	U	06/05/2018	18:29:19
7440-38-2	Arsenic	1.0	▪	U	06/05/2018	18:29:19
7440-39-3	Barium	10.0	▪	U	06/05/2018	18:29:19
7440-41-7	Beryllium	1.0	▪	U	06/05/2018	18:29:19
7440-43-9	Cadmium	1.0	▪	U	06/05/2018	18:29:19
7440-70-2	Calcium	192	▪	J	06/05/2018	18:29:19
7440-47-3	Chromium	0.48	▪	J	06/05/2018	18:29:19
7440-48-4	Cobalt	1.0	▪	U	06/05/2018	18:29:19
7440-50-8	Copper	3.5	▪		06/05/2018	18:29:19
7439-89-6	Iron	24.2	▪	J	06/05/2018	18:29:19
7439-92-1	Lead	0.14	▪	J	06/05/2018	18:29:19
7439-96-5	Manganese	0.46	▪	J	06/05/2018	18:29:19
7439-95-4	Magnesium	3.3	▪	J	06/05/2018	18:29:19
7440-02-0	Nickel	0.099	▪	J	06/05/2018	18:29:19
7440-09-7	Potassium	711	▪		06/05/2018	18:29:19
7782-49-2	Selenium	5.0	▪	U	06/05/2018	18:29:19
7440-22-4	Silver	1.0	▪	U	06/05/2018	18:29:19
7440-23-5	Sodium	36900	▪	*	06/05/2018	18:29:19
7440-28-0	Thallium	1.0	▪	U	06/05/2018	18:29:19
7440-62-2	Vanadium	5.0	▪	U	06/05/2018	18:29:19
7440-66-6	Zinc	7.0	▪		06/05/2018	18:29:19

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AB4

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 012

% Solids: Date Re eived: 05/19/2018

Analyti al Method: ICP MS

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration		Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	0.90	▪	J	06/05/2018	19:44:33
7440-36-0	Antimony	2.0	▪	U	06/05/2018	19:44:33
7440-38-2	Arsenic	1.0	▪	U	06/05/2018	19:44:33
7440-39-3	Barium	39.8	▪		06/05/2018	19:44:33
7440-41-7	Beryllium	0.23	▪	J	06/05/2018	19:44:33
7440-43-9	Cadmium	1.0	▪	U	06/05/2018	19:44:33
7440-70-2	Calcium	10400	▪		06/05/2018	19:44:33
7440-47-3	Chromium	0.63	▪	J	06/05/2018	19:44:33
7440-48-4	Cobalt	1.0	▪	U	06/05/2018	19:44:33
7440-50-8	Copper	11.5	▪		06/05/2018	19:44:33
7439-89-6	Iron	25.5	▪	J	06/05/2018	19:44:33
7439-92-1	Lead	0.58	▪	J	06/05/2018	19:44:33
7439-96-5	Manganese	2.1	▪		06/05/2018	19:44:33
7439-95-4	Magnesium	2130	▪		06/05/2018	19:44:33
7440-02-0	Nickel	0.24	▪	J	06/05/2018	19:44:33
7440-09-7	Potassium	2280	▪		06/05/2018	19:44:33
7782-49-2	Selenium	5.0	▪	U	06/05/2018	19:44:33
7440-22-4	Silver	1.0	▪	U	06/05/2018	19:44:33
7440-23-5	Sodium	9490	▪	*	06/05/2018	19:44:33
7440-28-0	Thallium	1.0	▪	U	06/05/2018	19:44:33
7440-62-2	Vanadium	5.0	▪	U	06/05/2018	19:44:33
7440-66-6	Zinc	18.6	▪		06/05/2018	19:44:33

NOTE: Hardness (total) is reported in mg/L

Comments:

ICP-MS
QC Summary/Forms

FORM 2 IN

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Shealy Environmental Services, In Contract: EPW14035

Lab Code: EQI Case No.: 47639 MA No : SDG No.: MC0AA3

Initial Calibration Verifi ation Sour e: USEPA ICV1 0 07

Continuing Calibration Verifi ation Sour e: IV Shealy 15

Run Bat h: MS2060518F ISM, generated 08 17 51 Analyti al Method: ICP MS

Concentration Units: ug/L

	Initial Calibration Verification				Continuing Calibration Verifi ation						
	ID: ICV002				ID: CCV006				ID: CCV007		
Analyte	True	Found	%R	%RSD	True	Found	%R	%RSD	Found	%R	%RSD
Aluminum	504	531	105	1	60000	61900	103	1	61400	102	1
Antimony	199	206	103	1	500	495	99	1	509	102	1
Arsenic	200	208	104	0	1000	1020	102	0	1020	102	0
Barium	99.0	96.9	98	1	5000	4910	98	1	4910	98	1
Beryllium	99.0	99.4	100	1	500	497	99	0	503	101	1
Cadmium	99.0	107	108	1	1000	1020	102	1	1020	102	1
Calcium	2005	1910	95	2	60000	60600	101	1	58900	98	1
Chromium	98.0	97.9	100	0	1000	969	97	1	988	99	1
Cobalt	100	101	101	1	1000	974	97	1	991	99	1
Copper	98.0	106	109	0	1000	1030	103	1	1030	103	0
Iron	1016	1030	101	1	60000	59300	99	1	59100	99	0
Lead	200	199	99	0	1000	983	98	1	989	99	1
Manganese	100	100	100	1	1000	974	97	0	989	99	1
Magnesium	1215	1220	100	2	60000	62000	103	1	62100	104	2
Nickel	101	106	105	1	1000	1040	104	0	1040	104	1
Potassium	2004	2050	102	1	60000	62100	104	2	58600	98	2
Selenium	206	223	108	0	1000	1020	102	1	1020	102	2
Silver	100	109	109	0	150	155	104	1	154	102	1
Sodium	2019	2060	102	2	60000	63100	105	2	63400	106	3
Thallium	206	200	97	1	500	489	98	1	491	98	1
Vanadium	100	96.3	96	0	1000	965	96	1	983	98	1
Zinc	205	226	110	1	1000	1070	107	0	1080	108	1

FORM 2 IN

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Shealy Environmental Services, In Contract: EPW14035

Lab Code: EQI Case No.: 47639 MA No : SDG No.: MC0AA3

Initial Calibration Verifi ation Sour e: USEPA ICV1 0 07

Continuing Calibration Verifi ation Sour e: IV Shealy 15

Run Bat h: MS2060518F ISM, generated 08 17 51 Analyti al Method: ICP MS

Concentration Units: ug/L

	Initial Calibration Verification				Continuing Calibration Verifi ation						
	ID:				ID: CCV008				ID:		
Analyte	True	Found	%R	%RSD	True	Found	%R	%RSD	Found	%R	%RSD
Aluminum					60000	61500	102	1			
Antimony					500	512	102	4			
Arsenic					1000	1020	102	1			
Barium					5000	4850	97	1			
Beryllium					500	506	101	1			
Cadmium					1000	1010	101	1			
Calcium					60000	60100	100	1			
Chromium					1000	975	97	1			
Cobalt					1000	972	97	1			
Copper					1000	1020	102	0			
Iron					60000	59900	100	1			
Lead					1000	988	99	1			
Manganese					1000	974	97	0			
Magnesium					60000	62000	103	1			
Nickel					1000	1020	102	1			
Potassium					60000	61000	102	1			
Selenium					1000	1020	102	1			
Silver					150	154	103	0			
Sodium					60000	63700	106	1			
Thallium					500	490	98	1			
Vanadium					1000	968	97	0			
Zinc					1000	1070	107	1			

FORM 3 IN
BLANKS

Lab Name: Shealy Environmental Services, In Contract: EPW14035

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Preparation Blank Matrix: WATER

Preparation Blank Concentration Units (ug/L, mg/kg, mg/kg dry weight, or ug): UG/L

Analytical Method: ICP-MS Preparation Batch: 73287

Run Batch: MS2060518F ISM, generate Preparation Method 200.8

Analyte	Initial Calibration Blank(ug/L)		Continuing Calibration Blank (ug/L)						- Preparation Blank	
	ID: ICB002	Q	ID: CCB006	Q	ID: CCB007	Q	ID: CCB008	Q	ID: PBW001	Q
Aluminum	1.2	J	3.8	J	1.2	J	1.4	J	2.7	J
Antimony	0.33	J	0.19	J	2.0	U	2.0	U	2.0	U
Arsenic	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Barium	10 0	U	0 20	J	10 0	U	10 0	U	10 0	U
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Cadmium	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Calcium	500	U	500	U	500	U	500	U	500	U
Chromium	2.0	U	2.0	U	2.0	U	2.0	U	0.45	J
Cobalt	1.0	U	0.030	J	1.0	U	1.0	U	1.0	U
Copper	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Iron	200	U	200	U	200	U	200	U	200	U
Lead	0.033	J	0.038	J	0.024	J	0.027	J	1.0	U
Manganese	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Magnesium	500	U	4.3	J	500	U	1.7	J	2.5	J
Nickel	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Potassium	500	U	72.3	J	500	U	500	U	82.3	J
Selenium	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Silver	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Sodium	7.1	J	23.0	J	9.7	J	500	U	33.8	J
Thallium	1.0	U	1.0	U	1.0	U	1.0	U	-0.020	J
Vanadium	5.0	U	5.0	U	5.0	U	5.0	U	-1.1	J
Zinc	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U

FORM 4-IN

ICP INTERFERENCE CHECK SAMPLE

Lab Name: Shealy Environmental Services Contract: EPW14035

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Analytical Method: ICP-MS ICSA Source: USEPA ICSA-0803

Instrument ID: ICPMS2 ICSB Source: USEPA ICSA-0803 + ICSB-0803

Run Batch: MS2060518F ISM, generated 08.17.51 0

Concentration Units: ug/L

Analyte	True		Found			
	ICSA	ICSAB	ICSA	%R	ICSAB	%R
Aluminum	100000	100000	101000	101	102000	102
Antimony	1 5	22	1	87	21 7	99
Arsenic	0.1	19	0.33	327	20.0	105
Barium	1.2	22	1.6	136	21.6	98
Beryllium	0	19	0.29		19.8	104
Cadmium	0 7	20	1 0	146	21 0	105
Calcium	100000	100000	106000	106	105000	105
Chromium	21	40	19.8	94	39.6	99
Cobalt	1	20	1.2	120	20.8	104
Copper	8	25	7 8	97	27 6	111
Iron	100000	100000	103000	103	103000	103
Lead	4	25	4.1	103	23.4	94
Manganese	7	27	7.5	107	27.4	102
Magnesium	100000	100000	104000	104	105000	105
Nickel	6	24	5.8	97	25.8	108
Potassium	100000	100000	106000	106	105000	105
Selenium	0.3	19	0.034	11	20.3	107
Silver	0	18	0 011		19	107
Sodium	100000	100000	106000	106	108000	108
Thallium	0	21	0.0073		20.0	95
Vanadium	0.5	19	-0.17	-35	19.5	102
Zinc	11	29	12 5	11	2 8	11

FORM 5A IN

MATRIX SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MC0AB3S

Lab Name: Shealy Environmental Services, I Contract: EPW14035

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Analytical Method: ICP-MS

% Solids:

Concentration Units (ug/L, mg/L, or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q
Antimony	75 - 125	105		2.0	U	100	105	
Arsenic	75 - 125	40.3		1.0	U	40.0	101	
Barium	75 - 125	1970		10.0	U	2000	98	
Beryllium	75 - 125	50.8		1.0	U	50.0	102	
Cadmium	75 - 125	54.2		1.0	U	50.0	108	
Chromium	75 - 125	204		0.48	J	200	102	
Cobalt	75 - 125	501		1.0	U	500	100	
Copper	75 - 125	273		3.5		250	108	
Lead	75 - 125	19.6		0.14	J	20.0	97	
Manganese	75 - 125	501		0.46	J	500	100	
Nickel	75 - 125	538		0.099	J	500	108	
Selenium	75 - 125	103		5.0	U	100	103	
Silver	75 - 125	54.0		1.0	U	50.0	108	
Thallium	75 125	50.4		1.0	U	50.0	101	
Vanadium	75 - 125	486		5.0	U	500	97	
Zinc	75 - 125	566		7.0		500	112	

FORM 6 IN

DUPLICATES

EPA SAMPLE NO.

MC0AB D

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Analyti al Method: ICP MS

% Solids:

Concentration Units:(ug/L, mg/L, or mg/kg dry weight): UG/L

Analyte	Control Limit	Sam le (S)	Q	Duplicate (D)	Q	RPD	Q
Aluminum		3.2	J	1.6	J		
Antimony		2.0	U	2.0	U		
Arsenic		1 0	U	1 0	U		
Barium		10.0	U	10.0	U		
Beryllium		1.0	U	1.0	U		
Cadmium		1.0	U	1.0	U		
Calcium		192	J	180	J		
Chromium		0.48	J	0.49	J		
Cobalt		1.0	U	1.0	U		
Copper	2.0	3.5		3.4		2	
Iron		24 2	J	25 8	J		
Lead		0.14	J	0.13	J		
Manganese		0.46	J	0.46	J		
Magnesium		3.3	J	2.8	J		
Nickel		0 099	J	0 11	J		
Potassium	500	711		666		6	
Selenium		5.0	U	5.0	U		
Silver		1.0	U	1.0	U		
Sodium		6900		5800			
Thallium		1.0	U	1.0	U		
Vanadium		5.0	U	5.0	U		
Zinc	2.0	7.0		6.6		6	

FORM 7 IN

LABORATORY CONTROL SAMPLE

EPA SAMPLE NO.

LCS001

Lab Name: Shealy Environmental Services, In Contract: EPW14035

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Pre aration Method: 200 8

Analyti al Method: ICP MS Pre aration Bat h: 7 287

Con entration Units:(ug/L mg/L mg/kg dry weight or ug): ug/L

Analyte	True	Found	%R
Aluminum	40.0	43.0	107
Antimony	4.0	4 0	101
Arsenic	2.0	2.2	108
Barium	20 0	19.5	98
Beryllium	2.0	2.0	99
Cadmium	2.0	2 1	106
Calcium	1000	987	99
Chromium	4 0	4.3	107
Cobalt	2.0	2.0	98
Copper	4.0	4	108
Iron	400	419	105
Lead	2 0	1.9	94
Manganese	2.0	2.0	98
Magnesium	1000	1050	105
Nickel	2.0	2.2	112
Potassium	1000	1080	108
Selenium	10.0	11.3	113
Silver	2.0	2 1	106
Sodium	1000	1090	109
Thallium	2 0	1.9	94
Vanadium	10.0	8.3	83
Zinc	4.0	4 7	117

FORM 8-IN

ICP AES and ICP MS SERIAL DILUTIONS

EPA SAMPLE NO.

MC0AB3L

Lab Name: Shealy Environmental Services, In Contract: EPW14035

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Analytical Method: ICP-MS

% Solids

Concentration Units (ug/L, mg/L or mg/kg dry weight): ug/L

Analyte	Initial Sample Result (I)	Q	Serial Dilution Result (S)	Q	% Difference	Q
Aluminum	3.2	J	4.4	J	36	
Antimony	2.0	U	10.0	U		
Arsenic	1.0	U	5.0	U		
Barium	10.0	U	50.0	U		
Beryllium	1.0	U	5.0	U		
Cadmium	1.0	U	5.0	U		
Calcium	192	J	208	J	9	
Chromium	0.48	J	10.0	U	100	
Cobalt	1.0	U	5.0	U		
Copper	3.5		3.4	J	1	
Iron	24.2	J	1000	U	100	
Lead	0.14	J	5.0	U	100	
Manganese	0.46	J	5.0	U	100	
Magnesium	3.3	J	2500	U	100	
Nickel	0.099	J	5.0	U	100	
Potassium	711		689	J	3	
Selenium	5.0	U	25.0	U		
Silver	1.0	U	5.0	U		
Sodium	36900		42500		15	*
Thallium	1.0	U	5.0	U		
Vanadium	5.0	U	25.0	U		
Zinc	7.0		7.7	J	10	

FORM 9-IN

METHOD DETECTION LIMITS

Lab Name: Shealy Environmental Services, I Contract: EPW14035

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Analytical Method: ICP-MS Instrument ID: ICPMS2

Preparation Method: 200.8

Concentration Units (ug/L, ug, mg/kg): UG/L

Analyte	Wavelength/Mass	MDL	Date Analyzed
Aluminum	27.00	0.65	05/11/2018
Antimony	123.00	0.13	05/11/2018
Arsenic	75.00	0.47	05/11/2018
Barium	135.00	0.17	05/11/2018
Beryllium	9.00	0.17	05/11/2018
Cadmium	114.00	0.060	05/11/2018
Calcium	44.00	10.4	05/11/2018
Chromium	52.00	0.13	05/11/2018
Cobalt	59.00	0.024	05/11/2018
Copper	65.00	0.078	05/11/2018
Iron	57.00	3.8	05/11/2018
Lead	208.00	0.019	05/11/2018
Manganese	55.00	0.25	05/11/2018
Magnesium	26.00	1.5	05/16/2018
Nickel	60.00	0.091	05/11/2018
Potassium	39.00	30.1	05/11/2018
Selenium	82.00	1.2	05/11/2018
Silver	107.00	0.032	05/11/2018
Sodium	23.00	5.7	05/11/2018
Thallium	205.00	0.018	05/11/2018
Vanadium	51.00	0.36	05/11/2018
Zinc	66.00	0.36	05/11/2018

FORM 11-IN

ICP-MS INTERNAL STANDARD ASSOCIATION

Lab Name: Shealy Environmental Services, I Contract: EPW14035

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Instrument ID: ICPMS2

Run Batch: MS2060518F ISM, generated 0 Date: 6/5/2018

Analyte	Assoc. Internal Standard 1	Assoc. Internal Standard 2
Aluminum	6Li	45Sc
Antimony	115In	159Tb
Arsenic	45Sc	
Barium	115In	159Tb
Beryllium	6Li	
Cadmium	115In	
Calcium	45Sc	
Chromium	45Sc	
Cobalt	45Sc	
Copper	45Sc	
Iron	45Sc	89Y
Lead	159Tb	209Bi
Manganese	45Sc	
Magnesium	6Li	45Sc
Nickel	45Sc	89Y
Potassium	6Li	45Sc
Selenium	45Sc	
Silver	115In	
Sodium	6Li	45Sc
Thallium	159Tb	209Bi
Vanadium	45Sc	
Zinc	45Sc	89Y

FORM 12-IN

ANALYSIS LOG

Lab Name: Shealy Environmental Services, Inc. Contract: EPW14035

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Instrument ID: ICPMS2 Analytical Method: ICP-MS

Start Date: 06/05/2018 End Date: 06/05/2018

Run Batch: MS2060518F ISM, generated 08.17.51 06

EPA Sample NO.	D/F	Time	Analytes																									
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN		
TUNE	1.0	0847	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
S0	1.0	1627	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
S01	1.0	1633	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
S02	1.0	1639	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
S03	1.0	1644	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
S04	1.0	1650	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
S05	1.0	1656	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
S06	1.0	1702	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
S07	1.0	1708	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ICV002	1.0	1713	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ICB002	1.0	1719	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ICSA002	1.0	1725	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ICSAB002	1.0	1731	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCV006	1.0	1737	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCB006	1.0	1743	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
PBW001	1.0	1748	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
LCS001	1.0	1754	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
MC0AA3	1 0	1800	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
MC0AA4	1.0	1806	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
MC0AA7	1.0	1811	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
MC0AA8	1.0	1817	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
MC0AB2	1.0	1823	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
MC0AB3	1.0	1829	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
MC0AB3S	1.0	1835		X	X	X	X	X		X	X	X		X		X		X		X	X		X	X	X			
MC0AB3D	1.0	1840	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
MC0AB3L	5.0	1846	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
MC0AB3A	1.0	1852																										
MC0AB3A	1.0	1858																										
CCV007	1.0	1903	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCB007	1.0	1909	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
MC0AA0	1.0	1915	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
MC0AA1	1.0	1921	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
MC0AA2	1.0	1927	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
MC0AA5	1.0	1932	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
MC0AA6	1.0	1938	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
MC0AB4	1.0	1944	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
CCV008	1.0	1950	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			

FORM 12-IN

ANALYSIS LOG

Lab Name: Shealy Environmental Services, Inc. Contract: EPW14035

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Instrument ID: ICPMS2 Analytical Method: ICP-MS

Start Date: 06/05/2018 End Date: 06/05/2018

Run Batch: MS2060518F ISM, generated 08.17.51 06

EPA Sample NO.	D/F	Time	Analytes																								
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN		
CCB008	1.0	1956	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X			
ZZZZZZ	1.0	2001																										
ZZZZZZ	1.0	2007																										
ZZZZZZ	1.0	2013																										
ZZZZZZ	1.0	2019																										
ZZZZZZ	1.0	2025																										
ZZZZZZ	1.0	2030																										
ZZZZZZ	1.0	2036																										
ZZZZZZ	1.0	2042																										
ZZZZZZ	1.0	2048																										
ZZZZZZ	1.0	2054																										
ZZZZZZ	1.0	2100																										
ZZZZZZ	1.0	2105																										
ZZZZZZ	1.0	2111																										
ZZZZZZ	5.0	2117																										
ZZZZZZ	1.0	2123																										
ZZZZZZ	1.0	2128																										
ZZZZZZ	1 0	2134																										
ZZZZZZ	1.0	2140																										
ZZZZZZ	1.0	2146																										
ZZZZZZ	1.0	2152																										
ZZZZZZ	1.0	2158																										
ZZZZZZ	1.0	2203																										
ZZZZZZ	1.0	2210																										

"non responsive based on revised scope"

[redacted]

FORM 13 IN

ICP MS TUNE

EPA SAMPLE NO

TUNE

Lab Name: Shealy Environmental Services, In Contract: EPW14035

Lab Code: EQI Case No.: 476 9 MA No.: SDG No.: MC0AA

Instrument ID: ICPMS2 Date: 06/05/2018

Run Batch: MS2060518F ISM, generated 08.1

Element - Mass	Avg. Measured Mass (u)	Average Peak Width (u)	%Height	%RSD
Be_9	9.0	0.7	5	0.94
Mg_24	24.0	0.7	5	0.25
Mg_25	25.0	0.7	5	0.37
Mg_26	26.0	0.7	5	0.32
Co_59	58.9	0.7	5	0.26
In_113	112.9	0.7	5	1.1
In_115	114.9	0.7	5	0.67
Pb_206	206.0	0.7	5	1.0
Pb_207	207.0	0.7	5	1.0
Pb_208	208.0	0.7	5	1.1

FORM 14 IN

ICP MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: Shealy Environmental Services, In Contract: EPW14035

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Instrument ID: ICPMS2 Start Date: 06/05/2018

Run Batch: MS2060518F ISM, generated 08.1 End Date: 06/05/2018

EPA Sample No.	Time	Internal Standards %RI For:											
		Element 209Bi	Q	Element 115In	Q	Element 6Li	Q	Element 45Sc	Q	Element 159Tb	Q	Element 89Y	Q
S0	1627	100		100		100		100		100		100	
S01	1633	100		98		101		95		100		95	
S02	1639	100		101		102		102		101		101	
S03	1644	101		101		101		98		102		98	
S04	1650	97		97		96		95		99		97	
S05	1656	96		96		90		92		98		93	
S06	1702	93		93		87		92		94		91	
S07	1708	88		91		82		88		90		86	
ICV002	1713	103		102		99		98		102		99	
ICB002	1719	103		102		101		101		102		102	
ICSA002	1725	94		92		90		88		94		86	
ICSAB002	1731	94		92		90		88		95		87	
CCV006	1737	97		97		90		93		99		93	
CCB006	1743	108		106		109		104		109		103	
PBW001	1748	108		102		113		101		105		99	
LCS001	1754	105		99		108		96		102		94	
MC0AA3	1800	102		95		107		96		99		93	
MC0AA4	1806	103		96		106		93		101		92	
MC0AA7	1811	99		91		10		91		97		89	
MC0AA8	1817	101		92		102		90		99		88	
MC0AB2	1823	97		89		104		91		96		87	
MC0AB3	1829	98		91		103		88		97		86	
MC0AB3S	1835	96		87		99		86		95		84	
MC0AB3D	1840	97		88		101		87		96		85	
MC0AB3L	1846	96		90		94		85		96		87	
MC0AB A	1852	96		87		100		85		96		83	
MC0AB3A	1858	98		88		99		85		96		82	
CCV007	1903	81		78		[redacted]		[redacted]		[redacted]		[redacted]	
[redacted]	[redacted]	[redacted]		[redacted]		91		86		96		88	
MC0AA0	1915	97		87		102		86		94		83	
MC0AA1	1921	99		87		100		83		95		82	
MC0AA2	1927	95		86		99		84		93		83	
MC0AA5	1932	98		87		99		84		95		83	
MC0AA6	1938	99		88		100		85		96		84	
MC0AB4	1944	95		86		100		84		94		82	
CCV008	1950	86		81		77		76		88		76	
CCB008	1956	93		88		88		84		92		85	
ZZZZZZ	2001											0	
ZZZZZZ	2007											0	
ZZZZZZ	2013											0	

non responsive based on revised scope

FORM 14 IN

ICP MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: Shealy Environmental Services, In Contract: EPW14035

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Instrument ID: ICPMS2 Start Date: 06/05/2018

Run Batch: MS2060518F ISM, generated 08.1 End Date: 06/05/2018

EPA Sample No.	Time	Internal Standards %RI For:											
		Element 209Bi	Q	Element 115In	Q	Element 6Li	Q	Element 45Sc	Q	Element 159Tb	Q	Element 89Y	Q
ZZZZZZ	2019											0	
ZZZZZZ	2025											0	
ZZZZZZ	2030											0	
ZZZZZZ	2036											0	
ZZZZZZ	2042											0	
ZZZZZZ	2048											0	
ZZZZZZ	2054											0	
ZZZZZZ	2100											0	
ZZZZZZ	2105											0	
ZZZZZZ	2111											0	
ZZZZZZ	2117											0	
ZZZZZZ	2123											0	
ZZZZZZ	2128											0	
ZZZZZZ	2134											0	
ZZZZZZ	2140											0	
ZZZZZZ	2146											0	
ZZZZZZ	2152											0	
ZZZZZZ	2158											0	
ZZZZZZ	2203											0	
ZZZZZZ	2210											0	

FORM 15 IN

INITIAL CALIBRATION

Lab Name: Shealy Environmental Services, Inc. **Contract:** EPW14035

Lab Code: EQI **Case No.:** 47639 **MA No.:** _____ **SDG No.:** MC0AA3

Instrument ID: ICPMS2 **Start Date:** 6/5/2018

Analytical Method: ICP-MS **Run Batch:** MS2060518F ISM, generated 08.17.51

Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Aluminum	0.00	0 000000	0	20 0	21	5	100	94	6
Antimony	0.00	0.000000	0	2.00	1.8	-8	10.0	9.0	-10
Arsenic	0.00	0.000000	0	1.00	1.0	4	5.00	5.0	0
Barium	0.00	0.000000	0	10.0	9.5	-5	50.0	46	-7
Beryllium	0.00	0 000000	0	1 00	0 93	8	5 00	5 0	0
Cadmium	0.00	0.000000	0	1.00	1.0	1	5.00	5.1	1
Calcium	0.00	0.000000	0	500	482	-4	2500	2195	-12
Chromium	0.00	0.000000	0	2.00	1.9	-5	10.0	9.3	-7
Cobalt	0.00	0 000000	0	1 00	0 98	3	5 00	4 8	4
Copper	0.00	0.000000	0	2.00	2.2	8	10.0	10	4
Iron	0.00	0.000000	0	200	204	2	1000	967	-3
Lead	0.00	0.000000	0	1.00	0.93	-7	5.00	4.6	-8
Manganese	0.00	0 000000	0	1 00	0 86	14	5 00	4 6	8
Magnesium	0.00	0.000000	0	500	511	2	2500	2390	-4
Nickel	0.00	0.000000	0	1.00	1.1	11	5.00	5.2	3
Potassium	0.00	0.000000	0	500	538	8	2500	2303	-8
Selenium	0.00	0 000000	0	5 00	5 3	7	25 0	26	4
Silver	0.00	0.000000	0	1.00	1.0	3	5.00	5.2	3
Sodium	0.00	0.000000	0	500	531	6	2500	2387	-5
Thallium	0.00	0.000000	0	1.00	0.94	-6	5.00	4.6	-8
Vanadium	0.00	0 000000	0	5 00	4 7	6	25 0	23	8
Zinc	0.00	0.000000	0	2.00	2.5	23	10.0	11	8

FORM 15 IN

INITIAL CALIBRATION

Lab Name: Shealy Environmental Services, **Contract:** EPW14035

Lab Code: EQI **Case No.:** 47639 **MA No.:** _____ **SDG No.:** MC0AA3

Instrument ID: ICPMS2 **Start Date:** 6/5/2018

Analytical Method: ICP-MS **Run Batch:** MS2060518F ISM, generated 08.17

Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Aluminum	200	198	1	1000	969	3	30000	29910	0
Antimony	20.0	19	-7	100	99	-1	250	260	4
Arsenic	10.0	10	4	50.0	52	4	500	514	3
Barium	100	94	-6	500	481	-4	2500	2371	-5
Beryllium	10 0	9 5	5	50 0	50	1	250	251	0
Cadmium	10.0	10	4	50.0	52	3	500	508	2
Calcium	5000	4596	-8	25000	23610	-6	30000	29380	-2
Chromium	20.0	19	-4	100	97	-3	500	478	-4
Cobalt	10 0	9 6	4	50 0	49	2	500	486	3
Copper	20.0	21	3	100	101	1	500	512	2
Iron	2000	2001	0	10000	10090	1	30000	29410	-2
Lead	10.0	9.4	-6	50.0	48	-4	500	486	-3
Manganese	10 0	9 3	7	50 0	48	5	500	488	3
Magnesium	5000	4832	-3	25000	24700	-1	30000	29750	-1
Nickel	10.0	10	3	50.0	51	2	500	514	3
Potassium	5000	4903	-2	25000	24390	-2	30000	30060	0
Selenium	50 0	55	9	250	266	6	500	532	6
Silver	10.0	10	5	50.0	52	4	75.0	78	4
Sodium	5000	4947	-1	25000	24850	-1	30000	29840	-1
Thallium	10.0	9.4	-6	50.0	49	-2	250	243	-3
Vanadium	50 0	47	6	250	240	4	500	476	5
Zinc	20.0	22	8	100	106	6	500	532	6

FORM 15 IN

INITIAL CALIBRATION

Lab Name: Shealy Environmental Services, **Contract:** EPW14035

Lab Code: EQI **Case No.:** 47639 **MA No.:** _____ **SDG No.:** MC0AA3

Instrument ID: ICPMS2 **Start Date:** 6/5/2018

Analytical Method: ICP-MS **Run Batch:** MS2060518F ISM, generated 08.17

Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Aluminum	60000	59680	1	120000	120200	0			
Antimony	500	496	-1	1000	999	0			
Arsenic	1000	1037	4	2000	1978	-1			
Barium	5000	4917	-2	10000	10070	1			
Beryllium	500	512	2	1000	1008	1			
Cadmium	1000	1019	2	2000	1989	-1			
Calcium	60000	59020	-2	120000	121000	1			
Chromium	1000	987	-1	2000	2012	1			
Cobalt	1000	990	1	2000	2009	0			
Copper	1000	1009	1	2000	1915	-4			
Iron	60000	59020	-2	120000	120600	1			
Lead	1000	991	-1	2000	2008	0			
Manganese	1000	988	1	2000	2009	0			
Magnesium	60000	59860	0	120000	120500	0			
Nickel	1000	1051	5	2000	1953	-2			
Potassium	60000	59620	-1	120000	120300	0			
Selenium	1000	1030	3	2000	1975	1			
Silver	150	157	5	300	279	-7			
Sodium	60000	59810	0	120000	120200	0			
Thallium	500	494	-1	1000	1005	1			
Vanadium	1000	987	1	2000	2014	1			
Zinc	1000	1076	8	2000	1953	-2			

FORM 16 IN

INITIAL CALIBRATION SUMMARY

Lab Name: Shealy Environmental Services, Inc. **Contract:** EPW14035

Lab Code: EQI **Case No.:** 47639 **MA No.:** **SDG No.:** MC0AA3

Instrument ID: ICPMS2 **Start Date:** 6/5/2018

Analytical Method: ICP-MS **Run Batch:** MS2060518F ISM, generated 08.17.51

Analyte	Corr. Coeff.	Slope	Intercept	Calib. Type	Weighting
Aluminum	1.0000	2,169.82	1.2348	Lin.Req	None
Antimony	0.9999	6,637.97	0.2755	Lin.Req	None
Arsenic	0.9997	1,564.85	0.1566	Lin.Req	None
Barium	0.9999	1,618.06	0.0950	Lin.Req	None
Beryllium	1.0000	862.25	0.0865	Lin.Req	None
Cadmium	0.9999	6,095.44	0.0264	Lin.Req	None
Calcium	0.9999	66.35	16.8712	Lin.Req	None
Chromium	0.9999	7,306.15	0.2047	Lin.Req	None
Cobalt	1.0000	9,189.04	0.0290	Lin.Req	None
Copper	0.9999	4,777.12	0.2929	Lin.Req	None
Iron	0.9999	85.54	8.6856	Lin.Req	None
Lead	1.0000	39,874.61	0.0391	Lin.Req	None
Manganese	1.0000	11,203.93	0.1406	Lin.Req	None
Magnesium	1.0000	298.55	1.4255	Lin.Req	None
Nickel	0.9994	1,882.32	0.0707	Lin.Req	None
Potassium	1.0000	1,624.55	73.8083	Lin.Req	None
Selenium	0.9997	155.88	0.5627	Lin.Req	None
Silver	0.9981	10,025.02	0.0166	Lin.Req	None
Sodium	1.0000	2,489.00	24.3913	Lin.Req	None
Thallium	0.9999	28,805.49	0.0494	Lin.Req	None
Vanadium	0.9999	7,612.26	0.0453	Lin.Req	None
Zinc	0.9988	1,880.36	0.2148	Lin.Req	None

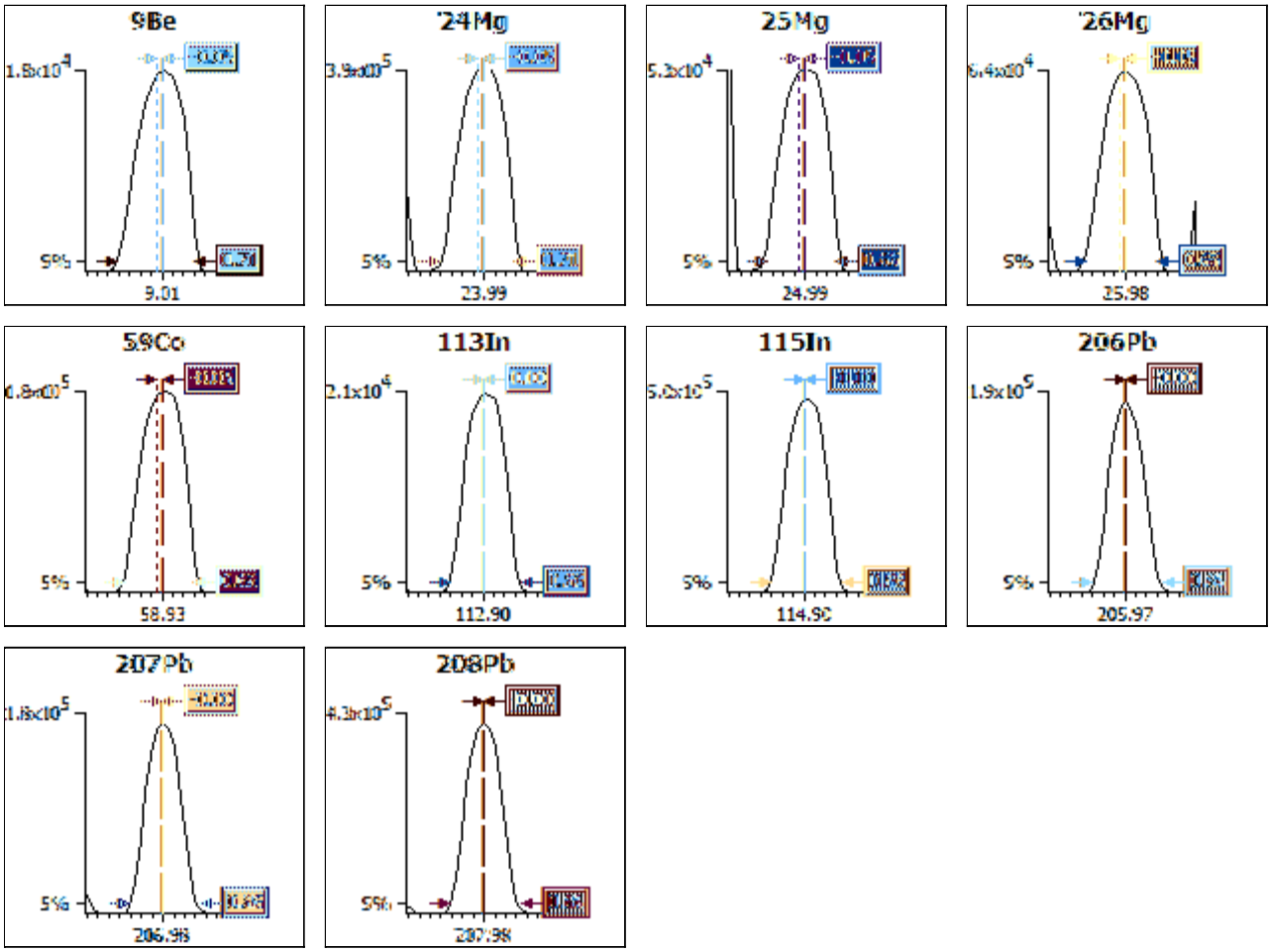
ICP-MS
Raw Data

Performance Report

Sample details
Acquired at : 6/5/2018 08:47:26
Report name : Shealy Performance Report ICPMS2 [11/14/2016 11:21:19]

Mass Calibration verification

Acquisition parameters
Sweeps : 10
Dwell : 10.0 mSecs
Point spacing : 0.05 amu
Peak width measured at 5% of the peak maximum



Analyte	Limits			Results	
	Max. width	Min. width	Max. error	Peak width	Peak error
9Be	0.85	0.65	0.10	0.71	-0.05
24Mg	0.85	0.65	0.10	0.71	-0.05
25Mg	0.85	0.65	0.10	0.66	-0.05
26Mg	0.85	0.65	0.10	0.66	-0.05
59Co	0.85	0.65	0.10	0.66	-0.05
113In	0.85	0.65	0.10	0.66	0.00
115In	0.85	0.65	0.10	0.66	-0.00
206Pb	0.85	0.65	0.10	0.66	-0.00
207Pb	0.85	0.65	0.10	0.66	-0.00
208Pb	0.85	0.65	0.10	0.66	-0.00

Sample details
Acquired at : 6/5/2018 08:47:26
Report name : Shealy Performance Report ICPMS2 [11/14/2016 11:21:19]

Tune conditions

Major	
Extraction	-200.0
Lens 1	-1051
Lens 2	-83.9
Focus	17.1
D1	-38.4
D2	-144
Pole Bias	1.0
Hexapole Bias	-4.0
Nebuliser	0.71

Minor	
Lens 3	-197.6
Forward power	1404
Horizontal	61
Vertical	674
DA	-58.8
Cool	13.0
Auxiliary	0.80
Sampling Depth	170

Global	
Standard resolution	100
High resolution	104
Analogue Detector	2125
PC Detector	3425

Add. Gases

Sensitivity and stability results

Acquisition parameters

Sweeps : 130

Run	Time	5Bkg	9Be	24Mg	25Mg	26Mg	56Ar O	59Co	136Ba++	101Bkg
Dwell (mSecs)		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Limits	%RSD	-	5.0%	5.0%	5.0%	5.0%	-	5.0%	-	-
	Countrate	-	>5000	>1000	>1000	>1000	-	>10000	-	-
1	08:48:02	0.769	19018.000	403739.47	55198.669	64598.193	941700.47	192609.29	3193.781	0.000
2	08:48:34	0.000	19197.704	403436.34	55081.629	64473.241	941588.80	191890.59	2872.108	0.000
3	08:49:06	0.000	18990.235	402748.87	54983.969	64316.473	943364.40	191529.69	2962.144	0.769
4	08:49:37	0.000	19437.573	405111.41	55078.529	64546.194	948511.15	192527.94	2993.695	1.538
5	08:50:09	0.000	19118.264	404978.11	55514.917	64882.252	949826.33	192671.68	2906.737	0.769
x		0.154	19152.355	404002.84	55171.543	64563.270	944998.23	192245.84	2985.693	0.615
σ		0.34	179.51	1017.69	206.50	207.53	3899.36	507.96	125.55	0.64
%RSD		223.607	0.937	0.252	0.374	0.321	0.413	0.264	4.205	104.583

Run	Time	113In	115In	138Ba	140Ce	156Ce O	206Pb	207Pb	208Pb	220Bkg
Dwell (mSecs)		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Limits	%RSD	5.0%	5.0%	-	-	-	5.0%	5.0%	5.0%	-
	Countrate	>1000	>10000	-	-	-	>10000	>10000	>10000	<2
1	08:48:02	22378.347	513925.51	4278.955	5346.587	101.539	200180.39	180609.21	433236.51	0.769
2	08:48:34	21761.087	512125.29	2517.360	2591.232	36.923	199015.09	179906.67	437071.44	0.000
3	08:49:06	22339.767	518575.26	2310.368	2418.096	38.462	202062.32	182055.50	439429.37	0.000
4	08:49:37	22051.193	518955.72	2312.677	2242.655	33.846	202849.24	182516.89	442000.42	0.000
5	08:50:09	22207.052	519945.32	2231.882	2153.397	40.769	204098.20	184594.70	446546.85	0.000
x		22147.489	516705.42	2730.249	2950.393	50.308	201641.05	181936.59	439656.92	0.154
σ		251.19	3455.52	872.19	1350.02	28.75	2043.52	1823.39	5022.98	0.34
%RSD		1.134	0.669	31.945	45.757	57.147	1.013	1.002	1.142	223.607

Ratio results

Run	Time	56Ar O/59Co	136Ba++/138Ba	115In/101Bkg	156Ce O/140Ce
Ratio limits		-	-	-	-
1	08:48:02	4.889	0.746	INF	0.019
2	08:48:34	4.907	1.141	INF	0.014
3	08:49:06	4.925	1.282	674147.80	0.016
4	08:49:37	4.927	1.294	337321.18	0.015
5	08:50:09	4.930	1.302	675928.88	0.019
x		4.9156	1.1533	562465.95	0.0166
σ		0.02	0.24	337519.77	0.00
%RSD		0.3512	20.5411	60.0071	13.2516

Result : The performance report passed.

Experiment Details

Description	PlasmaLab Template BlankExperiment
Template Filename	C:\Program Files\Thermo Fisher\PlasmaLab\Templates\ISM tet
Created By User	DemoX
Analyte Database	200_8.tea
Creation Timestamp	12/1/2004 11:33:01
Last Edited By	eqi.im
Last Edit Timestamp	6/6/2018 08:17:26
Instrument Detector	Simultaneous
Database Version	3 51
Acquisition Mode	Unknown

Numerical Results report key (text indicates meaning)

Blue text indicates that cell is a statistic.
Underlining indicates that a data warning flag is set.

Column headings
- No flag
- Semi Quant
- Standard Addition
- Multi Element

Result cells
- Internal Standard
- Excluded
- QC Warning
- QC Failure

Transient TRA only
- Peak Not Found
- Manually Edited
- Merged Peak

Data warning flags
I - Invalid calibration
T - Tripped
F - Interference correction failed
M - Result over max
V - Valley integration failed
D - Different method used

Fully Quantitative Concentrations

Id	Label	9Be	23Na	24Mg	25Mg	26Mg	27Al	28Si	39K	43Ca
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
3	S01 ISM-2063	1.000	500.000	500.000	500.000	500.000	20.000	100 000	500 000	500 000
4	S02 ISM-2064	5.000	2500.000	2500.000	2500.000	2500.000	100.000	500 000	2500 000	2500 000
5	S03 ISM-2065	10.000	5000.000	5000.000	5000.000	5000.000	200.000	1000 000	5000 000	5000 000
6	S04 ISM-2066	50.000	25000.000	25000.000	25000.000	25000.000	1000.000	250 000	25000 000	25000 000
7	S05 ISM-2067	250.000	30000.000	30000.000	30000.000	30000.000	30000.000	250 000	30000 000	30000 000
8	S06 ISM-2068	500.000	60000.000	60000.000	60000.000	60000.000	60000.000	500 000	60000 000	60000 000
9	S07 ISM-2069	1000.000	120000.000	120000.000	120000.000	120000.000	120000.000	1000 000	120000 000	120000 000

Id	Label	44Ca	47Ti	51V	52Cr	55Mn	54Fe	56Fe	57Fe	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
3	S01 ISM-2063	500.000	10.000	5.000	2.000	1.000	200.000	200 000	200 000	1 000
4	S02 ISM-2064	2500.000	50.000	25.000	10.000	5.000	1000.000	1000 000	1000 000	5 000
5	S03 ISM-2065	5000.000	100.000	50.000	20.000	10.000	2000.000	2000 000	2000 000	10 000
6	S04 ISM-2066	25000.000	500.000	250.000	100.000	50.000	10000.000	10000 000	10000 000	50 000
7	S05 ISM-2067	30000.000	500.000	500.000	500.000	500.000	30000.000	30000 000	30000 000	500 000
8	S06 ISM-2068	60000.000	1000.000	1000.000	1000.000	1000.000	60000.000	60000 000	60000 000	1000 000
9	S07 ISM-2069	120000.000	2000.000	2000.000	2000.000	2000.000	120000.000	120000 000	120000 000	2000 000

Id	Label	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	75As	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
3	S01 ISM-2063	1.000	1.000	2.000	2.000	2.000	2.000	2 000	1 000	5 000
4	S02 ISM-2064	5.000	5.000	10.000	10.000	10.000	10.000	10 000	5 000	25 000
5	S03 ISM-2065	10.000	10.000	20.000	20.000	20.000	20.000	20 000	10 000	50 000
6	S04 ISM-2066	50.000	50.000	100.000	100.000	100.000	100.000	100 000	50 000	250 000
7	S05 ISM-2067	500.000	500.000	500.000	500.000	500.000	500.000	500 000	500 000	500 000
8	S06 ISM-2068	1000.000	1000.000	1000.000	1000.000	1000.000	1000.000	1000 000	1000 000	1000 000
9	S07 ISM-2069	2000.000	2000.000	2000.000	2000.000	2000.000	2000.000	2000 000	2000 000	2000 000

Id	Label	82Se	95Mo	97Mo	98Mo	107Ag	109Ag	106Cd	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
3	S01 ISM-2063	5.000	10.000	10.000	10.000	1.000	1.000	1 000	1 000	1 000
4	S02 ISM-2064	25.000	50.000	50.000	50.000	5.000	5.000	5 000	5 000	5 000
5	S03 ISM-2065	50.000	100.000	100.000	100.000	10.000	10.000	10 000	10 000	10 000
6	S04 ISM-2066	250.000	500.000	500.000	500.000	50.000	50.000	50 000	50 000	50 000
7	S05 ISM-2067	500.000	500.000	500.000	500.000	75.000	75.000	500 000	500 000	500 000
8	S06 ISM-2068	1000.000	1000.000	1000.000	1000.000	150.000	150.000	1000 000	1000 000	1000 000
9	S07 ISM-2069	2000.000	2000.000	2000.000	2000.000	300.000	300.000	2000 000	2000 000	2000 000

Id	Label	118Sn	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
3	S01 ISM-2063	5.000	2.000	2.000	10.000	10.000				
4	S02 ISM-2064	25.000	10.000	10.000	50.000	50.000				
5	S03 ISM-2065	50.000	20.000	20.000	100.000	100.000				
6	S04 ISM-2066	250.000	100.000	100.000	500.000	500.000				
7	S05 ISM-2067	250.000	250.000	250.000	2500.000	2500.000				
8	S06 ISM-2068	500.000	500.000	500.000	5000.000	5000.000				
9	S07 ISM-2069	1000.000	1000.000	1000.000	10000.000	10000.000				

Id	Label	203Tl	205Tl	206Pb	207Pb	208Pb	232Th
		ppb	ppb	ppb	ppb	ppb	ppb
3	S01 ISM-2063	1.000	1.000	1.000	1.000	1.000	
4	S02 ISM-2064	5.000	5.000	5.000	5.000	5.000	
5	S03 ISM-2065	10.000	10.000	10.000	10.000	10.000	
6	S04 ISM-2066	50.000	50.000	50.000	50.000	50.000	
7	S05 ISM-2067	250.000	250.000	500.000	500.000	500.000	
8	S06 ISM-2068	500.000	500.000	1000.000	1000.000	1000.000	

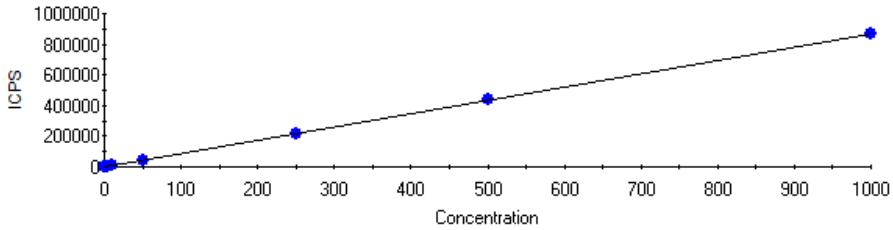
9	S07 ISM-2069	1000.000	1000.000	2000.000	2000.000	2000.000

Sample List

No	Label	Type	Weight	Rack	Row	Col	Height
1	TUNE MW10253	Unknown	1.000	0	1	2	144
2	S0 BLANK S0 IM8714-01	Blank	1.000	0	1	10	144
3	S01 ISM-2063	Fully Quant Standard	1.000	4	4	1	144
4	S02 ISM-2064	Fully Quant Standard	1.000	4	4	2	144
5	S03 ISM-2065	Fully Quant Standard	1.000	4	4	3	144
6	S04 ISM-2066	Fully Quant Standard	1.000	4	4	4	144
7	S05 ISM-2067	Fully Quant Standard	1.000	4	4	5	144
8	S06 ISM-2068	Fully Quant Standard	1.000	0	1	9	144
9	S07 ISM-2069	Fully Quant Standard	1.000	4	4	6	144
10	ICV002 ISM-2070	QC Sample	1.000	4	4	7	144
11	ICB002 IM8714-01	QC Sample	1.000	0	1	10	144
12	ICSA002 ISM-2071	QC Sample	1.000	4	4	8	144
13	ICSAB002 ISM-2072	QC Sample	1.000	4	4	9	144
14	CCV006 ISM-2068	QC Sample	1.000	0	1	9	144
15	CCB006 IM8714-01	QC Sample	1.000	0	1	10	144
16	TQ73287-001/PBW001	QC Sample	1.000	3	1	1	144
17	TQ73287-002/LCS001	QC Sample	1.000	3	1	2	144
18	TE18019-001/MC0AA3	Unknown	1.000	3	1	3	144
19	TE18019-002/MC0AA4	Unknown	1.000	3	1	4	144
20	TE18019-003/MC0AA7	Unknown	1.000	3	1	5	144
21	TE18019-004/MC0AA8	Unknown	1.000	3	1	6	144
22	TE18019-005/MC0AB2	Unknown	1.000	3	1	7	144
23	TE18019-006/MC0AB3	Unknown	1.000	3	1	8	144
24	TE18019-006MS/MC0AB3S	Unknown	1.000	3	1	9	144
25	TE18019-006DU/MC0AB3D	Unknown	1.000	3	1	10	144
26	TE18019-006L(5)/MC0AB3L	Unknown	1.000	3	1	11	144
27	TE18019-006A/MC0AB3A	Unknown	1.000	3	1	12	144
28	TE18019-006A/MC0AB3A	Unknown	1.000	3	2	1	144
29	CCV007 ISM-2068	QC Sample	1.000	0	1	9	144
30	CCB007 IM8714-01	QC Sample	1.000	0	1	10	144
31	TE18019-007/MC0AA0	Unknown	1.000	3	2	2	144
32	TE18019-008/MC0AA1	Unknown	1.000	3	2	3	144
33	TE18019-009/MC0AA2	Unknown	1.000	3	2	4	144
34	TE18019-010/MC0AA5	Unknown	1.000	3	2	5	144
35	TE18019-011/MC0AA6	Unknown	1.000	3	2	6	144
36	TE18019-012/MC0AB4	Unknown	1.000	3	2	7	144
37	CCV008 ISM-2068	QC Sample	1.000	0	1	9	144
38	CCB008 IM8714-01	QC Sample	1.000	0	1	10	144
39	TQ73543-001/PBW001	QC Sample	1.000	3	3	1	144
40	TQ73543-002/LCS001	QC Sample	1.000	3	3	2	144
41	TE23024-010/MH0AB6	Unknown	1.000	3	3	3	144
42	TE23024-011/MH0AC7	Unknown	1.000	3	3	4	144
43	TE23024-012/MH0AC8	Unknown	1.000	3	3	5	144
44	TE23024-013/MH0AC9	Unknown	1.000	3	3	6	144
45	TE23024-014/MH0AD0	Unknown	1.000	3	3	7	144
46	TE23024-015/MH0AD1	Unknown	1.000	3	3	8	144
47	CCV009 ISM-2068	QC Sample	1.000	0	1	9	144
48	CCB009 IM8714-01	QC Sample	1.000	0	1	10	144
49	TE23024-016/MH0AD2	Unknown	1.000	3	3	9	144
50	TE23024-016MS/MH0AD2S	Unknown	1.000	3	3	10	144
51	TE23024-016DU/MH0AD2D	Unknown	1.000	3	3	11	144
52	TE23024-016L(5)/MH0AD2L	Unknown	1.000	3	3	12	144
53	TE23024-016A/MH0AD2A	Unknown	1.000	3	4	1	144
54	TE23024-016A/MH0AD2A	Unknown	1.000	3	4	2	144
55	TE23024-017/MH0AD3	Unknown	1.000	3	4	3	144
56	TE23024-018/MH0AD8	Unknown	1.000	3	4	4	144
57	CCV010 ISM-2068	QC Sample	1.000	0	1	9	144
58	CCB01 0IM8714-01	QC Sample	1.000	0	1	10	144
59	IS MW10264	Unknown	1.000	0	1	10	144
60	RINSE	Unknown	1.000	0	1	10	144
61	rinse	Unknown	1.000	0	1	10	144

Fully Quant Calibration

9Be FQ Block 1

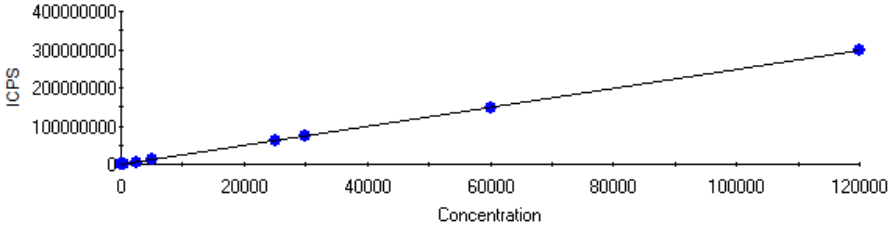


Intercept CPS=74.594297 Intercept Conc=0.086512
Sensitivity=862.246208 Correlation Coeff=0.999967

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	0.000	0.000	74.59	0.00

S01 ISM-2063	1.000	0.925	0.075	872.19	7.50
S02 ISM-2064	5.000	4.994	0.006	4380.64	0.12
S03 ISM-2065	10.000	9.481	0.519	8249.90	5.19
S04 ISM-2066	50.000	49.535	0.465	42786.34	0.93
S05 ISM-2067	250.000	250.808	0.808	216332.42	0.32
S06 ISM-2068	500.000	512.131	12.131	441657.42	2.43
S07 ISM-2069	1000.000	1007.669	7.669	868933.28	0.77

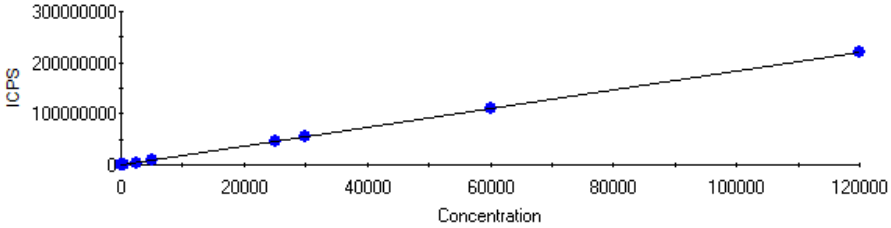
23Na FQ Block 1



Intercept CPS=60709.828569 Intercept Conc=24.391282
Sensitivity=2488.997067 Correlation Coeff=0.999996

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	-0.000	0.000	60709.83	0.00
S01 ISM-2063	500.000	530.845	30.845	1381981.09	6.17
S02 ISM-2064	2500.000	2387.181	112.819	6002396.34	4.51
S03 ISM-2065	5000.000	4946.971	53.029	12373707.18	1.06
S04 ISM-2066	25000.000	24853.421	146.579	61920801.06	0.59
S05 ISM-2067	30000.000	29837.557	162.443	74326302.34	0.54
S06 ISM-2068	60000.000	59809.713	190.287	148926911.05	0.32
S07 ISM-2069	120000.000	120170.723	170.723	299165286.21	0.14

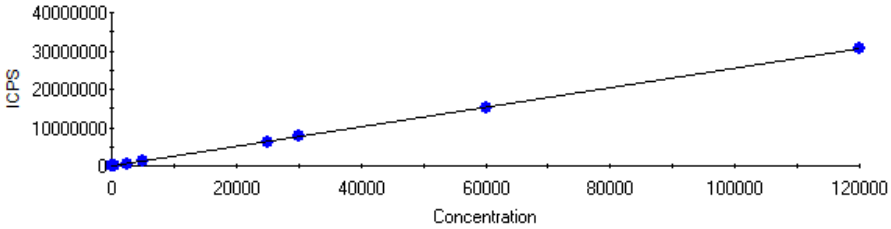
24Mg FQ Block 1



Intercept CPS=2720.097254 Intercept Conc=1.481312
Sensitivity=1836.275803 Correlation Coeff=0.999996

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	0.000	0.000	2720.10	0.00
S01 ISM-2063	500.000	549.665	49.665	1012057.13	9.93
S02 ISM-2064	2500.000	2399.209	100.791	4408329.87	4.03
S03 ISM-2065	5000.000	4963.239	36.761	9116595.85	0.74
S04 ISM-2066	25000.000	24754.007	245.993	45457904.79	0.98
S05 ISM-2067	30000.000	29896.975	103.025	54901811.22	0.34
S06 ISM-2068	60000.000	59846.909	153.091	109898151.69	0.26
S07 ISM-2069	120000.000	120156.975	156.975	220644065.27	0.13

25Mg FQ Block 1

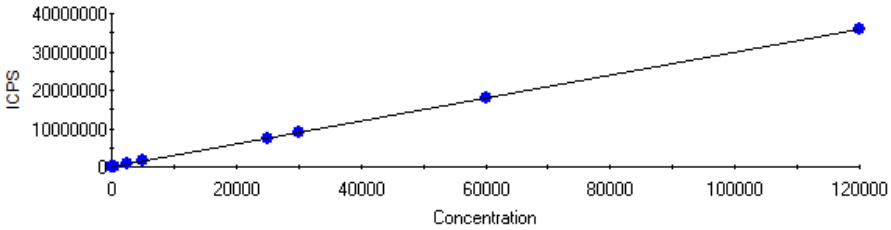


Intercept CPS=406.681374 Intercept Conc=1.591616
Sensitivity=255.514732 Correlation Coeff=0.999994

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	-0.000	0.000	406.68	0.00
S01 ISM-2063	500.000	521.245	21.245	133592.49	4.25

S02 ISM-2064	2500.000	2384.839	115.161	609768.28	4.61
S03 ISM-2065	5000.000	4946.296	53.704	1264258.06	1.07
S04 ISM-2066	25000.000	24706.796	293.204	6313356.95	1.17
S05 ISM-2067	30000.000	29796.213	203.787	7613777.95	0.68
S06 ISM-2068	60000.000	59794.341	205.659	15278741.56	0.34
S07 ISM-2069	120000.000	120219.409	219.409	30718236.72	0.18

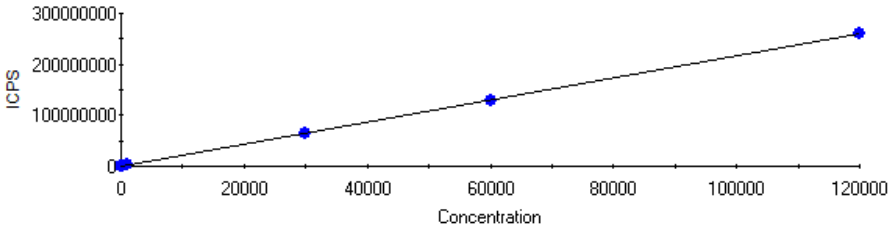
26Mg FQ Block 1



Intercept CPS=425.594703 Intercept Conc=1.425520
Sensitivity=298.554026 Correlation Coeff=0.999990

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	-0.000	0.000	425.59	0.00
S01 ISM-2063	500.000	511.166	11.166	153036.16	2.23
S02 ISM-2064	2500.000	2390.231	109.769	714038.75	4.39
S03 ISM-2065	5000.000	4831.658	168.342	1442936.43	3.37
S04 ISM-2066	25000.000	24701.079	298.921	7375032.22	1.20
S05 ISM-2067	30000.000	29753.712	246.288	8883516.06	0.82
S06 ISM-2068	60000.000	59858.197	141.803	17871331.38	0.24
S07 ISM-2069	120000.000	120533.781	533.781	35986271.32	0.44

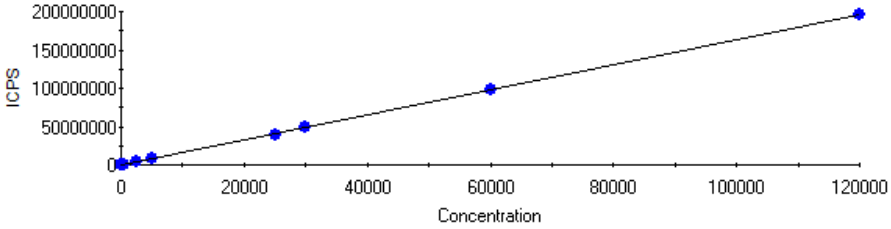
27Al FQ Block 1



Intercept CPS=2679.314692 Intercept Conc=1.234807
Sensitivity=2169.823965 Correlation Coeff=0.999995

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	-0.000	0.000	2679.31	0.00
S01 ISM-2063	20.000	21.006	1.006	48257.57	5.03
S02 ISM-2064	100.000	94.482	5.518	207689.28	5.52
S03 ISM-2065	200.000	197.519	2.481	431260.48	1.24
S04 ISM-2066	1000.000	969.131	30.869	2105522.41	3.09
S05 ISM-2067	30000.000	29909.176	90.824	64900325.91	0.30
S06 ISM-2068	60000.000	59677.450	322.550	129492239.57	0.54
S07 ISM-2069	120000.000	120184.247	184.247	260781338.71	0.15

39K FQ Block 1

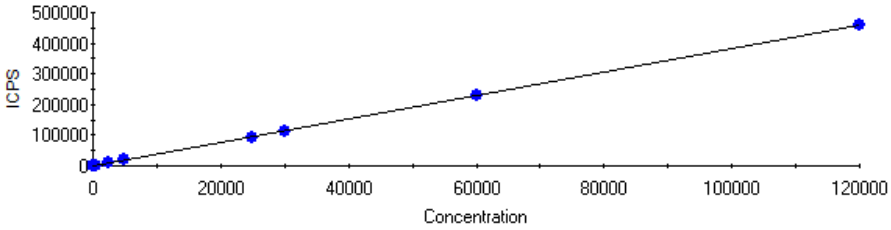


Intercept CPS=119905.161006 Intercept Conc=73.808327
Sensitivity=1624.547877 Correlation Coeff=0.999979

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	-0.000	0.000	119905.16	0.00
S01 ISM-2063	500.000	537.489	37.489	993082.10	7.50
S02 ISM-2064	2500.000	2303.137	196.863	3861460.83	7.87

S03 ISM-2065	5000.000	4903.446	96.554	8085788.07	1.93
S04 ISM-2066	25000.000	24390.313	609.687	39743136.19	2.44
S05 ISM-2067	30000.000	30063.501	63.501	48959501.35	0.21
S06 ISM-2068	60000.000	59624.221	375.779	96982306.20	0.63
S07 ISM-2069	120000.000	120307.001	307.001	195564387.95	0.26

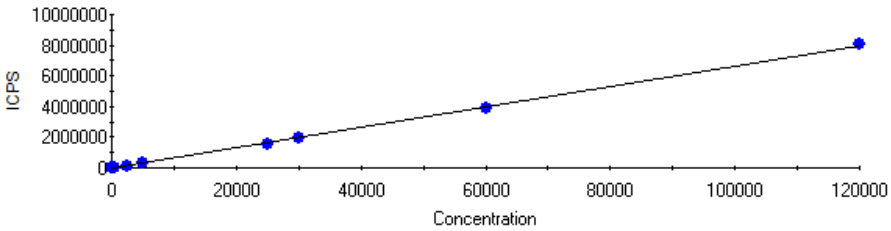
43Ca FQ Block 1



Intercept CPS=34.668602 Intercept Conc=9.053002
Sensitivity=3.829514 Correlation Coeff=0.999956

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	0.000	0.000	34.67	0.00
S01 ISM-2063	500.000	501.386	1.386	1954.73	0.28
S02 ISM-2064	2500.000	2280.177	219.823	8766.64	8.79
S03 ISM-2065	5000.000	4801.283	198.717	18421.25	3.97
S04 ISM-2066	25000.000	24184.236	815.764	92648.55	3.26
S05 ISM-2067	30000.000	29885.494	114.506	114481.60	0.38
S06 ISM-2068	60000.000	59326.304	673.696	227225.60	1.12
S07 ISM-2069	120000.000	120548.279	548.279	461676.03	0.46

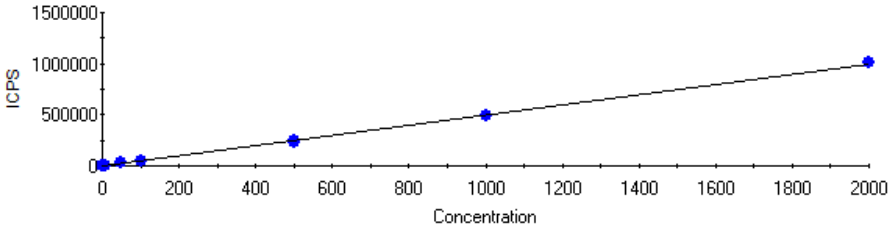
44Ca FQ Block 1



Intercept CPS=1119.478099 Intercept Conc=16.871198
Sensitivity=66.354392 Correlation Coeff=0.999881

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	0.000	0.000	1119.48	0.00
S01 ISM-2063	500.000	481.964	18.036	33099.89	3.61
S02 ISM-2064	2500.000	2195.240	304.760	146783.27	12.19
S03 ISM-2065	5000.000	4596.450	403.550	306114.13	8.07
S04 ISM-2066	25000.000	23606.143	1393.857	1567490.76	5.58
S05 ISM-2067	30000.000	29378.668	621.332	1950523.15	2.07
S06 ISM-2068	60000.000	59019.561	980.439	3917326.58	1.63
S07 ISM-2069	120000.000	120959.178	959.178	8027292.15	0.80

47Ti FQ Block 1

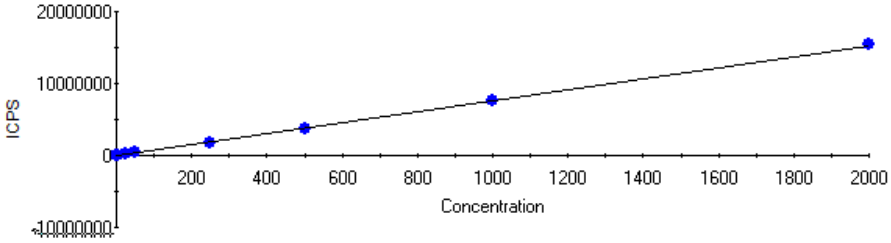


Intercept CPS=34.502347 Intercept Conc=0.069490
Sensitivity=496.508303 Correlation Coeff=0.999826

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	-0.000	0.000	34.50	0.00
S01 ISM-2063	10.000	9.478	0.522	4740.53	5.22
S02 ISM-2064	50.000	46.526	3.474	23135.25	6.95
S03 ISM-2065	100.000	93.721	6.279	46567.87	6.28

S04 ISM-2066	500.000	474.776	25.224	235764.97	5.04
S05 ISM-2067	500.000	483.643	16.357	240167.06	3.27
S06 ISM-2068	1000.000	981.358	18.642	487286.83	1.86
S07 ISM-2069	2000.000	2020.120	20.120	1003040.70	1.01

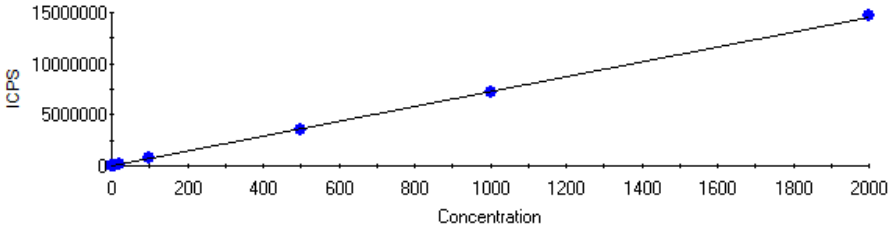
51V FQ Block 1



Intercept CPS=344.772900 Intercept Conc=0.045292
Sensitivity=7612.264321 Correlation Coeff=0.999890

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	-0.000	0.000	344.77	0.00
S01 ISM-2063	5.000	4.692	0.308	36064.72	6.15
S02 ISM-2064	25.000	23.061	1.939	175890.09	7.76
S03 ISM-2065	50.000	46.888	3.112	357271.86	6.22
S04 ISM-2066	250.000	239.890	10.110	1826453.20	4.04
S05 ISM-2067	500.000	475.941	24.059	3623330.18	4.81
S06 ISM-2068	1000.000	986.974	13.026	7513448.64	1.30
S07 ISM-2069	2000.000	2013.895	13.895	15330642.56	0.69

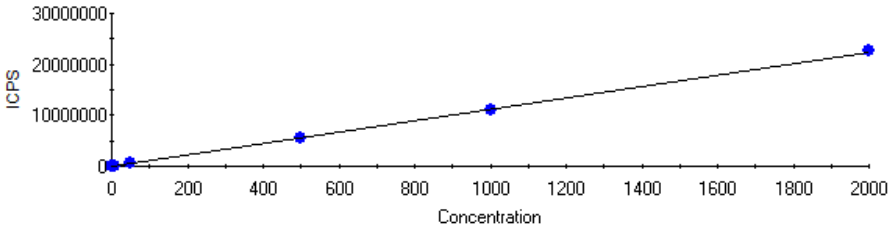
52Cr FQ Block 1



Intercept CPS=1495.604430 Intercept Conc=0.204705
Sensitivity=7306.152309 Correlation Coeff=0.999910

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	0.000	0.000	1495.60	0.00
S01 ISM-2063	2.000	1.909	0.091	15444.11	4.54
S02 ISM-2064	10.000	9.322	0.678	69602.76	6.78
S03 ISM-2065	20.000	19.183	0.817	141650.14	4.08
S04 ISM-2066	100.000	96.911	3.089	709543.07	3.09
S05 ISM-2067	500.000	478.396	21.604	3496727.23	4.32
S06 ISM-2068	1000.000	986.981	13.019	7212527.15	1.30
S07 ISM-2069	2000.000	2012.077	12.077	14702035.24	0.60

55Mn FQ Block 1

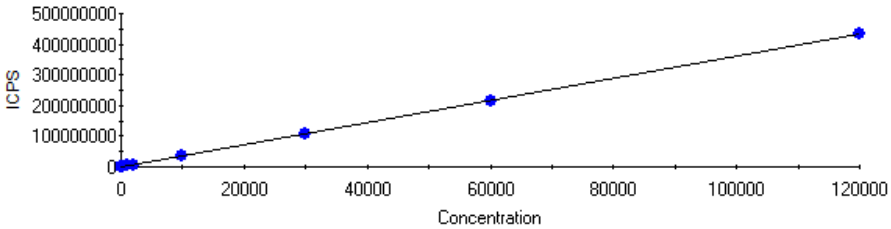


Intercept CPS=1575.444520 Intercept Conc=0.140615
Sensitivity=11203.928412 Correlation Coeff=0.999955

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	0.000	0.000	1575.44	0.00
S01 ISM-2063	1.000	0.858	0.142	11183.50	14.24
S02 ISM-2064	5.000	4.586	0.414	52951.96	8.29
S03 ISM-2065	10.000	9.334	0.666	106158.15	6.66
S04 ISM-2066	50.000	47.578	2.422	534639.42	4.84

S05 ISM-2067	500.000	487.519	12.481	5463705.18	2.50
S06 ISM-2068	1000.000	987.813	12.187	11068958.61	1.22
S07 ISM-2069	2000.000	2009.279	9.279	22513391.51	0.46

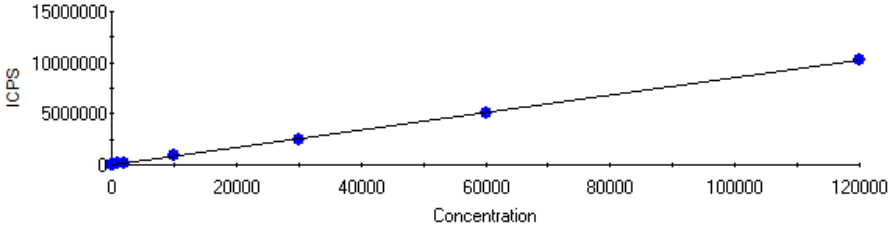
56Fe FQ Block 1



Intercept CPS=129775.673253 Intercept Conc=36.005127
Sensitivity=3604.366487 Correlation Coeff=0.999983

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	0.000	0.000	129775.67	0.00
S01 ISM-2063	200.000	208.838	8.838	882504.78	4.42
S02 ISM-2064	1000.000	936.069	63.931	3503711.12	6.39
S03 ISM-2065	2000.000	1949.322	50.678	7155847.67	2.53
S04 ISM-2066	10000.000	9707.091	292.909	35117687.89	2.93
S05 ISM-2067	30000.000	29918.055	81.945	107965410.28	0.27
S06 ISM-2068	60000.000	59440.325	559.675	214374490.96	0.93
S07 ISM-2069	120000.000	120326.096	326.096	433829122.03	0.27

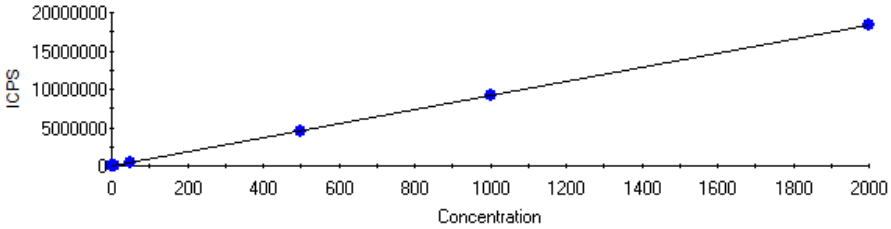
57Fe FQ Block 1



Intercept CPS=742.937356 Intercept Conc=8.685553
Sensitivity=85.537144 Correlation Coeff=0.999939

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	-0.000	0.000	742.94	0.00
S01 ISM-2063	200.000	204.044	4.044	18196.31	2.02
S02 ISM-2064	1000.000	966.819	33.181	83441.83	3.32
S03 ISM-2065	2000.000	2001.107	1.107	171911.90	0.06
S04 ISM-2066	10000.000	10094.653	94.653	864210.69	0.95
S05 ISM-2067	30000.000	29406.657	593.343	2516104.34	1.98
S06 ISM-2068	60000.000	59023.810	976.190	5049471.04	1.63
S07 ISM-2069	120000.000	120628.795	628.795	10318985.47	0.52

59Co FQ Block 1

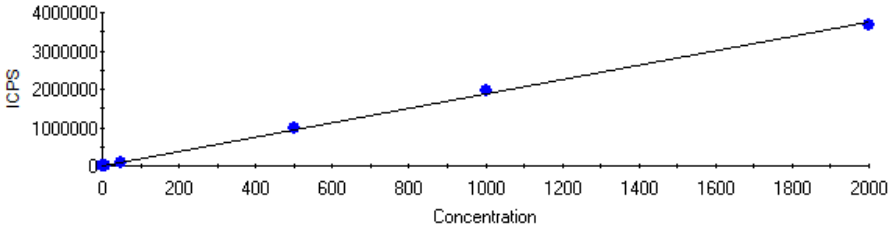


Intercept CPS=266.686811 Intercept Conc=0.029022
Sensitivity=9189.043268 Correlation Coeff=0.999955

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	0.000	0.000	266.69	0.00
S01 ISM-2063	1.000	0.975	0.025	9228.94	2.47
S02 ISM-2064	5.000	4.813	0.187	44492.58	3.74
S03 ISM-2065	10.000	9.646	0.354	88903.97	3.54
S04 ISM-2066	50.000	48.867	1.133	449306.86	2.27
S05 ISM-2067	500.000	485.840	14.160	4464667.84	2.83

S06 ISM-2068	1000.000	989.635	10.365	9094062.60	1.04
S07 ISM-2069	2000.000	2008.753	8.753	18458788.00	0.44

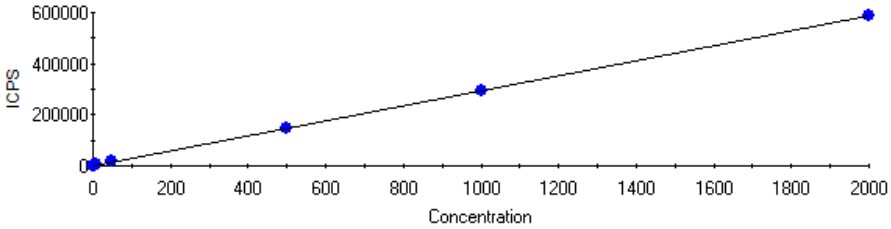
60Ni FQ Block 1



Intercept CPS=133.130572 Intercept Conc=0.070723
Sensitivity=1882.319915 Correlation Coeff=0.999377

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	-0.000	0.000	133.13	0.00
S01 ISM-2063	1.000	1.105	0.105	2212.49	10.47
S02 ISM-2064	5.000	5.151	0.151	9829.34	3.02
S03 ISM-2065	10.000	10.299	0.299	19519.34	2.99
S04 ISM-2066	50.000	50.786	0.786	95729.54	1.57
S05 ISM-2067	500.000	513.728	13.728	967133.79	2.75
S06 ISM-2068	1000.000	1051.457	51.457	1979312.47	5.15
S07 ISM-2069	2000.000	1953.000	47.000	3676303.74	2.35

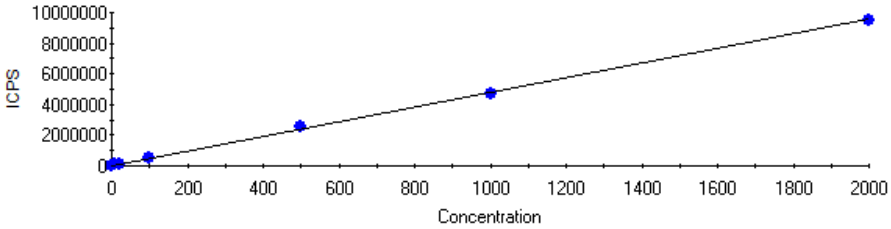
62Ni FQ Block 1



Intercept CPS=1684.914228 Intercept Conc=5.775971
Sensitivity=291.711007 Correlation Coeff=0.999995

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	0.000	0.000	1684.91	0.00
S01 ISM-2063	1.000	0.549	0.451	1844.99	45.12
S02 ISM-2064	5.000	3.964	1.036	2841.23	20.72
S03 ISM-2065	10.000	8.385	1.615	4130.98	16.15
S04 ISM-2066	50.000	51.156	1.156	16607.78	2.31
S05 ISM-2067	500.000	495.805	4.195	146316.75	0.84
S06 ISM-2068	1000.000	996.490	3.510	292371.91	0.35
S07 ISM-2069	2000.000	2002.786	2.786	585919.59	0.14

63Cu FQ Block 1

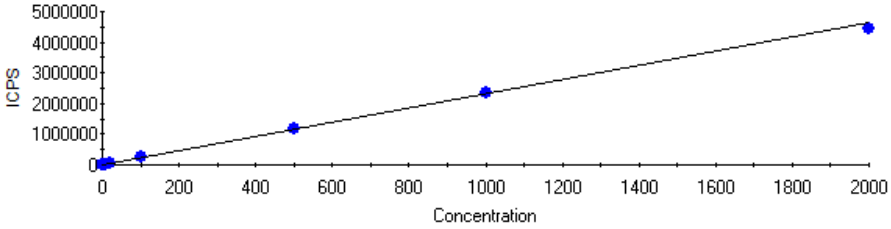


Intercept CPS=1399.019968 Intercept Conc=0.292858
Sensitivity=4777.123295 Correlation Coeff=0.999876

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	-0.000	0.000	1399.02	0.00
S01 ISM-2063	2.000	2.160	0.160	11718.25	8.01
S02 ISM-2064	10.000	10.394	0.394	51051.90	3.94
S03 ISM-2065	20.000	20.440	0.440	99045.58	2.20
S04 ISM-2066	100.000	101.032	1.032	484042.52	1.03
S05 ISM-2067	500.000	525.806	25.806	2513239.27	5.16
S06 ISM-2068	1000.000	983.373	16.627	4699091.36	1.66

S07 ISM-2069	2000.000	1987.207	12.793	9494530.92	0.64

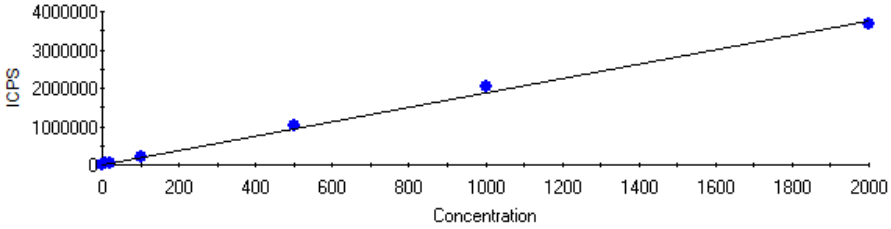
65Cu FQ Block 1



Intercept CPS=313.367066 Intercept Conc=0.134933
Sensitivity=2322.321217 Correlation Coeff=0.999629

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	-0.000	0.000	313.37	0.00
S01 ISM-2063	2.000	2.150	0.150	5307.01	7.51
S02 ISM-2064	10.000	10.374	0.374	24404.38	3.74
S03 ISM-2065	20.000	20.613	0.613	48183.11	3.06
S04 ISM-2066	100.000	101.396	1.396	235787.36	1.40
S05 ISM-2067	500.000	511.475	11.475	1188122.06	2.29
S06 ISM-2068	1000.000	1008.772	8.772	2343005.19	0.88
S07 ISM-2069	2000.000	1914.623	85.377	4446682.81	4.27

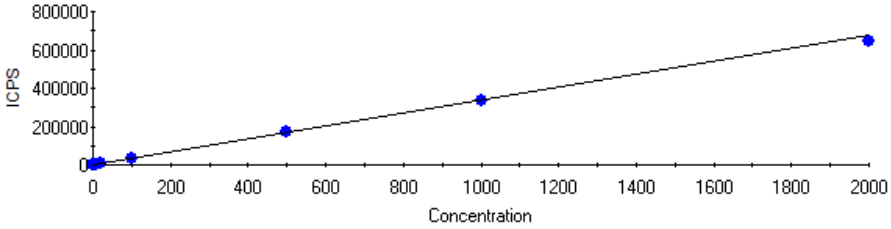
66Zn FQ Block 1



Intercept CPS=403.843509 Intercept Conc=0.214770
Sensitivity=1880.355540 Correlation Coeff=0.998848

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	0.000	0.000	403.84	0.00
S01 ISM-2063	2.000	2.460	0.460	5029.64	23.00
S02 ISM-2064	10.000	10.840	0.840	20787.82	8.40
S03 ISM-2065	20.000	21.677	1.677	41164.65	8.39
S04 ISM-2066	100.000	105.736	5.736	199224.78	5.74
S05 ISM-2067	500.000	532.444	32.444	1001587.26	6.49
S06 ISM-2068	1000.000	1076.409	76.409	2024435.77	7.64
S07 ISM-2069	2000.000	1953.376	46.624	3673445.75	2.33

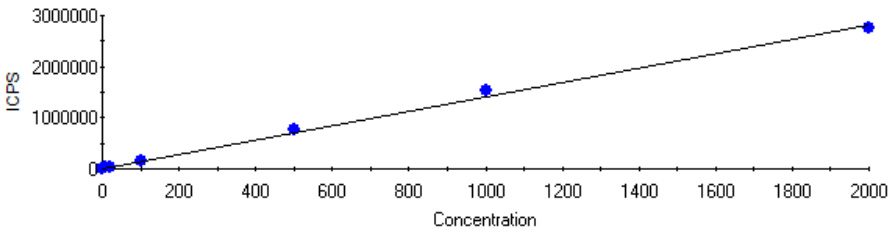
67Zn FQ Block 1



Intercept CPS=42.655172 Intercept Conc=0.126595
Sensitivity=336.940819 Correlation Coeff=0.999903

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	-0.000	0.000	42.66	0.00
S01 ISM-2063	2.000	2.252	0.252	801.42	12.60
S02 ISM-2064	10.000	11.178	1.178	3808.84	11.78
S03 ISM-2065	20.000	21.090	1.090	7148.86	5.45
S04 ISM-2066	100.000	105.182	5.182	35482.62	5.18
S05 ISM-2067	500.000	499.274	0.726	168268.44	0.15
S06 ISM-2068	1000.000	988.304	11.696	333042.46	1.17
S07 ISM-2069	2000.000	1924.819	75.181	648592.61	3.76

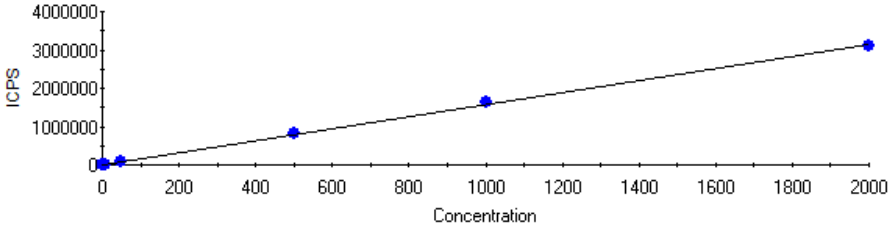
68Zn FQ Block 1



Intercept CPS=285.289640 Intercept Conc=0.201579
Sensitivity=1415.272392 Correlation Coeff=0.998355

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	0.000	0.000	285.29	0.00
S01 ISM-2063	2.000	2.408	0.408	3693.96	20.42
S02 ISM-2064	10.000	11.460	1.460	16504.57	14.60
S03 ISM-2065	20.000	22.084	2.084	31540.71	10.42
S04 ISM-2066	100.000	109.126	9.126	154727.64	9.13
S05 ISM-2067	500.000	546.940	46.940	774354.64	9.39
S06 ISM-2068	1000.000	1087.872	87.872	1539920.46	8.79
S07 ISM-2069	2000.000	1943.844	56.156	2751354.23	2.81

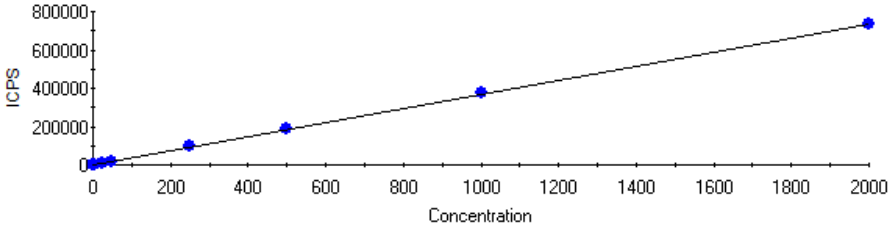
75As FQ Block 1



Intercept CPS=245.100592 Intercept Conc=0.156629
Sensitivity=1564.852408 Correlation Coeff=0.999748

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	0.000	0.000	245.10	0.00
S01 ISM-2063	1.000	1.035	0.035	1864.26	3.47
S02 ISM-2064	5.000	4.991	0.009	8055.08	0.18
S03 ISM-2065	10.000	10.414	0.414	16540.92	4.14
S04 ISM-2066	50.000	52.110	2.110	81789.45	4.22
S05 ISM-2067	500.000	513.695	13.695	804102.54	2.74
S06 ISM-2068	1000.000	1036.604	36.604	1622377.84	3.66
S07 ISM-2069	2000.000	1978.219	21.781	3095866.17	1.09

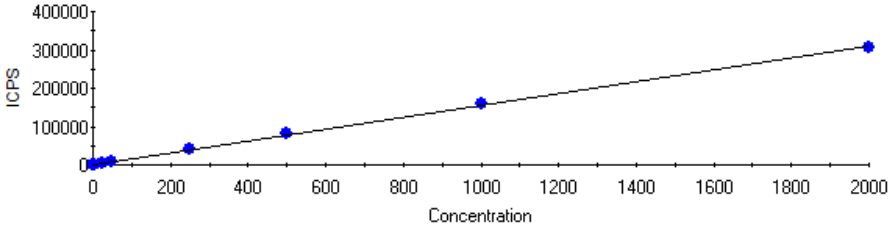
78Se FQ Block 1



Intercept CPS=874.729371 Intercept Conc=2.371589
Sensitivity=368.836780 Correlation Coeff=0.999896

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	-0.000	0.000	874.73	0.00
S01 ISM-2063	5.000	5.801	0.801	3014.33	16.02
S02 ISM-2064	25.000	26.005	1.005	10466.50	4.02
S03 ISM-2065	50.000	51.645	1.645	19923.41	3.29
S04 ISM-2066	250.000	254.671	4.671	94806.74	1.87
S05 ISM-2067	500.000	516.167	16.167	191256.08	3.23
S06 ISM-2068	1000.000	1019.698	19.698	376976.85	1.97
S07 ISM-2069	2000.000	1985.470	14.530	733188.98	0.73

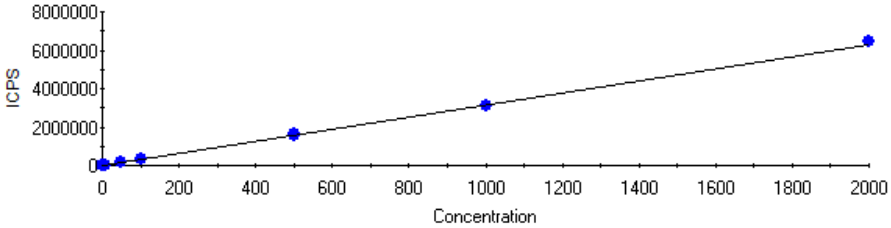
82Se FQ Block 1



Intercept CPS=87.715914 Intercept Conc=0.562710
Sensitivity=155.881337 Correlation Coeff=0.999689

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	0.000	0.000	87.72	0.00
S01 ISM-2063	5.000	5.329	0.329	918.45	6.59
S02 ISM-2064	25.000	25.937	0.937	4130.84	3.75
S03 ISM-2065	50.000	54.509	4.509	8584.66	9.02
S04 ISM-2066	250.000	265.922	15.922	41540.03	6.37
S05 ISM-2067	500.000	531.794	31.794	82984.40	6.36
S06 ISM-2068	1000.000	1029.612	29.612	160585.03	2.96
S07 ISM-2069	2000.000	1975.130	24.870	307973.62	1.24

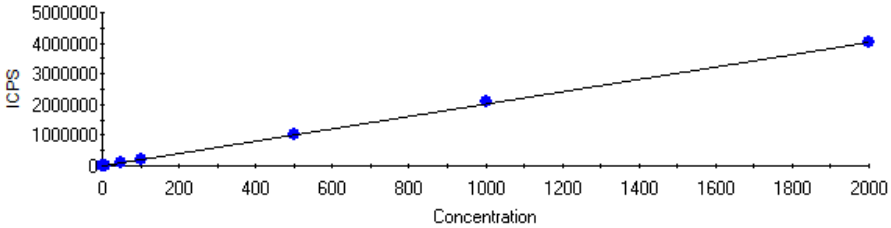
95Mo FQ Block 1



Intercept CPS=665.017815 Intercept Conc=0.210924
Sensitivity=3152.882076 Correlation Coeff=0.999791

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	0.000	0.000	665.02	0.00
S01 ISM-2063	10.000	9.547	0.453	30766.88	4.53
S02 ISM-2064	50.000	46.628	3.372	147677.14	6.74
S03 ISM-2065	100.000	95.630	4.370	302174.47	4.37
S04 ISM-2066	500.000	503.140	3.140	1587007.27	0.63
S05 ISM-2067	500.000	506.539	6.539	1597723.59	1.31
S06 ISM-2068	1000.000	979.707	20.293	3089564.92	2.03
S07 ISM-2069	2000.000	2048.583	48.583	6459605.80	2.43

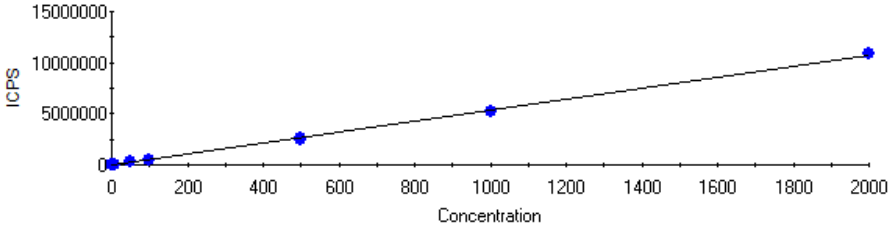
97Mo FQ Block 1



Intercept CPS=442.555377 Intercept Conc=0.219301
Sensitivity=2018.025785 Correlation Coeff=0.999738

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	0.000	0.000	442.56	0.00
S01 ISM-2063	10.000	9.424	0.576	19459.95	5.76
S02 ISM-2064	50.000	45.984	4.016	93240.32	8.03
S03 ISM-2065	100.000	94.255	5.745	190651.33	5.75
S04 ISM-2066	500.000	493.400	6.600	996136.75	1.32
S05 ISM-2067	500.000	493.053	6.947	995436.08	1.39
S06 ISM-2068	1000.000	1037.349	37.349	2093839.83	3.73
S07 ISM-2069	2000.000	1985.103	14.897	4006430.99	0.74

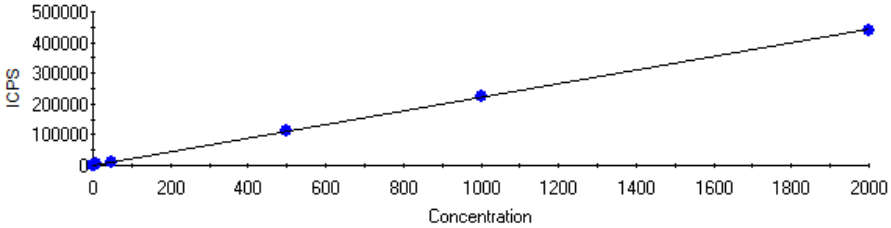
98Mo FQ Block 1



Intercept CPS=1054.556483 Intercept Conc=0.197736
Sensitivity=5333.162538 Correlation Coeff=0.999721

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	0.000	0.000	1054.56	0.00
S01 ISM-2063	10.000	9.256	0.744	50420.69	7.44
S02 ISM-2064	50.000	45.334	4.666	242829.45	9.33
S03 ISM-2065	100.000	93.468	6.532	499533.27	6.53
S04 ISM-2066	500.000	467.934	32.066	2496623.82	6.41
S05 ISM-2067	500.000	479.892	20.108	2560398.46	4.02
S06 ISM-2068	1000.000	976.139	23.861	5206964.52	2.39
S07 ISM-2069	2000.000	2025.421	25.421	10802952.05	1.27

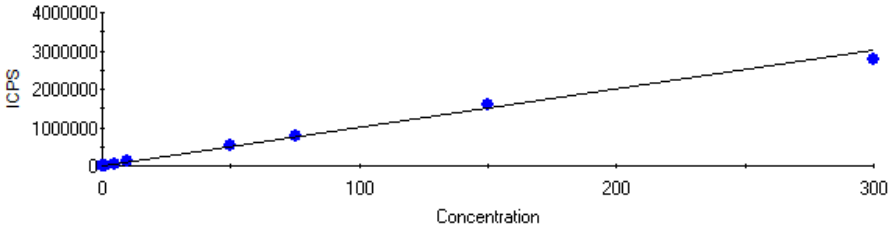
106Cd FQ Block 1



Intercept CPS=432.001825 Intercept Conc=1.956866
Sensitivity=220.762131 Correlation Coeff=0.999944

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	0.000	0.000	432.00	0.00
S01 ISM-2063	1.000	1.059	0.059	665.79	5.90
S02 ISM-2064	5.000	5.590	0.590	1666.02	11.80
S03 ISM-2065	10.000	10.703	0.703	2794.90	7.03
S04 ISM-2066	50.000	50.805	0.805	11647.92	1.61
S05 ISM-2067	500.000	507.674	7.674	112507.16	1.53
S06 ISM-2068	1000.000	1016.892	16.892	224923.20	1.69
S07 ISM-2069	2000.000	1989.610	10.390	439662.65	0.52

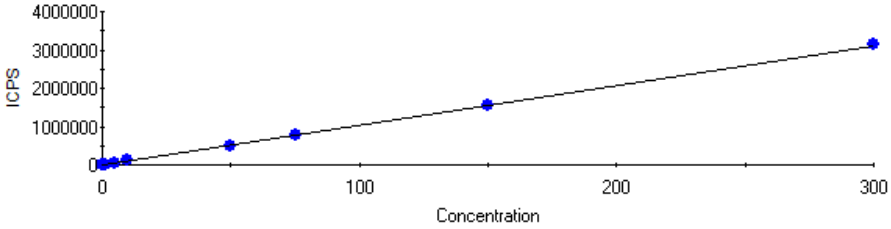
107Ag FQ Block 1



Intercept CPS=166.746452 Intercept Conc=0.016633
Sensitivity=10025.024097 Correlation Coeff=0.998078

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	0.000	0.000	166.75	0.00
S01 ISM-2063	1.000	1.031	0.031	10504.81	3.12
S02 ISM-2064	5.000	5.157	0.157	51864.49	3.14
S03 ISM-2065	10.000	10.470	0.470	105132.80	4.70
S04 ISM-2066	50.000	52.021	2.021	521681.58	4.04
S05 ISM-2067	75.000	78.126	3.126	783383.60	4.17
S06 ISM-2068	150.000	157.227	7.227	1576368.26	4.82
S07 ISM-2069	300.000	278.762	21.238	2794765.51	7.08

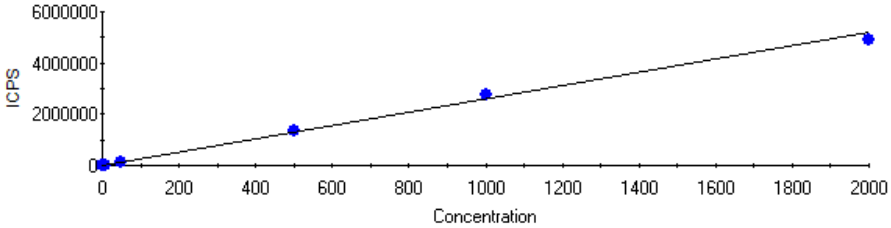
109Ag FQ Block 1



Intercept CPS=131.905023 Intercept Conc=0.012705
Sensitivity=10381.922571 Correlation Coeff=0.999974

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	0.000	0.000	131.91	0.00
S01 ISM-2063	1.000	1.016	0.016	10683.91	1.64
S02 ISM-2064	5.000	4.913	0.087	51142.57	1.73
S03 ISM-2065	10.000	9.930	0.070	103228.29	0.70
S04 ISM-2066	50.000	49.103	0.897	509910.55	1.79
S05 ISM-2067	75.000	73.842	1.158	766748.96	1.54
S06 ISM-2068	150.000	148.649	1.351	1543391.67	0.90
S07 ISM-2069	300.000	301.119	1.119	3126321.19	0.37

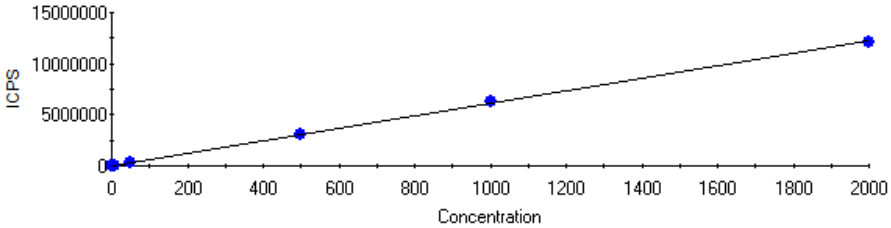
111Cd FQ Block 1



Intercept CPS=72.779733 Intercept Conc=0.027965
Sensitivity=2602.563702 Correlation Coeff=0.998509

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	-0.000	0.000	72.78	0.00
S01 ISM-2063	1.000	0.992	0.008	2653.32	0.85
S02 ISM-2064	5.000	4.951	0.049	12957.90	0.98
S03 ISM-2065	10.000	10.007	0.007	26116.70	0.07
S04 ISM-2066	50.000	49.703	0.297	129426.91	0.59
S05 ISM-2067	500.000	515.727	15.727	1342286.13	3.15
S06 ISM-2068	1000.000	1050.130	50.130	2733102.25	5.01
S07 ISM-2069	2000.000	1879.727	120.273	4892181.71	6.01

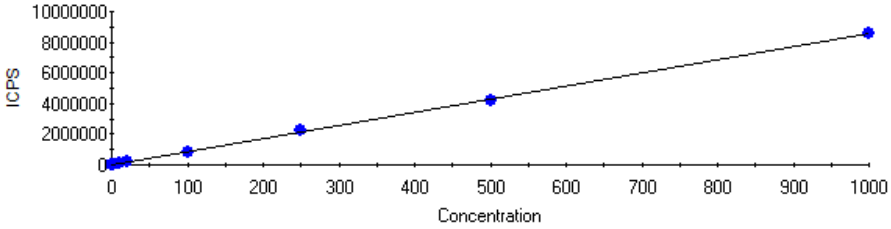
114Cd FQ Block 1



Intercept CPS=160.935069 Intercept Conc=0.026403
Sensitivity=6095.438306 Correlation Coeff=0.999931

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	-0.000	0.000	160.94	0.00
S01 ISM-2063	1.000	1.013	0.013	6335.25	1.29
S02 ISM-2064	5.000	5.058	0.058	30989.31	1.15
S03 ISM-2065	10.000	10.363	0.363	63329.25	3.63
S04 ISM-2066	50.000	51.676	1.676	315151.77	3.35
S05 ISM-2067	500.000	507.682	7.682	3094705.27	1.54
S06 ISM-2068	1000.000	1019.039	19.039	6211649.33	1.90
S07 ISM-2069	2000.000	1988.516	11.484	12121038.75	0.57

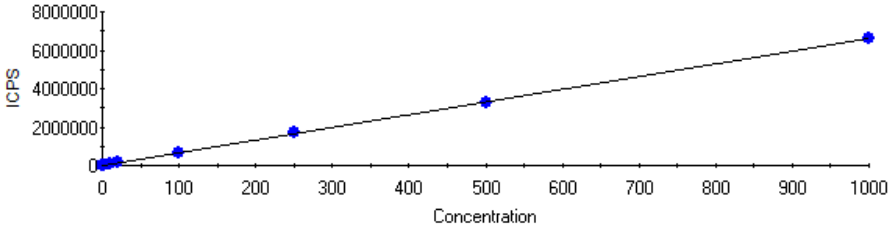
121Sb FQ Block 1



Intercept CPS=2430.613358 Intercept Conc=0.284617
Sensitivity=8539.957973 Correlation Coeff=0.999873

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	-0.000	0.000	2430.61	0.00
S01 ISM-2063	2.000	1.838	0.162	18126.75	8.10
S02 ISM-2064	10.000	9.169	0.831	80734.63	8.31
S03 ISM-2065	20.000	18.733	1.267	162411.41	6.33
S04 ISM-2066	100.000	98.964	1.036	847579.51	1.04
S05 ISM-2067	250.000	263.565	13.565	2253266.34	5.43
S06 ISM-2068	500.000	493.758	6.242	4219099.38	1.25
S07 ISM-2069	1000.000	999.867	0.133	8541256.92	0.01

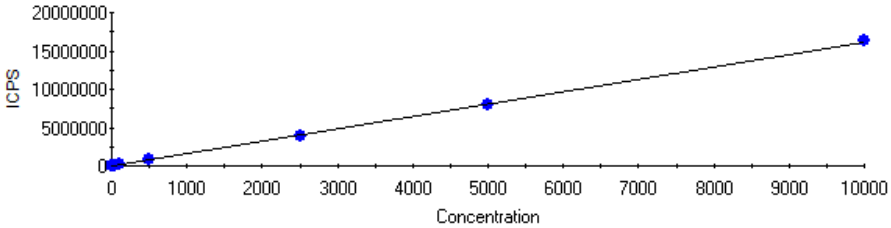
123Sb FQ Block 1



Intercept CPS=1828.994030 Intercept Conc=0.275535
Sensitivity=6637.972767 Correlation Coeff=0.999929

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	0.000	0.000	1828.99	0.00
S01 ISM-2063	2.000	1.846	0.154	14085.23	7.68
S02 ISM-2064	10.000	8.989	1.011	61495.35	10.11
S03 ISM-2065	20.000	18.508	1.492	124682.28	7.46
S04 ISM-2066	100.000	98.887	1.113	658240.47	1.11
S05 ISM-2067	250.000	260.361	10.361	1730099.84	4.14
S06 ISM-2068	500.000	496.384	3.616	3296814.55	0.72
S07 ISM-2069	1000.000	999.369	0.631	6635613.64	0.06

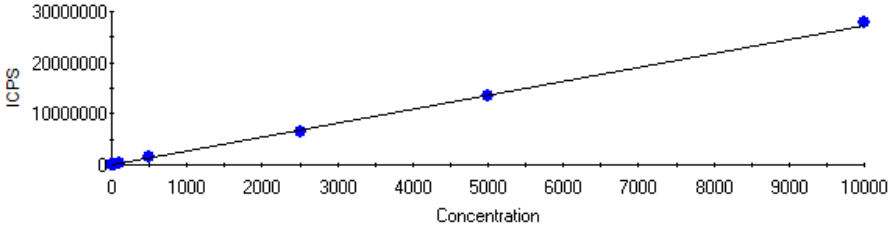
135Ba FQ Block 1



Intercept CPS=153.662957 Intercept Conc=0.094968
Sensitivity=1618.055178 Correlation Coeff=0.999865

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	-0.000	0.000	153.66	0.00
S01 ISM-2063	10.000	9.524	0.476	15563.99	4.76
S02 ISM-2064	50.000	46.409	3.591	75246.69	7.18
S03 ISM-2065	100.000	93.825	6.175	151967.41	6.18
S04 ISM-2066	500.000	480.897	19.103	778271.03	3.82
S05 ISM-2067	2500.000	2370.534	129.466	3835807.70	5.18
S06 ISM-2068	5000.000	4917.040	82.960	7956196.17	1.66
S07 ISM-2069	10000.000	10074.882	74.882	16301868.35	0.75

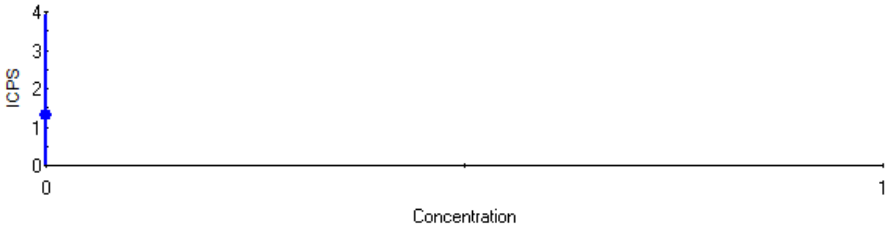
137Ba FQ Block 1



Intercept CPS=292.268632 Intercept Conc=0.107344
Sensitivity=2722.737407 Correlation Coeff=0.999820

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	-0.000	0.000	292.27	0.00
S01 ISM-2063	10.000	9.956	0.044	27400.41	0.44
S02 ISM-2064	50.000	48.375	1.625	132005.62	3.25
S03 ISM-2065	100.000	97.664	2.336	266206.05	2.34
S04 ISM-2066	500.000	508.594	8.594	1385060.26	1.72
S05 ISM-2067	2500.000	2416.454	83.546	6579661.59	3.34
S06 ISM-2068	5000.000	4951.705	48.295	13482484.48	0.97
S07 ISM-2069	10000.000	10241.752	241.752	27885894.43	2.42

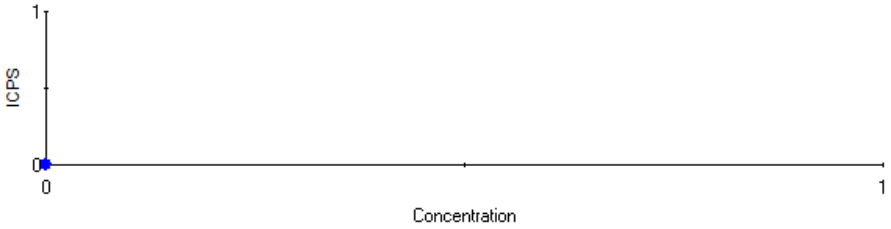
150Sm FQ Block 1



Failed : Curve Invalid - insufficient data
Results for this analyte will be semi-quant

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	-0.000	0.000	1.31	0.00

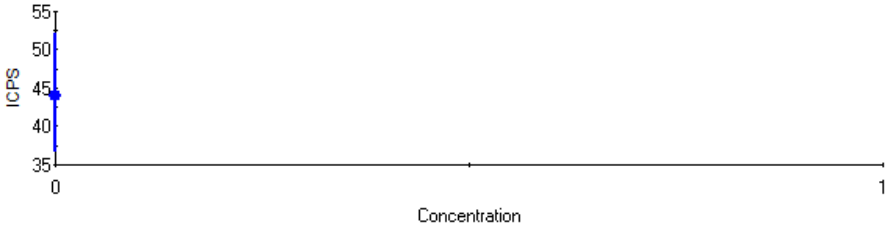
156Gd FQ Block 1



Failed : Curve Invalid - insufficient data
Results for this analyte will be semi-quant

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	0.000	0.000	0.00	0.00

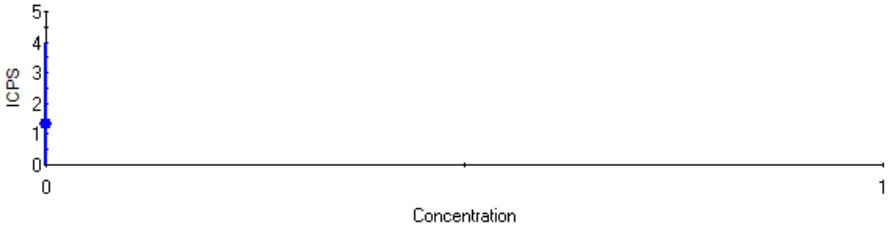
160Dy FQ Block 1



Failed : Curve Invalid - insufficient data
Results for this analyte will be semi-quant

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	0.000	0.000	43.96	0.00

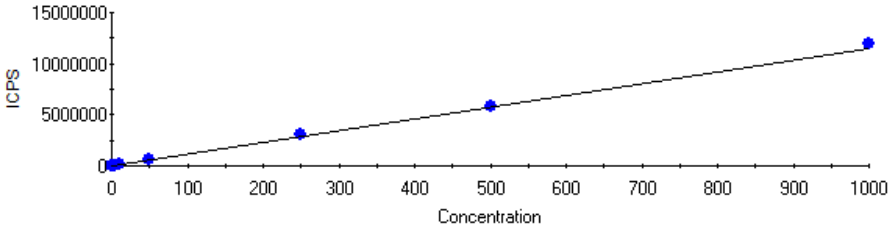
164Dy FQ Block 1



Failed : Curve Invalid - insufficient data
Results for this analyte will be semi-quant

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	0.000	0.000	1.33	0.00

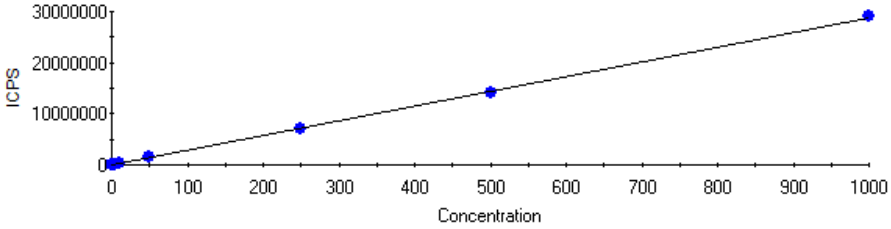
203Tl FQ Block 1



Intercept CPS=552.201511 Intercept Conc=0.047968
Sensitivity=11511.809463 Correlation Coeff=0.999902

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	0.000	0.000	552.20	0.00
S01 ISM-2063	1.000	0.960	0.040	11605.88	3.98
S02 ISM-2064	5.000	4.781	0.219	55585.92	4.39
S03 ISM-2065	10.000	9.647	0.353	111609.55	3.53
S04 ISM-2066	50.000	49.560	0.440	571075.73	0.88
S05 ISM-2067	250.000	263.596	13.596	3035016.47	5.44
S06 ISM-2068	500.000	505.178	5.178	5816066.65	1.04
S07 ISM-2069	1000.000	1038.808	38.808	11959114.88	3.88

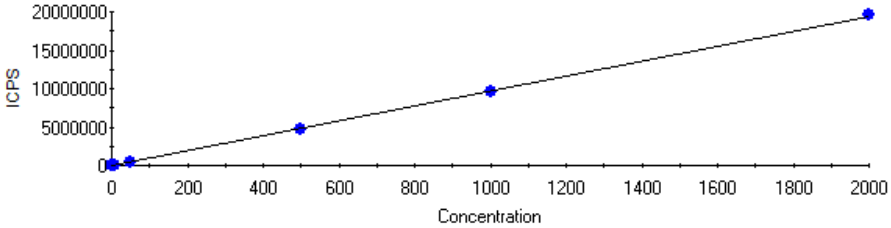
205Tl FQ Block 1



Intercept CPS=1422.519451 Intercept Conc=0.049384
Sensitivity=28805.489349 Correlation Coeff=0.999946

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	-0.000	0.000	1422.52	0.00
S01 ISM-2063	1.000	0.944	0.056	28621.96	5.58
S02 ISM-2064	5.000	4.613	0.387	134292.04	7.75
S03 ISM-2065	10.000	9.447	0.553	273550.28	5.53
S04 ISM-2066	50.000	49.244	0.756	1419911.93	1.51
S05 ISM-2067	250.000	242.990	7.010	7000871.12	2.80
S06 ISM-2068	500.000	493.522	6.478	14217553.77	1.30
S07 ISM-2069	1000.000	1005.037	5.037	28952005.43	0.50

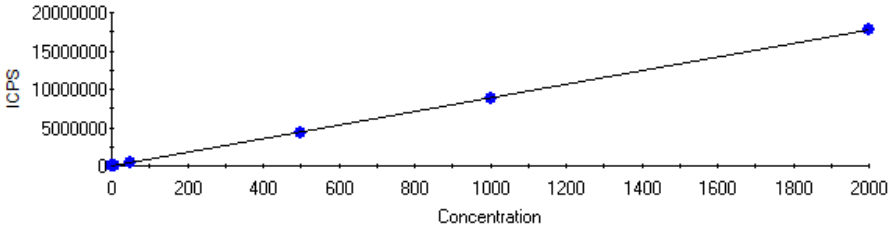
206Pb FQ Block 1



Intercept CPS=376.928202 Intercept Conc=0.038825
Sensitivity=9708.306756 Correlation Coeff=0.999936

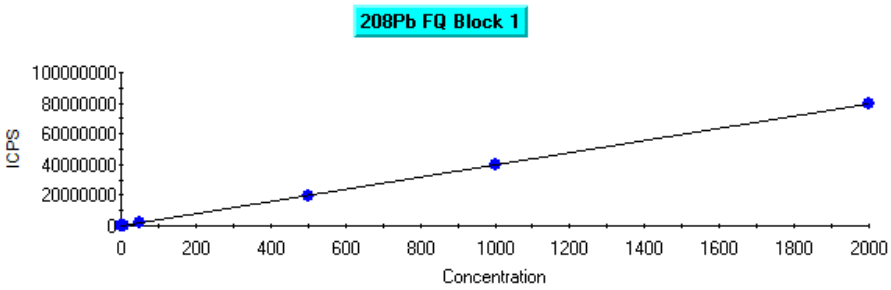
Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	0.000	0.000	376.93	0.00
S01 ISM-2063	1.000	0.941	0.059	9515.86	5.86
S02 ISM-2064	5.000	4.615	0.385	45185.03	7.69
S03 ISM-2065	10.000	9.385	0.615	91488.86	6.15
S04 ISM-2066	50.000	47.737	2.263	463819.41	4.53
S05 ISM-2067	500.000	481.246	18.754	4672465.50	3.75
S06 ISM-2068	1000.000	989.568	10.432	9607410.07	1.04
S07 ISM-2069	2000.000	2009.965	9.965	19513732.24	0.50

207Pb FQ Block 1



Intercept CPS=360.307130 Intercept Conc=0.040807
Sensitivity=8829.565503 Correlation Coeff=0.999944

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	0.000	0.000	360.31	0.00
S01 ISM-2063	1.000	0.930	0.070	8572.58	6.99
S02 ISM-2064	5.000	4.615	0.385	41106.14	7.71
S03 ISM-2065	10.000	9.395	0.605	83316.69	6.05
S04 ISM-2066	50.000	47.850	2.150	422854.48	4.30
S05 ISM-2067	500.000	481.813	18.187	4254556.50	3.64
S06 ISM-2068	1000.000	991.143	8.857	8751722.77	0.89
S07 ISM-2069	2000.000	2009.033	9.033	17739249.58	0.45



Intercept CPS=1560.645784 Intercept Conc=0.039139
Sensitivity=39874.612570 Correlation Coeff=0.999961

Label	Defined	Measured	Error	Mean CPS	% Error
S0 BLANK S0 IM8714-01	0.000	-0.000	0.000	1560.65	0.00
S01 ISM-2063	1.000	0.933	0.067	38750.77	6.73
S02 ISM-2064	5.000	4.597	0.403	184866.82	8.06
S03 ISM-2065	10.000	9.389	0.611	375944.41	6.11
S04 ISM-2066	50.000	48.169	1.831	1922296.49	3.66
S05 ISM-2067	500.000	485.691	14.309	19368318.39	2.86
S06 ISM-2068	1000.000	991.436	8.564	39534673.21	0.86
S07 ISM-2069	2000.000	2007.909	7.909	80066161.12	0.40

Dilution Corrected Concentrations

TUNE MW10253 6/5/2018 16:21:43

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:22:09	97.7%	0 008	157.000	20.000	6.031	5.497	5.971	3 645	0 000
2	16:22:35	100 3%	0 057	145.800	14.770	4.926	4.416	4.921	2 642	0 000
3	16:23:01	102 0%	-0 023	149.600	12.810	4.486	4.574	4.783	2 282	0 000
x		100 0%	0 014	150.800	15.860	5.148	4.829	5 225	2 857	0 000
σ		2 2%	0 040	5.702	3.715	0.796	0.584	0 650	0.706	0 000
%RSD		2.2	283 600	3.781	23.430	15.460	12.100	12.440	24.720	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:22:09	0 000	260.100	20.170	8.225	9.557	96.7%	0 039	0.104	0 076
2	16:22:35	0 000	258.100	13.500	9.723	8.760	100.0%	0 092	0 066	0 025
3	16:23:01	0 000	259 000	11.170	6.139	6.589	103.3%	0 032	0 041	0 017
x		0 000	259.100	14.950	8.029	8.302	100.0%	0 054	0 070	0 039
σ		0 000	1 028	4.676	1.800	1.536	3.3%	0 033	0 032	0 032
%RSD		0 000	0 397	31.290	22.420	18.500	3 3	60 370	44.940	81 500

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:22:09	0 344	0 006	3.585	5.673	0.059	0.164	4.985	0 273	0 077
2	16:22:35	0 366	0 008	2.390	4.293	0.041	0.116	3 635	0 220	0 080
3	16:23:01	0 334	-0 001	1.740	4.153	0.034	0.123	2 546	0.194	0.120
x		0 348	0 004	2.572	4.706	0.044	0.134	3.722	0 229	0 092
σ		0 017	0 005	0.936	0.840	0.013	0.026	1 221	0 040	0 024
%RSD		4.792	116 600	36.380	17.850	29.060	19.440	32 820	17 590	25.960

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:22:09	0 267	0 228	0.255	0.108	0.476	0.170	2.956	96.8%	0.144
2	16:22:35	0 250	0 312	0.297	0.065	0.390	0.177	2 615	100.7%	0.146
3	16:23:01	0 201	0 221	0.275	0.031	0.237	0.043	1 896	102.5%	0.147
x		0 239	0 253	0.276	0.068	0.367	0.130	2.489	100.0%	0.146
σ		0 034	0 051	0.021	0.039	0.121	0.075	0 541	2.9%	0 001
%RSD		14 350	19.980	7.720	56.580	32.930	58.100	21.760	2.9	0.961

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:22:09	0.112	0.169	-0.650	0.021	-0.444	0.023	0 057	0 063	97.2%
2	16:22:35	0.116	0.194	-0.134	0.019	-0.694	0.016	0 047	0 050	100.2%
3	16:23:01	0.171	0.161	-0.260	0.015	-0.644	0.023	0 041	0 033	102.5%
x		0.133	0.175	-0.348	0.018	-0.594	0.021	0 048	0 049	100.0%
σ		0 033	0 017	0.269	0.003	0.133	0.004	0 008	0 015	2.7%
%RSD		24.940	9 854	77.210	18.660	22.330	19.390	17 340	30 290	2.7

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:22:09	0 274	0 317	0.332	0.279	ID 0.000	ID 0.000	97.5%	ID 0 003	ID 0 000
2	16:22:35	0 370	0 336	0.173	0.204	ID 0.000	ID 0.000	100.5%	ID 0 003	ID 0 000
3	16:23:01	0 336	0 296	0.171	0.164	ID 0.000	ID 0.000	102.0%	ID 0 003	ID 0 000
x		0 327	0 317	0.225	0.216	ID 0.000	ID 0.000	100.0%	ID 0 003	ID 0 000
σ		0 049	0 020	0.092	0.058	ID 0.000	ID 0.000	2.3%	ID 0 000	ID 0 000
%RSD		14.950	6 300	40.870	26.980	ID 173.200	ID 86.610	2 3	ID 9.142	ID 0 000

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	16:22:09	0.419	0.401	0.061	0.067	0.063	97.2%
2	16:22:35	0.420	0 376	0.049	0.053	0.047	100.2%
3	16:23:01	0 365	0 348	0.050	0.032	0.043	102.6%
x		0.401	0 375	0.053	0.051	0.051	100.0%
σ		0 031	0 027	0.007	0.018	0.011	2.7%
%RSD		7 811	7 084	12.280	34.660	20.760	2.7

S0 BLANK S0 IM8714-01 6/5/2018 16:27:29

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:27:55	98.1%	-0 006	-2.792	0 683	0.077	-0 021	0.109	0.083	0 000
2	16:28:20	100.7%	-0 013	-2.775	-0 806	-0.045	0 092	0.002	0.023	0 000
3	16:28:46	101.2%	0 019	5 567	0.123	-0.032	-0 071	-0.111	-0.106	0 000
x		100.0%	0 000	0 000	-0 000	0.000	-0 000	-0.000	-0.000	0 000
σ		1.7%	0 017	4 821	0.752	0.067	0 083	0.110	0.096	0 000
%RSD		1.7	0 000	0 000	0 000	0.000	0 000	0.000	0.000	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:27:55	0.000	-1 250	-0 299	-0 537	-1.010	98.1%	-0.037	0.048	-0 009
2	16:28:20	0.000	-1.425	0 643	3 397	0.849	100.7%	0.027	-0.054	0 010
3	16:28:46	0.000	2 674	-0 345	-2 860	0.160	101.2%	0.010	0.006	-0 001
x		0.000	-0 000	-0 000	0 000	0.000	100.0%	-0.000	-0.000	0 000
σ		0.000	2 318	0 558	3.163	0.940	1.7%	0.033	0.051	0 009
%RSD		0.000	0 000	0 000	0 000	0.000	1.7	0.000	0.000	0 000

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:27:55	-0.020	0 005	0 582	0 296	0.000	-0 015	-0.321	0.007	0 000
2	16:28:20	0.050	0 001	-0 049	0 094	-0.001	0 007	0.368	0.002	0 017
3	16:28:46	-0.031	-0 006	-0 533	-0 390	0.001	0 007	-0.047	-0.009	-0 018
x		0.000	0 000	0 000	-0 000	0.000	-0 000	0.000	-0.000	-0 000
σ		0.044	0 005	0 559	0 352	0.001	0 013	0.347	0.008	0 017
%RSD		0.000	0 000	0 000	0 000	0.000	0 000	0.000	0.000	0 000

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:27:55	-0.014	-0 043	-0 017	-0 028	-0.017	-0 047	-0.091	99.3%	-0 033
2	16:28:20	0.018	0 040	0 011	-0 003	-0.055	-0 060	-0.132	100.6%	0 032
3	16:28:46	-0.003	0 003	0 005	0 031	0.071	0.107	0.223	100.0%	0 002
x		0.000	-0 000	0 000	0 000	-0.000	0 000	-0.000	100.0%	0 000
σ		0.016	0 042	0 015	0 030	0.065	0 093	0.194	0.6%	0 033
%RSD		0.000	0 000	0 000	0 000	0.000	0 000	0.000	0.6	0 000

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:27:55	-0.022	-0 011	0 213	-0 000	-0.089	-0 001	0.007	-0.001	99.4%
2	16:28:20	0.036	-0 000	-0 398	0 002	0.166	-0 002	-0.000	0.003	99.6%
3	16:28:46	-0.014	0 012	0.185	-0 002	-0.077	0 003	-0.007	-0.002	101.0%
x		0.000	0 000	0 000	0 000	0.000	0 000	-0.000	-0.000	100.0%
σ		0.031	0 011	0 344	0 002	0.144	0 002	0.007	0.003	0.9%
%RSD		0.000	0 000	0 000	0 000	0.000	0 000	0.000	0.000	0.9

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:27:55	-0.020	-0 018	0 013	0 009	ID -0.000	ID 0 000	98.0%	ID -0.001	ID -0 000
2	16:28:20	0.014	0 011	0 014	0 002	ID -0.000	ID 0 000	99.9%	ID 0.001	ID 0 000
3	16:28:46	0.006	0 008	-0 027	-0 010	ID 0.000	ID 0 000	102.1%	ID -0.000	ID -0 000
x		-0.000	0 000	-0 000	-0 000	ID -0.000	ID 0 000	100.0%	ID 0.000	ID 0 000
σ		0.017	0 016	0 023	0 010	ID 0.000	ID 0 000	2.1%	ID 0.001	ID 0 000
%RSD		0.000	0 000	0 000	0 000	ID 0.000	ID 0 000	2.1	ID 0.000	ID 0 000

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	16:27:55	0.002	-0 001	-0 008	0 007	-0.002	98.8%
2	16:28:20	-0.000	-0 002	0 005	-0 006	0.000	100.2%
3	16:28:46	-0.002	0 002	0 002	-0 000	0.002	101.1%
x		0.000	-0 000	0 000	0 000	-0.000	100.0%
σ		0.002	0 002	0 007	0 007	0.002	1.1%
%RSD		0.000	0 000	0 000	0 000	0.000	1.1

S01 ISM-2063 6/5/2018 16:33:16

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:33:42	99.4%	1.034	2.759	T 507.100	536.700	511.400	504.300	20.430	0 000
2	16:34:08	100.8%	0.821	1 870	551.700	551.700	518.700	510.300	21 270	0 000
3	16:34:34	102.3%	0.921	8 625	T 533.700	560.600	533.600	518.900	21 310	0 000
x		100.8%	0.925	4.418	T 530.800	549.700	521.200	511.200	21 010	0 000
σ		1.4%	0.107	3 671	T 22.470	12.090	11.320	7.362	0.495	0 000
%RSD		1.4	11.530	83 090	T 4.234	2.200	2.173	1.440	2 356	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:33:42	0.000	9.341	528.100	495.100	483.600	94.9%	10.060	4 665	1.920
2	16:34:08	0.000	22.370	540 000	514.300	485.900	94 3%	9.458	4 664	1.929
3	16:34:34	0.000	29.120	544.400	494.700	476.400	94.7%	8.921	4.748	1 878
x		0.000	20.280	537 500	501.400	482.000	94 6%	9.478	4 692	1.909
σ		0.000	10.050	8 389	11.180	4.937	0 3%	0.568	0 048	0 027
%RSD		0.000	49.580	1 561	2.231	1.024	0.3	5.993	1 032	1.424

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:33:42	-0.053	0.865	208 800	204.900	1.002	1.066	0.301	2.141	2 221
2	16:34:08	-0.012	0.842	210 000	204.600	0.925	1.112	1.028	2.157	2.156
3	16:34:34	-0.074	0.866	207.700	202.600	0.999	1.136	0.318	2.183	2 074
x		-0.047	0.858	208 800	204.000	0.975	1.105	0.549	2.160	2.150
σ		0.032	0.014	1.107	1.246	0.044	0.036	0.415	0 021	0 073
%RSD		68.280	1.602	0 530	0.610	4.465	3.216	75.600	0.973	3.416

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:33:42	2.397	2.052	2.490	0.705	5.452	5.011	0.645	94 6%	9 686
2	16:34:08	2.540	2.047	2 305	1.184	5.983	5.405	0.566	93.4%	9.434
3	16:34:34	2.443	2.657	2.430	1.216	5.967	5.572	0.262	95.4%	9 522
x		2.460	2.252	2.408	1.035	5.801	5.329	0.491	94 5%	9 547
σ		0.073	0.351	0 094	0.286	0.302	0.288	0.202	1 0%	0.128
%RSD		2.971	15.580	3.914	27.660	5.204	5.398	41.250	1.1	1 340

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:33:42	9.384	9.259	1.130	1.060	0.008	1.009	1.032	0.993	98.1%
2	16:34:08	9.487	9.308	1.158	1.006	0.010	1.007	0.938	1 032	98.3%
3	16:34:34	9.401	9.203	0 889	1.028	0.215	1.033	1.005	1 014	98.5%
x		9.424	9.256	1 059	1.031	0.078	1.016	0.992	1 013	98.3%
σ		0.055	0.053	0.148	0.027	0.119	0.014	0.049	0 020	0.2%
%RSD		0.584	0.569	13.960	2.647	152.900	1.425	4.908	1.933	0.2

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:33:42	1.798	1.761	9.761	9.695	ID -0.000	ID 0.000	99.3%	ID -0 000	ID 0 000
2	16:34:08	1.845	1.857	9.453	10.170	ID 0.001	ID 0.000	99.5%	ID -0 002	ID -0 000
3	16:34:34	1.871	1.921	9 358	10.010	ID 0.000	ID 0.000	100.5%	ID -0 003	ID 0 000
x		1.838	1.846	9 524	9.956	ID 0.000	ID 0.000	99.8%	ID -0 002	ID 0 000
σ		0.037	0.081	0 210	0.240	ID 0.000	ID 0.000	0.6%	ID 0 001	ID 0 000
%RSD		2.023	4.375	2 208	2.414	ID 148.700	ID 0.000	0.6	ID 77 090	ID 149 500

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	16:33:42	0.970	0.921	0.960	0.927	0.925	99 3%
2	16:34:08	0.965	0.963	0.942	0.938	0.933	100 0%
3	16:34:34	0.946	0.949	0.922	0.925	0.940	101.1%
x		0.960	0.944	0.941	0.930	0.933	100.1%
σ		0.012	0.021	0 019	0.007	0.007	0.9%
%RSD		1.281	2.256	1.998	0.728	0.771	0.9

S02 ISM-2064 6/5/2018 16:39:03

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:39:29	100.4%	5.092	-6.959	T 2353.000	T 2372 000	2354.000	2342.000	93.120	0 000
2	16:39:55	102.0%	4.800	-6.768	T 2395.000	T 2401 000	2409.000	2416.000	95.580	0 000
3	16:40:21	104.3%	5.089	2.357	T 2413.000	T 2425 000	2391.000	2413.000	94.740	0 000
x		102.2%	4.994	-3.790	T 2387.000	T 2399 000	2385.000	2390.000	94.480	0 000
σ		2.0%	0.168	5.324	T 30.680	T 26.790	28.010	41.700	1.250	0 000
%RSD		1.9	3.360	140.500	T 1.285	T 1.117	1.174	1.745	1.322	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:39:29	0.000	-24.630	T 2275.000	2300.000	2152 000	100.9%	46.760	22.940	9 235
2	16:39:55	0.000	-19.660	T 2311.000	2261.000	2210 000	101.0%	45.940	23.260	9 387
3	16:40:21	0.000	-21.140	T 2324.000	2279.000	2224 000	103.3%	46.880	22.980	9 344
x		0.000	-21.810	T 2303.000	2280.000	2195 000	101.7%	46.530	23.060	9 322
σ		0.000	2.548	T 25.490	19.550	38.160	1.4%	0.510	0.178	0 078
%RSD		0.000	11.680	T 1.107	0.858	1.738	1.4	1.097	0.771	0 840

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:39:29	-0.146	4.563	T 918.100	957.700	4.753	5.086	4.902	10.400	10.460
2	16:39:55	-0.090	4.660	T 948.100	973.200	4 882	5.136	3.537	10.490	10 390
3	16:40:21	-0.181	4.533	T 942.000	969.600	4 804	5.232	3.453	10.290	10 270
x		-0.139	4.586	T 936.100	966.800	4 813	5.151	3.964	10.390	10 370
σ		0.046	0.066	T 15.870	8.108	0 065	0.074	0.814	0.100	0 097
%RSD		33.030	1.442	T 1.695	0.839	1 350	1.437	20.530	0.966	0.932

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:39:29	10.760	10.960	11.410	4.803	26.100	25.450	0.690	99.7%	46 600
2	16:39:55	10.700	11.140	11.530	5.539	25.750	27.680	-0.810	100.4%	46.930
3	16:40:21	11.060	11.430	11.440	4.631	26.160	24.690	0.264	102.4%	46 350
x		10.840	11.180	11.460	4.991	26 010	25.940	0.048	100 8%	46 630
σ		0.193	0.235	0.063	0.482	0 221	1.553	0.773	1.4%	0 294
%RSD		1.783	2.103	0.551	9.659	0 849	5.989	1611.000	1.4	0 631

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:39:29	45.600	45.200	5.783	5.183	0 069	4.914	4.945	5.118	99.4%
2	16:39:55	46.420	45.540	5.564	5.117	0 222	4.846	5.022	5.089	101.3%
3	16:40:21	45.930	45.270	5.422	5.170	0 228	4.980	4.886	4.966	102.8%
x		45.980	45.330	5.590	5.157	0.173	4.913	4.951	5.058	101.1%
σ		0.411	0.179	0.182	0.035	0 090	0.067	0.068	0.081	1.7%
%RSD		0.894	0.395	3.252	0.680	52 270	1.363	1.373	1.592	1.7

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:39:29	9.014	8.829	46.420	48.650	ID 0 002	ID 0.000	98.6%	ID 0.000	ID 0 000
2	16:39:55	9.173	8.899	46.130	48.100	ID 0 001	ID 0.000	101.3%	ID 0.001	ID -0 000
3	16:40:21	9.320	9.238	46.670	48.380	ID 0 000	ID 0.000	102.6%	ID -0.000	ID 0 000
x		9.169	8.989	46.410	48.380	ID 0 001	ID 0.000	100.8%	ID 0.000	ID 0 000
σ		0.153	0.219	0.272	0.275	ID 0 001	ID 0.000	2.0%	ID 0.000	ID 0 000
%RSD		1.671	2.433	0.586	0.569	ID 76.740	ID 173.200	2.0	ID 191.200	ID 148.900

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	16:39:29	4.783	4.586	4.615	4.559	4 586	97.2%
2	16:39:55	4.790	4.639	4.686	4.636	4 637	99.3%
3	16:40:21	4.769	4.613	4.545	4.649	4 568	102.8%
x		4.781	4.613	4.615	4.615	4 597	99.8%
σ		0.011	0.027	0.070	0.048	0 036	2.8%
%RSD		0.221	0.576	1.526	1.050	0.783	2 8

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:45:17	98.7%	9.634	-4.431	T 4873 000	T 4934.000	T 4759.000	T 4797.000	195.600	0 000
2	16:45:43	101 5%	9.696	-0.184	T 4992 000	T 5023.000	5024.000	T 4863.000	197.200	0 000
3	16:46:09	103 0%	9.115	-8.264	T 4977 000	T 4933.000	5056.000	T 4835.000	199.800	0 000
x		101 0%	9.481	-4.293	T 4947 000	T 4963.000	T 4946.000	T 4832.000	197.500	0 000
σ		2 2%	0.319	4.042	T 64 650	T 51.960	T 162.800	T 33.400	2.171	0 000
%RSD		2.2	3.366	94.150	T 1 307	T 1.047	T 3.292	T 0.691	1.099	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:45:17	0 000	-14.060	T 4900.000	4832 000	4620.000	97.4%	93.680	47.000	19.130
2	16:45:43	0 000	-9.752	T 4923.000	4787 000	4588.000	96.9%	93.640	46.840	19 080
3	16:46:09	0 000	-10.220	T 4887.000	4785 000	4582.000	99.0%	93.840	46.830	19 340
x		0 000	-11.350	T 4903.000	4801 000	4596.000	97.7%	93.720	46.890	19.180
σ		0 000	2.365	T 18.180	26 680	20.320	1.1%	0.105	0.099	0.141
%RSD		0 000	20.840	T 0.371	0 556	0.442	1.1	0.112	0.210	0.737

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:45:17	-0.416	9.287	T 1952.000	2006 000	9.715	10.620	8.458	20.530	20.440
2	16:45:43	-0 241	9.228	T 1943.000	1994 000	9.472	10.210	8.496	20.330	20.780
3	16:46:09	-0 357	9.489	T 1953.000	2003 000	9.750	10.060	8.202	20.460	20 620
x		-0 338	9.334	T 1949.000	2001 000	9.646	10.300	8.385	20.440	20 610
σ		0 089	0.137	T 5.115	6.466	0.151	0.293	0.160	0.103	0.172
%RSD		26.430	1.469	T 0.262	0 323	1.570	2.844	1.909	0.504	0 836

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:45:17	21.730	21.300	21.890	10 380	51.520	54.420	0.178	98.0%	94 680
2	16:45:43	21 650	21.010	22.700	10.460	51.170	54.720	0.198	97.3%	95 810
3	16:46:09	21 650	20.960	21.660	10.410	52.240	54.400	0.129	99.6%	96.400
x		21 680	21.090	22.080	10.410	51.650	54.510	0.168	98.3%	95 630
σ		0 045	0.183	0.548	0 039	0.545	0.179	0.036	1.2%	0 874
%RSD		0 208	0.866	2.480	0 374	1.055	0.329	21.130	1 2	0.914

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:45:17	93.710	92.800	11.030	10.440	0.375	10.060	10.160	10.440	100.1%
2	16:45:43	93 050	93.440	11.230	10 550	0.162	9.969	9.942	10.360	99.2%
3	16:46:09	96 010	94.160	9.850	10.420	0.858	9.760	9.918	10.290	102.5%
x		94 250	93.470	10.700	10.470	0.465	9.930	10.010	10.360	100.6%
σ		1 556	0.685	0.746	0 068	0.356	0.155	0.134	0.077	1.7%
%RSD		1 651	0.733	6.968	0 649	76.620	1.556	1.335	0.740	1.7

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:45:17	18 650	18.260	93.270	96 800	ID 0.003	ID 0.000	100.9%	ID -0.000	ID -0 000
2	16:45:43	18.920	18.600	93.910	98 080	ID 0.002	ID 0.000	101.9%	ID -0.001	ID 0 000
3	16:46:09	18 630	18.660	94.300	98.110	ID 0.002	ID 0.000	103.6%	ID -0.001	ID 0 000
x		18.730	18.510	93.820	97 660	ID 0.002	ID 0.000	102.1%	ID -0.000	ID 0 000
σ		0.161	0.215	0.519	0.747	ID 0.001	ID 0.000	1.3%	ID 0.000	ID 0 000
%RSD		0 857	1.163	0.553	0.765	ID 30.550	ID 173.200	1.3	ID 81.760	ID 178 200

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	16:45:17	9.716	9.509	9.624	9 532	9.479	99.0%
2	16:45:43	9 611	9.531	9.307	9 246	9.343	101.3%
3	16:46:09	9 615	9.302	9.223	9.408	9.345	103.7%
x		9 647	9.447	9.385	9 395	9.389	101.3%
σ		0 059	0.126	0.212	0.143	0.078	2.3%
%RSD		0 615	1.338	2.255	1 525	0.826	2.3

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:51:05	94.5%	49.240	4.354	T 24840.000	T 24930.000	T 24860.000	T 25040.000	T 982.800	0 000
2	16:51:31	95.9%	49.870	1.428	T 24830.000	T 24680.000	T 24570.000	T 24490.000	T 961.400	0 000
3	16:51:57	97.1%	49.500	-2.750	T 24890.000	T 24650.000	T 24690.000	T 24570.000	T 963.200	0 000
x		95.9%	49.540	1.011	T 24850.000	T 24750.000	T 24710.000	T 24700.000	T 969.100	0 000
σ		1.3%	0.314	3.570	T 33.100	T 156.200	T 147.700	T 299.900	T 11.870	0 000
%RSD		1.4	0.635	353.200	T 0.133	T 0.631	T 0.598	T 1.214	T 1.225	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:51:05	0.000	-16.960	T 24440.000	24200.000	T 23570.000	92.1%	475.700	245.900	96.700
2	16:51:31	0.000	-20.200	T 24130.000	23870.000	T 23520.000	96.9%	471.800	T 236.700	96 690
3	16:51:57	0.000	-20.690	T 24590.000	24480.000	T 23730.000	97.2%	476.800	T 237.000	97 340
x		0.000	-19.290	T 24390.000	24180.000	T 23610.000	95.4%	474.800	T 239.900	96.910
σ		0.000	2.026	T 234.200	303.800	T 114.000	2.9%	2.612	T 5.244	0 371
%RSD		0.000	10.500	T 0.960	1.256	T 0.483	3.0	0.550	T 2.186	0 383

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:51:05	-1.052	47.760	T 9587.000	10130.000	48.770	50.680	50.120	101.600	102.400
2	16:51:31	-1.289	46.990	T 9683.000	10010.000	48.590	50.450	51.540	100.600	100.900
3	16:51:57	-0.959	47.980	T 9851.000	10150.000	49.250	51.230	51.800	100.900	100.900
x		-1.100	47.580	T 9707.000	10090.000	48.870	50.790	51.160	101.000	101.400
σ		0.170	0.522	T 133.200	77.290	0.341	0.402	0.903	0.497	0 882
%RSD		15.470	1.098	T 1.372	0.766	0.698	0.791	1.766	0.492	0 870

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:51:05	106.000	107.500	109.600	54.370	254.500	273.100	0.662	94.6%	503 600
2	16:51:31	105.400	104.700	110.300	49.960	256.100	260.300	-0.515	97.6%	503 800
3	16:51:57	105.900	103.300	107.500	52.010	253.400	264.400	0.064	97.9%	502.100
x		105.700	105.200	109.100	52.110	254.700	265.900	0.070	96.7%	503.100
σ		0.312	2.163	1.475	2.207	1.384	6.501	0.588	1.9%	0.933
%RSD		0.295	2.057	1.352	4.235	0.543	2.445	834.900	1.9	0.185

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:51:05	490.800	T 466.900	50.670	52.870	3.896	49.550	49.790	51.960	94.0%
2	16:51:31	495.800	T 465.700	51.100	51.740	3.710	48.980	49.810	51.770	98.2%
3	16:51:57	493.600	T 471.300	50.650	51.450	3.877	48.780	49.510	51.290	100.1%
x		493.400	T 467.900	50.810	52.020	3.828	49.100	49.700	51.680	97.4%
σ		2.529	T 2.937	0.255	0.752	0.102	0.398	0.171	0.345	3.1%
%RSD		0.513	T 0.628	0.501	1.445	2.664	0.810	0.343	0.667	3.2

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:51:05	99.190	99.070	484.600	509.600	ID 0.013	ID 0.002	97.0%	ID -0.001	ID 0 000
2	16:51:31	99.100	98.770	479.900	507.600	ID 0.007	ID 0.002	99.2%	ID -0.001	ID -0 000
3	16:51:57	98.610	98.820	478.100	508.600	ID 0.009	ID 0.001	102.0%	ID 0.001	ID -0 000
x		98.960	98.890	480.900	508.600	ID 0.010	ID 0.001	99.4%	ID -0.000	ID 0 000
σ		0.314	0.162	3.363	0.975	ID 0.003	ID 0.001	2.5%	ID 0.001	ID 0 000
%RSD		0.317	0.164	0.699	0.192	ID 28.350	ID 48.950	2 5	ID 222.100	ID 5261 000

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	16:51:05	49.910	49.170	47.920	48.060	48.380	93.4%
2	16:51:31	48.660	48.910	47.160	47.600	47.680	98.2%
3	16:51:57	50.110	49.650	48.130	47.880	48.440	97.9%
x		49.560	49.240	47.740	47.850	48.170	96.5%
σ		0.788	0.378	0.513	0.231	0.424	2.7%
%RSD		1.591	0.767	1.075	0.483	0.880	2.8

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:56:52	87.2%	256.200	-5.255	T 29820.000	T 29790.000	T 29740.000	T 29550.000	T 29940 000	0 000
2	16:57:18	91.3%	246.800	3.384	T 29830.000	T 29930.000	T 29740.000	T 29800.000	T 29720 000	0 000
3	16:57:44	91.8%	249.500	-3.210	T 29860.000	T 29970.000	T 29910.000	T 29920.000	T 30070 000	0 000
x		90.1%	250.800	-1.694	T 29840.000	T 29900.000	T 29800.000	T 29750.000	T 29910 000	0 000
σ		2.5%	4.833	4.514	T 17.380	T 92.980	T 100.200	T 187.000	T 174.400	0 000
%RSD		2.8	1.927	266.500	T 0.058	T 0.311	T 0.336	T 0.628	T 0 583	0 000
Run	**Time**	**34S**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:56:52	0.000	-23.750	T 30280.000	30260.000	T 29470.000	91.1%	484.500	T 475.100	T 478 000
2	16:57:18	0.000	-26.780	T 29880.000	29500.000	T 29120.000	93 0%	480.400	T 475 000	T 476 300
3	16:57:44	0.000	-25.700	T 30030.000	29890.000	T 29540.000	93 0%	486.000	T 477.700	T 480.900
x		0.000	-25.410	T 30060.000	29890.000	T 29380.000	92.4%	483.600	T 475.900	T 478.400
σ		0.000	1.536	T 201.300	379.700	T 223.000	1.1%	2.944	T 1 517	T 2 343
%RSD		0.000	6.044	T 0.670	1.271	T 0.759	1.2	0.609	T 0 319	T 0.490
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**62Ni**	**63Cu**	**65Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:56:52	-1.463	T 487.700	T 29780.000	T 29550.000	T 486.700	513.800	498.100	528.400	514 600
2	16:57:18	-2.319	T 482.900	T 29870.000	T 29250.000	T 483.800	516.100	497.600	526 800	509.900
3	16:57:44	0.168	T 491.900	T 30110.000	T 29420.000	T 486.900	511.300	491.700	522 200	510 000
x		-1.205	T 487.500	T 29920.000	T 29410.000	T 485.800	513.700	495.800	525 800	511 500
σ		1.264	T 4.497	T 172.100	T 151.500	T 1.737	2.376	3.557	3 226	2 664
%RSD		104.900	T 0.922	T 0.575	T 0.515	T 0.358	0.462	0.717	0 614	0 521
Run	**Time**	**66Zn**	**67Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**89Y**	**95Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:56:52	533.100	504.900	552.500	518.700	515.600	541.900	-0.036	93 5%	507 200
2	16:57:18	532.500	500.300	544.700	508.700	516.500	520.200	0.711	92.9%	508 000
3	16:57:44	531.800	492.700	543.600	513.700	516.400	533.200	0.801	93.9%	504.400
x		532.400	499.300	546.900	513.700	516.200	531.800	0.492	93.4%	506 500
σ		0.658	6.156	4.886	4.994	0.500	10.910	0.460	0 5%	1.905
%RSD		0.124	1.233	0.893	0.972	0.097	2.052	93.470	0.5	0 376
Run	**Time**	**97Mo**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:56:52	494.900	T 465.100	510.600	78.540	9.766	74.160	519.200	T 509.900	94.4%
2	16:57:18	493.200	T 470.000	500.400	78.500	13.170	73.890	511.900	T 508 800	96.0%
3	16:57:44	491.000	504.500	512.100	77.330	6.979	73.480	516.100	T 504 300	96.4%
x		493.100	T 479.900	507.700	78.130	9.972	73.840	515.700	T 507.700	95.6%
σ		1.956	T 21.450	6.372	0.686	3.101	0.343	3.663	T 2.955	1.0%
%RSD		0.397	T 4.470	1.255	0.878	31.100	0.464	0.710	T 0.582	1.1
Run	**Time**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**150Sm**	**156Gd**	**159Tb**	**160Dy**	**164Dy**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:56:52	263.200	258.600	T 2350.000	T 2407.000	ID 0.036	ID 0.005	96.7%	ID 0 001	ID 0 001
2	16:57:18	264.100	261.700	T 2388.000	T 2423.000	ID 0.036	ID 0.009	98.8%	ID 0 003	ID 0 000
3	16:57:44	263.400	260.800	T 2374.000	T 2419.000	ID 0.030	ID 0.007	99.5%	ID 0 001	ID 0 001
x		263.600	260.400	T 2371.000	T 2416.000	ID 0.034	ID 0.007	98.3%	ID 0 002	ID 0 001
σ		0.445	1.547	T 18.860	T 8.366	ID 0.003	ID 0.002	1.5%	ID 0 001	ID 0 000
%RSD		0.169	0.594	T 0.796	T 0.346	ID 9.010	ID 23.610	1.5	ID 63.160	ID 25.100
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**			
		ppb	ppb	ppb	ppb	ppb	ppb			
1	16:56:52	264.200	T 243.400	T 481.000	T 477.400	T 485.100	94 0%			
2	16:57:18	262.900	T 242.500	T 479.700	T 484.200	T 485.700	96.1%			
3	16:57:44	263.600	T 243.100	T 483.000	T 483.800	T 486.200	97 3%			
x		263.600	T 243.000	T 481.200	T 481.800	T 485.700	95 8%			
σ		0.643	T 0.460	T 1.681	T 3.784	T 0.562	1.7%			
%RSD		0.244	T 0.189	T 0.349	T 0.785	T 0.116	1.7			

S06 ISM-2068 6/5/2018 17:02:15

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:02:41	83.9%	518.200	0 222	↹ 58740.000	↹ 59080 000	↹ 58470.000	↹ 58880.000	↹ 59500.000	0 000
2	17:03:07	87.5%	508.200	-4.781	↹ 59720.000	↹ 60070 000	↹ 59880.000	↹ 60000.000	↹ 59310.000	0 000
3	17:03:33	88.1%	510.100	1 099	↹ 60970.000	↹ 60400 000	↹ 61030.000	↹ 60690.000	↹ 60230.000	0 000
x		86.5%	512.100	-1.153	↹ 59810.000	↹ 59850 000	↹ 59790.000	↹ 59860.000	↹ 59680.000	0 000
σ		2.3%	5.328	3.172	↹ 1119.000	↹ 686 300	↹ 1285.000	↹ 910.800	↹ 486.800	0 000
%RSD		2.6	1.040	275.100	↹ 1.872	↹ 1.147	↹ 2.148	↹ 1.522	↹ 0.816	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:02:41	0.000	-35.230	↹ 58990 000	59120.000	↹ 58350 000	90.3%	977.500	↹ 984.300	↹ 990.400
2	17:03:07	0.000	-32.780	↹ 59050 000	58630.000	↹ 58910 000	92.2%	983.100	↹ 992.600	↹ 983 200
3	17:03:33	0.000	-24.530	↹ 60830 000	60230.000	↹ 59800 000	92.1%	983.400	↹ 984.000	↹ 987 300
x		0.000	-30.850	↹ 59620 000	59330.000	↹ 59020 000	91.6%	981.400	↹ 987.000	↹ 987 000
σ		0.000	5.608	↹ 1048 000	818.000	↹ 729 800	1.1%	3.318	↹ 4.889	↹ 3 624
%RSD		0.000	18.180	↹ 1.757	1.379	↹ 1 237	1.2	0.338	↹ 0.495	↹ 0 367

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:02:41	-7.196	↹ 981.000	↹ 59070 000	↹ 58670.000	↹ 994.400	1054.000	995.100	↹ 987.800	1041 000
2	17:03:07	-10.700	↹ 983.300	↹ 59310 000	↹ 58470.000	↹ 977 800	1041.000	989.800	↹ 978.200	1028 000
3	17:03:33	-7.153	↹ 999.100	↹ 59940 000	↹ 59930.000	↹ 996.700	1059.000	1005.000	↹ 984.100	↹ 957 500
x		-8.351	↹ 987.800	↹ 59440 000	↹ 59020.000	↹ 989 600	1051.000	996.500	↹ 983.400	↹ 1009 000
σ		2.038	↹ 9.879	↹ 451 800	↹ 794.700	↹ 10 320	9.143	7.470	↹ 4.814	↹ 44 880
%RSD		24.400	↹ 1.000	↹ 0.760	↹ 1.346	↹ 1 043	0.870	0.750	↹ 0.490	↹ 4.449

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:02:41	1084.000	993.700	1092 000	1032.000	1030 000	1025.000	1.772	88.7%	↹ 980.900
2	17:03:07	1069.000	988.800	1089 000	1038.000	1020 000	1038.000	1.425	90.6%	↹ 982 600
3	17:03:33	1077.000	982.400	1083 000	1040.000	1008 000	1026.000	0.740	92.2%	↹ 975 600
x		1076.000	988.300	1088 000	1037.000	1020 000	1030.000	1.312	90.5%	↹ 979.700
σ		7.384	5.682	4 550	4.065	11.130	7.481	0.525	1.7%	↹ 3 642
%RSD		0.686	0.575	0.418	0.392	1 091	0.727	40.030	1.9	↹ 0 372

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:02:41	1028.000	↹ 973.000	1009 000	156.900	12 620	147.600	1044.000	↹ 1016.000	91.5%
2	17:03:07	1045.000	↹ 981.100	1025 000	158.400	11 020	148.700	1050.000	↹ 1020.000	93.0%
3	17:03:33	1039.000	↹ 974.300	1017 000	156.300	13 220	149.600	1056.000	↹ 1021.000	95.1%
x		1037.000	↹ 976.100	1017 000	157.200	12 280	148.600	1050.000	↹ 1019.000	93.2%
σ		8.592	↹ 4.356	7 821	1.093	1.139	0.994	5.874	↹ 2.677	1.8%
%RSD		0.828	↹ 0.446	0.769	0.695	9 268	0.668	0.559	↹ 0.263	1.9

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:02:41	↹ 488.000	↹ 494.900	↹ 4904 000	↹ 4932.000	ID 0 068	ID 0.017	91.9%	ID 0.001	ID 0 002
2	17:03:07	↹ 496.900	↹ 497.600	↹ 4882 000	↹ 4989.000	ID 0 076	ID 0.016	94.7%	ID 0.001	ID 0 005
3	17:03:33	↹ 496.400	↹ 496.600	↹ 4965 000	↹ 4935.000	ID 0 078	ID 0.013	95 5%	ID 0.002	ID 0 002
x		↹ 493.800	↹ 496.400	↹ 4917 000	↹ 4952.000	ID 0 074	ID 0.016	94.1%	ID 0.001	ID 0 003
σ		↹ 5.007	↹ 1.370	↹ 43 370	↹ 32.370	ID 0 005	ID 0.002	1.9%	ID 0.001	ID 0 002
%RSD		↹ 1.014	↹ 0.276	↹ 0 882	↹ 0.654	ID 7.167	ID 13.230	2.0	ID 66.230	ID 57.760

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	17:02:41	↹ 508.300	↹ 494.000	↹ 994.700	↹ 993.600	↹ 995.400	89.4%
2	17:03:07	↹ 504.800	↹ 494.400	↹ 990 600	↹ 992.400	↹ 992 500	92.9%
3	17:03:33	↹ 502.400	↹ 492.200	↹ 983.400	↹ 987.400	↹ 986 500	95.2%
x		↹ 505.200	↹ 493.500	↹ 989 600	↹ 991.100	↹ 991.400	92.5%
σ		↹ 2.991	↹ 1.171	↹ 5.732	↹ 3.277	↹ 4 542	2.9%
%RSD		↹ 0.592	↹ 0.237	↹ 0 579	↹ 0.331	↹ 0.458	3.2

S07 ISM-2069 6/5/2018 17:08:04

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:08:30	80.7%	M 1006.000	18.680	TM 121100.000	TM 120800.000	TM 121100.000	TM 121400 000	TM 121100.000	0 000
2	17:08:56	82.4%	M 1019.000	14.470	T 119200.000	T 119700.000	T 118700.000	T 118500 000	T 119300.000	0 000
3	17:09:22	83.3%	998.100	11.010	TM 120200.000	TM 120100.000	TM 120900.000	TM 121700 000	TM 120200.000	0 000
x		82.1%	M 1008.000	14.720	TM 120200.000	TM 120200.000	TM 120200.000	TM 120500 000	TM 120200.000	0 000
σ		1.3%	M 10.380	3.845	TM 972.900	TM 552.600	TM 1325.000	TM 1782 000	TM 924.800	0 000
%RSD		1.6	M 1.030	26.120	TM 0.810	TM 0.460	TM 1.102	TM 1.478	TM 0.769	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:08:30	0.000	-24.960	TM 120100.000	M 120800.000	TM 121400.000	86.6%	M 2019 000	TM 2022.000	TM 2016 000
2	17:08:56	0.000	-26.430	TM 120200.000	M 120400.000	TM 121300.000	88.4%	M 2026 000	TM 2006.000	TM 2023 000
3	17:09:22	0.000	-25.090	TM 120700.000	M 120400.000	TM 120200.000	89.0%	M 2015 000	TM 2014.000	T 1996 000
x		0.000	-25.490	TM 120300.000	M 120500.000	TM 121000.000	88.0%	M 2020 000	TM 2014.000	TM 2012 000
σ		0.000	0.815	TM 343.300	M 206.800	TM 682.900	1.2%	M 5.469	TM 8.012	TM 13.990
%RSD		0.000	3.197	TM 0.285	M 0.172	TM 0.565	1.4	M 0 271	TM 0.398	TM 0 695

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:08:30	-4.944	TM 2019.000	T 119900.000	TM 120000.000	TM 2019.000	T 1966.000	M 2009 000	T 1988.000	T 1923 000
2	17:08:56	-5.316	TM 2007.000	TM 120800.000	TM 121400.000	TM 2022.000	T 1962.000	M 2025 000	T 1984.000	T 1917 000
3	17:09:22	0.097	TM 2001.000	TM 120200.000	TM 120400.000	T 1985.000	T 1931.000	1974 000	T 1989.000	T 1904 000
x		-3.388	TM 2009.000	TM 120300.000	TM 120600.000	TM 2009.000	T 1953.000	M 2003 000	T 1987.000	T 1915 000
σ		3.023	TM 9.101	TM 476.700	TM 725.700	TM 20.540	T 18.910	M 26 380	T 2.977	T 9 579
%RSD		89.240	TM 0.453	TM 0.396	TM 0.602	TM 1.023	T 0.968	M 1 317	T 0.150	T 0 500

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:08:30	T 1948.000	1907.000	T 1903.000	T 1993.000	1980.000	1978.000	3 572	85.2%	TM 2022 000
2	17:08:56	T 1965.000	1935.000	T 1975.000	T 1975.000	1995.000	1989.000	2 685	86.4%	TM 2062 000
3	17:09:22	T 1948.000	1933.000	T 1954.000	T 1967.000	1981.000	1958.000	2 255	87.0%	TM 2061 000
x		T 1953.000	1925.000	T 1944.000	T 1978.000	1985.000	1975.000	2 838	86.2%	TM 2049 000
σ		T 9.931	15.700	T 37.200	T 13.420	8.050	15.680	0 671	0.9%	TM 22.720
%RSD		T 0.508	0.815	T 1.914	T 0.678	0.405	0.794	23 660	1.0	TM 1.109

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:08:30	T 1967.000	TM 2021.000	1984.000	T 273.800	27.930	298.400	T 1866 000	T 1968.000	91.4%
2	17:08:56	T 1989.000	TM 2045.000	1987.000	T 280.300	35.420	M 301.900	T 1891 000	T 1991.000	91.0%
3	17:09:22	T 2000.000	TM 2011.000	1998.000	T 282.100	20.580	M 303.000	T 1882 000	TM 2006.000	90.7%
x		T 1985.000	TM 2025.000	1990.000	T 278.800	27.980	M 301.100	T 1880 000	TM 1989.000	91.0%
σ		T 16.650	TM 17.430	7.722	T 4.355	7.417	M 2.418	T 12.770	TM 19.410	0.4%
%RSD		T 0.839	TM 0.860	0.388	T 1.562	26.510	M 0.803	T 0 679	TM 0.976	0.4

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:08:30	T 982.100	T 982.000	T 9968.000	TM 10120.000	ID 0.136	ID 0.032	88 8%	ID 0.004	ID 0 004
2	17:08:56	TM 1008.000	TM 1007.000	TM 10190.000	TM 10340.000	ID 0.158	ID 0.029	89.1%	ID 0.002	ID 0 006
3	17:09:22	TM 1009.000	TM 1009.000	TM 10070.000	TM 10270.000	ID 0.168	ID 0.027	90 8%	ID 0.006	ID 0 005
x		TM 999.900	TM 999.400	TM 10070.000	TM 10240.000	ID 0.154	ID 0.029	89 6%	ID 0.004	ID 0 005
σ		TM 15.420	TM 15.070	TM 110.400	TM 111.700	ID 0.016	ID 0.003	1.1%	ID 0.002	ID 0 001
%RSD		TM 1.542	TM 1.508	TM 1.096	TM 1.091	ID 10.480	ID 9.118	1.2	ID 41.340	ID 19.120

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	17:08:30	TM 1036.000	T 998.300	TM 2001.000	T 1991.000	T 1993.000	87.7%
2	17:08:56	TM 1043.000	TM 1014.000	TM 2028.000	TM 2019.000	TM 2025.000	88.0%
3	17:09:22	TM 1037.000	TM 1002.000	TM 2001.000	TM 2017.000	TM 2005.000	88.9%
x		TM 1039.000	TM 1005.000	TM 2010.000	TM 2009.000	TM 2008.000	88.2%
σ		TM 3.881	TM 8.327	TM 15.690	TM 15.530	TM 16.000	0.6%
%RSD		TM 0.374	TM 0.829	TM 0.781	TM 0.773	TM 0.797	0.7

CV002 ISM-2070 6/5/2018 17:13:53 QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:19	97.5%	100.400	1 845	T 2003.000	T 1194.000	1204 000	1190.000	523.000	0 000
2	17:14:44	99.2%	97.930	1 567	T 2083.000	T 1229.000	1235 000	1238.000	536.000	0 000
3	17:15:10	101.1%	100.000	1 088	T 2081.000	T 1230.000	1230 000	1232.000	534.700	0 000
x		99.3%	100.453%	1 500	T 101.813%	T 1217.000	1223 000	100.406%	105.400%	0 000
σ		1.8%	n/a	0 383	T n/a	T 20.260	16 810	n/a	n/a	0 000
%RSD		1.8	1.338	25 510	T 2.224	T 1.664	1 374	2.153	1.345	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:19	0.000	-36.900	T 2036 000	1972.000	1877.000	98 5%	0.184	96.130	98.120
2	17:14:44	0.000	-30.090	T 2057 000	1972.000	1915.000	97 6%	0.096	96.840	97 850
3	17:15:10	0.000	-25.180	T 2064 000	2017.000	1938.000	97 3%	0.129	96.060	97 620
x		0.000	-30.720	T 102.421%	1987.000	95.263%	97.8%	0.136	96.341%	99.860%
σ		0.000	5.883	T n/a	25.860	n/a	0 6%	0.045	n/a	n/a
%RSD		0.000	19.150	T 0.703	1.302	1.597	0.6	32.810	0.447	0 256

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:19	-1.311	99.520	T 991 800	1023.000	101.200	106.700	108.300	107.600	106.400
2	17:14:44	-1.451	100.300	T 997 800	1033.000	100.100	105.700	107.900	106.600	106.100
3	17:15:10	-0.676	100.600	T 1006 000	1037.000	101.000	106 600	107.400	106.800	106 800
x		-1.146	100.141%	T 998.700	101.484%	100.793%	105.271%	107.900	107.000	108.597%
σ		0.413	n/a	T 7 323	n/a	n/a	n/a	0.409	0.532	n/a
%RSD		36.040	0.550	T 0.733	0.706	0.571	0 550	0.379	0.497	0 349

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:19	224.100	189.400	210 300	207.500	221.700	222 500	-0.772	98.6%	0 629
2	17:14:44	224.700	187.200	208.400	208.700	215.200	223.100	-0.177	98.2%	0 615
3	17:15:10	228.000	188.600	208 000	208.600	217.600	224 500	-0.314	99.1%	0 594
x		110 052%	188.400	208.900	104.128%	218.200	108.425%	-0.421	98 6%	0 613
σ		n/a	1.135	1 206	n/a	3.310	n/a	0.311	0.5%	0 018
%RSD		0.935	0.602	0 577	0.329	1.518	0.468	73.960	0.5	2.930

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:19	0.545	0.593	105 500	109.400	0.563	105.400	104.500	106.600	101.1%
2	17:14:44	0.615	0.577	107 000	108.800	2.277	103 300	102.700	106.500	101.9%
3	17:15:10	0.561	0.588	106 000	109.400	1.126	104.400	104.600	107.600	102.3%
x		0.574	0.586	106 200	109.226%	1.322	104.400	104.967%	107.978%	101.8%
σ		0.037	0.009	0.782	n/a	0.874	1 058	n/a	n/a	0.6%
%RSD		6.455	1.454	0.736	0.303	66.080	1 013	1.052	0.550	0.6

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:19	207.700	205.300	97.720	101.800	ID 0.003	ID 0 001	101.3%	ID -0.000	ID 0 007
2	17:14:44	207.200	204.200	96.910	102.200	ID 0.003	ID 0 000	101.7%	ID -0.001	ID 0 005
3	17:15:10	209.900	208.100	96.100	101.300	ID 0.002	ID 0 000	103.6%	ID 0.000	ID 0 003
x		208.300	103.443%	97.888%	102.797%	ID 0.003	ID 0 000	102.2%	ID -0.001	ID 0 005
σ		1.455	n/a	n/a	n/a	ID 0.001	ID 0 000	1.2%	ID 0.001	ID 0 002
%RSD		0.699	0.980	0 832	0.427	ID 25.490	ID 100.700	1.2	ID 155.800	ID 33.910

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:19	216.700	T 198.700	210 000	199.700	T 198.800	101 2%
2	17:14:44	218.900	T 201.200	207 500	200.600	T 199.100	102 5%
3	17:15:10	218.700	T 199.100	209 200	200.600	T 198.800	103.9%
x		218.100	T 96.922%	208.900	200.300	T 99.453%	102.5%
σ		1.215	T n/a	1 296	0.486	T n/a	1 3%
%RSD		0.557	T 0.682	0 621	0.243	T 0.083	1.3

CB002 IM8714-01 6/5/2018 17:19:42 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:20:08	98.0%	0.051	3 822	8 811	1 549	1.534	1 510	1.495	0 000
2	17:20:34	101.1%	0.051	0 517	7 027	1 346	1.137	1 608	1 202	0 000
3	17:21:00	103.6%	-0.019	-1.952	5 319	0.953	1.077	1 065	0.905	0 000
x		100.9%	0.028	0.796	7 052	1 282	1.249	1 394	1 201	0 000
σ		2.8%	0.041	2 897	1.746	0 303	0.248	0 289	0 295	0 000
%RSD		2.8	147.500	364.100	24.760	23 650	19.880	20.770	24 580	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:20:08	0.000	-41.780	21 300	-5 833	3 095	97.2%	0 013	0 044	0 006
2	17:20:34	0.000	-49.520	15 540	-1.910	0 664	102.5%	0 041	0 082	0 025
3	17:21:00	0.000	-47.320	13.180	-2 009	1 366	103.8%	0 008	-0 009	0 013
x		0.000	-46.210	16 670	-3 251	1.709	101.2%	0 021	0 039	0 015
σ		0.000	3.984	4.175	2 237	1 251	3.5%	0 017	0 046	0 009
%RSD		0.000	8.623	25 040	68 810	73 230	3.4	84 300	117.900	64 640

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:20:08	-0.056	0.037	0.105	2 261	0 026	0.018	4 613	0 242	0 012
2	17:20:34	-0.112	0.035	-1.185	1.447	0 019	0.056	2.924	0.156	0 008
3	17:21:00	-0.050	0.027	-1.404	0.489	0 023	0.030	2.425	0.129	0 024
x		-0.073	0.033	-0 828	1 399	0 022	0.035	3 321	0.176	0 015
σ		0.034	0.005	0 816	0 887	0 004	0.019	1.146	0 059	0 009
%RSD		46.780	15.850	98 530	63.400	15 860	55.490	34 520	33 540	57.720

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:20:08	0.071	0.098	0.122	0.146	0 808	0.449	0 370	99 5%	0.120
2	17:20:34	0.043	0.162	0 090	0 011	0 814	0.061	-0.404	102 5%	0.143
3	17:21:00	0.098	0.148	0.122	0 068	0.410	0.174	-0 300	102 6%	0.115
x		0.071	0.136	0.112	0 075	0 677	0.228	-0.112	101.5%	0.126
σ		0.028	0.034	0 019	0 068	0 231	0.200	0.420	1 8%	0 015
%RSD		39.470	24.730	16 670	91 060	34.130	87.500	376.700	1.7	11.970

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:20:08	0.089	0.095	-0 092	0 012	0 044	0.012	0 022	0 036	100.3%
2	17:20:34	0.177	0.129	0.179	0 004	-0 076	0.016	0 018	0 019	102.7%
3	17:21:00	0.120	0.128	0.146	0 013	-0 042	0.016	0 032	0 018	103.8%
x		0.128	0.117	0 078	0 010	-0 025	0.015	0 024	0 024	102.3%
σ		0.045	0.019	0.148	0 005	0 062	0.003	0 007	0 010	1.8%
%RSD		34.900	16.090	189.400	55.180	249 300	18.030	30 520	41 070	1.7

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:20:08	0.298	0.319	0.118	0.106	ID -0 000	ID 0.000	99 5%	ID -0 001	ID 0 000
2	17:20:34	0.316	0.353	0.132	0.115	ID -0 000	ID 0.000	102.4%	ID -0 000	ID 0 000
3	17:21:00	0.374	0.323	0 057	0 085	ID -0 000	ID 0.000	103 8%	ID 0 002	ID -0 000
x		0.329	0.331	0.102	0.102	ID -0 000	ID 0.000	101.9%	ID 0 000	ID 0 000
σ		0.040	0.019	0 039	0 015	ID 0 000	ID 0.000	2 2%	ID 0 002	ID 0 000
%RSD		12.070	5.605	38 550	14 890	ID 0 000	ID 0.000	2.2	ID 387 500	ID 175.100

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	17:20:08	0.026	0.022	0 032	0 034	0 033	100.3%
2	17:20:34	0.024	0.015	0 043	0 041	0 037	102.9%
3	17:21:00	0.021	0.014	0 026	0 026	0 028	104.5%
x		0.024	0.017	0 034	0 034	0 033	102.6%
σ		0.003	0.005	0 008	0 007	0 004	2.1%
%RSD		11.560	26.870	24.930	21.790	12 570	2.1

CSA002 ISM-2071 6/5/2018 17:25:32 QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:58	87.5%	0.385	1060.000	T 103700.000	T 103100.000	T 102800.000	T 101900.000	T 98870.000	T 0 000
2	17:26:24	90.0%	0.181	1051.000	T 107000.000	T 105700.000	T 105200.000	T 105200.000	T 102000.000	T 0 000
3	17:26:50	91.1%	0.316	1063.000	T 108200.000	T 106900.000	T 106500.000	T 104600.000	T 101400.000	T 0 000
x		89.6%	1.#IO%	1058.000	T 106.315%	T 105200.000	T 104900.000	T 103.921%	T 100.740%	T 0 000
σ		1.8%	n/a	6.063	T n/a	T 1934.000	T 1866.000	T n/a	T n/a	T 0 000
%RSD		2.1	35.220	0.573	T 2.190	T 1.838	T 1.780	T 1.733	T 1.633	T 0 000
Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:58	T 0.000	T 33320.000	T 104900.000	104800.000	T 105300.000	87.1%	M 2220.000	-0.081	19 890
2	17:26:24	T 0.000	T 33350.000	T 105600.000	105600.000	T 105100.000	88.7%	M 2214.000	-0.206	19 660
3	17:26:50	T 0.000	T 33670.000	T 106500.000	105000.000	T 107000.000	88.5%	M 2221.000	-0.232	19.750
x		T 0.000	T 33450.000	T 105 680%	105200.000	T 105 813%	88.1%	M 110.920%	-34.545%	94.122%
σ		T 0.000	T 196.800	T n/a	435.100	T n/a	0.9%	M n/a	n/a	n/a
%RSD		T 0.000	T 0.588	T 0.750	0.414	T 1.005	1.0	M 0.173	46.770	0 568
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:58	9.152	7.557	T 103600.000	T 103100.000	1.225	5.739	21.320	8.253	7.742
2	17:26:24	9.419	7.452	T 103400.000	T 103100.000	1.207	5.795	22.510	8.160	7.705
3	17:26:50	9.417	7.510	T 102800.000	T 103400.000	1.154	5.910	24.000	8.285	7 878
x		9.329	7.506	T 103300.000	T 103.163%	119 547%	96.910%	22.610	102.908%	97.186%
σ		0.154	0.053	T 423.700	T n/a	n/a	n/a	1.340	n/a	n/a
%RSD		1.648	0.700	T 0.410	T 0.164	3.077	1.497	5.925	0.790	1.177
Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:58	12.730	10.260	10.760	0.265	5.516	0.035	2.093	85.2%	TM 2043 000
2	17:26:24	12.140	9.857	10.090	0.204	5.657	0.054	3.327	86.6%	TM 2017 000
3	17:26:50	12.510	10.400	9.927	0.512	6.327	0.012	2.639	87.2%	TM 2030 000
x		113.290%	10.170	10.260	327.209%	5.833	11.196%	2.687	86.4%	TM 2030 000
σ		n/a	0.284	0.439	n/a	0.434	n/a	0.618	1.0%	TM 12.760
%RSD		2.394	2.789	4.281	49.930	7.432	63.060	23.020	1 2	TM 0 629
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:58	T 1945.000	TM 2020.000	-0.054	0.013	14.520	0.015	0.217	1.055	90.4%
2	17:26:24	T 1970.000	TM 2015.000	-0.097	0.008	13.320	0.007	0.081	1.055	92.9%
3	17:26:50	T 1954.000	TM 2006.000	0.155	0.012	12.820	0.008	0.076	0.959	93.0%
x		T 1956.000	TM 100.665%	0.001	1.#IO%	13.550	0.010	0.125	146.155%	92.1%
σ		T 12.760	TM n/a	0.135	n/a	0.873	0.004	0.080	n/a	1.5%
%RSD		T 0.652	TM 0.349	9429.000	23.220	6.442	43.430	64.070	5.387	1.6
Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:58	1.254	1.280	1.616	1.648	ID 0.004	ID 0.004	92.1%	ID 0.003	ID 0 004
2	17:26:24	1.217	1.302	1.629	1.578	ID 0.003	ID 0.002	94 3%	ID 0.002	ID 0 002
3	17:26:50	1.320	1.322	1.666	1.736	ID 0.002	ID 0.003	95 6%	ID 0.003	ID 0 002
x		1.264	86.765%	1.637	137.827%	ID 0.003	ID 0.003	94.0%	ID 0.003	ID 0 003
σ		0.052	n/a	0.026	n/a	ID 0.001	ID 0.001	1 8%	ID 0.000	ID 0 001
%RSD		4.118	1.605	1.598	4.801	ID 39.700	ID 37.740	1.9	ID 14.510	ID 38.430
Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi			
		ppb	ppb	ppb	ppb	ppb	ppb			
1	17:25:58	0.019	0.016	4.426	3.871	4.085	93.2%			
2	17:26:24	0.014	0.007	4.446	3.933	4.144	93.5%			
3	17:26:50	0.011	-0.001	4.472	3.952	4.097	94.8%			
x		0.015	1.#IO%	4.448	3.919	102.711%	93 8%			
σ		0.004	n/a	0.023	0.042	n/a	0.9%			
%RSD		29.340	111.400	0.510	1.082	0.760	0.9			

CSAB002 ISM-2072 6/5/2018 17:31:22 QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:31:48	88.8%	19.980	1059.000	T 107400.000	T 104900.000	T 104600.000	T 103900.000	T 101300.000	T 0 000
2	17:32:14	90.4%	19.680	1054.000	T 108600.000	T 107200.000	T 107000.000	T 105200.000	T 102700.000	T 0 000
3	17:32:40	92.0%	19.650	1049.000	T 107800.000	T 106500.000	T 105700.000	T 105000.000	T 101800.000	T 0 000
x		90.4%	104.052%	1054.000	T 107.924%	T 106200.000	T 105800.000	T 104.729%	T 101.928%	T 0 000
σ		1.6%	n/a	5.344	T n/a	T 1190.000	T 1157.000	T n/a	T n/a	T 0 000
%RSD		1.7	0.915	0.507	T 0.573	T 1.120	T 1.094	T 0.669	T 0.706	T 0 000
Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:31:48	T 0.000	T 32940.000	T 104300.000	104600.000	T 104900.000	87.6%	M 2197.000	19.190	39.450
2	17:32:14	T 0.000	T 33370.000	T 106000.000	104200.000	T 106400.000	87.0%	M 2242.000	19.710	39 850
3	17:32:40	T 0.000	T 32880.000	T 104700.000	103300.000	T 105000.000	88.0%	M 2222.000	19.490	39.420
x		T 0.000	T 33070.000	T 105 020%	104100.000	T 105.428%	87 5%	M 111 023%	102.436%	98.934%
σ		T 0.000	T 268.300	T n/a	680.200	T n/a	0.5%	M n/a	n/a	n/a
%RSD		T 0.000	T 0.812	T 0.846	0.654	T 0.799	0.5	M 1.005	1.344	0 613
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:31:48	8.556	27.510	T 103300.000	T 102900.000	20.750	26.020	44.000	27.930	27.760
2	17:32:14	8.379	27.340	T 103500.000	T 103700.000	20.930	25.890	43.470	28.010	27 360
3	17:32:40	8.496	27.420	T 103400.000	T 103200.000	20.800	25.510	45.330	28.180	27 810
x		8.477	27.420	T 103400.000	T 103.267%	104.124%	107.515%	44.270	28.040	110.580%
σ		0.090	0.083	T 114.500	T n/a	n/a	n/a	0.960	0.129	n/a
%RSD		1.064	0.304	T 0.111	T 0.426	0.452	1.028	2.168	0.461	0 891
Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:31:48	32.500	26.960	28.440	19.840	26.060	20.060	3.244	86.0%	TM 2046 000
2	17:32:14	32.890	27.380	29.070	20.400	26.940	20.150	1.589	87.5%	TM 2011 000
3	17:32:40	32.990	28.480	29.100	19.770	27.230	20.690	2.559	86.3%	TM 2042 000
x		113.086%	27.610	28.870	105.291%	26.740	106.845%	2.464	86 6%	TM 2033 000
σ		n/a	0.788	0.371	n/a	0.606	n/a	0.832	0.8%	TM 19 580
%RSD		0.781	2.856	1.285	1.722	2.266	1.691	33.750	0.9	TM 0.963
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:31:48	T 1970.000	TM 2016.000	20.090	19.170	14.360	18.610	19.510	20.820	92.3%
2	17:32:14	T 1957.000	T 1997.000	19.930	19.300	13.310	18.550	19.590	20.970	91.9%
3	17:32:40	T 1966.000	TM 2024.000	19.550	19.460	13.920	18.700	19.920	21.240	91.7%
x		T 1964.000	TM 100.612%	19.860	107.264%	13.860	18.620	19.670	105.052%	91.9%
σ		T 6.658	TM n/a	0.280	n/a	0.529	0.073	0.218	n/a	0.3%
%RSD		T 0.339	TM 0.691	1.412	0.756	3.814	0.391	1.109	0.995	0.3
Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:31:48	21.570	21.570	21.620	22.260	ID 0.003	ID 0.006	93 5%	ID 0.002	ID 0 004
2	17:32:14	22.060	21.730	21.660	22.310	ID 0.003	ID 0.004	95 5%	ID 0.002	ID 0 003
3	17:32:40	21.760	21.770	21.580	22.380	ID 0.003	ID 0.003	96 5%	ID 0.001	ID 0 003
x		21.800	98.581%	21.620	101.437%	ID 0.003	ID 0.004	95.1%	ID 0.002	ID 0 003
σ		0.249	n/a	0.039	n/a	ID 0.000	ID 0.001	1 5%	ID 0.001	ID 0 001
%RSD		1.143	0.489	0.179	0.267	ID 5.809	ID 25.620	1.6	ID 31.580	ID 16 340
Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi			
		ppb	ppb	ppb	ppb	ppb	ppb			
1	17:31:48	20.350	19.700	24.160	22.630	23.220	94.0%			
2	17:32:14	20.440	19.910	24.330	22.450	23.270	95.0%			
3	17:32:40	20.520	20.370	24.840	23.120	23.740	94.1%			
x		20.440	95.199%	24.450	22.740	93 639%	94.4%			
σ		0.086	n/a	0.352	0.349	n/a	0.5%			
%RSD		0.421	1.721	1.442	1.534	1.223	0.6			

CV006 ISM-2068 6/5/2018 17:37:11 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:37:37	88.9%	496.600	4.817	T 61590 000	T 61600.000	T 61730.000	T 61220 000	T 61230.000	0 000
2	17:38:03	90.3%	498.300	3.658	T 63520 000	T 62590.000	T 62480.000	T 62210 000	T 61770.000	0 000
3	17:38:30	92.0%	496.900	2.210	T 64320 000	T 64080.000	T 63500.000	T 62660 000	T 62760.000	0 000
x		90.4%	99.455%	3.561	T 105.242%	T 62750.000	T 62570.000	T 103.384%	T 103 201%	0 000
σ		1.6%	n/a	1.306	T n/a	T 1250.000	T 890.100	T n/a	T n/a	0 000
%RSD		1.7	0.189	36.670	T 2 227	T 1.992	T 1.422	T 1.184	T 1.248	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:37:37	0.000	105.500	T 60970.000	60310 000	T 60030.000	90.9%	964 500	T 956.200	T 964 300
2	17:38:03	0.000	118.900	T 62400.000	61670 000	T 60640.000	93.7%	977 000	T 963.200	T 966 000
3	17:38:30	0.000	116.100	T 62990.000	62330 000	T 61200.000	93.6%	981 800	T 974.800	T 976 500
x		0.000	113.500	T 103.537%	61440 000	T 101.043%	92.7%	97.444%	T 96.473%	T 96.895%
σ		0.000	7.027	T n/a	1028 000	T n/a	1.6%	n/a	T n/a	T n/a
%RSD		0.000	6.192	T 1.676	1 673	T 0.967	1.7	0.913	T 0.978	T 0 682

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:37:37	-4.843	T 971.300	T 59340.000	T 58800 000	T 968.200	1037.000	973.400	T 963.000	1023 000
2	17:38:03	-7.814	T 971.900	T 59670.000	T 59570 000	T 977.200	1034.000	979 800	T 960.800	1033 000
3	17:38:30	-6.422	T 979.900	T 60790.000	T 59660 000	T 975.900	1038.000	981 500	T 969.900	1040 000
x		-6.360	T 97.436%	T 59930.000	T 98.907%	T 97.378%	103.656%	978 200	T 964.600	103.204%
σ		1.486	T n/a	T 759.900	T n/a	T n/a	n/a	4 285	T 4.738	n/a
%RSD		23.370	T 0.492	T 1.268	T 0 802	T 0.500	0.183	0.438	T 0.491	0 829

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:37:37	1063.000	970.900	1067.000	1018 000	1009.000	1006.000	0 053	90 2%	T 966 800
2	17:38:03	1072.000	962.000	1049.000	1024 000	1004.000	1023.000	0 673	93.9%	T 969 300
3	17:38:30	1071.000	963.200	1055.000	1027 000	1015.000	1023.000	1 392	94 3%	T 973.400
x		106.858%	965.300	1057.000	102.332%	1009.000	101.727%	0.706	92.8%	T 969.900
σ		n/a	4.852	9.281	n/a	5.795	n/a	0 670	2 2%	T 3 343
%RSD		0.470	0.503	0.878	0.438	0.574	0.997	94 880	2.4	T 0 345

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:37:37	1029.000	T 957.300	1029.000	156 600	9.926	149.400	1063 000	T 1022.000	93.7%
2	17:38:03	1038.000	T 955.600	1008.000	153 600	8.769	148.000	1052 000	T 1008.000	98.1%
3	17:38:30	1041.000	T 969.500	1004.000	156 000	19.400	150.600	1068 000	T 1019.000	98.3%
x		1036.000	T 960.800	1014.000	103.617%	12.700	149.300	1061 000	T 101 642%	96.7%
σ		6.229	T 7.582	13.280	n/a	5.833	1.323	8 024	T n/a	2.6%
%RSD		0.601	T 0.789	1.310	1 017	45.940	0.886	0.756	T 0.769	2.7

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:37:37	T 496.000	T 499.300	T 4902.000	T 4971 000	ID 0.063	ID 0.013	96 5%	ID 0.002	ID 0 003
2	17:38:03	T 487.500	T 487.500	T 4877.000	T 4898 000	ID 0.071	ID 0.011	99 3%	ID 0.002	ID 0 003
3	17:38:30	T 498.400	T 498.000	T 4941.000	T 5038 000	ID 0.068	ID 0.014	101 0%	ID 0.001	ID 0 002
x		T 494.000	T 98.985%	T 98.134%	T 4969 000	ID 0.067	ID 0.013	98.9%	ID 0.002	ID 0 003
σ		T 5.724	T n/a	T n/a	T 70 060	ID 0.004	ID 0.002	2 2%	ID 0.000	ID 0 001
%RSD		T 1.159	T 1.310	T 0.658	T 1.410	ID 6.301	ID 12.100	2.2	ID 26.450	ID 17 610

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	17:37:37	T 500.300	T 484.300	T 973.900	T 967 300	T 974.400	95.1%
2	17:38:03	T 507.800	T 493.800	T 998.900	T 989.100	T 993.100	97.0%
3	17:38:30	T 501.900	T 489.000	T 977.600	T 979 500	T 980.100	98.6%
x		T 503.300	T 97.807%	T 983.500	T 978 600	T 98.255%	96.9%
σ		T 3.993	T n/a	T 13.520	T 10.940	T n/a	1.8%
%RSD		T 0.793	T 0.965	T 1.375	T 1.118	T 0.972	1.8

CB006 IM8714-01 6/5/2018 17:43:02 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:43:29	106.9%	0.031	7.800	24.390	4 589	5.008	5.083	4.272	0 000
2	17:43:54	108.7%	0.046	8.692	23.200	4 270	3.654	4.124	3.745	0 000
3	17:44:20	110.9%	0.006	14.920	21.350	3.779	3.272	3.662	3.395	0 000
x		108.8%	0.027	10.470	22.980	4 212	3.978	4.290	3.804	0 000
σ		2 0%	0.020	3.877	1.532	0.408	0.912	0.725	0.441	0 000
%RSD		1.8	74.400	37.030	6.666	9 688	22.930	16.890	11.600	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:43:29	0.000	18.140	81.660	-1.886	6.449	101.9%	0.144	0.071	0 032
2	17:43:54	0.000	24.850	72.650	0.006	4.952	103.6%	0.094	0.029	0 020
3	17:44:20	0.000	30.490	62.450	3.836	4 257	105.3%	0.107	0.042	0 028
x		0.000	24.490	72.260	0.652	5 220	103.6%	0.115	0.047	0 027
σ		0.000	6.185	9.610	2.915	1.120	1.7%	0.026	0.021	0 006
%RSD		0.000	25.250	13.300	447.000	21.460	1.7	22.770	45.230	21 590

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:43:29	0.168	0.040	4.715	4.233	0 042	0.055	8.471	0.425	0 056
2	17:43:54	0.149	0.032	3.169	3.234	0 029	0.052	6.592	0.362	0 035
3	17:44:20	0.095	0.033	2.860	3.328	0 020	0.053	6.238	0.272	0 029
x		0.137	0.035	3.582	3.598	0 030	0.053	7.100	0.353	0 040
σ		0.038	0.004	0.994	0.552	0 011	0.001	1.200	0.077	0 014
%RSD		27.620	12.140	27.750	15.340	36 880	2.343	16.900	21.890	36 350

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:43:29	0.078	0.123	0.084	0.051	2 609	0.140	-0.379	101.4%	0 515
2	17:43:54	0.056	0.164	0.062	0.132	2 017	0.448	-0.319	103.6%	0 540
3	17:44:20	0.093	0.028	0.034	0.085	2.493	0.340	0.527	104.6%	0 502
x		0.076	0.105	0.060	0.089	2 373	0.309	-0.057	103.2%	0 519
σ		0.019	0.070	0.025	0.040	0 314	0.156	0.507	1.7%	0 020
%RSD		24.440	66.700	41.560	45.400	13 220	50.490	888.100	1.6	3.771

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:43:29	0.404	0.354	0.387	0.002	-0.109	0.013	0.036	0.033	104.8%
2	17:43:54	0.485	0.414	0.158	0.007	-0 066	0.002	0.035	0.033	106.3%
3	17:44:20	0.376	0.389	0.065	0.005	-0 009	0.011	0.024	0.024	107.8%
x		0.422	0.386	0.203	0.005	-0 062	0.009	0.032	0.030	106.3%
σ		0.057	0.030	0.166	0.002	0 050	0.006	0.007	0.005	1.5%
%RSD		13.460	7.807	81.600	54.040	81 240	65.970	20.640	17.670	1.4

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:43:29	0.172	0.202	0.215	0.187	ID 0 001	ID 0.000	106.1%	ID 0.001	ID 0 000
2	17:43:54	0.187	0.193	0.210	0.176	ID 0 001	ID 0.000	109.2%	ID 0.001	ID 0 000
3	17:44:20	0.219	0.164	0.166	0.161	ID -0 000	ID 0.000	110.5%	ID -0.001	ID -0 000
x		0.193	0.186	0.197	0.174	ID 0 000	ID 0.000	108 6%	ID 0.000	ID 0 000
σ		0.024	0.020	0.027	0.013	ID 0 000	ID 0.000	2.3%	ID 0.001	ID 0 000
%RSD		12.310	10.760	13.750	7.534	ID 116 800	ID 0.000	2.1	ID 557.100	ID 187.700

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	17:43:29	0.012	0.007	0.044	0.049	0 044	106.7%
2	17:43:54	0.016	0.010	0.036	0.034	0 037	108.1%
3	17:44:20	0.008	0.004	0.038	0.036	0 032	109.7%
x		0.012	0.007	0.039	0.040	0 038	108.2%
σ		0.004	0.003	0.004	0.008	0 006	1.5%
%RSD		32.760	47.300	10.030	20.080	15 590	1.4

Q73287-001/PBW001 6/5/2018 17:48:50 QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:49:15	112.4%	0.008	22.200	34.120	3.195	2.327	2.935	3.257	0 000
2	17:49:41	112.9%	0.012	23.480	33.310	2 248	2.625	2.383	2.429	0 000
3	17:50:06	113.5%	-0.021	33.470	34.060	2 283	1.557	2.113	2.350	0 000
x		112.9%	-0.000	26.380	33.830	2 576	2.170	2.477	2.679	0 000
σ		0.5%	0.018	6.173	0.451	0 537	0.551	0.419	0.502	0 000
%RSD		0.5	9303.000	23.400	1.333	20 850	25.390	16.920	18.750	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:49:15	0.000	T 71210.000	81.370	3.332	8.719	100.8%	0.090	-1.225	0.460
2	17:49:41	0.000	T 71830.000	82.680	-3.893	7.441	100.7%	0.099	-0.943	0.446
3	17:50:06	0.000	T 72560.000	82.800	-3.897	6 635	100.8%	0.051	-1.265	0.442
x		0.000	T 71870.000	82.280	-1.486	7 598	100.8%	0.080	-1.144	0.450
σ		0.000	T 674.400	0.792	4.172	1 051	0.1%	0.026	0.176	0 009
%RSD		0.000	T 0.939	0.962	280.800	13 830	0.1	32.220	15.350	2 084

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:49:15	27.760	-0.070	2.962	1.240	0 007	0.052	21.280	0.855	0 027
2	17:49:41	28.020	-0.065	1.879	0.279	-0 008	0.063	21.060	0.815	-0 007
3	17:50:06	28.860	-0.068	1.533	0.666	-0 005	0.031	19.820	0.766	0 002
x		28.210	-0.068	2.125	0.728	-0 002	0.049	20.720	0.812	0 007
σ		0.570	0.003	0.746	0.484	0 008	0.016	0.785	0.044	0 018
%RSD		2.019	3.760	35.090	66.440	440 800	32.850	3.790	5.458	237 500

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:49:15	0.245	1.844	0.395	-0.050	4.146	0.295	0.595	99.1%	0 210
2	17:49:41	0.352	1.751	0.310	-0.332	4.183	-0.114	0.720	98 8%	0 263
3	17:50:06	0.314	1.381	0.316	0.213	4 004	0.096	1.677	98 0%	0 200
x		0.304	1.659	0.340	-0.056	4.111	0.093	0.997	98.6%	0 224
σ		0.055	0.245	0.048	0.272	0 094	0.205	0.592	0 6%	0 034
%RSD		17.950	14.760	13.990	484.100	2 296	221.000	59.330	0.6	15 020

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:49:15	0.197	0.107	-0.322	-0.002	0.128	-0.002	-0.003	-0.007	101.8%
2	17:49:41	0.245	0.131	0.319	-0.005	-0.110	-0.003	-0.010	-0.004	101.2%
3	17:50:06	0.129	0.107	-0.168	-0.009	0 086	-0.005	-0.016	0.001	101.6%
x		0.190	0.115	-0.057	-0.005	0 035	-0.004	-0.010	-0.003	101.5%
σ		0.058	0.013	0.335	0.003	0.127	0.001	0.007	0.004	0.3%
%RSD		30.600	11.580	582.600	61.900	367.400	38.480	70.880	120.400	0.3

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:49:15	-0.062	-0.064	0.042	0.050	ID -0 000	ID 0.000	103.5%	ID -0.001	ID 0 000
2	17:49:41	-0.034	-0.037	0.030	0.027	ID 0 000	ID 0.000	104.4%	ID -0.002	ID -0 000
3	17:50:06	-0.018	-0.013	-0.002	-0.007	ID 0 000	ID 0.000	105.5%	ID -0.001	ID -0 000
x		-0.038	-0.038	0.024	0.024	ID 0 000	ID 0.000	104 5%	ID -0.001	ID -0 000
σ		0.022	0.025	0.023	0.028	ID 0 000	ID 0.000	1.0%	ID 0.000	ID 0 000
%RSD		57.560	66.170	96.090	121.100	ID 177 200	ID 0.881	1 0	ID 23.150	ID 4461 000

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	17:49:15	-0.020	-0.018	0.006	-0.011	-0 000	106.7%
2	17:49:41	-0.015	-0.020	-0.006	-0.012	-0 009	108.4%
3	17:50:06	-0.015	-0.022	-0.012	-0.012	-0 012	108.0%
x		-0.017	-0.020	-0.004	-0.011	-0 007	107.7%
σ		0.002	0.002	0.009	0.000	0 006	0.9%
%RSD		14.170	10.320	226.400	3.426	83 090	0.8

Q73287-002/LCS001 6/5/2018 17 54:37 QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:55:03	106.7%	1.961	51 260	T 1063.000	T 1045 000	1044.000	1034 000	42.320	0 000
2	17:55:28	108.8%	2.012	63 830	T 1102.000	T 1088 000	1067.000	1063 000	43.540	0 000
3	17:55:54	109.4%	1.962	49.740	T 1098.000	T 1077 000	1070.000	1062 000	43.040	0 000
x		108.3%	98.928%	54.940	T 1088.000	T 1070 000	1060.000	105.278%	107.421%	0 000
σ		1.4%	n/a	7.732	T 21.540	T 22 680	13.900	n/a	n/a	0 000
%RSD		1.3	1.486	14 070	T 1.980	T 2.120	1.311	1 581	1.420	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:55:03	0.000	T 70970.000	T 1077 000	1063.000	993.900	95.4%	0 032	8.548	4 290
2	17:55:28	0.000	T 71770.000	T 1095 000	988.900	993 800	95.2%	-0 027	7.949	4 330
3	17:55:54	0.000	T 70940.000	T 1071 000	1051.000	972 300	95.8%	-0 002	8.409	4 218
x		0.000	T 71230.000	T 108.095%	1034.000	98.668%	95.5%	0 001	83.017%	106.979%
σ		0.000	T 471.500	T n/a	39.560	n/a	0.3%	0 030	n/a	n/a
%RSD		0.000	T 0.662	T 1.119	3.826	1 264	0.3	3380 000	3.774	1 330

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:55:03	24.420	1.960	433 800	422.200	1.997	2.292	19 070	5.068	4 381
2	17:55:28	24.710	1.988	431 200	426.900	1.955	2.259	19.700	4.986	4 378
3	17:55:54	24.140	1.932	433.900	406.700	1.950	2.178	19 660	5.044	4 244
x		24.420	98 001%	433 000	104.651%	98.372%	112.144%	19.480	5.033	108.360%
σ		0.284	n/a	1 565	n/a	n/a	n/a	0 355	0.042	n/a
%RSD		1.165	1.439	0 361	2.523	1 320	2.619	1 825	0.842	1 809

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:55:03	4.689	5.908	4 823	2.529	14.710	11.620	0.781	94.1%	0.124
2	17:55:28	4.782	6.284	4.745	1.718	14 520	11.440	1.131	94.5%	0.110
3	17:55:54	4.601	5.909	4 849	2.207	14 260	10.890	0 899	94.1%	0.120
x		117.270%	6.034	4 806	107.575%	14.490	113.145%	0.937	94.2%	0.118
σ		n/a	0.217	0 054	n/a	0 225	n/a	0.178	0.2%	0 007
%RSD		1.924	3.589	1.132	18.980	1 553	3.337	19 000	0.2	6 040

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:55:03	0.071	0.041	1.794	2.136	0.193	2.086	2 071	2.036	98.8%
2	17:55:28	0.125	0.068	2.107	2.164	0 080	2.097	2 206	2.145	98.0%
3	17:55:54	0.161	0.060	1 869	2.074	0 091	1.997	2.110	2.176	98.8%
x		0.119	0.057	1.923	106.215%	0.121	2.060	106.446%	2.119	98.5%
σ		0.045	0.014	0.164	n/a	0 062	0.055	n/a	0.073	0.4%
%RSD		37.730	24.480	8 505	2.168	51 230	2.674	3 281	3.458	0.5

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:55:03	3.975	4.035	19.440	20.150	ID 0 001	ID 0.000	101.3%	ID 0.001	ID -0 000
2	17:55:28	4.045	4.090	19.480	20.330	ID 0 001	ID 0.000	102.2%	ID -0.001	ID -0 000
3	17:55:54	3.962	3.976	19 690	20.370	ID 0 002	ID 0.000	103.1%	ID -0.001	ID -0 000
x		3.994	100 844%	19 530	101.417%	ID 0 001	ID 0.000	102.2%	ID -0.000	ID -0 000
σ		0.045	n/a	0.135	n/a	ID 0 001	ID 0.000	0.9%	ID 0.001	ID 0 000
%RSD		1.121	1.412	0 693	0.576	ID 76.170	ID 0.000	0.9	ID 879.600	ID 0 000

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	17:55:03	1.905	1.848	1 862	1.909	1 874	105.3%
2	17:55:28	1.965	1.897	1.905	1.889	1 887	104.5%
3	17:55:54	1.974	1.898	1.912	1.889	1 899	105.2%
x		1.948	94 050%	1 893	1.896	94.327%	105.0%
σ		0.038	n/a	0 027	0.012	n/a	0.5%
%RSD		1.927	1.526	1.441	0.616	0 676	0.4

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:00:49	105.9%	0.216	0.812	T 5588.000	567.500	531.600	533.500	167.900	0 000
2	18:01:15	106.3%	0.184	9.527	T 5729.000	590.600	553.400	549.900	175.100	0 000
3	18:01:42	108.2%	0.209	8.008	T 5806.000	587.900	552.200	554.800	174.200	0 000
x		106.8%	0.203	6.115	T 5708.000	582.000	545.700	546.100	172.400	0 000
σ		1.2%	0.017	4.656	T 110.400	12.650	12.280	11.150	3.906	0 000
%RSD		1.1	8.274	76.130	T 1.934	2.173	2.250	2.042	2.266	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:00:49	0.000	T 65020.000	T 1671.000	3737.000	3599.000	96 0%	7.401	-0.927	0 694
2	18:01:15	0.000	T 66390.000	T 1706.000	3644.000	3618.000	94 8%	7.296	-0.060	0.710
3	18:01:42	0.000	T 67750.000	T 1698.000	3685.000	3689.000	95 8%	6.937	-1.254	0 653
x		0.000	T 66390.000	T 1691.000	3689.000	3635.000	95 5%	7.211	-0.747	0 686
σ		0.000	T 1366.000	T 18.430	46.680	47.820	0 6%	0.243	0.617	0 030
%RSD		0.000	T 2.057	T 1.090	1.265	1.315	0.7	3.377	82.560	4 342

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:00:49	40.900	3.478	187.400	184.300	-0.001	0.203	2.145	24.700	24.440
2	18:01:15	39.760	3.646	189.400	179.000	0.014	0.254	1.157	24.910	23.950
3	18:01:42	41.560	3.520	T 182.800	184.200	0.002	0.223	0.987	24.290	24.100
x		40.740	3.548	T 186.600	182.500	0.005	0.227	1.430	24.630	24.170
σ		0.911	0.088	T 3.395	3.045	0.008	0.026	0.625	0.311	0 253
%RSD		2.236	2.478	T 1.820	1.669	154.100	11.340	43.740	1.263	1 045

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:00:49	25.710	25.310	25.660	0.035	1.223	-0.104	0.221	92.4%	0 013
2	18:01:15	25.640	24.160	24.440	0.008	0.805	0.360	1.552	93.1%	0 025
3	18:01:42	25.930	23.810	24.860	0.432	0.929	0.022	0.694	93.0%	-0 006
x		25.760	24.430	24.980	0.159	0.986	0.093	0.823	92.8%	0 010
σ		0.156	0.784	0.619	0.237	0.215	0.240	0.675	0.4%	0 015
%RSD		0.604	3.211	2.476	149.600	21.780	258.700	82.030	0.4	147 500

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:00:49	-0.003	-0.045	0.090	-0.003	-0.038	-0.001	-0.007	0.000	93.3%
2	18:01:15	0.100	0.013	-0.539	-0.000	0.205	0.007	0.030	0.032	95.3%
3	18:01:42	0.062	-0.027	-0.343	-0.005	0.158	0.004	-0.014	0.003	95.1%
x		0.053	-0.020	-0.264	-0.003	0.108	0.003	0.003	0.012	94.6%
σ		0.052	0.030	0.322	0.002	0.129	0.004	0.023	0.017	1.1%
%RSD		98.340	152.700	122.000	84.620	119.400	124.200	720.900	147.400	1.2

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:00:49	-0.123	-0.133	28.960	29.440	ID 0.085	ID 0.039	97.7%	ID 0.043	ID 0 046
2	18:01:15	-0.108	-0.131	28.470	30.430	ID 0.085	ID 0.054	99.2%	ID 0.042	ID 0 052
3	18:01:42	-0.113	-0.106	28.520	29.910	ID 0.077	ID 0.045	101.2%	ID 0.040	ID 0 042
x		-0.115	-0.123	28.650	29.920	ID 0.082	ID 0.046	99.4%	ID 0.042	ID 0 047
σ		0.008	0.015	0.270	0.498	ID 0.005	ID 0.007	1.8%	ID 0.001	ID 0 005
%RSD		6.809	12.330	0.943	1.664	ID 5.624	ID 16.300	1.8	ID 3.064	ID 11 240

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	18:00:49	-0.034	-0.033	2.036	1.962	1.994	101 0%
2	18:01:15	-0.015	-0.016	2.099	1.969	2.007	101.9%
3	18:01:42	-0.034	-0.032	2.107	1.952	2.014	102.9%
x		-0.028	-0.027	2.081	1.961	2.005	102 0%
σ		0.011	0.009	0.039	0.008	0.010	1 0%
%RSD		38.770	33.680	1.875	0.430	0.514	1.0

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:06:37	103.4%	0.124	18.390	T 6153 000	T 1003 000	997.800	997.800	7.289	0 000
2	18:07:03	105.7%	0.072	6.432	T 6013 000	T 995 300	991.800	991.700	7.245	0 000
3	18:07:29	108.1%	0.089	15.980	T 6164 000	T 999.700	988.600	991.100	7.657	0 000
x		105.7%	0.095	13.600	T 6110 000	T 999.400	992.700	993.500	7.397	0 000
σ		2.3%	0.027	6.326	T 83 890	T 3 860	4.691	3.705	0.226	0 000
%RSD		2 2	28.230	46.500	T 1 373	T 0 386	0.472	0.373	3.058	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:06:37	0.000	T 71800.000	T 2067.000	3935 000	3772 000	90.7%	0.615	-1.046	0 549
2	18:07:03	0.000	T 72280.000	T 2075.000	4007 000	3807 000	93.5%	0.801	-1.218	0 552
3	18:07:29	0.000	T 71600.000	T 2033.000	3915 000	3828 000	94.7%	0.535	-0.442	0 530
x		0.000	T 71890.000	T 2058.000	3952 000	3802 000	93.0%	0.650	-0.902	0 544
σ		0.000	T 350.200	T 21.950	48 310	28 090	2.0%	0.137	0.408	0 012
%RSD		0.000	T 0.487	T 1.066	1 222	0.739	2 2	21.000	45.180	2 264

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:06:37	42.280	2.664	20.320	17.440	-0 016	0.120	-0.914	100.800	100.400
2	18:07:03	42.810	2.598	18.560	19 080	-0 017	0.100	-1.452	101.600	101 300
3	18:07:29	42.870	2.595	17.920	16.700	-0 020	0.130	-0.984	99.420	98.180
x		42.650	2.619	18.930	17.740	-0 018	0.117	-1.116	100.600	99.970
σ		0.323	0.039	1.242	1 217	0 002	0.015	0.293	1.117	1 616
%RSD		0.756	1.486	6.562	6 860	11 620	12.840	26.210	1.111	1 617

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:06:37	23.970	24.620	23.400	0 515	0 612	0.239	1.478	89.5%	-0 019
2	18:07:03	24.490	22.600	22.510	-0 353	0.452	-0.065	0.220	92.8%	-0 016
3	18:07:29	23.680	22.420	22.630	-0.421	0 231	0.106	-0.550	94.0%	0 021
x		24.050	23.210	22.850	-0 086	0.432	0.093	0.383	92.1%	-0 005
σ		0.407	1.219	0.486	0 522	0.191	0.153	1.024	2.3%	0 022
%RSD		1.694	5.250	2.128	603.400	44 230	163.700	267.400	2.5	444 200

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:06:37	0.005	-0.023	-0.090	-0 010	0 024	-0.003	0.004	-0.001	92.2%
2	18:07:03	0.017	0.004	-0.612	-0 008	0 256	0.002	-0.003	-0.002	97.3%
3	18:07:29	-0.009	-0.012	-0.547	-0 008	0 229	-0.005	0.002	0.011	97.8%
x		0.004	-0.010	-0.416	-0 009	0.170	-0.002	0.001	0.002	95.7%
σ		0.013	0.013	0.285	0 001	0.127	0.003	0.003	0.007	3.1%
%RSD		308.400	130.100	68.380	8.174	74 550	158.100	357.900	315.000	3.2

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:06:37	-0.164	-0.163	32.430	34.920	ID 0 025	ID 0.020	97.8%	ID 0.017	ID 0 028
2	18:07:03	-0.172	-0.147	32.430	34.920	ID 0 024	ID 0.022	100.5%	ID 0.017	ID 0 029
3	18:07:29	-0.143	-0.145	32.740	34.120	ID 0 023	ID 0.020	103.1%	ID 0.019	ID 0 028
x		-0.160	-0.152	32.540	34 650	ID 0 024	ID 0.021	100.5%	ID 0.018	ID 0 028
σ		0.015	0.010	0.179	0.463	ID 0 001	ID 0.001	2.6%	ID 0.001	ID 0 000
%RSD		9.438	6.549	0.549	1 335	ID 2.747	ID 4.899	2.6	ID 5.335	ID 1 262

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	18:06:37	-0.038	-0.037	2.439	2 352	2 389	101.1%
2	18:07:03	-0.037	-0.033	2.496	2 352	2 396	103.5%
3	18:07:29	-0.036	-0.038	2.513	2 314	2.424	103.7%
x		-0.037	-0.036	2.483	2 339	2.403	102.7%
σ		0.001	0.003	0.039	0 022	0 018	1.5%
%RSD		2.944	8.083	1.564	0.947	0.765	1.4

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:12:24	101.7%	-0.004	6.040	T 7908.000	T 1741.000	1740.000	1727 000	4 241	0 000
2	18:12:50	102.6%	0.013	9.559	T 8076.000	T 1814.000	1791.000	1787 000	4.466	0 000
3	18:13:16	103.8%	-0.006	16.350	T 8243.000	T 1839.000	1807.000	1797 000	4.942	0 000
x		102.7%	0.001	10.650	T 8076.000	T 1798.000	1779.000	1770 000	4 550	0 000
σ		1.1%	0.011	5.243	T 167.300	T 50.810	35.040	38 060	0 358	0 000
%RSD		1 0	1258.000	49.230	T 2.072	T 2.826	1.970	2.150	7 869	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:12:24	0.000	T 63790.000	T 1677.000	9711.000	9471.000	90.8%	1 361	-0 671	1 001
2	18:12:50	0.000	T 64600.000	T 1709.000	9854.000	9637.000	91.0%	0.905	-1.139	1 054
3	18:13:16	0.000	T 65450.000	T 1703.000	10020.000	9637.000	91.8%	0 897	0.135	1 057
x		0.000	T 64610.000	T 1696.000	9863.000	9582.000	91.2%	1 054	-0 559	1 037
σ		0.000	T 830.200	T 16.800	156.800	96.060	0.6%	0 266	0 644	0 032
%RSD		0.000	T 1.285	T 0.990	1.590	1.003	0.6	25.190	115.400	3 049

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:12:24	43.530	2.224	539.800	515.400	-0.014	0.238	-2.414	10 850	11 000
2	18:12:50	45.080	2.247	551.400	535.200	-0.014	0.253	-1.777	10.770	11.170
3	18:13:16	44.740	2.234	545.400	534.800	-0.013	0.180	-1 523	10.740	10 890
x		44.450	2.235	545.500	528.500	-0.014	0.224	-1.905	10.790	11 020
σ		0.810	0.011	5.804	11.300	0.000	0.039	0.459	0 055	0.140
%RSD		1.822	0.505	1.064	2.139	3.019	17.280	24.100	0 511	1 274

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:12:24	43.780	40.230	41.780	0.007	0.001	0.038	1 618	89.2%	-0 075
2	18:12:50	43.750	40.020	42.540	0.087	0.132	-0.294	1 210	89.8%	-0 058
3	18:13:16	43.470	38.720	42.520	-0 352	0.198	-0.087	1 889	88.7%	-0 059
x		43.670	39.660	42.280	-0 086	0.110	-0.115	1 572	89.2%	-0 064
σ		0.169	0.819	0.432	0.234	0.100	0.168	0 342	0.5%	0 010
%RSD		0.388	2.065	1.021	272.500	90.710	146.300	21.740	0.6	14.900

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:12:24	-0.078	-0.067	-0.931	-0.006	0.373	-0.005	-0 016	-0 013	90.5%
2	18:12:50	-0.072	-0.072	-0.643	-0 007	0.257	-0.001	-0 016	-0 015	91.7%
3	18:13:16	-0.018	-0.057	-0.740	-0 008	0.297	0.002	-0 018	-0 015	91.9%
x		-0.056	-0.065	-0.771	-0.007	0.309	-0.001	-0 017	-0 014	91.4%
σ		0.033	0.008	0.146	0.001	0.059	0.003	0 001	0 001	0.8%
%RSD		58.710	12.130	18.970	11.500	18.990	247.400	6 072	9.934	0.8

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:12:24	-0.212	-0.196	53.970	57.390	ID 0.000	ID 0.002	96.4%	ID -0 001	ID 0 001
2	18:12:50	-0.191	-0.180	53.640	57.150	ID 0.003	ID 0.000	96 2%	ID 0 000	ID 0 002
3	18:13:16	-0.168	-0.182	55.240	57.560	ID 0.001	ID 0.002	97 6%	ID -0 001	ID 0 000
x		-0.190	-0.186	54.280	57.370	ID 0.001	ID 0.001	96.7%	ID -0 000	ID 0 001
σ		0.022	0.008	0.843	0.206	ID 0.002	ID 0.001	0.7%	ID 0 001	ID 0 001
%RSD		11.400	4.537	1.552	0.358	ID 123.000	ID 62.840	0.8	ID 109.100	ID 54 890

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	18:12:24	-0.038	-0.041	0.303	0.271	0.287	97.2%
2	18:12:50	-0.043	-0.042	0.301	0.297	0.295	98.8%
3	18:13:16	-0.041	-0.043	0.314	0.267	0.292	100.4%
x		-0.041	-0.042	0.306	0.278	0.291	98.8%
σ		0.002	0.001	0.007	0.016	0.004	1.6%
%RSD		5.398	2.045	2.236	5.904	1.371	1.6

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:18:11	101 0%	-0.022	6.967	T 10440.000	T 3228 000	3230 000	3259 000	1.061	0 000
2	18:18:37	101 8%	-0.055	4.025	T 10760.000	T 3327 000	3309 000	3305 000	1.187	0 000
3	18:19:03	104 5%	-0.038	2.425	T 10700.000	T 3310 000	3285 000	3298 000	1.119	0 000
x		102.4%	-0.038	4.472	T 10630.000	T 3288 000	3275 000	3287 000	1.123	0 000
σ		1 8%	0.016	2.304	T 172.000	T 52 610	40 670	24 840	0.063	0 000
%RSD		1.8	42.460	51.520	T 1.618	T 1 600	1 242	0.756	5.610	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:18:11	0.000	T 66560.000	T 1806.000	14290.000	14340 000	90 5%	0.759	-0.050	0.716
2	18:18:37	0.000	T 67620.000	T 1838.000	14850.000	14670 000	88.1%	1 066	0.052	0.730
3	18:19:03	0.000	T 67210.000	T 1820.000	14560.000	14470 000	91 2%	1.161	-0.953	0.724
x		0.000	T 67130.000	T 1821.000	14560.000	14490 000	89.9%	0.995	-0.317	0.723
σ		0.000	T 532.900	T 15.790	278.600	165 000	1 6%	0 210	0.553	0 007
%RSD		0.000	T 0.794	T 0.867	1.913	1.138	1.8	21 080	174.400	0.919

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:18:11	43.400	0.208	82.840	88.640	-0 014	0 242	-2 044	1.132	1 262
2	18:18:37	45.440	0.239	84.040	91.570	-0 010	0 224	-1 003	1.197	1.189
3	18:19:03	46.180	0.243	82.160	91.340	-0 010	0 226	-1 883	1.183	1 222
x		45.000	0.230	83.010	90.520	-0 011	0 231	-1 643	1.171	1 224
σ		1.438	0.019	0.952	1.633	0 002	0 010	0 560	0.035	0 037
%RSD		3.195	8.284	1.146	1.804	20 060	4 218	34.100	2.951	3 008

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:18:11	29.330	27.510	27.810	0.304	0 069	-0 027	2.174	88.3%	0 004
2	18:18:37	29.260	27.330	28.260	0.072	0 513	-0.106	1.140	85.5%	0 008
3	18:19:03	29.170	27.200	27.600	0.068	0 033	0 006	1 639	88.7%	-0 006
x		29.250	27.350	27.890	0.148	0 205	-0 042	1 651	87.5%	0 002
σ		0.080	0.159	0.334	0.135	0 267	0 058	0 517	1.8%	0 007
%RSD		0.274	0.583	1.197	91.430	130 200	136 200	31 330	2.0	374 300

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:18:11	0.011	0.003	-0.666	-0.011	0 268	-0 010	-0 017	-0.027	92.8%
2	18:18:37	0.020	-0.000	-0.606	-0.010	0 244	-0 004	-0 023	-0.020	90.2%
3	18:19:03	0.032	0.025	-0.549	-0.011	0 210	-0 005	-0 023	-0.022	92.9%
x		0.021	0.009	-0.607	-0.011	0 240	-0 006	-0 021	-0.023	92.0%
σ		0.011	0.014	0.058	0.001	0 029	0 003	0 004	0.003	1.5%
%RSD		51.100	149.000	9.595	8.146	12 080	54.150	18 250	14.970	1.6

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:18:11	-0.201	-0.205	29.320	30.940	ID 0 001	ID 0 001	98 5%	ID 0.000	ID 0 002
2	18:18:37	-0.200	-0.195	29.460	30.730	ID 0 001	ID 0 000	97.9%	ID 0.001	ID 0 001
3	18:19:03	-0.194	-0.174	29.280	31.030	ID 0 000	ID 0 002	100.7%	ID -0.001	ID 0 000
x		-0.198	-0.192	29.350	30.900	ID 0 001	ID 0 001	99 0%	ID 0.000	ID 0 001
σ		0.004	0.016	0.092	0.150	ID 0 000	ID 0 001	1 5%	ID 0.001	ID 0 001
%RSD		1.784	8.432	0.314	0.486	ID 58.130	ID 76.710	1.5	ID 568.800	ID 91 820

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	18:18:11	-0.042	-0.045	0.227	0.199	0 214	99 5%
2	18:18:37	-0.040	-0.043	0.231	0.213	0 213	100 0%
3	18:19:03	-0.042	-0.044	0.202	0.195	0 201	102.1%
x		-0.041	-0.044	0.220	0.202	0 209	100 5%
σ		0.001	0.001	0.016	0.009	0 007	1.4%
%RSD		2.997	1.954	7.107	4.591	3 396	1.4

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:23:57	102.9%	0 004	-44.440	T 7622.000	T 2278 000	2325.000	2343 000	2.962	0 000
2	18:24:23	104.1%	-0 002	-44.940	T 7843.000	T 2315 000	2343.000	2399 000	3 323	0 000
3	18:24:49	106.3%	-0 030	-45.210	T 7834.000	T 2343 000	2333.000	2383 000	3 065	0 000
x		104.4%	-0 009	-44.860	T 7767.000	T 2312 000	2334.000	2375 000	3.117	0 000
σ		1.7%	0 018	0.387	T 125.100	T 32.740	8.974	28 800	0.186	0 000
%RSD		1 6	192 300	0.862	T 1.611	T 1.416	0.385	1 212	5.976	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:23:57	0.000	T 59860 000	T 2014.000	20600.000	20860 000	90.4%	0.752	-0 319	0.456
2	18:24:23	0.000	T 61220 000	T 2056.000	21020.000	21200 000	89.9%	0.721	-1 202	0.476
3	18:24:49	0.000	T 62110 000	T 2073.000	21250.000	21390 000	91.8%	0.713	-2 873	0 515
x		0.000	T 61060 000	T 2048.000	20960.000	21150 000	90.7%	0.729	-1.465	0.482
σ		0.000	T 1130 000	T 30.440	333.400	270.400	1.0%	0 021	1 297	0 030
%RSD		0.000	T 1 850	T 1.487	1.591	1 279	1.1	2 819	88 540	6 204

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:23:57	54.530	0.105	4.397	25.050	-0 011	0.353	-2 340	4.451	4 346
2	18:24:23	58.200	0.106	4.479	23.770	-0 014	0.308	-1.176	4.402	4 374
3	18:24:49	60.850	0.103	4.446	23.290	-0 013	0.365	-1 298	4 366	4.466
x		57.860	0.105	4.441	24.040	-0 013	0.342	-1 605	4.406	4 395
σ		3.175	0 001	0.041	0.911	0 001	0.030	0 640	0 042	0 063
%RSD		5.487	1 255	0.927	3.790	10.970	8.798	39 880	0.958	1.424

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:23:57	9.359	12 500	10.360	0.738	-0 010	0.594	2 250	86.9%	3.402
2	18:24:23	9.612	12 090	10.710	0.049	0.162	0.319	2 009	86 5%	3 503
3	18:24:49	9.615	12.190	10.180	0.348	0 291	0.274	1 881	88.9%	3 529
x		9.529	12 260	10.420	0.378	0.148	0.396	2 046	87.4%	3.478
σ		0.147	0 215	0.267	0.346	0.151	0.174	0.187	1 3%	0 067
%RSD		1.540	1.750	2.560	91.390	102 300	43.910	9.152	1.5	1.939

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:23:57	3.426	3 333	-0.528	-0.009	0 200	-0.009	-0 022	-0 023	87.8%
2	18:24:23	3.575	3.409	-0.655	-0.013	0 320	-0.010	-0 025	-0 017	88.4%
3	18:24:49	3.332	3.410	-0.800	-0.011	0 321	-0.009	-0 026	-0 023	91.9%
x		3.444	3 384	-0.661	-0.011	0 280	-0.009	-0 024	-0 021	89.4%
σ		0.123	0 045	0.136	0.002	0 070	0.000	0 002	0 003	2.2%
%RSD		3.565	1 318	20.570	18.350	24 850	4.893	8 855	15 620	2.4

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:23:57	-0.201	-0.196	48.840	51.650	ID 0 002	ID 0.003	94.1%	ID 0 003	ID 0 007
2	18:24:23	-0.186	-0.177	49.580	51.780	ID 0 003	ID 0.002	96.1%	ID 0 007	ID 0 007
3	18:24:49	-0.188	-0.177	48.640	51.980	ID 0 004	ID 0.004	98.7%	ID 0 003	ID 0 006
x		-0.192	-0.183	49.020	51.800	ID 0 003	ID 0.003	96.3%	ID 0 004	ID 0 006
σ		0.008	0 011	0.497	0.168	ID 0 001	ID 0.001	2.3%	ID 0 002	ID 0 001
%RSD		4.319	5 855	1.013	0.324	ID 28 620	ID 31.800	2.4	ID 57 860	ID 8 834

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	18:23:57	-0.043	-0 043	0.646	0.605	0 633	95.6%
2	18:24:23	-0.043	-0 043	0.677	0.579	0 636	97.1%
3	18:24:49	-0.042	-0 043	0.726	0.613	0 668	98.9%
x		-0.042	-0 043	0.683	0.599	0 645	97.2%
σ		0.001	0 000	0.040	0.018	0 019	1.6%
%RSD		1.730	0.710	5.903	2.982	2.994	1.7

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:29:44	100.9%	-0.050	-7.911	T 36500.000	3.309	2.812	2.979	3.498	0 000
2	18:30:10	102.1%	-0.050	-8.265	T 37470.000	3.331	3.448	3.286	3.175	0 000
3	18:30:36	104.4%	-0.038	-14.070	T 36840.000	3.249	3.382	3.663	2.933	0 000
x		102.5%	-0.046	-10.080	T 36940.000	3.296	3.214	3.309	3 202	0 000
σ		1.8%	0.007	3.456	T 490.900	0.043	0.350	0.342	0 283	0 000
%RSD		1.7	15.530	34.290	T 1.329	1.290	10.890	10.350	8 853	0 000
Run	**Time**	**34S**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:29:44	0.000	T 69690.000	708.600	10.820	192.900	87.4%	0.817	-0.490	0 504
2	18:30:10	0.000	T 71010.000	715.400	25.810	191.500	87.9%	0.921	-1 839	0.439
3	18:30:36	0.000	T 70270.000	707.400	8.099	190.400	89.4%	0.878	-1 268	0.485
x		0.000	T 70320.000	710.500	14.910	191.600	88.2%	0.872	-1.199	0.476
σ		0.000	T 657.500	4.305	9.538	1.254	1.0%	0.053	0 677	0 034
%RSD		0.000	T 0.935	0.606	63.970	0.654	1.1	6.023	56.460	7 058
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**62Ni**	**63Cu**	**65Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:29:44	53.450	0.456	31.900	24.390	-0.024	0.146	-2.419	3 513	3.436
2	18:30:10	55.580	0.464	32.060	23.360	-0.022	0.073	-2.419	3 512	3 518
3	18:30:36	54.530	0.462	30.070	24.700	-0.026	0.078	-2.394	3.481	3.444
x		54.520	0.460	31.340	24.150	-0.024	0.099	-2.410	3 502	3.466
σ		1.063	0.004	1.104	0.701	0.002	0.041	0.014	0 018	0 046
%RSD		1.950	0.916	3.523	2.904	7.379	40.990	0.600	0 517	1 316
Run	**Time**	**66Zn**	**67Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**89Y**	**95Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:29:44	6.883	8.183	6.492	0.150	0.127	0.145	0.516	84 3%	6.180
2	18:30:10	6.948	8.382	6.680	-0.257	-0.043	-0.148	1.669	85 6%	6 027
3	18:30:36	7.199	9.016	6.799	0.048	0.108	-0.027	-0.368	86.9%	6 023
x		7.010	8.527	6.657	-0.020	0.064	-0.010	0.606	85 6%	6 077
σ		0.167	0.435	0.155	0.212	0.093	0.147	1.021	1 3%	0 089
%RSD		2.383	5.098	2.325	1083.000	145.400	1466.000	168.600	1.5	1.472
Run	**Time**	**97Mo**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:29:44	6.034	5.966	-0.712	-0.013	0.355	-0.011	-0.023	-0 016	89.0%
2	18:30:10	6.082	6.020	-0.407	-0.016	0.221	-0.009	-0.024	-0 019	90.7%
3	18:30:36	5.787	5.834	-0.387	-0.013	0.167	-0.010	-0.022	-0 015	91.8%
x		5.968	5.940	-0.502	-0.014	0.248	-0.010	-0.023	-0 017	90.5%
σ		0.159	0.095	0.182	0.002	0.097	0.001	0.001	0 002	1.4%
%RSD		2.656	1.607	36.230	12.630	39.070	8.360	4.126	14.730	1.6
Run	**Time**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**150Sm**	**156Gd**	**159Tb**	**160Dy**	**164Dy**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:29:44	-0.217	-0.216	-0.025	-0.052	ID 0.001	ID 0.002	96.1%	ID 0 000	ID 0 001
2	18:30:10	-0.217	-0.208	-0.050	-0.041	ID 0.000	ID 0.001	96.4%	ID -0 001	ID 0 002
3	18:30:36	-0.209	-0.198	-0.037	-0.058	ID 0.002	ID 0.001	98.3%	ID -0 001	ID 0 001
x		-0.214	-0.207	-0.038	-0.050	ID 0.001	ID 0.001	96.9%	ID -0 000	ID 0 001
σ		0.005	0.009	0.012	0.008	ID 0.001	ID 0.001	1.2%	ID 0 001	ID 0 000
%RSD		2.201	4.276	32.910	16.570	ID 73.400	ID 58.600	1.2	ID 194.700	ID 21 390
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**			
		ppb	ppb	ppb	ppb	ppb	ppb			
1	18:29:44	-0.042	-0.045	0.147	0.121	0.136	96.8%			
2	18:30:10	-0.045	-0.045	0.167	0.147	0.149	97.3%			
3	18:30:36	-0.042	-0.046	0.144	0.144	0.141	99.8%			
x		-0.043	-0.045	0.153	0.137	0.142	98.0%			
σ		0.002	0.000	0.013	0.014	0.007	1.6%			
%RSD		4.246	0.447	8.300	10.380	4.685	1.7			

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:30	97.6%	50.560	-14.900	T 35540.000	2.765	2.683	3.300	1.608	0 000
2	18:35:56	99.2%	50.980	-18.020	T 36730.000	2.805	3.129	2.904	1.902	0 000
3	18:36:22	101.4%	50.830	-14.890	T 37240.000	4.998	3.803	4.119	2.723	0 000
x		99.4%	50.790	-15.940	T 36500.000	3.523	3.205	3.441	2.078	0 000
σ		1.9%	0.213	1.806	T 874.600	1.278	0.564	0.620	0.578	0 000
%RSD		1.9	0.419	11.340	T 2.396	36.270	17.590	18.010	27.830	0 000
Run	**Time**	**34S**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:30	0.000	T 63990.000	672.200	14.700	183.900	86.0%	1.008	T 483.000	203 300
2	18:35:56	0.000	T 65840.000	686.100	22.810	184.400	86.6%	1.002	T 486.900	203.400
3	18:36:22	0.000	T 66950.000	702.700	29.170	189.000	85.4%	0.875	T 487.500	205.400
x		0.000	T 65590.000	687.000	22.230	185.800	86.0%	0.962	T 485.800	204 000
σ		0.000	T 1495.000	15.290	7.250	2.817	0.6%	0.076	T 2.455	1.156
%RSD		0.000	T 2.279	2.226	32.620	1.517	0.7	7.853	T 0.505	0 567
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**62Ni**	**63Cu**	**65Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:30	47.320	T 499.700	T 1040.000	1062.000	T 503.700	540.900	518.300	278.000	273 800
2	18:35:56	48.370	T 499.700	T 1047.000	1064.000	T 499.900	539.400	512.600	278.100	271 300
3	18:36:22	47.020	T 503.100	T 1064.000	1073.000	T 498.700	534.100	509.100	276.000	272 600
x		47.570	T 500.800	T 1050.000	1067.000	T 500.700	538.100	513.300	277.400	272 600
σ		0.710	T 1.997	T 12.340	5.832	T 2.598	3.539	4.669	1.166	1 267
%RSD		1.492	T 0.399	T 1.175	0.547	T 0.519	0.658	0.909	0.420	0.465
Run	**Time**	**66Zn**	**67Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**89Y**	**95Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:30	566.400	523.800	576.200	40.840	103.000	103.900	1.074	84.1%	6 016
2	18:35:56	568.900	518.800	564.100	39.760	106.000	100.700	0.959	83.5%	6.127
3	18:36:22	563.300	507.400	552.600	40.220	102.600	104.200	2.472	83.4%	6.150
x		566.200	516.700	564.300	40.270	103.900	102.900	1.501	83.7%	6 098
σ		2.771	8.428	11.790	0.537	1.885	1.956	0.842	0.4%	0 071
%RSD		0.489	1.631	2.089	1.335	1.814	1.901	56.090	0.4	1.172
Run	**Time**	**97Mo**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:30	5.790	5.747	52.600	53.990	0.570	51.370	52.150	54.400	85.6%
2	18:35:56	6.028	6.019	52.100	54.080	1.249	51.440	53.110	53.860	87.0%
3	18:36:22	5.792	5.822	53.370	53.790	-0.197	51.410	53.310	54.380	87.3%
x		5.870	5.863	52.690	53.950	0.540	51.400	52.860	54.210	86.6%
σ		0.137	0.141	0.638	0.152	0.723	0.036	0.619	0.306	0.9%
%RSD		2.333	2.401	1.210	0.281	133.800	0.070	1.172	0.565	1.1
Run	**Time**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**150Sm**	**156Gd**	**159Tb**	**160Dy**	**164Dy**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:30	105.000	103.900	T 1956.000	T 1962.000	ID 0.044	ID 0.007	92.8%	ID 0.000	ID 0 001
2	18:35:56	106.300	106.100	T 1969.000	T 1990.000	ID 0.043	ID 0.005	94.5%	ID 0.000	ID 0 002
3	18:36:22	105.800	105.300	T 1982.000	T 1990.000	ID 0.035	ID 0.004	96.3%	ID -0.001	ID 0 001
x		105.700	105.100	T 1969.000	T 1981.000	ID 0.041	ID 0.005	94.6%	ID -0.000	ID 0 001
σ		0.642	1.117	T 13.460	T 15.750	ID 0.005	ID 0.002	1.7%	ID 0.001	ID 0 001
%RSD		0.607	1.064	T 0.684	T 0.795	ID 11.920	ID 27.560	1.8	ID 347.400	ID 37 070
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**			
		ppb	ppb	ppb	ppb	ppb	ppb			
1	18:35:30	50.360	49.640	19.560	19.220	19.430	95.0%			
2	18:35:56	51.440	50.910	19.840	19.670	19.830	95.4%			
3	18:36:22	50.050	50.760	19.680	19.240	19.540	97.1%			
x		50.620	50.430	19.690	19.380	19.600	95.8%			
σ		0.730	0.695	0.138	0.255	0.203	1.1%			
%RSD		1.442	1.378	0.702	1.313	1.037	1.2			

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:41:16	100.0%	-0.040	-12.310	T 35630.000	2 678	2.545	2.749	1.475	0 000
2	18:41:42	101.3%	-0.045	-15.710	T 35540.000	2.724	2.290	2.766	1.527	0 000
3	18:42:08	101.9%	0.009	-15.900	T 36120.000	2.702	2.279	2.928	1.808	0 000
x		101.1%	-0.025	-14.640	T 35760.000	2.702	2.371	2 814	1.604	0 000
σ		1.0%	0.030	2.022	T 311.600	0 023	0.150	0 099	0.179	0 000
%RSD		1.0	118.000	13.810	T 0.871	0 857	6.339	3 524	11.170	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:41:16	0.000	T 65820.000	675.200	1.692	184 500	85.6%	0.900	-1.950	0 514
2	18:41:42	0.000	T 65650.000	661.100	6.264	180.700	86.7%	0 814	-2.498	0.466
3	18:42:08	0.000	T 65370.000	661.000	13.130	173 500	87.5%	0 826	-1.213	0.493
x		0.000	T 65610.000	665.700	7.030	179 600	86.6%	0 847	-1.887	0.491
σ		0.000	T 225.700	8.157	5.760	5 631	0.9%	0 047	0.645	0 024
%RSD		0.000	T 0.344	1.225	81.920	3.136	1.1	5 533	34.180	4.900

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:41:16	51.630	0.471	32.690	26.960	-0 005	0.101	-2 514	3.388	3.408
2	18:41:42	52.700	0.474	32.460	25.130	-0 003	0.105	-2 281	3.308	3 349
3	18:42:08	51.600	0.446	31.600	25.340	-0 013	0.112	-2 572	3.306	3 389
x		51.980	0.464	32.250	25.810	-0 007	0.106	-2.456	3.334	3 382
σ		0.626	0.015	0.576	0.998	0 005	0.005	0.154	0.047	0 030
%RSD		1.204	3.239	1.785	3.866	79 230	5.134	6 289	1.406	0 880

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:41:16	6.714	8.548	6.411	-0.126	-0.409	-0.352	0 638	84.9%	5 865
2	18:41:42	6.550	7.781	6.045	-0.177	-0 270	0.034	0 374	84.6%	5 817
3	18:42:08	6.684	7.761	6.312	-0.177	-0 029	-0.102	1 076	83.8%	5.903
x		6.649	8.030	6.256	-0.160	-0 236	-0.140	0 696	84.5%	5 862
σ		0.087	0.449	0.189	0.030	0.193	0.196	0 355	0.6%	0 043
%RSD		1.314	5.592	3.021	18.600	81 620	139.700	50.970	0.7	0.737

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:41:16	5.891	5.798	-0.010	-0.009	0 050	-0.004	-0 030	-0.006	87.5%
2	18:41:42	5.754	5.641	-0.768	-0.012	0 343	-0.008	-0 012	-0.016	88.1%
3	18:42:08	6.030	5.866	-0.678	-0.010	0 331	-0.010	-0 018	-0.017	87.9%
x		5.891	5.768	-0.486	-0.010	0 241	-0.007	-0 020	-0.013	87.8%
σ		0.138	0.115	0.414	0.001	0.166	0.003	0 009	0.006	0.3%
%RSD		2.343	1.998	85.250	11.190	68 660	37.460	45 390	44.950	0.4

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:41:16	-0.197	-0.217	-0.002	0.009	ID 0 000	ID 0.000	95 3%	ID -0.001	ID 0 001
2	18:41:42	-0.192	-0.189	-0.014	-0.010	ID 0 001	ID 0.001	97.1%	ID -0.000	ID 0 001
3	18:42:08	-0.179	-0.183	-0.030	-0.008	ID 0 001	ID 0.002	96.4%	ID 0.001	ID 0 003
x		-0.189	-0.196	-0.016	-0.003	ID 0 001	ID 0.001	96 3%	ID 0.000	ID 0 001
σ		0.009	0.018	0.014	0.010	ID 0 000	ID 0.001	0.9%	ID 0.001	ID 0 001
%RSD		4.843	9.238	88.750	311.700	ID 58 890	ID 120.400	0.9	ID 5298.000	ID 63.990

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	18:41:16	-0.026	-0.027	0.130	0.116	0.126	96.6%
2	18:41:42	-0.024	-0.024	0.127	0.119	0.127	96.8%
3	18:42:08	-0.025	-0.029	0.144	0.117	0.125	97.4%
x		-0.025	-0.026	0.134	0.117	0.126	96.9%
σ		0.001	0.002	0.009	0.001	0 001	0.5%
%RSD		4.295	8.682	6.751	1.222	0 849	0.5

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:47:01	92.1%	-0.051	6.205	T 8520.000	1.280	0.746	1.234	0.907	0 000
2	18:47:27	93.8%	-0.042	0.930	T 8423.000	1.154	0.922	1.149	0.837	0 000
3	18:47:53	95.1%	-0.028	5.060	T 8558.000	1.201	0.675	1.013	0.873	0 000
x		93.7%	-0.040	4.065	T 8500.000	1.212	0.781	1.132	0.872	0 000
σ		1.5%	0.012	2.775	T 69.850	0.064	0.127	0.112	0.035	0 000
%RSD		1 6	29.060	68.260	T 0.822	5.262	16.300	9.865	3.981	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:47:01	0.000	T 14720.000	140.600	5.870	44.390	83.3%	0.230	-0.766	0.107
2	18:47:27	0.000	T 14740.000	137.500	0.586	38.240	85.9%	0.240	-0.279	0 097
3	18:47:53	0.000	T 14850.000	135.300	10.250	42.170	85.9%	0.193	-0.262	0.115
x		0.000	T 14770.000	137.800	5.569	41.600	85.0%	0.221	-0.436	0.106
σ		0.000	T 72.500	2.694	4.840	3.114	1.5%	0.025	0.286	0 009
%RSD		0.000	T 0.491	1.955	86.910	7.487	1.8	11.220	65.750	8.104

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:47:01	14.040	0.051	12.300	2.443	-0.020	0.013	-3.271	0.626	0 665
2	18:47:27	13.810	0.051	10.840	2.593	-0.016	0.038	-3.855	0.653	0 695
3	18:47:53	13.750	0.062	10.960	3.604	-0.015	0.025	-3.290	0.625	0 687
x		13.870	0.055	11.370	2.880	-0.017	0.025	-3.472	0.634	0 683
σ		0.153	0.006	0.810	0.631	0.003	0.012	0.332	0.016	0 015
%RSD		1.104	11.320	7.128	21.930	14.640	48.610	9.564	2.533	2 256

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:47:01	1.462	1.869	1.531	-0.001	0.074	0.091	0.936	84.6%	1 043
2	18:47:27	1.644	2.011	1.483	-0.026	-0.224	0.074	0.689	87.2%	1 064
3	18:47:53	1.536	1.901	1.343	0.117	-0.395	0.128	0.934	87.7%	1.145
x		1.548	1.927	1.452	0.030	-0.182	0.098	0.853	86.5%	1 084
σ		0.092	0.074	0.098	0.076	0.238	0.028	0.142	1.7%	0 054
%RSD		5.938	3.864	6.729	252.100	130.800	28.280	16.610	2.0	4.987

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:47:01	1.043	1.158	-0.406	-0.013	0.175	-0.010	-0.021	-0.020	87.5%
2	18:47:27	1.050	1.084	-0.347	-0.011	0.129	-0.009	-0.019	-0.019	91.6%
3	18:47:53	1.096	1.046	-0.347	-0.014	0.173	-0.010	-0.021	-0.022	91.3%
x		1.063	1.096	-0.367	-0.013	0.159	-0.010	-0.020	-0.020	90.1%
σ		0.029	0.057	0.034	0.002	0.026	0.000	0.001	0.002	2.3%
%RSD		2.686	5.215	9.195	12.020	16.270	4.444	4.346	7.531	2.6

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:47:01	-0.217	-0.199	-0.018	-0.037	ID 0.000	ID 0.000	93.4%	ID -0.001	ID 0 000
2	18:47:27	-0.218	-0.190	-0.055	-0.053	ID -0.000	ID 0.000	96 5%	ID -0.001	ID 0 000
3	18:47:53	-0.218	-0.215	-0.029	-0.036	ID -0.000	ID 0.000	97 5%	ID 0.000	ID -0 000
x		-0.217	-0.201	-0.034	-0.042	ID 0.000	ID 0.000	95 8%	ID -0.000	ID 0 000
σ		0.001	0.012	0.019	0.009	ID 0.000	ID 0.000	2.1%	ID 0.001	ID 0 000
%RSD		0.339	6.201	55.930	22.280	ID 1807.000	ID 86.640	2.2	ID 162.400	ID 165.100

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	18:47:01	-0.037	-0.036	0.004	-0.007	0.003	93.2%
2	18:47:27	-0.039	-0.037	0.000	0.007	0.004	96.9%
3	18:47:53	-0.035	-0.037	0.010	-0.002	0.006	97.8%
x		-0.037	-0.037	0.005	-0.001	0.005	96.0%
σ		0.002	0.001	0.005	0.007	0.001	2.4%
%RSD		5.194	1.896	108.100	1228.000	23.460	2.5

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:52:48	98.2%	2.106	-10.570	T 36220.000	T 919.300	896.600	905.600	38.830	0 000
2	18:53:13	100.5%	2.083	-17.310	T 36370.000	T 920.100	896.500	903.500	38.330	0 000
3	18:53:39	101.2%	2.009	-13.830	T 36960.000	T 931.100	915.400	910.400	39.060	0 000
x		100.0%	2.066	-13.910	T 36520.000	T 923.500	902.800	906.500	38.740	0 000
σ		1.6%	0.051	3.367	T 395.300	T 6.605	10.900	3.555	0.375	0 000
%RSD		1.6	2.450	24.210	T 1.082	T 0.715	1.207	0.392	0.969	0 000
Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:52:48	0.000	T 65600.000	T 1593.000	995.300	1145.000	84.6%	0.951	7.972	4.415
2	18:53:13	0.000	T 65950.000	T 1623.000	1100.000	1159.000	85.6%	0.920	7.830	4 584
3	18:53:39	0.000	T 65300.000	T 1582.000	1016.000	1138.000	85.7%	0.805	7.814	4 519
x		0.000	T 65610.000	T 1599.000	1037.000	1147.000	85.3%	0.892	7.872	4 506
σ		0.000	T 325.600	T 21.320	55.180	10.640	0.6%	0.077	0.087	0 085
%RSD		0.000	T 0.496	T 1.333	5.321	0.927	0.7	8.583	1.106	1 892
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:52:48	54.390	2.428	469.800	450.300	2.002	2.281	-1.467	7.754	7.497
2	18:53:13	55.880	2.445	461.600	447.800	1.920	2.212	-1.094	7.434	7 690
3	18:53:39	55.700	2.422	463.900	454.800	1.990	2.210	-1.372	7.608	7 809
x		55.320	2.432	465.100	451.000	1.971	2.234	-1.311	7.599	7 665
σ		0.813	0.012	4.255	3.544	0.044	0.040	0.194	0.160	0.158
%RSD		1.469	0.489	0.915	0.786	2.239	1.802	14.760	2.108	2 055
Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:52:48	11.330	13.540	10.860	2.858	9.945	10.880	0.602	82.3%	5.773
2	18:53:13	11.430	13.260	10.380	2.204	10.320	10.500	0.402	83.9%	5.736
3	18:53:39	11.210	13.040	11.160	2.050	9.872	9.294	0.131	83.9%	5.783
x		11.320	13.280	10.800	2.370	10.050	10.220	0.378	83.4%	5.764
σ		0.111	0.252	0.395	0.429	0.241	0.827	0.236	0.9%	0 025
%RSD		0.981	1.898	3.655	18.090	2.402	8.085	62.410	1.1	0.436
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:52:48	5.618	5.590	1.432	2.110	0.358	2.042	2.179	2.057	85.7%
2	18:53:13	5.687	5.559	1.248	2.066	0.525	2.047	2.089	2.223	87.9%
3	18:53:39	5.618	5.693	1.356	2.128	0.187	1.965	2.092	2.140	86.9%
x		5.641	5.614	1.345	2.101	0.356	2.018	2.120	2.140	86.8%
σ		0.040	0.070	0.093	0.032	0.169	0.046	0.051	0.083	1.1%
%RSD		0.707	1.247	6.900	1.511	47.380	2.268	2.424	3.884	1.3
Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:52:48	3.887	3.684	19.810	20.460	ID 0.001	ID 0.001	94.4%	ID -0.002	ID 0 001
2	18:53:13	3.778	3.817	19.890	20.050	ID 0.002	ID 0.001	95.8%	ID -0.001	ID 0 001
3	18:53:39	3.870	3.836	19.850	21.020	ID 0.002	ID 0.001	96.3%	ID 0.000	ID 0 001
x		3.845	3.779	19.850	20.510	ID 0.002	ID 0.001	95.5%	ID -0.001	ID 0 001
σ		0.059	0.083	0.039	0.486	ID 0.001	ID 0.000	1.0%	ID 0.001	ID 0 000
%RSD		1.525	2.185	0.194	2.372	ID 55.820	ID 34.320	1.0	ID 104.700	ID 13.940
Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi			
		ppb	ppb	ppb	ppb	ppb	ppb			
1	18:52:48	1.937	1.921	2.074	2.001	2.061	96.0%			
2	18:53:13	1.986	1.905	2.125	2.075	2.074	96.3%			
3	18:53:39	2.015	1.913	2.085	2.120	2.109	95.7%			
x		1.979	1.913	2.094	2.065	2.081	96.0%			
σ		0.039	0.008	0.027	0.060	0.025	0.3%			
%RSD		1.972	0.403	1.285	2.915	1.209	0.3			

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:58:36	98.5%	45.310	-8.144	T 35760.000	2.985	2.780	2.568	2.981	0 000
2	18:59:02	99.6%	45.850	-15 370	T 36970.000	3.041	2 309	2.650	3 253	0 000
3	18:59:28	99.6%	46.780	-14.400	T 37400.000	2.951	2 693	2.894	3.133	0 000
x		99.2%	45.980	-12 640	T 36710.000	2.992	2 594	2.704	3.122	0 000
σ		0.6%	0.743	3.920	T 851.400	0.045	0 250	0.169	0.136	0 000
%RSD		0.6	1.616	31 020	T 2.319	1.513	9 652	6.265	4 365	0 000
Run	**Time**	**34S**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:58:36	0.000	T 68490.000	679.400	23.430	184.600	84.9%	0.833	T 440 000	185 300
2	18:59:02	0.000	T 69630.000	694 500	9.126	190.200	84.3%	0.954	T 437.100	184 600
3	18:59:28	0.000	T 70100.000	702 500	28.380	188.000	84.6%	1.027	T 442 000	183 000
x		0.000	T 69410.000	692.100	20.310	187.600	84.6%	0.938	T 439.700	184 300
σ		0.000	T 823.900	11.770	10.000	2.858	0.3%	0.098	T 2.452	1 207
%RSD		0.000	T 1.187	1.701	49.230	1.523	0.4	10.450	T 0 558	0 655
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**62Ni**	**63Cu**	**65Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:58:36	48.070	T 449.600	T 964.900	979.300	T 451.100	491.100	473.900	250.900	248 500
2	18:59:02	47.910	T 453.500	T 973.700	1005.000	T 449.900	488.400	463.900	249.900	243.900
3	18:59:28	48.150	T 450.100	T 973.100	1014.000	T 450.900	486 300	466.200	250.400	245.700
x		48.040	T 451.100	T 970 600	999.600	T 450.600	488 600	468.000	250.400	246 000
σ		0.123	T 2.126	T 4 895	18.180	T 0.670	2 392	5.226	0.465	2 317
%RSD		0.256	T 0.471	T 0 504	1.819	T 0.149	0.490	1.117	0.186	0.942
Run	**Time**	**66Zn**	**67Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**89Y**	**95Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:58:36	521.200	465.600	500 200	36.870	94.540	95.790	1.853	82 2%	5.968
2	18:59:02	512.300	459.300	498 300	37.440	95.320	96 080	0.717	83 0%	5.780
3	18:59:28	517.600	453.000	492 200	36.270	93.100	94 090	1.445	82 0%	5.919
x		517.100	459.300	496.900	36.860	94.320	95 320	1.338	82.4%	5 889
σ		4.467	6.293	4.198	0.584	1.123	1 071	0.575	0 5%	0 098
%RSD		0.864	1.370	0 845	1.583	1.191	1.124	42.990	0.6	1 659
Run	**Time**	**97Mo**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:58:36	6.019	5.728	50.190	48.960	-0.503	46.770	48.010	48.970	87.3%
2	18:59:02	6.163	5.720	51.430	49.250	-1.706	46.950	47.740	49.160	87.5%
3	18:59:28	5.830	5.642	48 260	48.540	1.250	47.450	48.310	49 020	88.1%
x		6.004	5.697	49.960	48.920	-0.320	47 050	48.020	49 050	87.6%
σ		0.167	0.048	1 594	0.355	1.486	0 352	0.285	0 099	0.4%
%RSD		2.785	0.837	3.191	0.726	464.700	0.748	0.594	0 201	0.5
Run	**Time**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**150Sm**	**156Gd**	**159Tb**	**160Dy**	**164Dy**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:58:36	95.160	95.440	T 1762 000	T 1783.000	ID 0.032	ID 0 005	95.0%	ID 0 000	ID 0 001
2	18:59:02	96.030	94.770	T 1795 000	T 1809.000	ID 0.043	ID 0 004	96.8%	ID 0 001	ID 0 000
3	18:59:28	95.390	95.580	T 1769 000	T 1793.000	ID 0.033	ID 0 004	97.1%	ID -0 001	ID 0 001
x		95.530	95.260	T 1775 000	T 1795.000	ID 0.036	ID 0 005	96.3%	ID -0 000	ID 0 001
σ		0.453	0.431	T 16 880	T 13.140	ID 0.006	ID 0 000	1.1%	ID 0 001	ID 0 001
%RSD		0.474	0.453	T 0.951	T 0.732	ID 16.670	ID 9 621	1.2	ID 1661 000	ID 69.720
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**			
		ppb	ppb	ppb	ppb	ppb	ppb			
1	18:58:36	45.890	45.300	18 020	17.730	17.860	96.9%			
2	18:59:02	46.010	45.730	17.960	17.510	17.820	98.3%			
3	18:59:28	46.450	46.060	18 260	17.990	18.120	98.4%			
x		46.110	45.700	18 080	17.740	17.930	97.9%			
σ		0.295	0.380	0.157	0.239	0.160	0.8%			
%RSD		0.640	0.832	0 870	1.346	0.891	0 8			

CV007 ISM-2068 6/5/2018 19:03:58 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:04:24	77.2%	506 200	17 380	τ 65430 000	τ 64770.000	τ 64510.000	τ 63710.000	τ 62330.000	0 000
2	19:04:50	79.4%	499 800	5.446	τ 62160 000	τ 62280.000	τ 61630.000	τ 61440.000	τ 60970.000	0 000
3	19:05:16	79.9%	503 500	10.120	τ 62630 000	τ 62550.000	τ 62560.000	τ 61150.000	τ 60910.000	0 000
x		78.9%	100.631%	10.980	τ 105.677%	τ 63200.000	τ 62900.000	τ 103.495%	τ 102.337%	0 000
σ		1.4%	n/a	6 013	τ n/a	τ 1368.000	τ 1470.000	τ n/a	τ n/a	0 000
%RSD		1.8	0 629	54.750	τ 2.784	τ 2.165	τ 2.338	τ 2.261	τ 1.303	0 000
Run	**Time**	**34S**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:04:24	0.000	504 600	τ 59700 000	59070 000	τ 59260.000	71.7%	968.400	τ 967.900	τ 971 300
2	19:04:50	0.000	424 500	τ 57850 000	58570 000	τ 58290.000	76.2%	977.300	τ 991.100	τ 995 200
3	19:05:16	0.000	443.100	τ 58380 000	58600 000	τ 59000.000	76.3%	982.000	τ 990.100	τ 997 500
x		0.000	457.400	τ 97.738%	58750 000	τ 98.084%	74.7%	97.592%	τ 98.300%	τ 98.798%
σ		0.000	41.960	τ n/a	279 300	τ n/a	2.6%	n/a	τ n/a	τ n/a
%RSD		0.000	9.174	τ 1 622	0.475	τ 0.858	3 5	0.708	τ 1.335	τ 1.471
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**62Ni**	**63Cu**	**65Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:04:24	-0.390	τ 981 000	τ 59310 000	τ 58840 000	τ 977.700	1025.000	975.700	τ 971.400	1024 000
2	19:04:50	-8.471	τ 988.700	τ 59710 000	τ 59190 000	τ 1002.000	1043.000	986.800	τ 984.100	1031 000
3	19:05:16	-8.756	τ 996 800	τ 59480 000	τ 59340 000	τ 992.500	1040.000	992.100	τ 984.900	1031 000
x		-5.872	τ 98.885%	τ 59500 000	τ 98.537%	τ 99.089%	103.592%	984.900	τ 980.100	102.846%
σ		4.750	τ n/a	τ 198 600	τ n/a	τ n/a	n/a	8.368	τ 7.530	n/a
%RSD		80.880	τ 0 802	τ 0 334	τ 0.437	τ 1.260	0.926	0.850	τ 0.768	0.402
Run	**Time**	**66Zn**	**67Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**89Y**	**95Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:04:24	1079.000	953.700	1051 000	1026 000	993.000	1007.000	2.135	70.9%	1053 000
2	19:04:50	1070.000	966 200	1064 000	1020 000	1000.000	1041.000	0.145	76.1%	τ 980.900
3	19:05:16	1086.000	981 000	1068 000	1022 000	1012.000	1010.000	1.212	75.8%	τ 993.700
x		107 860%	967 000	1061 000	102.296%	1002.000	101.948%	1.164	74 3%	τ 1009 000
σ		n/a	13 660	8 837	n/a	9.828	n/a	0.996	2.9%	τ 38 370
%RSD		0.725	1.413	0 833	0 300	0.981	1.834	85.540	3.9	τ 3 803
Run	**Time**	**97Mo**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:04:24	1022.000	τ 959 500	1012 000	153.100	14.880	145.900	1039.000	τ 1027.000	75.6%
2	19:04:50	1014.000	τ 960 300	989.400	152.700	24.750	147.100	1041.000	τ 1011.000	79.4%
3	19:05:16	1031.000	τ 974 200	1015 000	155 000	13.210	146.800	1037.000	τ 1022.000	79.0%
x		1022.000	τ 964.700	1005 000	102.408%	17.610	146.600	1039.000	τ 101.986%	78.0%
σ		8.790	τ 8 236	13.980	n/a	6.237	0.603	2.017	τ n/a	2.1%
%RSD		0.860	τ 0 854	1 391	0.795	35.410	0.411	0.194	τ 0.792	2.7
Run	**Time**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**150Sm**	**156Gd**	**159Tb**	**160Dy**	**164Dy**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:04:24	τ 503.700	τ 507.900	τ 4862 000	τ 4931 000	ID 0.063	ID 0.013	80.6%	ID 0.003	ID 0 002
2	19:04:50	τ 500.300	τ 504.900	τ 4928 000	τ 4941 000	ID 0.067	ID 0.017	84.7%	ID 0.000	ID 0 002
3	19:05:16	τ 504.900	τ 515 200	τ 4944 000	τ 4974 000	ID 0.079	ID 0.016	84.1%	ID 0.001	ID 0 003
x		τ 503.000	τ 101.866%	τ 98.229%	τ 4948 000	ID 0.070	ID 0.015	83.1%	ID 0.002	ID 0 002
σ		τ 2.375	τ n/a	τ n/a	τ 22 240	ID 0.008	ID 0.002	2.2%	ID 0.001	ID 0 001
%RSD		τ 0.472	τ 1 038	τ 0 887	τ 0.449	ID 11.490	ID 15.930	2.7	ID 91.090	ID 24.700
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**			
		ppb	ppb	ppb	ppb	ppb	ppb			
1	19:04:24	τ 500.700	τ 485 800	τ 977 200	τ 968 600	τ 977.600	80.3%			
2	19:04:50	τ 508.200	τ 493 000	τ 995 200	τ 993 800	τ 996.500	81.6%			
3	19:05:16	τ 509.700	τ 492.700	τ 992.100	τ 997 600	τ 992.700	82.1%			
x		τ 506.200	τ 98.092%	τ 988 200	τ 986.700	τ 98.895%	81 3%			
σ		τ 4.788	τ n/a	τ 9 591	τ 15.750	τ n/a	0.9%			
%RSD		τ 0.946	τ 0 832	τ 0.971	τ 1 596	τ 1.010	1.1			

CB007 IM8714-01 6/5/2018 19:09:48 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:10:14	89.1%	-0.019	1 547	9.756	1.407	1.616	1.338	1.287	0 000
2	19:10:40	90.9%	0.005	11 290	10.090	1 232	0.873	1.066	1.099	0 000
3	19:11:06	91.9%	0.019	4 068	9.201	1 214	0.777	1.217	1.157	0 000
x		90.7%	0.002	5 636	9.683	1 284	1.089	1.207	1.181	0 000
σ		1.4%	0.019	5 058	0.449	0.107	0.459	0.137	0.096	0 000
%RSD		1 6	975.900	89.750	4.641	8 300	42.200	11.310	8.130	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:10:14	0.000	217.700	6.198	-4.140	0 042	84.8%	0.035	0.067	0 030
2	19:10:40	0.000	224.900	5 087	-6.636	-0.929	86.2%	-0.004	-0.089	0 017
3	19:11:06	0.000	242.400	4 818	-2.998	-0.705	86.1%	0.061	-0.031	0 044
x		0.000	228.400	5 368	-4.591	-0 530	85.7%	0.031	-0.018	0 031
σ		0.000	12.690	0.732	1.861	0 508	0.8%	0.033	0.079	0 014
%RSD		0.000	5.557	13 630	40.520	95 850	0.9	107.300	451.400	45 080

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:10:14	0.944	0.016	1 529	1.433	0 031	0.028	4.040	0.146	0 005
2	19:10:40	0.997	0.036	1.771	2.210	0 010	0.037	2.193	0.160	0 019
3	19:11:06	0.895	0.025	1 079	0.027	0 012	0.041	2.582	0.121	0 001
x		0.945	0.026	1.460	1.223	0 018	0.036	2.938	0.142	0 008
σ		0.051	0.010	0 351	1.106	0 012	0.007	0.974	0.020	0 009
%RSD		5.418	39.350	24 070	90.420	66 320	18.450	33.130	13.740	112.400

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:10:14	0.003	0.122	0 094	0.135	-0.133	-0.002	0.559	87.4%	0 217
2	19:10:40	0.010	0.209	0 078	-0.005	0 266	-0.060	0.007	88.0%	0 263
3	19:11:06	0.004	0.076	0 097	-0.016	0 303	-0.109	0.878	89.2%	0 235
x		0.006	0.136	0 090	0.038	0.145	-0.057	0.481	88.2%	0 238
σ		0.004	0.068	0 010	0.084	0 242	0.053	0.441	0.9%	0 023
%RSD		69.270	50.000	11 050	223.700	166.100	93.440	91.500	1.1	9 801

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:10:14	0.229	0.284	-0 360	0.007	0.156	0.009	0.024	0.025	90.9%
2	19:10:40	0.181	0.282	-0.115	0.012	0 036	0.009	0.019	0.014	91.9%
3	19:11:06	0.242	0.216	-0 384	0.005	0.165	0.004	0.016	0.016	93.8%
x		0.218	0.261	-0 286	0.008	0.119	0.007	0.020	0.018	92.2%
σ		0.032	0.039	0.149	0.003	0 072	0.003	0.004	0.006	1.5%
%RSD		14.940	14.790	51 880	41.050	60 840	40.400	21.100	30.790	1.6

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:10:14	0.091	0.101	0.122	0.150	ID 0 000	ID 0.000	94.3%	ID -0.001	ID 0 000
2	19:10:40	0.154	0.132	0.106	0.095	ID -0 000	ID 0.000	96.0%	ID -0.002	ID 0 000
3	19:11:06	0.101	0.126	0 078	0.110	ID -0 000	ID 0.000	98.6%	ID -0.001	ID 0 000
x		0.116	0.120	0.102	0.118	ID 0 000	ID 0.000	96.3%	ID -0.001	ID 0 000
σ		0.034	0.016	0 022	0.029	ID 0 000	ID 0.000	2.1%	ID 0.001	ID 0 000
%RSD		29.250	13.500	21.900	24.200	ID 2131 000	ID 0.000	2.2	ID 48.130	ID 3.180

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:10:14	-0.000	-0.002	0 026	0.015	0 023	95.9%
2	19:10:40	0.006	-0.006	0 026	0.021	0 027	97.2%
3	19:11:06	0.004	-0.006	0 020	0.015	0 021	99.1%
x		0.003	-0.005	0 024	0.017	0 024	97.4%
σ		0.003	0.002	0 003	0.003	0 003	1.6%
%RSD		103.800	48.860	14 620	20.590	12 020	1.6

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:16:02	100 5%	0.070	4.149	T 5240.000	744.100	698.200	692.300	4 304	0 000
2	19:16:28	101 6%	-0.004	3.149	T 5444.000	763 600	711.000	707.000	4.454	0 000
3	19:16:54	102 3%	0.013	8.682	T 5497.000	T 720.700	715.500	706.800	4 563	0 000
x		101 5%	0.026	5.327	T 5393.000	T 742 800	708.200	702.000	4.440	0 000
σ		0.9%	0.039	2.948	T 135.700	T 21.470	8.972	8.414	0.130	0 000
%RSD		0.9	147.900	55.350	T 2.516	T 2 891	1.267	1.199	2.937	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:16:02	0.000	T 64290.000	T 1518.000	3174.000	2972 000	86.0%	0.821	-1.471	0.925
2	19:16:28	0.000	T 65280.000	T 1541.000	3101.000	3031 000	85.9%	0.870	-1 615	0 879
3	19:16:54	0.000	T 65800.000	T 1543.000	2989.000	3046 000	86.4%	0.808	-1 016	0 890
x		0.000	T 65120.000	T 1534.000	3088.000	3016 000	86.1%	0.833	-1 367	0 898
σ		0.000	T 767.500	T 13.840	93.010	39.100	0.3%	0.032	0 313	0 024
%RSD		0.000	T 1.178	T 0.902	3.012	1 296	0.3	3.893	22 880	2 640

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:16:02	48.230	3.434	244.700	245.600	0 003	0.464	0.677	116 500	115 300
2	19:16:28	48.140	3.466	247.400	245.900	0 010	0.459	-0.072	116.700	114 600
3	19:16:54	47.880	3.324	245.200	246.800	-0 002	0.500	-1.172	115.900	112 600
x		48.090	3.408	245.700	246.100	0 004	0.474	-0.189	116.400	114 200
σ		0.182	0.075	1.460	0.634	0 006	0.022	0.930	0.418	1 378
%RSD		0.379	2.187	0.594	0.258	148 800	4.670	492.100	0 360	1 206

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:16:02	10.800	12.490	10.160	0.421	0.157	0.098	0.554	83.4%	0 288
2	19:16:28	10.900	11.830	10.150	-0.104	0 045	0.184	0.696	83 3%	0 351
3	19:16:54	10.620	10.990	10.550	-0.215	0.119	-0.090	0.831	83 3%	0 318
x		10.780	11.770	10.290	0.034	0.107	0.064	0.694	83 3%	0 319
σ		0.140	0.751	0.225	0.340	0 057	0.141	0.138	0.1%	0 032
%RSD		1.300	6.384	2.184	994.200	53.430	219.000	19.930	0.1	9.912

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:16:02	0.319	0.290	-0.600	-0.006	0 241	-0.003	0.009	0 024	86.6%
2	19:16:28	0.372	0.313	-0.520	0.001	0 221	0.005	0.018	0 033	87.1%
3	19:16:54	0.283	0.312	-0.122	0.002	0 062	0.001	0.009	0 031	87.4%
x		0.325	0.305	-0.414	-0.001	0.175	0.001	0.012	0 029	87.0%
σ		0.045	0.013	0.256	0.004	0 099	0.004	0.005	0 005	0.4%
%RSD		13.890	4.110	61.860	347.700	56 370	493.800	43.480	17 380	0.5

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:16:02	0.183	0.148	18.220	18.850	ID 0 005	ID 0.006	92.5%	ID 0 004	ID 0 006
2	19:16:28	0.179	0.248	18.120	19.040	ID 0 005	ID 0.003	94.7%	ID 0 004	ID 0 006
3	19:16:54	0.197	0.222	17.920	19.180	ID 0 006	ID 0.006	94.8%	ID 0 002	ID 0 006
x		0.186	0.206	18.090	19.020	ID 0 005	ID 0.005	94.0%	ID 0 003	ID 0 006
σ		0.009	0.051	0.154	0.165	ID 0 000	ID 0.002	1.3%	ID 0 001	ID 0 000
%RSD		4.878	25.010	0.849	0.868	ID 6.783	ID 29.230	1.4	ID 40.440	ID 2.704

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:16:02	-0.029	-0.033	2.957	2.795	2 860	96.0%
2	19:16:28	-0.030	-0.035	3.093	2.886	2.959	97.3%
3	19:16:54	-0.032	-0.036	3.104	2.894	2.964	98.0%
x		-0.030	-0.035	3.051	2.858	2.928	97.1%
σ		0.002	0.001	0.082	0.055	0 059	1.0%
%RSD		4.999	4.042	2.688	1.934	2 001	1.0

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:21:50	98.8%	0.069	11 530	T 5464 000	T 731.800	734.100	735.100	2.366	0 000
2	19:22:16	99.1%	0.007	22 240	T 5667 000	799.500	733.000	730 000	2.200	0 000
3	19:22:42	100.9%	0.010	7.190	T 5579 000	T 743.100	734.600	736 500	2.060	0 000
x		99.6%	0.029	13 650	T 5570 000	T 758.100	733.900	733 800	2.209	0 000
σ		1.1%	0.035	7.749	T 101.700	T 36.280	0.779	3 383	0.153	0 000
%RSD		1.1	121.300	56.750	T 1 826	T 4.785	0.106	0.461	6.932	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:21:50	0.000	T 70600.000	T 1580 000	3223 000	3129.000	83.9%	0.747	-2.814	0 818
2	19:22:16	0.000	T 71020.000	T 1603 000	3301 000	3187.000	81.1%	0 606	-0.811	0.729
3	19:22:42	0.000	T 70200.000	T 1568 000	3265 000	3122.000	84.5%	0.703	-2.565	0.737
x		0.000	T 70610.000	T 1584 000	3263 000	3146.000	83.2%	0 686	-2.063	0.761
σ		0.000	T 408.900	T 17 680	38 580	35.500	1.8%	0 072	1.092	0 049
%RSD		0.000	T 0.579	T 1.116	1.183	1.128	2.1	10 520	52.900	6 502

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:21:50	52.740	3.265	212 200	209 300	-0.001	0.468	-1 006	123.300	124.100
2	19:22:16	53.580	3.344	217 000	209 000	0.003	0.459	0 049	125.200	124 500
3	19:22:42	55.210	3.333	210 000	204 800	-0.008	0.391	-1 882	123.400	123 300
x		53.840	3.314	213.100	207.700	-0.002	0.439	-0.946	124.000	124 000
σ		1.258	0.043	3 602	2 545	0.006	0.042	0.967	1.036	0 578
%RSD		2.336	1.294	1 691	1 225	315.600	9.560	102 200	0.836	0.466

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:21:50	10.940	11.490	10 010	-0.477	-0.201	0.313	1 256	83.3%	0.197
2	19:22:16	10.960	12.240	10 640	-0 093	-0.119	-0.200	1.732	79.5%	0 225
3	19:22:42	10.720	11.980	10 600	-0 323	0.073	-0.162	0.418	83.6%	0.178
x		10.870	11.910	10.420	-0 297	-0.083	-0.016	1.135	82.2%	0 200
σ		0.134	0.381	0 355	0.194	0.141	0.286	0 665	2.3%	0 024
%RSD		1.232	3.198	3.408	65 040	170.500	1743.000	58 590	2 8	11.770

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:21:50	0.172	0.218	-0 383	-0 004	0.166	-0.003	0 017	0.031	88.0%
2	19:22:16	0.204	0.220	-0 556	-0 008	0.261	-0.003	0 019	0.022	84.7%
3	19:22:42	0.174	0.215	-0.903	-0 005	0.387	-0.003	0 023	0.020	87.3%
x		0.183	0.218	-0 614	-0 006	0.271	-0.003	0 020	0.025	86.7%
σ		0.018	0.003	0 265	0 002	0.110	0.000	0 003	0.006	1.8%
%RSD		9.884	1.227	43.190	39 840	40.680	16.400	14 370	22.810	2.0

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:21:50	0.096	0.054	18.770	18 880	ID 0.007	ID 0.005	93.7%	ID 0.006	ID 0 005
2	19:22:16	0.080	0.092	18 260	19 220	ID 0.009	ID 0.006	93.7%	ID 0.005	ID 0 006
3	19:22:42	0.101	0.100	18 390	19 260	ID 0.003	ID 0.005	96.7%	ID 0.002	ID 0 005
x		0.092	0.082	18.470	19.120	ID 0.006	ID 0.005	94.7%	ID 0.004	ID 0 005
σ		0.011	0.024	0 267	0 206	ID 0.003	ID 0.000	1.7%	ID 0.002	ID 0 000
%RSD		12.320	29.850	1.447	1 079	ID 49.940	ID 8.221	1.8	ID 50.060	ID 9.139

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:21:50	-0.035	-0.038	2 806	2 580	2.679	99.7%
2	19:22:16	-0.038	-0.039	2 834	2 680	2.726	97.3%
3	19:22:42	-0.039	-0.041	2.781	2 619	2.697	99.9%
x		-0.037	-0.039	2 807	2 626	2.701	99.0%
σ		0.002	0.001	0 027	0 050	0.024	1.4%
%RSD		5.761	3.243	0.957	1.907	0.888	1 5

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:27:37	96.7%	0.019	7.940	T 6758.000	T 936.600	919.400	913 000	7 656	0 000
2	19:28:03	98.8%	0.026	11.090	T 6923.000	T 945.800	926.600	928.400	6.975	0 000
3	19:28:30	100.9%	0.042	5.926	T 6959.000	T 954.000	938.400	941 000	7 370	0 000
x		98.8%	0.029	8.318	T 6880.000	T 945.500	928.100	927 500	7 334	0 000
σ		2.1%	0.012	2.602	T 107.400	T 8.740	9.574	14 000	0 342	0 000
%RSD		2.1	40.790	31.280	T 1.561	T 0.924	1.032	1 510	4 661	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:27:37	0.000	T 66250.000	T 2035.000	4348.000	4300.000	84.0%	0 660	-0 870	0 636
2	19:28:03	0.000	T 67530.000	T 2061.000	4385.000	4369.000	83.5%	0 635	-2.421	0 656
3	19:28:30	0.000	T 69020.000	T 2102.000	4706.000	4467.000	84.0%	0 621	-2.195	0 646
x		0.000	T 67600.000	T 2066.000	4480.000	4379.000	83.8%	0 639	-1 829	0 646
σ		0.000	T 1387.000	T 33.850	196.500	84.170	0.3%	0 020	0 838	0 010
%RSD		0.000	T 2.052	T 1.639	4.387	1.922	0.3	3.103	45 810	1 520

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:27:37	55.170	4.103	25.530	24.250	-0.002	0.413	-2 089	32 550	32 640
2	19:28:03	57.490	4.096	25.920	24.760	0.009	0.367	-2 301	32.770	32 340
3	19:28:30	58.730	4.110	26.290	27.740	0.005	0.385	-2 330	32 850	32 830
x		57.130	4.103	25.920	25.580	0.004	0.389	-2 240	32.720	32 610
σ		1.806	0.007	0.380	1.885	0.006	0.023	0.132	0.159	0 245
%RSD		3.161	0.174	1.466	7.369	137.400	5.994	5 883	0.485	0.751

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:27:37	23.570	23.760	23.070	-0.224	-0.142	0.231	-0 642	82 3%	1 023
2	19:28:03	23.480	23.560	22.620	-0.317	-0.091	-0.194	0.764	81.9%	0.985
3	19:28:30	23.540	22.710	22.510	-0.391	-0.305	0.081	0 547	84 0%	1 027
x		23.530	23.340	22.730	-0.311	-0.179	0.039	0 223	82.7%	1 012
σ		0.045	0.559	0.299	0.084	0.112	0.216	0.756	1.1%	0 023
%RSD		0.190	2.393	1.317	26.980	62.270	548.100	339.400	1.3	2 293

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:27:37	1.045	0.997	-0.533	-0.005	0.238	-0.000	0 034	0 030	84.9%
2	19:28:03	0.995	0.971	0.040	-0.001	-0.004	0.004	0 022	0 032	84.3%
3	19:28:30	0.954	0.988	-0.192	-0.006	0.112	0.002	0 017	0 034	87.5%
x		0.998	0.985	-0.228	-0.004	0.116	0.002	0 024	0 032	85.6%
σ		0.046	0.013	0.288	0.002	0.121	0.002	0 009	0 002	1.7%
%RSD		4.606	1.362	126.400	55.770	104.800	109.000	37.440	7 230	2.0

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:27:37	-0.168	-0.161	41.320	43.130	ID 0.027	ID 0.023	91 6%	ID 0 027	ID 0 039
2	19:28:03	-0.171	-0.147	41.500	43.290	ID 0.032	ID 0.026	93 6%	ID 0 025	ID 0 033
3	19:28:30	-0.162	-0.132	41.160	43.050	ID 0.022	ID 0.024	95.1%	ID 0 021	ID 0 033
x		-0.167	-0.147	41.330	43.160	ID 0.027	ID 0.024	93.4%	ID 0 024	ID 0 035
σ		0.005	0.014	0.170	0.118	ID 0.005	ID 0.001	1 8%	ID 0 003	ID 0 003
%RSD		2.868	9.700	0.412	0.275	ID 20.330	ID 5.590	1.9	ID 13 540	ID 8.906

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:27:37	-0.040	-0.042	2.450	2.319	2.352	93.1%
2	19:28:03	-0.035	-0.039	2.468	2.294	2.370	95.1%
3	19:28:30	-0.040	-0.041	2.483	2.268	2.370	98.1%
x		-0.038	-0.041	2.467	2.294	2.364	95.4%
σ		0.003	0.001	0.016	0.025	0.010	2.5%
%RSD		7.221	3.609	0.667	1.106	0.430	2.6

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:33:24	97.9%	-0.039	18.110	T 4283.000	T 5882 000	5826 000	T 5591 000	8.845	0 000
2	19:33:50	98.7%	-0.063	24.160	T 4351.000	T 5864 000	T 5763 000	T 5707 000	9.119	0 000
3	19:34:15	100.7%	-0.013	22.840	T 4440.000	T 5969 000	T 5865 000	T 5753 000	9.164	0 000
x		99.1%	-0.038	21.700	T 4358.000	T 5905 000	T 5818 000	T 5683 000	9.043	0 000
σ		1.4%	0.025	3.178	T 78.740	T 56.460	T 51 520	T 83.160	0.172	0 000
%RSD		1.5	65.570	14.640	T 1.807	T 0.956	T 0 885	T 1.463	1.907	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:33:24	0.000	T 70880.000	986.600	9384.000	8989 000	84.1%	1.196	2.871	6 680
2	19:33:50	0.000	T 70500.000	979.900	9233.000	9002 000	84 3%	1 356	4.600	6.704
3	19:34:15	0.000	T 71260.000	T 949.400	9263.000	8931 000	84 2%	1 291	3.984	6.723
x		0.000	T 70880.000	T 972.000	9294.000	8974 000	84 2%	1 281	3.818	6.702
σ		0.000	T 379.100	T 19.800	80.070	37 830	0.1%	0 080	0.877	0 021
%RSD		0.000	T 0.535	T 2.038	0.862	0.422	0.1	6 283	22.960	0 320

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:33:24	58.940	1.180	149.200	147.600	-0 002	1 390	-2 017	21.990	21.980
2	19:33:50	58.700	1.179	149.600	157.600	-0 000	1.449	-1 860	21.930	22 010
3	19:34:15	59.560	1.149	149.800	153.400	-0 007	1.473	-1 636	22.510	22 010
x		59.070	1.169	149.500	152.900	-0 003	1.438	-1 838	22.150	22 000
σ		0.441	0.018	0.292	4.990	0 004	0 043	0.192	0.320	0 019
%RSD		0.747	1.498	0.195	3.265	112.900	2.966	10.430	1.443	0 086

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:33:24	13.870	12.920	13.430	-0.095	-0.158	-0.106	0 830	83.7%	-0 095
2	19:33:50	14.140	15.490	13.460	-0.143	-0 089	0 005	1 277	82.8%	-0.106
3	19:34:15	13.950	15.680	13.450	0.469	-0 368	0 093	2.957	82.4%	-0 080
x		13.990	14.690	13.440	0.077	-0 205	-0 003	1 688	82.9%	-0 094
σ		0.136	1.543	0.017	0.341	0.145	0.100	1.121	0.7%	0 013
%RSD		0.973	10.500	0.124	443.400	71 060	3749 000	66.440	0.8	14.170

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:33:24	-0.102	-0.099	0.255	-0.005	-0.102	-0 002	-0 019	-0.009	87.3%
2	19:33:50	-0.092	-0.084	-0.637	-0.006	0 280	-0 006	-0 007	-0.009	86.4%
3	19:34:15	-0.101	-0.089	-0.759	-0.004	0 305	-0 005	-0 017	-0.003	86.0%
x		-0.098	-0.091	-0.380	-0.005	0.161	-0 004	-0 014	-0.007	86.6%
σ		0.006	0.008	0.553	0.001	0 228	0 002	0 007	0.003	0.7%
%RSD		5.848	8.485	145.600	21.230	141.400	55 590	47 270	47.200	0.8

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:33:24	-0.191	-0.188	16.330	16.570	ID 0 002	ID 0 002	94 2%	ID 0.001	ID 0 001
2	19:33:50	-0.190	-0.166	16.570	17.130	ID 0 001	ID 0 002	95.4%	ID 0.002	ID 0 002
3	19:34:15	-0.172	-0.178	16.220	16.920	ID 0 002	ID 0 002	95 8%	ID -0.000	ID 0 004
x		-0.184	-0.177	16.370	16.870	ID 0 002	ID 0 002	95.1%	ID 0.001	ID 0 002
σ		0.011	0.011	0.179	0.280	ID 0 001	ID 0 000	0 8%	ID 0.001	ID 0 001
%RSD		5.863	6.357	1.096	1.658	ID 35 370	ID 15.990	0.9	ID 157.400	ID 51 270

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:33:24	-0.044	-0.046	1.298	1.205	1 226	98 2%
2	19:33:50	-0.043	-0.045	1.312	1.216	1 248	96.7%
3	19:34:15	-0.041	-0.044	1.333	1.240	1 262	98 3%
x		-0.042	-0.045	1.314	1.221	1 245	97.7%
σ		0.002	0.001	0.017	0.018	0 018	0.9%
%RSD		4.189	1.810	1.317	1.480	1.436	0.9

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:39:11	98.3%	0 079	16.580	T 7524.000	T 1471 000	1457.000	1449 000	3.736	0 000
2	19:39:36	99.9%	0 002	18.910	T 7669.000	T 1517 000	1485.000	1468 000	3.737	0 000
3	19:40:03	101.1%	0 019	14.070	T 7506.000	T 1488 000	1469.000	1462 000	3.704	0 000
x		99.8%	0 033	16.520	T 7566.000	T 1492 000	1470.000	1460 000	3.726	0 000
σ		1.4%	0 040	2.425	T 89.180	T 23.410	14.010	9 607	0 019	0 000
%RSD		1.4	121 800	14.680	T 1.179	T 1 569	0.953	0 658	0.498	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:39:11	0.000	T 70280 000	T 1854.000	14750.000	14650 000	84.4%	0 599	-1.434	0 894
2	19:39:36	0.000	T 71590 000	T 1903.000	15500.000	14970 000	84.9%	0.491	-1 329	0.956
3	19:40:03	0.000	T 71700 000	T 1918.000	15400.000	15020 000	85.4%	0.469	-2 039	0.949
x		0.000	T 71190 000	T 1891.000	15220.000	14880 000	84.9%	0 519	-1 601	0.933
σ		0.000	T 786.700	T 33.250	407.200	203.100	0.5%	0 070	0 383	0 034
%RSD		0.000	T 1.105	T 1.758	2.676	1 365	0.6	13 380	23.950	3 649

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:39:11	62.970	2 853	18.010	27.700	-0 004	0.418	-2 848	15.950	15.970
2	19:39:36	65.010	2 853	18.220	28.950	-0 004	0.540	-3 505	16 240	16 020
3	19:40:03	66.590	2.905	17.730	26.560	-0 008	0.378	-2.943	15 820	15.900
x		64.860	2 870	17.990	27.740	-0 005	0.445	-3 099	16 000	15.970
σ		1.814	0 030	0.245	1.193	0 002	0.084	0 355	0 211	0 059
%RSD		2.796	1 053	1.364	4.301	44 010	18.930	11.460	1 320	0 372

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:39:11	75.940	66 530	70.480	-0.939	-0 091	-0.034	-0 004	84.1%	-0.117
2	19:39:36	76.870	67 570	72.800	-0.087	0 024	0.171	0 269	84 0%	-0.127
3	19:40:03	76.840	67 070	71.040	0.582	-0.436	-0.055	0 824	83 6%	-0.121
x		76.550	67 060	71.440	-0.148	-0.168	0.027	0 363	83.9%	-0.122
σ		0.529	0 521	1.207	0.762	0 240	0.125	0.422	0 2%	0 005
%RSD		0.691	0.778	1.689	515.300	142.900	458.900	116 200	0.3	4 287

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:39:11	-0.149	-0 079	-0.337	-0.004	0 228	-0.005	0.123	0.155	87.2%
2	19:39:36	-0.140	-0.107	-0.019	-0.004	0 054	-0.001	0.126	0.150	87.1%
3	19:40:03	-0.105	-0.113	-0.144	-0.004	0.185	-0.007	0.140	0.135	88.8%
x		-0.132	-0 099	-0.167	-0.004	0.156	-0.004	0.130	0.147	87.7%
σ		0.023	0 018	0.160	0.000	0 091	0.003	0 009	0 010	0.9%
%RSD		17.670	18 360	96.200	8.947	58 070	76.280	6.963	7 073	1.1

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:39:11	-0.145	-0.119	78.640	81.580	ID 0 011	ID 0.013	94.6%	ID 0 009	ID 0 021
2	19:39:36	-0.135	-0.113	79.560	82.690	ID 0 018	ID 0.013	95.0%	ID 0 018	ID 0 022
3	19:40:03	-0.125	-0.126	79.140	83.330	ID 0 016	ID 0.012	97.5%	ID 0 013	ID 0 020
x		-0.135	-0.119	79.110	82.540	ID 0 015	ID 0.013	95.7%	ID 0 014	ID 0 021
σ		0.010	0 007	0.459	0.883	ID 0 004	ID 0.001	1.6%	ID 0 004	ID 0 001
%RSD		7.501	5 574	0.580	1.070	ID 23 610	ID 4.214	1.7	ID 32 850	ID 6 075

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:39:11	-0.035	-0 037	1.513	1.374	1.448	97.9%
2	19:39:36	-0.033	-0 035	1.493	1.434	1.475	98.7%
3	19:40:03	-0.034	-0 036	1.538	1.421	1.455	99.6%
x		-0.034	-0 036	1.515	1.410	1.459	98.7%
σ		0.001	0 001	0.022	0.032	0 014	0.8%
%RSD		4.115	2 213	1.462	2.249	0.961	0.9

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:44:58	99.2%	0.190	-23.300	T 9314.000	T 2077 000	2084.000	2087 000	0.909	0 000
2	19:45:24	99.4%	0 305	-22.950	T 9539.000	T 2136 000	2125.000	2130 000	0 855	0 000
3	19:45:50	100.5%	0.190	-17.680	T 9630.000	T 2178 000	2152.000	2164 000	0.939	0 000
x		99.7%	0 228	-21.310	T 9494.000	T 2130 000	2120.000	2127 000	0.901	0 000
σ		0.7%	0 067	3.146	T 162.800	T 50 550	34.510	38.750	0 043	0 000
%RSD		0.7	29 210	14.760	T 1.715	T 2 373	1.628	1 822	4.761	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:44:58	0.000	T 64120 000	T 2250.000	10430.000	10260 000	84.7%	0 683	-0.975	0 604
2	19:45:24	0.000	T 66040 000	T 2289.000	10500.000	10470 000	84.1%	0 650	-2.979	0 624
3	19:45:50	0.000	T 65850 000	T 2292.000	10650.000	10600 000	83.9%	0 690	-1 319	0 650
x		0.000	T 65340 000	T 2277.000	10520.000	10440 000	84.2%	0 674	-1.758	0 626
σ		0.000	T 1056 000	T 23.470	113.300	175.100	0.4%	0 021	1 072	0 023
%RSD		0.000	T 1 617	T 1.031	1.077	1 677	0.5	3.142	60.970	3 665

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:44:58	67.610	2 059	19.940	26.440	-0 005	0.237	-3.790	11.440	11 300
2	19:45:24	69.930	2 060	19.880	24.070	-0 000	0.273	-3 505	11.450	11 500
3	19:45:50	70.100	2 037	18.930	25.990	-0 007	0.220	-4 028	11.430	11 620
x		69.210	2 052	19.580	25.500	-0 004	0.243	-3.774	11.440	11.470
σ		1.394	0 013	0.569	1.261	0 004	0.027	0 262	0 008	0.160
%RSD		2.013	0 634	2.908	4.947	86.160	11.120	6.933	0 072	1 397

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:44:58	18.790	19 570	18.250	-0.193	-0 332	-0.167	0 625	81.7%	0.198
2	19:45:24	18.660	19 880	18.770	0.165	-0 259	-0.234	-0 362	82.2%	0.189
3	19:45:50	18.380	19 500	18.730	-0.393	-0 200	-0.051	1 038	81.9%	0.191
x		18.610	19 650	18.580	-0.140	-0 264	-0.151	0.434	81.9%	0.193
σ		0.207	0 202	0.292	0.283	0 066	0.093	0.720	0.3%	0 005
%RSD		1.114	1 025	1.570	201.700	25 040	61.560	165.900	0 3	2.421

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:44:58	0.123	0 234	-0.601	-0.005	0 278	-0.006	-0 009	-0 003	85.5%
2	19:45:24	0.156	0.185	-1.081	-0.011	0.447	-0.004	-0 007	-0 001	86.3%
3	19:45:50	0.218	0.166	-0.534	-0.006	0 251	-0.005	0 006	-0 003	85.2%
x		0.166	0.195	-0.739	-0.007	0 325	-0.005	-0 003	-0 002	85.7%
σ		0.048	0 035	0.299	0.003	0.106	0.001	0 008	0 001	0.6%
%RSD		29.190	18.110	40.450	45.200	32 690	23.250	255 800	62 870	0.7

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:44:58	-0.215	-0 228	39.390	41.870	ID 0 005	ID 0.007	93.6%	ID 0 007	ID 0 007
2	19:45:24	-0.215	-0 203	39.970	41.610	ID 0 004	ID 0.009	94.3%	ID 0 006	ID 0 011
3	19:45:50	-0.214	-0 201	39.920	42.270	ID 0 010	ID 0.005	95.0%	ID 0 006	ID 0 010
x		-0.215	-0 210	39.760	41.910	ID 0 006	ID 0.007	94.3%	ID 0 007	ID 0 009
σ		0.001	0 015	0.319	0.336	ID 0 004	ID 0.002	0.7%	ID 0 001	ID 0 002
%RSD		0.281	7 082	0.803	0.801	ID 56 380	ID 34.720	0 8	ID 8.105	ID 17.910

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:44:58	-0.044	-0 046	0.594	0.588	0 584	95.1%
2	19:45:24	-0.039	-0 044	0.603	0.571	0 578	95.4%
3	19:45:50	-0.042	-0 043	0.593	0.591	0 582	95.3%
x		-0.042	-0 044	0.597	0.583	0 582	95.3%
σ		0.002	0 001	0.005	0.011	0 003	0.2%
%RSD		5.339	2.900	0.878	1.853	0 546	0.2

CV008 ISM-2068 6/5/2018 19:50:20 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:50:45	76 3%	507 300	7.256	τ 63490.000	τ 62470.000	τ 62000 000	τ 61230 000	τ 61300.000	0 000
2	19:51:12	77.1%	509.100	9.973	τ 64350.000	τ 64430.000	τ 63540 000	τ 62930 000	τ 61910.000	0 000
3	19:51:38	78.1%	502.400	-3.405	τ 63350.000	τ 62870.000	τ 63120 000	τ 61910 000	τ 61240.000	0 000
x		77.2%	101.252%	4.608	τ 106.219%	τ 63260.000	τ 62890 000	τ 103.375%	τ 102.470%	0 000
σ		0.9%	n/a	7.071	τ n/a	τ 1037.000	τ 795 200	τ n/a	τ n/a	0 000
%RSD		1.1	0 687	153.500	τ 0.852	τ 1.640	τ 1 264	τ 1 381	τ 0.607	0 000
Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:50:45	0.000	517 300	τ 60320.000	60270.000	τ 59580.000	76.1%	964.400	τ 964.500	τ 969 200
2	19:51:12	0.000	557 500	τ 61680.000	60760.000	τ 60650.000	75.1%	975 000	τ 967.700	τ 976 000
3	19:51:38	0.000	534.100	τ 60880.000	60700.000	τ 60020.000	76.1%	962.400	τ 971.100	τ 979 200
x		0.000	536 300	τ 101.600%	60580.000	τ 100.138%	75.8%	96.726%	τ 96.778%	τ 97.480%
σ		0.000	20 220	τ n/a	263.100	τ n/a	0 5%	n/a	τ n/a	τ n/a
%RSD		0.000	3.770	τ 1.127	0.434	τ 0.892	0.7	0 697	τ 0.345	τ 0 522
Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:50:45	-3.718	τ 970.700	τ 59710.000	τ 59060.000	τ 962.200	1020 000	972.400	τ 964.600	1019 000
2	19:51:12	-7.518	τ 978.700	τ 61100.000	τ 60300.000	τ 987.100	1033 000	974 200	τ 959.700	1020 000
3	19:51:38	-5.721	τ 972.400	τ 60960.000	τ 60440.000	τ 967.300	1019 000	965 200	τ 958.200	1020 000
x		-5.652	τ 97.393%	τ 60590.000	τ 99.890%	τ 97 218%	102.401%	970 600	τ 960.800	102.002%
σ		1.901	τ n/a	τ 767.300	τ n/a	τ n/a	n/a	4.740	τ 3.364	n/a
%RSD		33.630	τ 0.431	τ 1.266	τ 1.261	τ 1.351	0.741	0.488	τ 0.350	0 053
Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:50:45	1059.000	940 800	1028.000	1011.000	998.200	1016 000	2 895	75.5%	τ 968 000
2	19:51:12	1068.000	931 500	1032.000	1028.000	996.900	1024 000	0 617	75.8%	τ 967.900
3	19:51:38	1071.000	928 000	1022.000	1019.000	996.000	1012 000	1 332	76.5%	τ 974 800
x		106.594%	933.400	1027.000	101.959%	997.000	101.739%	1 615	75.9%	τ 970 200
σ		n/a	6 643	4.695	n/a	1.083	n/a	1.165	0.5%	τ 3.963
%RSD		0.602	0.712	0.457	0.819	0.109	0 599	72.150	0.7	τ 0.408
Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:50:45	1031.000	τ 956.400	1018.000	153.600	15.560	148 200	1040 000	τ 994.300	81.0%
2	19:51:12	1026.000	τ 965 000	1010.000	153.900	13.940	147.900	1049 000	τ 1018.000	80.6%
3	19:51:38	1030.000	τ 963.400	1021.000	154.500	9.409	146 800	1042 000	τ 1009.000	82.1%
x		1029.000	τ 961 600	1016.000	102.662%	12.970	147 600	1044 000	τ 100.683%	81.2%
σ		2.792	τ 4 564	6.036	n/a	3.186	0.726	4 864	τ n/a	0.8%
%RSD		0.271	τ 0.475	0.594	0.304	24.570	0.491	0.466	τ 1.163	1.0
Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:50:45	τ 487.100	535 000	τ 4825.000	τ 4887.000	ID 0.068	ID 0 012	86.1%	ID 0.003	ID 0 005
2	19:51:12	τ 497.100	τ 498 600	τ 4860.000	τ 4926.000	ID 0.059	ID 0 014	87.7%	ID 0.003	ID 0 004
3	19:51:38	τ 495.600	τ 502.400	τ 4876.000	τ 4896.000	ID 0.065	ID 0 013	88.8%	ID 0.002	ID 0 003
x		τ 493.300	τ 102.404%	τ 97.072%	τ 4903.000	ID 0.064	ID 0 013	87.5%	ID 0.003	ID 0 004
σ		τ 5.386	τ n/a	τ n/a	τ 20.490	ID 0.005	ID 0 001	1.3%	ID 0.001	ID 0 001
%RSD		τ 1.092	τ 3.907	τ 0.538	τ 0.418	ID 7.436	ID 7.988	1.5	ID 23.160	ID 24 330
Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi			
		ppb	ppb	ppb	ppb	ppb	ppb			
1	19:50:45	τ 497.900	τ 489 800	τ 985.200	τ 981.600	τ 982.600	86 0%			
2	19:51:12	τ 505.400	τ 494 000	τ 995.600	τ 991.800	τ 993.900	85.7%			
3	19:51:38	τ 500.100	τ 485.900	τ 981.900	τ 980.300	τ 987.000	87 3%			
x		τ 501.100	τ 97.974%	τ 987.600	τ 984.600	τ 98.783%	86.3%			
σ		τ 3.840	τ n/a	τ 7.184	τ 6.304	τ n/a	0.9%			
%RSD		τ 0.766	τ 0 826	τ 0.727	τ 0.640	τ 0.579	1.0			

CB008 IM8714-01 6/5/2018 19:56:10 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:56:36	85.7%	0.027	4.357	3.311	1.551	1 517	1.557	1.377	0 000
2	19:57:02	88.7%	-0.008	2.041	3.519	1.597	1.150	1.441	1.453	0 000
3	19:57:27	89.9%	-0.019	5.496	3.725	1.625	1 270	2.189	1.380	0 000
x		88.1%	-0.000	3.965	3.518	1.591	1 312	1.729	1.403	0 000
σ		2.2%	0.024	1.760	0.207	0.038	0.187	0.403	0.043	0 000
%RSD		2.4	18840.000	44.400	5.877	2.359	14 260	23.280	3.042	0 000
Run	**Time**	**34S**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:56:36	0.000	195.700	0.397	-5.267	-0.394	82.7%	0.028	-0.058	0 041
2	19:57:02	0.000	210.100	1.579	-5.306	-1.546	83.4%	0.027	0.013	0 043
3	19:57:27	0.000	225.700	0.850	-7.830	0.729	85 3%	-0.022	0.085	0 057
x		0.000	210.500	0.942	-6.134	-0.404	83.8%	0.011	0.013	0 047
σ		0.000	15.040	0.596	1.469	1.138	1 3%	0.029	0.071	0 009
%RSD		0.000	7.147	63.290	23.940	281.900	1.6	264.100	530.900	18.940
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**62Ni**	**63Cu**	**65Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:56:36	1.210	0.021	-0.264	2.657	0.027	0 039	-0.238	0.012	0 021
2	19:57:02	1.114	0.034	-0.225	1.684	0.020	0 041	-0.297	0.077	0 030
3	19:57:27	1.002	0.017	-0.019	1.588	0.014	0 029	-0.399	0.034	0 019
x		1.109	0.024	-0.169	1.976	0.020	0 036	-0.311	0.041	0 023
σ		0.104	0.009	0.132	0.592	0.007	0 007	0.082	0.033	0 006
%RSD		9.404	35.540	77.910	29.930	33.020	18.410	26.240	80.630	26 280
Run	**Time**	**66Zn**	**67Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**89Y**	**95Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:56:36	0.031	0.137	0.053	-0.015	0.379	-0 055	-0.525	83.4%	0 249
2	19:57:02	0.058	0.239	0.033	0.084	0.136	0 019	0.102	85.2%	0 292
3	19:57:27	0.043	0.161	0.095	0.006	-0.192	0 392	-1.135	86.3%	0 234
x		0.044	0.179	0.060	0.025	0.108	0.119	-0.519	85.0%	0 258
σ		0.013	0.053	0.031	0.052	0.286	0 240	0.618	1.5%	0 030
%RSD		30.290	29.510	51.620	206.600	265.800	201 800	119.100	1.8	11 650
Run	**Time**	**97Mo**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:56:36	0.212	0.307	0.075	0.003	0.005	0 010	0.009	0.023	85.4%
2	19:57:02	0.276	0.319	-0.038	0.002	0.038	-0 001	0.029	0.011	87.8%
3	19:57:27	0.226	0.270	-0.066	0.002	0.072	0 005	0.028	0.027	90.7%
x		0.238	0.299	-0.010	0.003	0.038	0 005	0.022	0.020	88.0%
σ		0.034	0.026	0.075	0.000	0.033	0 006	0.011	0.008	2.6%
%RSD		14.070	8.633	769.500	13.970	87.250	119 500	50.340	41.000	3.0
Run	**Time**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**150Sm**	**156Gd**	**159Tb**	**160Dy**	**164Dy**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:56:36	0.118	0.097	0.104	0.092	ID -0.000	ID 0 000	88.8%	ID 0.000	ID -0 000
2	19:57:02	0.109	0.124	0.161	0.165	ID -0.000	ID 0 000	92.5%	ID -0.000	ID -0 000
3	19:57:27	0.117	0.109	0.074	0.184	ID 0.001	ID 0 000	94.3%	ID -0.000	ID 0 000
x		0.115	0.110	0.113	0.147	ID 0.000	ID 0 000	91.9%	ID -0.000	ID 0 000
σ		0.005	0.014	0.044	0.049	ID 0.000	ID 0 000	2.8%	ID 0.000	ID 0 000
%RSD		4.259	12.380	39.130	33.090	ID 320.200	ID 173 200	3 0	ID 115.200	ID 3164 000
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**			
		ppb	ppb	ppb	ppb	ppb	ppb			
1	19:56:36	0.008	-0.002	0.021	0.033	0.029	89.4%			
2	19:57:02	0.003	0.004	0.025	0.028	0.023	93 8%			
3	19:57:27	-0.005	0.001	0.026	0.030	0.028	96 0%			
x		0.002	0.001	0.024	0.030	0.027	93.1%			
σ		0.006	0.003	0.003	0.002	0.003	3.4%			
%RSD		300.500	352.900	12.510	7.590	12.960	3.6			

Q73543-001/PBW001 6/5/2018 20:01:58 QC Status: FAIL (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:02:24	96 3%	-0.034	32 850	21 230	2.062	1.633	1.801	1.845	0 000
2	20:02:50	97 5%	-0.020	31.910	22 860	2.557	2.413	2.081	2.072	0 000
3	20:03:16	101 3%	-0.027	18 200	17 060	1.690	1.416	1.468	1.325	0 000
x		98.4%	-0.027	27 660	20 380	2.103	1.821	1.783	1.747	0 000
σ		2 6%	0.007	8 204	2.990	0.435	0.524	0.307	0.383	0 000
%RSD		2.7	25.490	29 660	14 670	20.670	28.800	17.200	21.910	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:02:24	0.000	T 62370.000	25 030	-1.102	7.379	78.1%	0.034	-1.129	0 513
2	20:02:50	0.000	T 61700.000	22 050	-3 818	4.088	79.1%	0.094	-1.343	0 536
3	20:03:16	0.000	T 61240.000	10.960	-1 690	2.690	84.4%	0.045	-2.861	0.485
x		0.000	T 61770.000	19 350	-2 203	4.719	80.5%	0.058	-1.778	0 511
σ		0.000	T 571.700	7.417	1.429	2.407	3.4%	0.032	0.944	0 025
%RSD		0.000	T 0.926	38 340	64 850	51.010	4.3	55.310	53.110	4.970

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:02:24	45.940	2.645	3.171	-0 506	-0.002	0.080	4.134	0.151	0 006
2	20:02:50	47.630	2.680	2.443	0.184	0.002	0.092	2.907	0.160	0 050
3	20:03:16	48.860	2.744	0 053	-1.727	0.002	0.064	1.422	0.100	-0 002
x		47.480	2.689	1 889	-0 683	0.001	0.078	2.821	0.137	0 018
σ		1.464	0.050	1 631	0.968	0.003	0.014	1.358	0.032	0 028
%RSD		3.083	1.861	86 360	141 600	319.800	18.140	48.140	23.530	156 500

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:02:24	0.263	3.013	0 234	0.105	0.521	-0.016	1.740	77.0%	-0 005
2	20:02:50	0.267	2.752	0 301	-0.493	0.632	0.020	1.130	77.2%	0 051
3	20:03:16	0.177	3.058	0 319	-0 225	0.130	-0.184	0.170	82.9%	0 003
x		0.235	2.941	0 285	-0 205	0.427	-0.060	1.013	79.0%	0 016
σ		0.051	0.165	0 045	0 300	0.264	0.109	0.791	3.3%	0 030
%RSD		21.620	5.625	15.780	146 500	61.710	180.700	78.120	4 2	185 800

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:02:24	-0.030	-0.031	-0 200	-0 008	0.096	-0.001	-0.007	-0.009	82.4%
2	20:02:50	0.011	0.010	-0 086	-0 006	0.087	-0.001	-0.008	0.001	83.7%
3	20:03:16	-0.019	0.010	-0 218	-0 006	0.112	-0.006	0.007	-0.011	86.9%
x		-0.013	-0.004	-0.168	-0 007	0.098	-0.003	-0.003	-0.006	84.3%
σ		0.021	0.024	0 072	0 001	0.013	0.003	0.009	0.006	2.3%
%RSD		170.900	628.700	42.790	18.430	12.890	95.420	335.800	99.460	2.7

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:02:24	-0.101	-0.125	0 020	0 035	ID -0.000	ID 0.000	91.0%	ID -0.001	ID -0 000
2	20:02:50	-0.077	-0.094	0 075	0 062	ID -0.000	ID 0.001	91.8%	ID -0.001	ID -0 000
3	20:03:16	-0.096	-0.088	0 050	0 017	ID -0.000	ID 0.000	95.4%	ID -0.001	ID -0 000
x		-0.091	-0.102	0 048	0 038	ID -0.000	ID 0.000	92.8%	ID -0.001	ID -0 000
σ		0.012	0.020	0 028	0 023	ID 0.000	ID 0.000	2.4%	ID 0.000	ID 0 000
%RSD		13.500	19.260	57 310	59 360	ID 0.000	ID 173.200	2.6	ID 20.880	ID 0 000

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	20:02:24	-0.031	-0.027	0 008	-0 007	0.001	94.5%
2	20:02:50	-0.028	-0.028	0 000	0 002	0.001	95.0%
3	20:03:16	-0.031	-0.032	-0 007	-0 013	-0.009	98.9%
x		-0.030	-0.029	0 001	-0 006	-0.002	96.1%
σ		0.002	0.003	0 008	0 008	0.006	2.4%
%RSD		5.961	10.110	1138 000	127 500	247.200	2.5

Q73543-002/LCS001 6/5/2018 20 07:46 QC Status: FAIL (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:08:11	93.9%	2.077	24.510	T 1058.000	T 1044 000	1015 000	1010 000	40 080	0 000
2	20:08:37	95.5%	1.863	22.090	T 1068.000	T 1057 000	1027 000	1031 000	41 080	0 000
3	20:09:03	96.8%	1.989	25.250	T 1088.000	T 1063 000	1048 000	1032 000	41.140	0 000
x		95.4%	98.817%	23.950	T 1071.000	T 1055 000	1030 000	102.431%	101.916%	0 000
σ		1.4%	n/a	1.654	T 15.390	T 9.979	16 870	n/a	n/a	0 000
%RSD		1 5	5.461	6.907	T 1.436	T 0.946	1 638	1 207	1.460	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:08:11	0 000	T 57870.000	994.700	893.200	907 600	79.2%	0 032	7 849	4 367
2	20:08:37	0 000	T 59470.000	1008.000	991.900	918.100	80.2%	0.121	7 399	4 259
3	20:09:03	0 000	T 60140.000	1033.000	994.800	950 000	80.1%	0 051	6 649	4 307
x		0 000	T 59160.000	101.193%	960.000	92.524%	79.8%	0 068	72.994%	107.774%
σ		0 000	T 1166.000	n/a	57.840	n/a	0.6%	0 047	n/a	n/a
%RSD		0 000	T 1.972	1.921	6.025	2 389	0.7	68 670	8 307	1 246

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:08:11	46 010	6.269	412.100	410.300	1 879	2 042	3 808	4 255	4 016
2	20:08:37	45.480	6.279	409.500	402.800	1 840	2 099	3 211	4 265	4.198
3	20:09:03	46 540	6.336	416.600	413.800	1 887	2.141	3 207	4.184	4 050
x		46 010	314.727%	412.700	102.240%	93.434%	104.704%	3.409	4 235	102.198%
σ		0 529	n/a	3.611	n/a	n/a	n/a	0 346	0 044	n/a
%RSD		1.150	0.580	0.875	1.367	1 333	2 357	10.150	1 044	2 362

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:08:11	4 392	6.696	4.700	2.268	10 390	10 040	1 829	77.9%	-0 069
2	20:08:37	4.476	6.533	4.573	1.797	10.480	9 807	0.430	79.9%	-0 082
3	20:09:03	4 603	6.325	4.377	2.299	10.420	10 820	1.743	79 5%	-0 073
x		112.258%	6.518	4.550	106.062%	10.430	102.248%	1 334	79.1%	-0 075
σ		n/a	0.186	0.163	n/a	0 048	n/a	0.784	1.1%	0 007
%RSD		2 362	2.852	3.582	13.260	0.462	5.199	58.750	1.3	8.914

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:08:11	-0 073	-0.066	1.873	2.089	0.122	1.921	1.990	2.127	81.1%
2	20:08:37	-0 063	-0.045	2.144	2.046	0 062	1.953	2 094	2 051	83.4%
3	20:09:03	-0 091	-0.065	2.161	2.107	0 023	1.976	2 079	2 045	83.2%
x		-0 076	-0.059	2.059	104.031%	0 069	1.950	102.728%	2 074	82.6%
σ		0 015	0.012	0.162	n/a	0 050	0 028	n/a	0 046	1.3%
%RSD		19.120	20.400	7.845	1.484	72.420	1.428	2.733	2 202	1.6

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:08:11	3.923	3.890	18.620	19.560	ID -0 000	ID 0 001	88 3%	ID 0 000	ID -0 000
2	20:08:37	3 885	3.770	18.930	19.740	ID 0 000	ID 0 000	91 0%	ID -0 001	ID -0 000
3	20:09:03	3 881	3.941	18.920	19.600	ID 0 001	ID 0 000	92.7%	ID -0 001	ID -0 000
x		3 896	96.672%	18.820	98.180%	ID 0 000	ID 0 000	90.6%	ID -0 000	ID -0 000
σ		0 023	n/a	0.175	n/a	ID 0 000	ID 0 000	2 2%	ID 0 001	ID 0 000
%RSD		0 593	2.267	0.931	0.474	ID 141 200	ID 101 000	2.5	ID 183.100	ID 0 000

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	20:08:11	1 833	1.803	1.828	1.840	1 812	91.4%
2	20:08:37	1 838	1.844	1.810	1.865	1 833	93.1%
3	20:09:03	1 848	1.809	1.809	1.881	1 836	96.2%
x		1 840	90.932%	1.815	1.862	91.336%	93.6%
σ		0 008	n/a	0.011	0.021	n/a	2.4%
%RSD		0.412	1.220	0.580	1.107	0.720	2.6

TE23024-010/MH0AB6 6/5/2018 20:13:33

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:13:59	78 3%	2 846	-90.960	T 29380 000	T 73860.000	T 76810 000	T 78610 000	T 24320.000	0 000
2	20:14:25	81.1%	3 022	-93.330	T 29160 000	T 73690.000	T 76410 000	T 78790 000	T 24260.000	0 000
3	20:14:51	82 2%	3.118	-93.310	T 29450 000	T 74220.000	T 76600 000	T 79000 000	T 24570.000	0 000
x		80 5%	2.995	-92.530	T 29330 000	T 73920.000	T 76600 000	T 78800 000	T 24380.000	0 000
σ		2 0%	0.138	1.363	T 150 500	T 269.700	T 198.100	T 192 200	T 168.000	0 000
%RSD		2.5	4 603	1.473	T 0 513	T 0.365	T 0 259	T 0 244	T 0.689	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:13:59	0 000	T 46030 000	T 11710.000	TM 1026000 000	TM 1023000.000	74 6%	210 600	79.430	61 670
2	20:14:25	0 000	T 46230 000	T 11720.000	TM 1020000 000	TM 1016000.000	78 8%	208.900	79.430	61 580
3	20:14:51	0 000	T 46000 000	T 11740.000	TM 1028000 000	TM 1027000.000	79 3%	214 200	80.240	61.760
x		0 000	T 46080 000	T 11730.000	TM 1025000 000	TM 1022000.000	77 6%	211 200	79.700	61 670
σ		0 000	T 124.700	T 13.300	TM 4087 000	TM 5979.000	2 6%	2.710	0.470	0 086
%RSD		0 000	T 0 271	T 0.113	TM 0 399	TM 0.585	3.3	1 283	0.590	0.140

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:13:59	4 853	TM 2763 000	T 58890.000	T 59130 000	28.130	59.160	56 020	54.270	68 810
2	20:14:25	4.195	TM 2773 000	T 58790.000	T 58770 000	28.000	60 530	57.470	54.060	69 370
3	20:14:51	4.768	TM 2803 000	T 59290.000	T 59880 000	28.370	59 360	55.700	54.600	68.490
x		4 606	TM 2779 000	T 58990.000	T 59260 000	28.160	59 680	56.400	54.310	68 890
σ		0 358	TM 20 870	T 264.400	T 566.400	0.185	0.738	0.943	0.275	0.442
%RSD		7.773	TM 0.751	T 0.448	T 0.956	0.656	1 237	1 672	0.507	0 641

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:13:59	169.900	209 500	229.200	75.760	0.006	1 515	0.723	158.3%	4 679
2	20:14:25	168 500	209.400	227.800	72 590	0.035	1 540	2 046	166.5%	4 513
3	20:14:51	168 800	211 600	231.000	73.900	0.083	1 860	1.793	166.9%	4 589
x		169.100	210 200	229.300	74 080	0.041	1 638	1 521	163.9%	4 593
σ		0.745	1 229	1.623	1 589	0.039	0.192	0.702	4.9%	0 083
%RSD		0.441	0 585	0.708	2.144	94.570	11.730	46.170	3 0	1 807

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:13:59	4 838	4.965	3.958	0.473	-0.402	0 389	3 060	3.276	76.2%
2	20:14:25	5 033	4.921	4.231	0.460	-0.520	0 386	3 045	3.406	79.4%
3	20:14:51	4.990	4.990	3.637	0.474	-0.387	0 379	3 020	3.413	79.3%
x		4.954	4.959	3.942	0.469	-0.436	0 385	3 042	3.365	78.3%
σ		0.102	0 035	0.298	0 008	0.073	0 005	0 020	0.077	1.8%
%RSD		2 061	0 699	7.549	1.700	16.670	1 337	0 672	2.290	2.3

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:13:59	0 200	0.192	1211.000	1324 000	ID 13.180	ID 10.930	81.9%	ID 8.086	ID 8 003
2	20:14:25	0.174	0 222	1200.000	1297 000	ID 13.000	ID 10 880	86.1%	ID 8.091	ID 8 014
3	20:14:51	0.197	0.193	1229.000	T 1201 000	ID 13.120	ID 10 620	86 8%	ID 8.101	ID 8 007
x		0.191	0 202	1213.000	T 1274 000	ID 13.100	ID 10 810	84.9%	ID 8.093	ID 8 008
σ		0 014	0 017	15.030	T 64 670	ID 0.092	ID 0.167	2.7%	ID 0.007	ID 0 006
%RSD		7 337	8 379	1.239	T 5 077	ID 0.700	ID 1 542	3.1	ID 0.091	ID 0 070

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	20:13:59	0 530	0 545	63.590	56.440	59.910	81.9%
2	20:14:25	0 577	0 541	65.290	56.970	60.760	83 0%
3	20:14:51	0 528	0 533	64.090	56.970	60.570	83 6%
x		0 545	0 540	64.320	56.790	60.410	82 8%
σ		0 027	0 006	0.872	0 307	0.448	0.9%
%RSD		5 027	1 087	1.356	0 541	0.741	1.0

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:19:46	86.4%	0 875	-77.110	T 41010.000	T 35630.000	T 36640 000	T 37610.000	T 10730.000	0 000
2	20:20:11	88.8%	1 073	-75.640	T 40940.000	T 35820.000	T 37060 000	T 37880.000	T 10670.000	0 000
3	20:20:37	90.0%	0.929	-76.370	T 41450.000	T 36110.000	T 37180 000	T 37990.000	T 10680.000	0 000
x		88.4%	0.959	-76.370	T 41130.000	T 35850.000	T 36960 000	T 37830.000	T 10690.000	0 000
σ		1.8%	0.102	0.734	T 275.900	T 245.300	T 287 000	T 197.900	T 28.180	0 000
%RSD		2.1	10 690	0.961	T 0.671	T 0.684	T 0.776	T 0.523	T 0.264	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:19:46	0.000	T 49390 000	T 18540.000	M 142200.000	TM 145600.000	79 6%	103.100	31.900	20 810
2	20:20:11	0.000	T 49820 000	T 18550.000	M 139500.000	TM 146400.000	81 8%	102.700	31.480	20 630
3	20:20:37	0.000	T 50220 000	T 18840.000	M 140400.000	TM 146900.000	82.7%	105.200	31.400	20 810
x		0.000	T 49810 000	T 18640.000	M 140700.000	TM 146300.000	81.4%	103.700	31.590	20.750
σ		0.000	T 415 200	T 171.400	M 1369.000	TM 681.500	1 6%	1.370	0.269	0.107
%RSD		0.000	T 0 834	T 0.919	M 0.973	TM 0.466	1.9	1.321	0.852	0 514

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:19:46	13.340	T 539 200	T 18440.000	19480.000	6.391	22.100	20.130	20.240	22 570
2	20:20:11	13.620	T 534.700	T 18550.000	19360.000	6.113	21.730	21.290	19.780	22 220
3	20:20:37	13.420	T 537 500	T 18730.000	19510.000	6.415	21.180	20.310	20.050	22.120
x		13.460	T 537 200	T 18570.000	19450.000	6.306	21 670	20.580	20.020	22 310
σ		0.146	T 2 311	T 143.600	82.120	0.168	0.462	0.626	0.228	0 237
%RSD		1.082	T 0.430	T 0.773	0.422	2.663	2.132	3.040	1.137	1 064

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:19:46	67.870	71 640	77.010	39.100	-0.024	0 642	1.039	103.9%	17.970
2	20:20:11	69.010	75.130	79.590	38.860	-0.175	0 390	0.977	105.4%	17.930
3	20:20:37	67.250	73.780	77.920	38.370	-0.054	0 313	1.054	106.3%	18 260
x		68.040	73 520	78.170	38.780	-0.085	0.448	1.023	105.2%	18 050
σ		0.892	1.761	1.307	0.371	0.080	0.172	0.041	1.2%	0.182
%RSD		1.311	2 396	1.672	0.957	94.930	38 390	3.995	1.1	1 010

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:19:46	18.030	18 550	0.999	0.113	0.004	0.117	0.637	0.710	81.0%
2	20:20:11	18.540	18.480	0.584	0.125	0.250	0.127	0.572	0.669	81.5%
3	20:20:37	18.860	18.790	1.608	0.123	-0.242	0.116	0.655	0.644	81.9%
x		18.480	18 610	1.064	0.120	0.004	0.120	0.621	0.674	81.4%
σ		0.421	0.161	0.515	0.007	0.246	0 006	0.044	0.033	0.5%
%RSD		2.280	0 865	48.410	5.669	6039.000	4.949	7.036	4.914	0.6

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:19:46	0.139	0.171	307.400	321.900	ID 3.866	ID 3.198	89.2%	ID 2.386	ID 2 306
2	20:20:11	0.170	0.192	308.100	326.300	ID 3.768	ID 3.135	91.4%	ID 2.414	ID 2 263
3	20:20:37	0.184	0 236	308.700	329.600	ID 3.873	ID 3.177	92.7%	ID 2.344	ID 2 290
x		0.165	0 200	308.100	325.900	ID 3.836	ID 3.170	91.1%	ID 2.381	ID 2 286
σ		0.023	0 033	0.617	3.842	ID 0.059	ID 0 032	1.7%	ID 0.035	ID 0 022
%RSD		14.020	16.470	0.200	1.179	ID 1.534	ID 1 010	1.9	ID 1.481	ID 0.962

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	20:19:46	0.172	0.181	13.420	11.910	12.600	88.4%
2	20:20:11	0.184	0.171	13.660	12.240	12.810	89 5%
3	20:20:37	0.209	0.181	13.610	12.070	12.720	90 6%
x		0.188	0.178	13.560	12.070	12.710	89 5%
σ		0.019	0 005	0.125	0.164	0.107	1.1%
%RSD		9.921	3 048	0.923	1.359	0.844	1.3

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:25:33	84.9%	0.793	-78 820	T 56060.000	T 51690.000	T 53600.000	T 54230.000	T 8919.000	0 000
2	20:25:59	88.9%	0.727	-81.910	T 55080.000	T 50760.000	T 52260.000	T 53540.000	T 8896.000	0 000
3	20:26:25	89.3%	0.750	-81 080	T 55840.000	T 51640.000	T 53300.000	T 54500.000	T 8957.000	0 000
x		87.7%	0.757	-80 600	T 55660.000	T 51360.000	T 53060.000	T 54090.000	T 8924.000	0 000
σ		2.4%	0 033	1 602	T 515.500	T 521.900	T 705.800	T 497.500	T 30.950	0 000
%RSD		2.8	4 399	1.988	T 0.926	T 1.016	T 1.330	T 0.920	T 0.347	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:25:33	0.000	T 49320 000	T 23740 000	M 158500.000	TM 165400.000	75.8%	102.100	31.670	18.100
2	20:25:59	0.000	T 49440 000	T 23780 000	M 155900.000	TM 163500.000	79.5%	101.700	31.910	18 300
3	20:26:25	0.000	T 48780 000	T 23460 000	M 155400.000	TM 163400.000	79.4%	99.160	31.430	18.150
x		0.000	T 49180 000	T 23660 000	M 156600.000	TM 164100.000	78.2%	101.000	31.670	18.180
σ		0.000	T 355.100	T 172.900	M 1661.000	TM 1098.000	2.1%	1.609	0.240	0.106
%RSD		0.000	T 0.722	T 0.731	M 1.060	TM 0.669	2.7	1.593	0.757	0 583

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:25:33	15.040	T 561.100	T 16180 000	17030.000	6.694	21.480	22.940	21.430	22 550
2	20:25:59	14.990	T 570 800	T 16340 000	17150.000	6.836	21.750	23.330	21.200	23.410
3	20:26:25	15.880	T 570 300	T 16350 000	17010.000	6.791	21.690	23.220	21.670	22 860
x		15.300	T 567.400	T 16290 000	17060.000	6.774	21.640	23.160	21.430	22.940
σ		0.498	T 5.444	T 93 880	75.950	0.072	0.144	0.203	0.235	0.435
%RSD		3.254	T 0.959	T 0 576	0.445	1.069	0.664	0.876	1.099	1 894

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:25:33	73.540	73 630	80 500	33.970	0.681	1.036	1.553	93.7%	23.720
2	20:25:59	72.440	72 080	79.900	33.360	0.161	1.546	-0.130	99.7%	23 890
3	20:26:25	72.710	71.970	79.490	34.000	0.433	0.744	3.658	97 8%	23 850
x		72.900	72 560	79.960	33.780	0.425	1.109	1.693	97.1%	23 820
σ		0.576	0.928	0 507	0.360	0.260	0.406	1.898	3.1%	0 090
%RSD		0.791	1 279	0 634	1.067	61.230	36.620	112.100	3.2	0 376

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:25:33	24.040	23 850	0 698	0.135	0.173	0.123	0.394	0.513	76.8%
2	20:25:59	24.540	23.740	0 671	0.134	0.317	0.118	0.504	0.559	79.5%
3	20:26:25	24.850	24.190	1 565	0.123	-0.035	0.109	0.498	0.508	80.0%
x		24.480	23.930	0.978	0.131	0.151	0.117	0.466	0.527	78.8%
σ		0.408	0 234	0 508	0.007	0.177	0.007	0.062	0.028	1.7%
%RSD		1.667	0.976	51.970	5.054	116.800	6.063	13.290	5.327	2.2

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:25:33	0.368	0 341	289 500	304.300	ID 3.068	ID 2.442	87.1%	ID 1.860	ID 1 830
2	20:25:59	0.359	0 388	291 000	306.300	ID 3.040	ID 2.536	90.2%	ID 1.854	ID 1 802
3	20:26:25	0.331	0 339	290 800	305.100	ID 3.072	ID 2.529	89.7%	ID 1.887	ID 1.903
x		0.353	0 356	290.400	305.200	ID 3.060	ID 2.503	89.0%	ID 1.867	ID 1 845
σ		0.019	0 028	0.786	1.026	ID 0.017	ID 0.052	1.7%	ID 0.018	ID 0 052
%RSD		5.476	7.787	0 271	0.336	ID 0.568	ID 2.096	1.9	ID 0.945	ID 2 819

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	20:25:33	0.130	0.124	11.700	10.400	11.000	85.4%
2	20:25:59	0.147	0.134	11.970	10.670	11.210	86.9%
3	20:26:25	0.149	0.138	11.770	10.640	11.070	87.3%
x		0.142	0.132	11 810	10.570	11.090	86.6%
σ		0.010	0 007	0.142	0.151	0.103	1.0%
%RSD		7.210	5 394	1.199	1.429	0.926	1 2

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:31:21	79.9%	3.445	-76 310	T 60670 000	T 89390 000	T 93030.000	T 96170.000	T 29080.000	0 000
2	20:31:48	82.3%	3.229	-79 610	T 58850 000	T 86810 000	T 90320.000	T 94150.000	T 28510.000	0 000
3	20:32:13	84.9%	3.105	-81 650	T 59580 000	T 88010 000	T 92570.000	T 94550.000	T 28590.000	0 000
x		82.4%	3.260	-79.190	T 59700 000	T 88070 000	T 91970.000	T 94960.000	T 28730.000	0 000
σ		2.5%	0.172	2 695	T 917 200	T 1289 000	T 1452.000	T 1066.000	T 306.300	0 000
%RSD		3.0	5.276	3.403	T 1 536	T 1.463	T 1.578	T 1.123	T 1.066	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:31:21	0.000	T 48130.000	T 97650 000	TM 856700 000	TM 856800 000	77.5%	132.300	79.380	66 860
2	20:31:48	0.000	T 48060.000	T 97490 000	TM 845100 000	TM 845900 000	83.3%	133.800	78.990	66 540
3	20:32:13	0.000	T 48230.000	T 97300 000	TM 855000 000	TM 856700 000	84.5%	131.200	78.830	66 270
x		0.000	T 48140.000	T 97480 000	TM 852300 000	TM 853200 000	81.7%	132.400	79.060	66 560
σ		0.000	T 83.680	T 176 200	TM 6253 000	TM 6256 000	3.7%	1.271	0.284	0 296
%RSD		0.000	T 0.174	T 0.181	TM 0.734	TM 0.733	4.6	0.960	0.359	0.445

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:31:21	4.742	TM 2887.000	T 61460 000	T 59700 000	27.700	65.460	66.150	55.720	75.740
2	20:31:48	4.368	TM 2877.000	T 61410 000	T 60420 000	28.100	66.440	64.930	55.300	74 050
3	20:32:13	4.560	TM 2869.000	T 61220 000	T 60800 000	27.960	65.100	65.920	55.570	73.470
x		4.557	TM 2878.000	T 61360 000	T 60310 000	27.920	65.670	65.670	55.530	74.420
σ		0.187	TM 9.289	T 127 000	T 561 300	0 203	0.692	0.646	0.210	1.181
%RSD		4.105	TM 0.323	T 0 207	T 0.931	0.729	1.054	0.984	0.378	1 586

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:31:21	189.400	256.800	285 800	53 890	0.797	2.369	-0.082	207.5%	10.760
2	20:31:48	187.900	252.900	277.400	52.730	0 654	2.617	1.280	219.8%	10 830
3	20:32:13	186.100	256.500	280 300	52.970	0.980	1.931	1.319	225.0%	11 040
x		187.800	255.400	281 200	53 200	0 811	2.305	0.839	217.4%	10 880
σ		1.617	2.186	4 299	0 613	0.163	0.347	0.798	9.0%	0.148
%RSD		0.861	0.856	1 529	1.152	20.110	15.060	95.080	4.2	1 360

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:31:21	11.890	11.970	5 097	0 530	-0 861	0.426	3.032	3.687	76.3%
2	20:31:48	12.000	11.990	5 639	0 548	-0.956	0.424	3.155	3.662	82.2%
3	20:32:13	11.830	12.270	4.955	0 526	-0 520	0.428	3.072	3.769	82.3%
x		11.910	12.080	5 230	0 535	-0.779	0.426	3.086	3.706	80.2%
σ		0.088	0.166	0 361	0 012	0 229	0.002	0.062	0.056	3.5%
%RSD		0.735	1.374	6.905	2.173	29.440	0.385	2.020	1.516	4.3

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:31:21	0.033	0.038	1532 000	T 1482 000	ID 19 510	ID 15.300	86.5%	ID 11.870	ID 11 630
2	20:31:48	0.023	0.038	1524 000	T 1485 000	ID 19 590	ID 15.430	90.1%	ID 11.750	ID 11 570
3	20:32:13	0.023	0.049	1541 000	T 1486 000	ID 19 310	ID 15.480	91.7%	ID 11.870	ID 11 550
x		0.026	0.041	1532 000	T 1485 000	ID 19.470	ID 15.400	89.4%	ID 11.830	ID 11 580
σ		0.006	0.007	8 314	T 1 880	ID 0.145	ID 0.096	2.7%	ID 0.071	ID 0 043
%RSD		20.900	16.260	0 543	T 0.127	ID 0.746	ID 0.623	3.0	ID 0.602	ID 0 373

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	20:31:21	0.765	0.743	64.770	57.140	60 660	83.1%
2	20:31:48	0.776	0.750	65.710	58 070	61.940	86.0%
3	20:32:13	0.782	0.775	66 380	58 340	62.170	86.6%
x		0.774	0.756	65 620	57 850	61 590	85.2%
σ		0.009	0.017	0 808	0 630	0 811	1.9%
%RSD		1.138	2.231	1 232	1 089	1 316	2.2

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:37:10	90.4%	0.473	-78 650	T 51470.000	T 31960 000	T 32890.000	T 33500.000	T 5477 000	0 000
2	20:37:36	91.1%	0.474	-78.920	T 53200.000	T 32660 000	T 33690.000	T 34380.000	T 5607 000	0 000
3	20:38:02	92.0%	0.408	-79 380	T 53450.000	T 33140 000	T 34200.000	T 34750.000	T 5634 000	0 000
x		91.2%	0.451	-78.980	T 52710.000	T 32590 000	T 33590.000	T 34210.000	T 5573 000	0 000
σ		0.8%	0.038	0 365	T 1075.000	T 594.400	T 659.500	T 638.900	T 83.710	0 000
%RSD		0.9	8.398	0.462	T 2.039	T 1 824	T 1.964	T 1.868	T 1 502	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:37:10	0.000	T 47380.000	T 26240 000	96120.000	T 100300 000	84.5%	89.500	13 670	11 390
2	20:37:36	0.000	T 48330.000	T 26610 000	97040.000	T 102700 000	84.5%	89.520	13 680	11.490
3	20:38:02	0.000	T 48440.000	T 26440 000	98060.000	T 102600 000	84.3%	88.340	14 000	11 360
x		0.000	T 48050.000	T 26430 000	97070.000	T 101800 000	84.4%	89.120	13.780	11.410
σ		0.000	T 586.700	T 185 300	970.000	T 1341 000	0.1%	0.675	0.185	0 065
%RSD		0.000	T 1.221	T 0.701	0.999	T 1 317	0 2	0.757	1 340	0 572

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:37:10	11.730	T 324.800	T 9228 000	9598.000	3 608	10.560	11.360	7.445	7 678
2	20:37:36	12.240	T 327.900	T 9298 000	9598.000	3 694	10.250	11.320	7.444	7.407
3	20:38:02	12.770	T 328.900	T 9394 000	9624.000	3 677	10.890	12.460	7.468	7.717
x		12.250	T 327.200	T 9307 000	9607.000	3 660	10.570	11.720	7.452	7 601
σ		0.520	T 2.147	T 83 200	14.760	0 045	0.320	0.647	0 014	0.169
%RSD		4.245	T 0.656	T 0 894	0.154	1 240	3.030	5.519	0.182	2 220

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:37:10	33.710	39.040	40.430	16.380	0.410	0.286	0.644	92 6%	16 520
2	20:37:36	34.240	40.490	40.920	15.550	0.177	0.143	1.485	93 5%	16 380
3	20:38:02	33.500	38.000	40.910	15.810	0 659	0.255	2.012	92 8%	16 080
x		33.820	39.180	40.750	15.910	0.415	0.228	1.381	93 0%	16 330
σ		0.381	1.253	0 281	0.426	0 241	0.075	0.690	0 5%	0 224
%RSD		1.127	3.199	0 689	2.678	58 020	32.890	49.990	0.5	1 373

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:37:10	16.290	16.140	1 615	0.048	-0 265	0.046	0.245	0 259	82.5%
2	20:37:36	16.040	16.060	1 657	0.048	-0 263	0.044	0.251	0 226	83.6%
3	20:38:02	16.280	15.770	1.739	0.059	-0.177	0.043	0.224	0 284	83.2%
x		16.200	15.990	1 670	0.052	-0 235	0.044	0.240	0 257	83.1%
σ		0.140	0.195	0 063	0.006	0 050	0.001	0.014	0 029	0.5%
%RSD		0.863	1.216	3.796	12.480	21 290	3.168	5.981	11 350	0.6

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:37:10	0.202	0.207	392.100	418.600	ID 1 689	ID 1.394	91.9%	ID 1 015	ID 0.962
2	20:37:36	0.197	0.233	391 600	418.000	ID 1 661	ID 1.405	92.0%	ID 1 007	ID 0.994
3	20:38:02	0.209	0.185	392.100	417.800	ID 1.703	ID 1.367	91.9%	ID 1 018	ID 0.984
x		0.202	0.208	391.900	418.100	ID 1 684	ID 1.389	91.9%	ID 1 013	ID 0.980
σ		0.006	0.024	0 244	0.419	ID 0 021	ID 0.020	0.1%	ID 0 006	ID 0 017
%RSD		2.992	11.490	0 062	0.100	ID 1 264	ID 1.407	0.1	ID 0 570	ID 1 698

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	20:37:10	0.056	0.056	6 618	5.707	6 203	88.5%
2	20:37:36	0.067	0.054	6.769	5.932	6 261	88.4%
3	20:38:02	0.050	0.057	6 657	6.049	6 305	87.7%
x		0.058	0.056	6 681	5.896	6 256	88.2%
σ		0.009	0.001	0 078	0.173	0 051	0.4%
%RSD		15.010	2.647	1.171	2.943	0 817	0 5

TE23024-015/MH0AD1 6/5/2018 20:42:32

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:42:58	93.4%	-0.042	-73.650	T 94910.000	T 68550 000	T 71220.000	T 72970.000	63.550	0 000
2	20:43:25	94.9%	-0.033	-72.000	T 99260.000	T 71210 000	T 73900.000	T 75740.000	65.540	0 000
3	20:43:51	96 0%	-0.033	-72.060	T 99970.000	T 72340 000	T 74680.000	T 75650.000	65.280	0 000
x		94 8%	-0.036	-72.570	T 98040.000	T 70700 000	T 73270.000	T 74790.000	64.790	0 000
σ		1 3%	0.005	0.936	T 2740.000	T 1944 000	T 1817.000	T 1575.000	1.082	0 000
%RSD		1.4	14.090	1.289	T 2.795	T 2.750	T 2.480	T 2.106	1.669	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:42:58	0 000	T 52760.000	T 24150.000	90730.000	T 94810 000	82.7%	4.144	-0.406	0 897
2	20:43:25	0 000	T 54150.000	T 24760.000	93140.000	T 96870 000	81.7%	4.428	-0.515	0.911
3	20:43:51	0 000	T 53940.000	T 24630.000	92230.000	T 96990 000	82.5%	4.346	-0.700	0.974
x		0 000	T 53610.000	T 24510.000	92030.000	T 96220 000	82.3%	4.306	-0.540	0.927
σ		0 000	T 751.000	T 319.200	1219.000	T 1226 000	0.5%	0.146	0.149	0 041
%RSD		0 000	T 1.401	T 1.302	1.325	T 1 274	0.6	3.397	27.530	4.430

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:42:58	22.480	T 245.600	T 6552.000	6744.000	0 391	3.220	21.620	2.375	1 519
2	20:43:25	24 880	T 249.700	T 6707.000	6860.000	0 369	3.231	24.100	2.466	1 536
3	20:43:51	25 690	T 249.000	T 6704.000	6885.000	0.445	3.044	23.500	2.568	1.467
x		24 350	T 248.100	T 6655.000	6830.000	0.402	3.165	23.070	2.470	1 507
σ		1 668	T 2.198	T 88.690	75.490	0 039	0.105	1.295	0.097	0 036
%RSD		6 850	T 0.886	T 1.333	1.105	9.723	3.317	5.615	3.921	2 358

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:42:58	11 230	14.720	13.620	10.940	1 807	0.010	1.608	81.8%	0 675
2	20:43:25	11 600	14.360	13.750	9.995	1 244	0.436	0.927	81.5%	0.781
3	20:43:51	11 380	14.010	13.970	10.670	1.988	0.337	0.766	82.0%	0 803
x		11.400	14.370	13.780	10.540	1 680	0.261	1.101	81.8%	0.753
σ		0.185	0.355	0.176	0.489	0 388	0.223	0.447	0.2%	0 068
%RSD		1 625	2.468	1.281	4.640	23 080	85.350	40.640	0.3	9 069

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:42:58	0.780	0.726	-0.376	-0.007	0.140	-0.005	0.015	-0.006	84.7%
2	20:43:25	0 815	0.762	-0.065	-0.010	0 039	-0.009	-0.002	0.012	85.8%
3	20:43:51	0.799	0.743	-0.334	-0.009	0.124	-0.009	-0.015	-0.005	86.5%
x		0.798	0.744	-0.258	-0.009	0.101	-0.008	-0.001	0.000	85.7%
σ		0 017	0.018	0.169	0.002	0 054	0.002	0.015	0.010	0.9%
%RSD		2.158	2.422	65.370	19.940	53.440	26.370	2086.000	11240.000	1.1

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:42:58	-0.106	-0.093	205.000	214.900	ID 0 026	ID 0.027	95.5%	ID 0.008	ID 0 011
2	20:43:25	-0.115	-0.094	205.700	214.500	ID 0 030	ID 0.020	97.1%	ID 0.016	ID 0 013
3	20:43:51	-0.110	-0.102	202.500	211.000	ID 0 023	ID 0.018	97.5%	ID 0.013	ID 0 013
x		-0.110	-0.096	204.400	213.500	ID 0 026	ID 0.021	96.7%	ID 0.012	ID 0 012
σ		0 005	0.005	1.702	2.141	ID 0 004	ID 0.005	1.1%	ID 0.004	ID 0 001
%RSD		4 285	5.050	0.833	1.003	ID 13.790	ID 22.910	1.1	ID 32.280	ID 9.902

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	20:42:58	-0 042	-0.044	1.614	1.480	1 541	88.8%
2	20:43:25	-0 043	-0.043	1.631	1.473	1 557	90.5%
3	20:43:51	-0 044	-0.043	1.636	1.506	1 569	91.2%
x		-0 043	-0.043	1.627	1.486	1 556	90.2%
σ		0 001	0.001	0.012	0.017	0 014	1.3%
%RSD		2 527	1.869	0.722	1.149	0.910	1.4

CV009 ISM-2068 6/5/2018 20:48:22 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:48:47	77.0%	498.800	6.082	τ 62820 000	τ 62240.000	τ 61750.000	τ 60950 000	τ 60500.000	0 000
2	20:49:13	77.9%	506.600	13.620	τ 64810 000	τ 64480.000	τ 63770.000	τ 62710 000	τ 61580.000	0 000
3	20:49:39	78.8%	504.400	9.581	τ 64980 000	τ 64310.000	τ 63520.000	τ 62180 000	τ 61810.000	0 000
x		77.9%	100.654%	9.762	τ 107.003%	τ 63670.000	τ 63010.000	τ 103.240%	τ 102.166%	0 000
σ		0.9%	n/a	3.775	τ n/a	τ 1247.000	τ 1105.000	τ n/a	τ n/a	0 000
%RSD		1.1	0.798	38.670	τ 1 869	τ 1.959	τ 1.753	τ 1.452	τ 1.142	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:48:47	0.000	432.000	τ 57290.000	58450 000	τ 57750.000	75.8%	961 300	τ 965.000	τ 973 000
2	20:49:13	0.000	461.800	τ 58920.000	59040 000	τ 59000.000	75.8%	977 800	τ 980.900	τ 981 800
3	20:49:39	0.000	458.600	τ 59070.000	58780 000	τ 59380.000	77.5%	950 000	τ 964.400	τ 974 800
x		0.000	450.800	τ 97.373%	58760 000	τ 97 852%	76 3%	96.303%	τ 97 013%	τ 97.654%
σ		0.000	16.360	τ n/a	300 000	τ n/a	1.0%	n/a	τ n/a	τ n/a
%RSD		0.000	3.628	τ 1.686	0 511	τ 1.454	1.3	1.449	τ 0.966	τ 0.475

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:48:47	-6.513	τ 974.100	τ 58220.000	τ 57880 000	τ 976.100	1016.000	967 000	τ 964.000	1021 000
2	20:49:13	-7.033	τ 981.800	τ 58920.000	τ 58990 000	τ 989.000	1028.000	986 000	τ 975.700	1026 000
3	20:49:39	-9.194	τ 971.100	τ 58570.000	τ 58460 000	τ 958.200	1002.000	957.100	τ 959.900	1014 000
x		-7.580	τ 97.565%	τ 58570.000	τ 97.404%	τ 97.444%	101.541%	970 000	τ 966.500	102.043%
σ		1.422	τ n/a	τ 349.500	τ n/a	τ n/a	n/a	14 690	τ 8.184	n/a
%RSD		18.760	τ 0.569	τ 0.597	τ 0.949	τ 1.587	1.270	1 515	τ 0.847	0 595

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:48:47	1063.000	944.500	1039.000	1032 000	995.200	1028.000	0 574	76 8%	τ 960.900
2	20:49:13	1063.000	943.900	1029.000	1027 000	988.600	1033.000	1 016	76.9%	τ 977.700
3	20:49:39	1066.000	939.300	1042.000	1018 000	987.200	997.500	-0.797	77.7%	τ 966.900
x		106.372%	942.500	1037.000	102.564%	990.300	101.974%	0 264	77.1%	τ 968 500
σ		n/a	2.850	6.596	n/a	4.244	n/a	0.946	0 5%	τ 8 502
%RSD		0.155	0.302	0.636	0 646	0.428	1.907	357 800	0.6	τ 0 878

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:48:47	1001.000	τ 941.300	988.200	151 500	17.980	145.400	1024 000	τ 988.800	80.4%
2	20:49:13	1011.000	τ 956.400	986.400	151 300	18.380	144.500	1020 000	τ 1008.000	81.2%
3	20:49:39	1007.000	τ 952.000	1010.000	151.900	15.880	145.700	1036 000	τ 1017.000	81.8%
x		1006.000	τ 949.900	994.900	101.049%	17.420	145.200	1027 000	τ 100.490%	81.2%
σ		5.092	τ 7.762	13.170	n/a	1.344	0.642	8 369	τ n/a	0.7%
%RSD		0.506	τ 0.817	1.323	0.185	7.716	0.442	0 815	τ 1.458	0.9

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:48:47	τ 490.100	τ 493.600	τ 4811.000	τ 4849 000	ID 0.075	ID 0.018	85.1%	ID 0.002	ID 0 003
2	20:49:13	τ 496.400	τ 499.800	τ 4871.000	τ 4901 000	ID 0.071	ID 0.018	86.9%	ID 0.001	ID 0 004
3	20:49:39	τ 502.000	τ 502.600	τ 4856.000	τ 4964 000	ID 0.065	ID 0.015	88.2%	ID -0.000	ID 0 005
x		τ 496.200	τ 99.729%	τ 96.924%	τ 4904 000	ID 0.070	ID 0.017	86.8%	ID 0.001	ID 0 004
σ		τ 5.963	τ n/a	τ n/a	τ 57 290	ID 0.005	ID 0.002	1.5%	ID 0.001	ID 0 001
%RSD		τ 1.202	τ 0.920	τ 0.651	τ 1.168	ID 7.396	ID 9.076	1.8	ID 125.300	ID 29.100

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	20:48:47	τ 500.100	τ 481.300	τ 973.600	τ 979 800	τ 980.200	81.7%
2	20:49:13	τ 504.100	τ 482.700	τ 980.200	τ 979.100	τ 976.800	83.8%
3	20:49:39	τ 497.100	τ 477.000	τ 967.300	τ 967 600	τ 972.400	86.9%
x		τ 500.400	τ 96.068%	τ 973.700	τ 975 500	τ 97 643%	84.1%
σ		τ 3.479	τ n/a	τ 6.457	τ 6 866	τ n/a	2.6%
%RSD		τ 0.695	τ 0.611	τ 0.663	τ 0.704	τ 0.401	3.1

CB009 IM8714-01 6/5/2018 20:54:11 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:54:37	92.5%	0 019	6.985	14.430	4.082	4.291	4.334	1.872	0 000
2	20:55:03	94.6%	0 012	7.239	12.950	3.879	3.676	3.952	1.671	0 000
3	20:55:29	95.9%	0 025	4.045	12.580	4.205	3.824	3.982	1.818	0 000
x		94.3%	0 018	6.090	13.320	4.056	3.930	4.089	1.787	0 000
σ		1.7%	0 007	1.775	0.979	0.165	0.321	0.212	0.104	0 000
%RSD		1.8	36 020	29.150	7.351	4.067	8.172	5.184	5.821	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:54:37	0 000	244 200	10.720	0.363	4.395	88.7%	0.039	-0.003	0 050
2	20:55:03	0 000	252 000	9.593	7.129	3.432	90.3%	0.100	0.036	0 024
3	20:55:29	0 000	253 300	5.513	3.402	2.067	92.3%	0.009	-0.039	0 032
x		0 000	249 800	8.608	3.631	3.298	90.4%	0.049	-0.002	0 035
σ		0 000	4 871	2.739	3.389	1.170	1.8%	0.046	0.038	0 013
%RSD		0 000	1.950	31.820	93.330	35.470	2.0	93.730	1853.000	37 210

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:54:37	0 622	0 046	2.749	2.623	0.021	0.031	4.947	0.217	0 036
2	20:55:03	0 554	0 061	2.346	1.567	0.025	0.041	3.668	0.138	0 021
3	20:55:29	0 536	0 059	1.738	2.736	0.038	0.027	3.391	0.148	0 040
x		0 571	0 055	2.278	2.309	0.028	0.033	4.002	0.168	0 033
σ		0 045	0 008	0.509	0.645	0.009	0.007	0.830	0.043	0 010
%RSD		7.952	14.900	22.350	27.930	33.750	21.060	20.740	25.490	30 350

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:54:37	0 009	0 232	0.022	-0.015	0.293	0.070	-0.125	92.6%	0 243
2	20:55:03	0 081	0.156	0.012	0.054	0.219	0.135	-1.022	93.9%	0 269
3	20:55:29	0 013	0 083	0.007	0.043	0.154	0.129	-0.192	94.7%	0 250
x		0 034	0.157	0.014	0.027	0.222	0.112	-0.446	93.7%	0 254
σ		0 041	0 074	0.008	0.037	0.070	0.036	0.500	1.1%	0 013
%RSD		119 200	47 340	55.990	135.000	31.520	32.200	112.000	1.1	5 207

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:54:37	0 242	0 255	-0.065	-0.003	0.026	0.008	0.002	0.025	96.1%
2	20:55:03	0 300	0 264	-0.175	0.003	0.111	0.006	0.016	0.020	96.5%
3	20:55:29	0 214	0 259	-0.291	0.005	0.126	0.012	0.019	0.026	96.3%
x		0 252	0 259	-0.177	0.002	0.087	0.009	0.013	0.024	96.3%
σ		0 044	0 004	0.113	0.004	0.054	0.003	0.009	0.003	0.2%
%RSD		17 380	1 683	63.680	220.900	61.700	35.000	73.660	12.460	0.2

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:54:37	0 094	0.115	0.179	0.159	ID -0.000	ID 0.001	99.4%	ID 0.000	ID -0 000
2	20:55:03	0.127	0.136	0.101	0.184	ID 0.000	ID 0.000	100.4%	ID 0.001	ID 0 000
3	20:55:29	0.124	0.161	0.141	0.129	ID 0.001	ID 0.000	101.3%	ID -0.000	ID 0 000
x		0.115	0.137	0.140	0.157	ID 0.000	ID 0.000	100.4%	ID 0.000	ID 0 000
σ		0 018	0 023	0.039	0.027	ID 0.000	ID 0.000	0.9%	ID 0.001	ID 0 000
%RSD		15.710	16 540	27.550	17.330	ID 148.300	ID 100.600	0.9	ID 328.600	ID 174 800

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	20:54:37	0 003	-0 000	0.027	0.027	0.029	99.3%
2	20:55:03	0 000	-0 003	0.034	0.027	0.028	100.8%
3	20:55:29	0 007	-0 005	0.023	0.025	0.030	101.3%
x		0 003	-0 003	0.028	0.027	0.029	100.5%
σ		0 004	0 002	0.005	0.001	0.001	1.0%
%RSD		102.700	89 690	18.970	4.051	4.235	1.0

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:26	92.5%	0.079	-76.380	TM 162700 000	T 75130.000	T 77700 000	T 79810.000	T 1246.000	0 000
2	21:00:52	95.5%	0.045	-75.920	TM 166700 000	T 76660.000	T 79770 000	T 81920.000	T 1271.000	0 000
3	21:01:18	95.4%	0.103	-76.120	TM 165500 000	T 76520.000	T 79840 000	T 82270.000	T 1267.000	0 000
x		94.5%	0.076	-76.140	TM 165000 000	T 76100.000	T 79100 000	T 81340.000	T 1261.000	0 000
σ		1.7%	0.029	0.232	TM 2068 000	T 846.900	T 1219 000	T 1329.000	T 13.130	0 000
%RSD		1.8	38.900	0.304	TM 1 253	T 1.113	T 1 541	T 1.634	T 1.041	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:26	0.000	T 51780.000	T 37540.000	64050 000	T 68130.000	82 3%	42.510	11.280	5.401
2	21:00:52	0.000	T 53280.000	T 38760.000	65960 000	T 69670.000	82.4%	45.890	11.050	5 554
3	21:01:18	0.000	T 53710.000	T 38740.000	66050 000	T 69300.000	83 6%	42.900	10.570	5 369
x		0.000	T 52920.000	T 38350.000	65350 000	T 69030.000	82 8%	43.770	10.970	5.442
σ		0.000	T 1011.000	T 697.100	1131 000	T 806.000	0.7%	1.850	0.362	0 099
%RSD		0.000	T 1.910	T 1.818	1.730	T 1.168	0.9	4.227	3.303	1 819

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:26	24.070	226.900	T 6720.000	6842 000	2.706	10.110	30.300	281.800	281 800
2	21:00:52	27.010	229.700	T 6874.000	6935 000	2.710	9 851	31.210	280.700	280 600
3	21:01:18	28.400	226.700	T 6856.000	6988 000	2.758	10.110	32.080	277.300	275.700
x		26.500	227.800	T 6817.000	6922 000	2.724	10 020	31.190	279.900	279.400
σ		2.210	1.711	T 84.280	73 620	0.029	0.149	0.889	2.324	3 230
%RSD		8.342	0.751	T 1.236	1 064	1.056	1.484	2.851	0.830	1.156

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:26	176.200	158.900	173.600	54 300	1.905	0.796	1.382	83.8%	42 590
2	21:00:52	175.600	156.900	173.200	54 300	2.072	0 513	1.258	83.5%	42 340
3	21:01:18	176.600	158.300	174.400	53 800	2.464	1 066	1.926	83.7%	42.950
x		176.100	158.000	173.700	54.130	2.147	0.792	1.522	83.7%	42 630
σ		0.524	0.990	0.585	0 290	0.287	0 276	0.356	0.2%	0 304
%RSD		0.297	0.626	0.337	0 536	13.370	34 890	23.360	0.2	0.712

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:26	41.870	41.380	1.321	0.479	0.510	0.442	1.227	1.326	81.6%
2	21:00:52	42.820	41.750	1.524	0.458	0.356	0.469	1.244	1.293	81.6%
3	21:01:18	42.110	41.670	1.531	0.480	0.368	0.460	1.216	1.415	82.8%
x		42.270	41.600	1.459	0.472	0.411	0.457	1.229	1.345	82.0%
σ		0.496	0.193	0.119	0 013	0.085	0 014	0.014	0.063	0.7%
%RSD		1.174	0.464	8.163	2 647	20.770	3 088	1.149	4.708	0.9

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:26	4.467	4.461	299.100	315 500	ID 0.370	ID 0 310	90.3%	ID 0.235	ID 0 235
2	21:00:52	4.526	4.406	303.200	320 300	ID 0.403	ID 0 318	91.6%	ID 0.230	ID 0 223
3	21:01:18	4.536	4.516	300.400	316.900	ID 0.394	ID 0 317	94.8%	ID 0.215	ID 0.197
x		4.510	4.461	300.900	317 600	ID 0.389	ID 0 315	92.3%	ID 0.226	ID 0 218
σ		0.037	0.055	2.075	2.452	ID 0.017	ID 0 005	2.3%	ID 0.010	ID 0 019
%RSD		0.825	1.236	0.689	0.772	ID 4.496	ID 1.443	2.5	ID 4.552	ID 8 852

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:26	0.002	-0.003	179.900	164 300	175.300	85.1%
2	21:00:52	0.006	0.001	183.200	167 300	178.500	87 3%
3	21:01:18	-0.002	-0.005	183.600	166.900	178.200	88.4%
x		0.002	-0.002	182.300	166.100	177.300	86.9%
σ		0.004	0.003	2.056	1 631	1.816	1.7%
%RSD		214.000	122.900	1.128	0.982	1.024	2.0

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:06:14	93.3%	46.190	-76.130	TM 173300 000	T 81740.000	T 84530 000	T 87520.000	T 1386.000	0 000
2	21:06:39	95.1%	46.490	-77.730	TM 171300 000	T 81520.000	T 84070 000	T 87200.000	T 1370.000	0 000
3	21:07:05	94.9%	47.180	-76.860	TM 179100 000	T 84540.000	T 87320 000	T 89940.000	T 1411.000	0 000
x		94.4%	46.620	-76.910	TM 174500 000	T 82600.000	T 85300 000	T 88220.000	T 1389.000	0 000
σ		1.0%	0.507	0.799	TM 4037 000	T 1687.000	T 1760 000	T 1500.000	T 20.770	0 000
%RSD		1.1	1.087	1.039	TM 2 313	T 2.042	T 2 063	T 1.700	T 1.495	0 000
Run	**Time**	**34S**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:06:14	0.000	T 54640.000	T 40240.000	70130 000	T 74500.000	81.7%	47.420	T 490.000	198.900
2	21:06:39	0.000	T 54550.000	T 39820.000	68950 000	T 73590.000	84 5%	46.130	T 486.200	194.900
3	21:07:05	0.000	T 54890.000	T 40460.000	70190 000	T 74640.000	81 5%	46.920	T 489.000	194 200
x		0.000	T 54700.000	T 40170.000	69760 000	T 74240.000	82 6%	46.820	T 488.400	196 000
σ		0.000	T 174.300	T 322.600	699 200	T 569.600	1.7%	0.651	T 2.013	2.496
%RSD		0.000	T 0.319	T 0.803	1 002	T 0.767	2.0	1.391	T 0.412	1 274
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**62Ni**	**63Cu**	**65Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:06:14	25.010	T 714.300	T 8269.000	8477 000	T 466.200	476.900	487.300	546.600	537.700
2	21:06:39	26.370	T 706.700	T 8147.000	8427 000	T 460.200	480 600	490.700	551.300	528 800
3	21:07:05	27.530	T 719.300	T 8337.000	8442 000	T 460.400	471 200	498.900	542.300	527.900
x		26.300	T 713.400	T 8251.000	8448 000	T 462.300	476 200	492.300	546.700	531 500
σ		1.258	T 6.358	T 96.600	25 610	T 3.404	4.722	5.932	4.519	5.408
%RSD		4.782	T 0.891	T 1.171	0 303	T 0.736	0.992	1.205	0.827	1 018
Run	**Time**	**66Zn**	**67Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**89Y**	**95Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:06:14	664.000	604.900	669.100	92 070	93.130	93 800	1.950	83.5%	45.150
2	21:06:39	661.800	616.900	677.200	91 090	89.620	90.900	2.346	83.4%	45 290
3	21:07:05	668.700	625.200	683.000	93 070	89.770	89.790	4.860	81.5%	44.470
x		664.800	615.700	676.400	92 070	90.840	91 500	3.052	82.8%	44.970
σ		3.507	10.200	6.981	0.992	1.982	2 071	1.578	1.1%	0.439
%RSD		0.528	1.656	1.032	1 078	2.181	2 264	51.700	1.3	0.976
Run	**Time**	**97Mo**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:06:14	46.000	44.160	49.150	49.110	-0.153	46.110	48.640	50.900	82.3%
2	21:06:39	45.500	44.570	48.480	49 870	1.648	46 690	48.720	51.070	82.7%
3	21:07:05	45.180	44.580	49.780	49 300	1.112	46 540	49.950	51.300	80.0%
x		45.560	44.440	49.140	49.420	0.869	46.440	49.110	51.090	81.7%
σ		0.413	0.242	0.649	0 395	0.925	0 301	0.734	0.200	1.4%
%RSD		0.906	0.545	1.321	0.798	106.400	0 648	1.495	0.392	1.8
Run	**Time**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**150Sm**	**156Gd**	**159Tb**	**160Dy**	**164Dy**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:06:14	99.450	99.460	T 2285.000	T 2289 000	ID 0.442	ID 0 347	92.0%	ID 0.241	ID 0 245
2	21:06:39	99.890	98.790	T 2276.000	T 2316 000	ID 0.447	ID 0 336	93.9%	ID 0.263	ID 0 231
3	21:07:05	101.400	100.600	T 2312.000	T 2330 000	ID 0.460	ID 0 337	91.5%	ID 0.242	ID 0 246
x		100.200	99.620	T 2291.000	T 2311 000	ID 0.450	ID 0 340	92.5%	ID 0.249	ID 0 241
σ		1.006	0.911	T 19.000	T 20.900	ID 0.009	ID 0 006	1.3%	ID 0.012	ID 0 009
%RSD		1.004	0.915	T 0.829	T 0.904	ID 2.039	ID 1 805	1.4	ID 4.930	ID 3 653
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**			
		ppb	ppb	ppb	ppb	ppb	ppb			
1	21:06:14	52.810	52.390	227.600	209 300	T 216.200	T 81.3%			
2	21:06:39	52.610	52.640	228.100	209.900	T 217.400	T 82.5%			
3	21:07:05	52.720	52.300	226.900	206.900	T 215.900	T 81.3%			
x		52.710	52.450	227.500	208.700	T 216.500	T 81.7%			
σ		0.098	0.176	0.614	1 625	T 0.806	T 0.7%			
%RSD		0.185	0.335	0.270	0.779	T 0.372	T 0.9			

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:12:02	93.7%	0.037	-76.700	TM 167100 000	T 78330.000	T 81520 000	T 84580.000	T 1278.000	0 000
2	21:12:27	95.6%	0.083	-77.930	TM 173000 000	T 81160.000	T 83990 000	T 86640.000	T 1301.000	0 000
3	21:12:53	97.5%	0.028	-75.800	TM 174500 000	T 81280.000	T 85460 000	T 88080.000	T 1289.000	0 000
x		95.6%	0.049	-76.810	TM 171500 000	T 80250.000	T 83660 000	T 86440.000	T 1289.000	0 000
σ		1.9%	0.030	1.070	TM 3903 000	T 1666.000	T 1995 000	T 1759.000	T 11.530	0 000
%RSD		2.0	60.300	1.392	TM 2 275	T 2.076	T 2 385	T 2.035	T 0.894	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:12:02	0.000	T 54530.000	T 39840.000	68010 000	T 72330.000	84.1%	44.830	12.220	5 631
2	21:12:27	0.000	T 55810.000	T 40660.000	69510 000	T 73600.000	85.1%	43.350	11.960	5.709
3	21:12:53	0.000	T 56570.000	T 41180.000	71220 000	T 75060.000	85.1%	44.530	10.740	5 589
x		0.000	T 55640.000	T 40560.000	69580 000	T 73660.000	84 8%	44.240	11.640	5 643
σ		0.000	T 1027.000	T 673.000	1604 000	T 1365.000	0 6%	0.781	0.791	0 061
%RSD		0.000	T 1.847	T 1.659	2 306	T 1.853	0.7	1.766	6.798	1 073

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:12:02	27.960	238.400	T 7066.000	7214 000	2.869	10 660	37.080	292.000	292 600
2	21:12:27	28.750	T 232.800	T 7170.000	7276 000	2.870	10.410	39.970	291.300	289.400
3	21:12:53	30.800	T 235.700	T 7233.000	7358 000	2.908	10 340	41.180	294.600	288.700
x		29.170	T 235.600	T 7156.000	7283 000	2.882	10.470	39.410	292.700	290 200
σ		1.465	T 2.825	T 84.510	71 830	0.022	0.165	2.104	1.755	2 046
%RSD		5.024	T 1.199	T 1.181	0.986	0.778	1 578	5.339	0.600	0.705

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:12:02	179.900	161.800	181.300	55 680	2.441	0 582	2.635	85.6%	43.470
2	21:12:27	182.900	162.200	182.000	56 600	2.515	0 874	2.358	85.6%	44.120
3	21:12:53	181.000	163.500	180.900	56 550	2.069	0 554	3.212	86.9%	44.120
x		181.300	162.500	181.400	56 280	2.342	0 670	2.735	86.0%	43.900
σ		1.508	0.891	0.566	0 518	0.239	0.177	0.435	0.8%	0 377
%RSD		0.832	0.548	0.312	0.920	10.210	26.430	15.910	0.9	0 859

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:12:02	43.060	42.540	1.927	0 554	0.173	0.495	1.374	1.321	83.1%
2	21:12:27	43.700	43.690	1.371	0 539	0.529	0 502	1.294	1.357	84.6%
3	21:12:53	44.150	43.200	1.776	0 545	0.136	0 514	1.281	1.370	84.7%
x		43.640	43.140	1.692	0 546	0.279	0 503	1.316	1.349	84.1%
σ		0.545	0.579	0.288	0 008	0.217	0 010	0.051	0.025	0.9%
%RSD		1.248	1.342	17.010	1.427	77.620	1.938	3.841	1.882	1.0

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:12:02	4.732	4.787	317.400	330 200	ID 0.383	ID 0 297	93.2%	ID 0.230	ID 0 215
2	21:12:27	4.927	4.770	315.100	332 000	ID 0.403	ID 0 309	95.0%	ID 0.228	ID 0 240
3	21:12:53	4.925	4.913	318.100	337.400	ID 0.408	ID 0 333	96.0%	ID 0.234	ID 0 214
x		4.861	4.823	316.900	333 200	ID 0.398	ID 0 313	94.7%	ID 0.231	ID 0 223
σ		0.112	0.078	1.579	3 801	ID 0.013	ID 0 018	1.4%	ID 0.003	ID 0 015
%RSD		2.301	1.617	0.498	1.141	ID 3.284	ID 5 848	1.5	ID 1.436	ID 6 677

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	21:12:02	-0.000	0.006	192.700	175 800	188.000	87 0%
2	21:12:27	0.022	0.010	207.900	187 600	T 196.300	T 82.5%
3	21:12:53	0.008	0.006	192.400	174 200	T 181.400	90.9%
x		0.010	0.007	197.700	179 200	T 188.600	T 86.8%
σ		0.011	0.002	8.862	7 335	T 7.430	T 4.2%
%RSD		110.500	34.430	4.484	4 094	T 3.941	T 4.8

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:17:49	89.2%	0 038	-73.040	T 42990.000	T 19820.000	T 20380.000	T 20880.000	328.700	0 000
2	21:18:15	92.0%	-0 041	-73.820	T 42530.000	T 19670.000	T 20060.000	T 20630.000	T 317.700	0 000
3	21:18:41	91.9%	-0 021	-75.130	T 43080.000	T 19860.000	T 20410.000	T 20770.000	327.000	0 000
x		91.1%	-0 008	-74.000	T 42870.000	T 19790.000	T 20280.000	T 20760.000	T 324.500	0 000
σ		1.6%	0 041	1.058	T 298.200	T 101.000	T 195.000	T 126.400	T 5.953	0 000
%RSD		1.7	520 500	1.430	T 0.696	T 0.510	T 0.961	T 0.609	T 1.835	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:17:49	0.000	T 11630 000	T 8798.000	15140.000	15400.000	86.4%	11.130	2.575	1 337
2	21:18:15	0.000	T 11480 000	T 8716.000	15060.000	14930.000	87.2%	10.320	2.592	1 302
3	21:18:41	0.000	T 11510 000	T 8776.000	14890.000	15170.000	87.1%	10.870	2.449	1 357
x		0.000	T 11540 000	T 8763.000	15030.000	15160.000	86.9%	10.770	2.539	1 332
σ		0.000	T 81 270	T 42.400	128.200	234.600	0.4%	0.412	0.078	0 028
%RSD		0.000	T 0.704	T 0.484	0.853	1.547	0 5	3.826	3.065	2 085

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:17:49	9.435	52.740	T 1628.000	1664.000	0.721	3.871	8.950	71.000	70.150
2	21:18:15	9.411	52 810	T 1588.000	1607.000	0.640	3.528	10.370	69.470	69.740
3	21:18:41	9.586	53.430	T 1624.000	1651.000	0.630	3.848	9.913	71.080	70 640
x		9.477	52.990	T 1613.000	1641.000	0.664	3.749	9.743	70.520	70.180
σ		0.095	0 384	T 21.930	30.060	0.050	0.192	0.724	0.905	0.449
%RSD		0.999	0.724	T 1.359	1.832	7.508	5.119	7.431	1.284	0 640

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:17:49	47.180	43.780	45.750	13.640	0.418	0.645	0.205	85.8%	9 840
2	21:18:15	46.120	39.960	45.040	13.380	0.686	0.492	-0.132	88.2%	9.930
3	21:18:41	46.520	41 670	46.280	13.710	0.855	0.277	0.411	87.5%	9 846
x		46.610	41 800	45.690	13.580	0.653	0.471	0.161	87.2%	9 872
σ		0.531	1.914	0.621	0.176	0.220	0.185	0.274	1.3%	0 051
%RSD		1.139	4 578	1.358	1.296	33.710	39.230	169.900	1.5	0 512

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:17:49	10.030	9 835	0.489	0.120	0.011	0.096	0.312	0.339	86.1%
2	21:18:15	9.719	9 542	-0.145	0.087	0.295	0.099	0.297	0.266	87.9%
3	21:18:41	9.630	9.710	0.483	0.111	-0.048	0.095	0.298	0.298	87.7%
x		9.794	9 696	0.276	0.106	0.086	0.096	0.302	0.301	87.2%
σ		0.212	0.147	0.364	0.017	0.183	0.002	0.008	0.037	1.0%
%RSD		2.165	1 515	132.100	15.930	213.300	2.147	2.670	12.200	1.2

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:17:49	0.888	0 858	70.520	74.280	ID 0.104	ID 0.083	92.8%	ID 0.053	ID 0 051
2	21:18:15	0.872	0 824	68.650	72.850	ID 0.085	ID 0.073	93.9%	ID 0.047	ID 0 055
3	21:18:41	0.856	0 842	70.010	72.570	ID 0.095	ID 0.077	94.5%	ID 0.051	ID 0 045
x		0.872	0 841	69.730	73.230	ID 0.095	ID 0.078	93.7%	ID 0.050	ID 0 050
σ		0.016	0 017	0.966	0.914	ID 0.010	ID 0.005	0.9%	ID 0.003	ID 0 005
%RSD		1.875	2 068	1.385	1.248	ID 10.060	ID 6.162	1.0	ID 5.806	ID 10 060

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	21:17:49	-0.029	-0 031	42.410	38.680	40.540	87.9%
2	21:18:15	-0.033	-0 030	41.530	37.910	39.670	89.5%
3	21:18:41	-0.032	-0 034	41.220	38.660	39.890	90.0%
x		-0.031	-0 032	41.720	38.420	40.030	89.1%
σ		0.002	0 002	0.617	0.438	0.454	1.1%
%RSD		7.487	6 805	1.479	1.139	1.133	1 3

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Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:23:36	95.3%	1.997	-77.470	TM 167500 000	T 79490.000	T 82620 000	T 85930.000	T 1367.000	0 000
2	21:24:02	96.6%	1.999	-77.240	TM 170300 000	T 80680.000	T 84010 000	T 87420.000	T 1385.000	0 000
3	21:24:28	99.0%	1.929	-77.380	TM 171900 000	T 81460.000	T 85020 000	T 87840.000	T 1399.000	0 000
x		96.9%	1.975	-77.360	TM 169900 000	T 80540.000	T 83880 000	T 87060.000	T 1384.000	0 000
σ		1.9%	0.040	0.117	TM 2211 000	T 994.300	T 1206 000	T 1004.000	T 16.220	0 000
%RSD		1.9	2.004	0.151	TM 1 302	T 1.234	T 1.437	T 1.153	T 1.172	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:23:36	0.000	T 54360.000	T 41070.000	70740 000	T 73980.000	84 6%	44.740	21.690	9 546
2	21:24:02	0.000	T 54980.000	T 41500.000	70980 000	T 74780.000	86 3%	46.430	20.860	9.489
3	21:24:28	0.000	T 55110.000	T 41270.000	70890 000	T 75500.000	87.1%	45.700	21.520	9.400
x		0.000	T 54820.000	T 41280.000	70870 000	T 74750.000	86 0%	45.620	21.360	9.478
σ		0.000	T 401.200	T 216.500	121.100	T 759.400	1 3%	0.851	0.437	0 074
%RSD		0.000	T 0.732	T 0.525	0.171	T 1.016	1.5	1.865	2.044	0.776

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:23:36	27.760	244.600	T 7680.000	7871 000	4.693	12.420	33.540	296.300	297 200
2	21:24:02	29.090	T 234.300	T 7663.000	7847 000	4.717	12 670	37.990	295.700	292 300
3	21:24:28	29.210	T 235.100	T 7723.000	7845 000	4.679	12.140	39.990	297.700	291 500
x		28.680	T 238.000	T 7689.000	7854 000	4.696	12.410	37.170	296.600	293.700
σ		0.804	T 5.728	T 30.790	14 260	0.019	0 264	3.302	1.066	3.108
%RSD		2.802	T 2.407	T 0.401	0.182	0.413	2.129	8.882	0.359	1 058

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:23:36	184.500	165.400	182.800	59 070	11.030	10.160	2.449	86.5%	44.100
2	21:24:02	184.100	166.100	182.700	57 640	11.500	11.100	1.700	88.1%	44 290
3	21:24:28	187.100	167.000	186.400	56.920	11.310	9 242	4.708	87.8%	44.160
x		185.200	166.200	184.000	57 880	11.280	10.170	2.952	87.4%	44.180
σ		1.623	0.765	2.120	1 095	0.237	0.927	1.566	0.9%	0 099
%RSD		0.876	0.460	1.152	1 892	2.100	9.114	53.040	1.0	0 223

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:23:36	44.030	42.740	4.543	2 375	0.172	2 366	3.266	3.523	84.7%
2	21:24:02	43.620	43.210	3.874	2.448	0.316	2 331	3.204	3.361	86.0%
3	21:24:28	44.650	43.160	3.582	2.464	0.423	2 300	3.269	3.337	86.1%
x		44.100	43.040	4.000	2.429	0.304	2 332	3.247	3.407	85.6%
σ		0.521	0.262	0.493	0 048	0.126	0 033	0.036	0.101	0.8%
%RSD		1.181	0.609	12.320	1.972	41.560	1.413	1.124	2.977	0.9

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:23:36	8.539	8.600	331.900	352 500	ID 0.406	ID 0 317	95.3%	ID 0.237	ID 0 247
2	21:24:02	8.454	8.624	334.800	351.400	ID 0.392	ID 0 333	96.5%	ID 0.230	ID 0 231
3	21:24:28	8.637	8.634	339.700	357 200	ID 0.412	ID 0 342	97.3%	ID 0.212	ID 0 232
x		8.543	8.619	335.500	353.700	ID 0.404	ID 0 331	96.3%	ID 0.226	ID 0 236
σ		0.091	0.017	3.906	3 078	ID 0.010	ID 0 013	1.0%	ID 0.013	ID 0 009
%RSD		1.070	0.203	1.164	0 870	ID 2.524	ID 3 885	1.1	ID 5.655	ID 3.773

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	21:23:36	2.023	1.977	193.900	176 600	T 182.900	89 2%
2	21:24:02	2.135	2.184	209.900	190.100	T 197.800	T 83.7%
3	21:24:28	2.164	2.109	206.300	190.900	T 197.200	T 85.0%
x		2.107	2.090	203.400	185.900	T 192.600	T 86.0%
σ		0.074	0.105	8.387	8 019	T 8.451	T 2.9%
%RSD		3.520	5.031	4.123	4 314	T 4.388	T 3.3

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Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:29:23	93.9%	48.330	-77.110	TM 168400 000	T 80430.000	T 84090 000	T 87280.000	T 1382.000	0 000
2	21:29:49	96.6%	47.680	-78.230	TM 171000 000	T 80300.000	T 84860 000	T 87250.000	T 1361.000	0 000
3	21:30:15	97.7%	47.150	-78.380	TM 172000 000	T 81210.000	T 85510 000	T 87890.000	T 1376.000	0 000
x		96.0%	47.720	-77.900	TM 170500 000	T 80650.000	T 84820 000	T 87470.000	T 1373.000	0 000
σ		2.0%	0.592	0.694	TM 1897 000	T 493.000	T 712.100	T 357.200	T 10.520	0 000
%RSD		2.1	1.241	0.891	TM 1.112	T 0.611	T 0 840	T 0.408	T 0.766	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:29:23	0.000	T 52080.000	T 38860.000	68040 000	T 73240.000	84.9%	46.430	T 506.600	200 000
2	21:29:49	0.000	T 52280.000	T 38840.000	68270 000	T 72240.000	86 2%	48.740	T 501.400	201.100
3	21:30:15	0.000	T 52230.000	T 38940.000	68410 000	T 72260.000	86.7%	48.600	T 506.100	199.900
x		0.000	T 52200.000	T 38880.000	68240 000	T 72580.000	85.9%	47.920	T 504.700	200 300
σ		0.000	T 103.400	T 53.840	186.400	T 570.600	0.9%	1.297	T 2.867	0 643
%RSD		0.000	T 0.198	T 0.139	0 273	T 0.786	1.1	2.706	T 0.568	0 321

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:29:23	27.430	T 728.500	T 8144.000	8427 000	T 477.800	494.900	512.400	567.100	549 600
2	21:29:49	26.700	T 728.400	T 8224.000	8389 000	T 476.500	490 200	504.000	563.400	541 600
3	21:30:15	27.050	T 723.500	T 8173.000	8348 000	T 472.000	489.700	503.300	554.300	535 000
x		27.060	T 726.800	T 8180.000	8388 000	T 475.400	491 600	506.600	561.600	542.100
σ		0.367	T 2.819	T 40.660	39.190	T 3.064	2 869	5.072	6.562	7 323
%RSD		1.355	T 0.388	T 0.497	0.467	T 0.644	0 584	1.001	1.168	1 351

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:29:23	682.900	643.800	717.800	95 290	92.650	96.480	3.721	85.2%	45.700
2	21:29:49	683.200	649.400	718.200	93.900	94.640	91.460	3.464	84.8%	44.970
3	21:30:15	671.100	637.600	709.200	93 010	92.670	93 820	4.312	86.1%	45.120
x		679.100	643.600	715.100	94 070	93.320	93.920	3.832	85.4%	45 270
σ		6.924	5.901	5.059	1.150	1.144	2 512	0.434	0.6%	0 386
%RSD		1.020	0.917	0.708	1 223	1.226	2 674	11.330	0.7	0 852

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:29:23	45.660	44.460	49.730	50 890	0.569	47 520	50.850	52.700	81.4%
2	21:29:49	45.100	44.230	49.240	50 640	1.410	47.990	50.090	51.960	81.4%
3	21:30:15	44.970	43.580	49.390	50 590	1.564	47 220	49.780	51.240	82.5%
x		45.240	44.090	49.450	50.710	1.181	47 580	50.240	51.970	81.8%
σ		0.369	0.458	0.255	0.162	0.535	0 390	0.552	0.729	0.6%
%RSD		0.815	1.040	0.516	0 320	45.340	0 820	1.098	1.402	0.8

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:29:23	111.300	111.600	T 2359.000	T 2382 000	ID 0.444	ID 0 358	90.3%	ID 0.239	ID 0 255
2	21:29:49	111.200	110.600	T 2360.000	T 2362 000	ID 0.426	ID 0 366	91.5%	ID 0.239	ID 0 229
3	21:30:15	109.300	108.400	T 2334.000	T 2362 000	ID 0.428	ID 0 349	92.7%	ID 0.227	ID 0 244
x		110.600	110.200	T 2351.000	T 2369 000	ID 0.433	ID 0 358	91.5%	ID 0.235	ID 0 243
σ		1.119	1.625	T 14.660	T 11.770	ID 0.009	ID 0 008	1.2%	ID 0.007	ID 0 013
%RSD		1.012	1.475	T 0.624	T 0.497	ID 2.173	ID 2 367	1.4	ID 2.867	ID 5 294

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	21:29:23	52.700	52.280	224.200	204.400	T 214.300	T 80.3%
2	21:29:49	52.080	51.740	221.200	202.900	T 211.100	T 81.8%
3	21:30:15	52.100	51.850	221.800	204.100	T 211.800	T 82.6%
x		52.300	51.960	222.400	203 800	T 212.400	T 81.6%
σ		0.353	0.287	1.584	0.787	T 1.731	T 1.2%
%RSD		0.676	0.553	0.712	0 386	T 0.815	T 1.4

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:35:11	93.8%	0.329	-69 530	T 87090.000	T 90430 000	T 94400.000	T 97910.000	T 3315 000	0 000
2	21:35:37	94.9%	0.231	-70.900	T 88180.000	T 90720 000	T 95350.000	T 98360.000	T 3305 000	0 000
3	21:36:02	95.9%	0.199	-68.450	T 89760.000	T 92930 000	T 96490.000	T 98380.000	T 3336 000	0 000
x		94.9%	0.253	-69 630	T 88340.000	T 91360 000	T 95410.000	T 98210.000	T 3319 000	0 000
σ		1.1%	0.068	1 226	T 1339.000	T 1366 000	T 1045.000	T 267.500	T 15.970	0 000
%RSD		1.1	26.790	1.760	T 1.516	T 1.495	T 1.096	T 0.272	T 0.481	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:35:11	0.000	T 52300.000	T 33530 000	104900.000	T 111000 000	86.6%	101.500	8 514	7 627
2	21:35:37	0.000	T 52340.000	T 33240 000	104500.000	T 110500 000	87.8%	100.900	8 269	7 674
3	21:36:02	0.000	T 52620.000	T 33430 000	104600.000	T 111100 000	87.8%	102.200	8 056	7 615
x		0.000	T 52420.000	T 33400 000	104700.000	T 110800 000	87.4%	101.500	8 280	7 639
σ		0.000	T 173.500	T 149.700	225.700	T 310.700	0.7%	0.631	0 230	0 031
%RSD		0.000	T 0.331	T 0.448	0.216	T 0 280	0 8	0.622	2.773	0.405

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:35:11	19.070	T 429.800	T 12430 000	12920.000	2.985	9.438	17.360	9 219	8 818
2	21:35:37	19.670	T 424.500	T 12210 000	12620.000	3 016	8.882	21.750	9 070	8 580
3	21:36:02	20.170	T 429.200	T 12400 000	12840.000	2.983	8.921	21.470	9 240	8 592
x		19.640	T 427.800	T 12340 000	12790.000	2.995	9.080	20.190	9.176	8 663
σ		0.552	T 2.909	T 119 600	154.400	0 019	0.311	2.454	0 093	0.134
%RSD		2.810	T 0.680	T 0.969	1.207	0 621	3.419	12.150	1 009	1 547

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:35:11	41.680	49.480	51.700	52.160	1 010	1.478	0.504	92.7%	11 660
2	21:35:37	41.660	48.850	49 850	51.590	0.969	0.696	2.851	92.9%	11 600
3	21:36:02	41.090	51.130	50 200	51.650	1 369	0.404	1.497	92 6%	11 650
x		41.480	49.820	50 580	51.800	1.116	0.859	1.618	92.7%	11 640
σ		0.333	1.177	0.983	0.316	0 220	0.555	1.178	0 2%	0 030
%RSD		0.803	2.363	1.944	0.610	19 690	64.620	72.820	0.2	0 262

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:35:11	11.530	11.430	0.797	0.043	-0.113	0.044	0.194	0 219	85.9%
2	21:35:37	11.510	11.120	0 258	0.042	0.160	0.037	0.230	0.188	87.3%
3	21:36:02	11.430	11.480	0.710	0.059	0 082	0.035	0.183	0 236	86.3%
x		11.490	11.340	0 588	0.048	0 043	0.039	0.202	0 214	86.5%
σ		0.053	0.191	0 289	0.009	0.140	0.005	0.024	0 024	0.7%
%RSD		0.462	1.685	49 200	19.540	326 000	12.510	12.110	11.400	0.8

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:35:11	0.394	0.339	584.100	624.200	ID 0.992	ID 0.805	95.8%	ID 0 606	ID 0 593
2	21:35:37	0.356	0.366	584.100	621.400	ID 0.964	ID 0.821	96.8%	ID 0 644	ID 0 614
3	21:36:02	0.393	0.387	584.100	625.600	ID 1 000	ID 0.816	98.1%	ID 0 626	ID 0 597
x		0.381	0.364	584.100	623.700	ID 0.985	ID 0.814	96.9%	ID 0 625	ID 0 602
σ		0.021	0.024	0 027	2.137	ID 0 019	ID 0.008	1.2%	ID 0 019	ID 0 011
%RSD		5.624	6.671	0 005	0.343	ID 1.914	ID 1.013	1.2	ID 3 029	ID 1 873

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	21:35:11	0.021	0.027	20 200	19.170	19.710	90.0%
2	21:35:37	0.028	0.027	20 570	19.060	19 880	90.9%
3	21:36:02	0.041	0.022	20.720	19.090	20 000	90.8%
x		0.030	0.025	20 500	19.110	19 860	90.6%
σ		0.010	0.003	0 267	0.057	0.143	0.5%
%RSD		34.280	10.570	1 300	0.300	0.721	0 5

TE23024-018/MH0AD8 6/5/2018 21:40:32

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:40:59	89.7%	0.736	-79.490	T 54290.000	T 50980.000	T 52450.000	T 54060.000	T 9252.000	0 000
2	21:41:24	92.3%	0.713	-81.410	T 53800.000	T 50430.000	T 52450.000	T 53660.000	T 9237.000	0 000
3	21:41:50	91.6%	0 800	-80.910	T 56210.000	T 52220.000	T 54210.000	T 55680.000	T 9533.000	0 000
x		91.2%	0.749	-80 600	T 54770.000	T 51210.000	T 53040.000	T 54470.000	T 9341.000	0 000
σ		1.3%	0 045	0.993	T 1274.000	T 916.900	T 1019.000	T 1070.000	T 166.600	0 000
%RSD		1.5	6 034	1 232	T 2.326	T 1.791	T 1.921	T 1.965	T 1.784	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:40:59	0.000	T 47960 000	T 23480 000	M 155700.000	TM 162300.000	83.8%	103.500	32.420	19 260
2	21:41:24	0.000	T 48010 000	T 23420 000	M 154100.000	TM 163200.000	85.6%	102.300	32.080	18.930
3	21:41:50	0.000	T 49360 000	T 24100 000	M 159200.000	TM 166400.000	83.7%	104.800	32.500	18 850
x		0.000	T 48440 000	T 23670 000	M 156300.000	TM 164000.000	84.4%	103.500	32.330	19 010
σ		0.000	T 794 600	T 373.400	M 2587.000	TM 2155.000	1.1%	1.248	0.224	0 215
%RSD		0.000	T 1 640	T 1 578	M 1.655	TM 1.314	1 2	1.205	0.691	1.130

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:40:59	17.760	T 571 200	T 16640 000	17440.000	7.132	22.300	37.980	23.140	24 210
2	21:41:24	17.590	T 575.400	T 16580 000	17380.000	6.960	22.350	37.820	22.710	23 660
3	21:41:50	18.130	T 576 300	T 16880 000	17670.000	7.014	21.830	41.170	22.610	23 820
x		17.820	T 574 300	T 16700 000	17500.000	7.035	22.160	38.990	22.820	23 890
σ		0.276	T 2.744	T 159.700	156.800	0.088	0.286	1.892	0.282	0 281
%RSD		1.546	T 0.478	T 0.957	0.896	1.245	1.290	4.853	1.237	1.174

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:40:59	74.260	80 340	86.930	35.850	1.956	0.943	2.436	102.4%	24 050
2	21:41:24	73.160	78 050	84 300	34.210	2.187	0.942	3.513	103.4%	23 320
3	21:41:50	75.050	78 320	83.990	35.110	2.004	1.288	3.363	102 3%	23.480
x		74.160	78.900	85 080	35.060	2.049	1.058	3.104	102.7%	23 620
σ		0.950	1 251	1 616	0.824	0.122	0.199	0.584	0 6%	0 385
%RSD		1.281	1 585	1 899	2.349	5.945	18.820	18.800	0.6	1 629

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:40:59	24.390	24 050	1 246	0.148	0.061	0.141	0.510	0.589	80.0%
2	21:41:24	23.800	23 660	1 503	0.136	-0.082	0.118	0.557	0.569	82.9%
3	21:41:50	24.500	23 680	0 587	0.149	0.313	0.132	0.518	0.574	81.4%
x		24.230	23 800	1.112	0.145	0.097	0.131	0.528	0.577	81.5%
σ		0.376	0 221	0.473	0.008	0.200	0.012	0.025	0.010	1.5%
%RSD		1.552	0.928	42 510	5.233	205.700	8.802	4.770	1.808	1.8

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:40:59	0.395	0 395	304.900	323.700	ID 3.138	ID 2.699	87.4%	ID 1.966	ID 1 898
2	21:41:24	0.374	0 371	297.900	314.700	ID 3.169	ID 2.637	92.2%	ID 1.908	ID 1 812
3	21:41:50	0.383	0.403	301 800	322.300	ID 3.169	ID 2.647	90.9%	ID 1.923	ID 1.927
x		0.384	0 390	301 500	320.200	ID 3.159	ID 2.661	90.2%	ID 1.932	ID 1 879
σ		0.011	0 017	3.465	4.803	ID 0.018	ID 0.033	2.5%	ID 0.030	ID 0 060
%RSD		2.740	4 255	1.149	1.500	ID 0.564	ID 1.242	2.7	ID 1.554	ID 3.172

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	21:40:59	0.159	0.151	12 600	11.180	11.700	84.2%
2	21:41:24	0.167	0.146	12 230	10.880	11.480	86.6%
3	21:41:50	0.152	0.154	12 290	11.000	11.610	87.8%
x		0.159	0.150	12 380	11.020	11.600	86.2%
σ		0.008	0 004	0 201	0.152	0.113	1.8%
%RSD		4.808	2 392	1 627	1.380	0.977	2.1

CV010 ISM-2068 6/5/2018 21:46:22 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:46:47	78.9%	502.500	7.408	T 62120 000	T 61750.000	T 61850.000	T 61010 000	T 61290.000	0 000
2	21:47:13	79.6%	505.100	-0.027	T 63740 000	T 63110.000	T 63200.000	T 62240 000	T 61930.000	0 000
3	21:47:39	80.5%	504.900	6.287	T 64290 000	T 63790.000	T 63230.000	T 62920 000	T 62540.000	0 000
x		79.7%	100.832%	4.556	T 105.643%	T 62880.000	T 62760.000	T 103.433%	T 103 202%	0 000
σ		0.8%	n/a	4.009	T n/a	T 1038.000	T 787.800	T n/a	T n/a	0 000
%RSD		1 0	0.292	87.990	T 1.779	T 1.651	T 1.255	T 1 560	T 1.003	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:46:47	0.000	471.700	T 60050.000	59500 000	T 58850.000	79.6%	962 600	T 973.200	T 984 500
2	21:47:13	0.000	488.800	T 60930.000	60090 000	T 60210.000	80.5%	965 600	T 987.800	T 989 500
3	21:47:39	0.000	484.000	T 60860.000	59700 000	T 59530.000	80.8%	970 500	T 976.900	T 983 300
x		0.000	481.500	T 101.021%	59760 000	T 99 218%	80 3%	96.623%	T 97.931%	T 98.579%
σ		0.000	8.837	T n/a	300 800	T n/a	0.6%	n/a	T n/a	T n/a
%RSD		0.000	1.835	T 0.803	0 503	T 1.142	0.8	0.410	T 0.777	T 0 334

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:46:47	-8.003	T 974.300	T 59830.000	T 58930 000	T 983.700	1030.000	998 000	T 965.900	1040 000
2	21:47:13	-11.910	T 984.500	T 59540.000	T 58940 000	T 980.000	1030.000	996 000	T 962.200	1034 000
3	21:47:39	-4.659	T 992.700	T 60060.000	T 59530 000	T 990.000	1037.000	1002 000	T 983.600	1037 000
x		-8.192	T 98.384%	T 59810.000	T 98.556%	T 98.458%	103.266%	998.700	T 970.500	103.686%
σ		3.631	T n/a	T 262.700	T n/a	T n/a	n/a	3.147	T 11.420	n/a
%RSD		44.330	T 0.938	T 0.439	T 0 581	T 0.510	0.394	0 315	T 1.177	0 261

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:46:47	1063.000	924.400	1023.000	1044 000	998.900	1041.000	1.107	80.9%	T 965 300
2	21:47:13	1051.000	942.300	1037.000	1036 000	999.700	1021.000	1.174	82 5%	T 960.100
3	21:47:39	1072.000	942.400	1038.000	1032 000	1015.000	1037.000	2.173	82 0%	T 970 800
x		106.198%	936.400	1032.000	103.718%	1004.000	103.290%	1.485	81.8%	T 965.400
σ		n/a	10.410	8.659	n/a	8.863	n/a	0 597	0 8%	T 5 370
%RSD		0.989	1.111	0.839	0 579	0.882	0.977	40 220	1.0	T 0 556

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:46:47	1014.000	T 946.800	1006.000	152.400	14.270	146.900	1034 000	T 1003.000	85.9%
2	21:47:13	1012.000	T 957.300	1004.000	154.100	16.120	145.800	1044 000	T 1009.000	86.1%
3	21:47:39	1031.000	T 963.800	1017.000	152.900	10.480	146.200	1035 000	T 1013.000	86.9%
x		1019.000	T 956.000	1009.000	102.080%	13.620	146.300	1038 000	T 100 841%	86.3%
σ		10.500	T 8.547	6.940	n/a	2.875	0.543	5 273	T n/a	0.5%
%RSD		1.030	T 0.894	0.688	0 547	21.100	0.371	0 508	T 0.481	0.6

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:46:47	T 490.800	T 494.200	T 4872.000	T 4933 000	ID 0.065	ID 0.016	90.2%	ID 0.001	ID 0 002
2	21:47:13	T 493.800	T 498.500	T 4846.000	T 4926 000	ID 0.070	ID 0.013	92.3%	ID 0.001	ID 0 004
3	21:47:39	T 495.500	T 500.300	T 4863.000	T 4912 000	ID 0.074	ID 0.016	92.1%	ID 0.002	ID 0 005
x		T 493.400	T 99.538%	T 97.208%	T 4924 000	ID 0.070	ID 0.015	91.5%	ID 0.001	ID 0 004
σ		T 2.376	T n/a	T n/a	T 11.140	ID 0.005	ID 0.002	1.1%	ID 0.000	ID 0 001
%RSD		T 0.482	T 0.627	T 0.262	T 0 226	ID 6.734	ID 10.370	1.3	ID 35.230	ID 32.700

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	21:46:47	T 499.500	T 485.500	T 977.700	T 976.100	T 977.300	88.5%
2	21:47:13	T 499.300	T 483.900	T 975.700	T 969.400	T 980.800	90.1%
3	21:47:39	T 498.900	T 487.800	T 978.700	T 987 000	T 982.700	90.6%
x		T 499.200	T 97.146%	T 977.400	T 977 500	T 98 023%	89.7%
σ		T 0.295	T n/a	T 1.517	T 8 887	T n/a	1.1%
%RSD		T 0.059	T 0.396	T 0.155	T 0.909	T 0.278	1.2

CB01 0IM8714-01 6/5/2018 21:52:12 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:52:38	93.1%	-0.052	4.123	28.070	3 678	3.553	2.967	1.378	0 000
2	21:53:03	95.8%	0.005	1.765	24.950	3.429	3.578	3 281	1.355	0 000
3	21:53:29	96.9%	-0.015	6.427	26.750	3 246	2.943	2.952	1.315	0 000
x		95.3%	-0.020	4.105	26.590	3.451	3.358	3 067	1.349	0 000
σ		2.0%	0.029	2.331	1.566	0 217	0.359	0.186	0.032	0 000
%RSD		2.1	142.800	56.780	5.890	6 278	10.710	6 049	2.344	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:52:38	0 000	196.900	5.920	-4.540	-2 260	92.4%	-0 026	0.007	0 014
2	21:53:03	0 000	219.300	4.308	-3.556	-0.171	94.9%	0 015	-0.007	-0 003
3	21:53:29	0 000	245.100	6.373	-3.544	-0 036	94.9%	-0 010	0.122	0 030
x		0 000	220.400	5.534	-3.880	-0 822	94.1%	-0 007	0.041	0 014
σ		0 000	24.130	1.085	0.572	1 247	1.4%	0 021	0.071	0 017
%RSD		0 000	10.940	19.620	14.730	151.700	1.5	301 000	173.600	121.900

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:52:38	0 333	0.039	1.342	1.411	0 023	0.034	15 660	0.528	0 016
2	21:53:03	0 367	0.035	1.257	0.641	0 019	0.041	13.160	0.471	0 012
3	21:53:29	0 240	0.034	1.494	0.778	0 021	0.049	13.490	0.464	0 030
x		0 314	0.036	1.364	0.944	0 021	0.041	14.100	0.488	0 019
σ		0 066	0.003	0.121	0.411	0 002	0.008	1 358	0.035	0 010
%RSD		20.920	8.427	8.829	43.540	8 889	18.600	9 628	7.197	49 350

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:52:38	0 017	0.148	0.062	0.021	0 228	0.168	0 527	94.9%	0 232
2	21:53:03	-0 021	0.177	0.024	0.039	0.141	0.108	-0.119	96 2%	0 256
3	21:53:29	0 007	0.245	0.030	0.032	0.784	0.196	0 818	96.7%	0 267
x		0 001	0.190	0.039	0.031	0 384	0.157	0.409	95.9%	0 252
σ		0 020	0.050	0.021	0.009	0 349	0.045	0.479	0.9%	0 018
%RSD		1711 000	26.350	53.650	29.990	90.940	28.620	117 300	0.9	6.986

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:52:38	0 273	0.270	-0.034	0.003	0 042	0.004	0 012	0.020	95.3%
2	21:53:03	0 263	0.282	0.281	0.009	-0 084	0.007	0 020	0.017	97.7%
3	21:53:29	0 259	0.247	-0.074	0.003	0 089	0.004	0 020	0.015	99.0%
x		0 265	0.267	0.058	0.005	0 016	0.005	0 017	0.017	97.3%
σ		0 007	0.018	0.194	0.003	0 090	0.002	0 005	0.003	1.9%
%RSD		2.704	6.760	337.300	69.840	569 500	31.970	27 560	15.280	2.0

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:52:38	0 098	0.131	0.156	0.117	ID -0 000	ID 0.000	97 8%	ID -0.001	ID -0 000
2	21:53:03	0.119	0.147	0.144	0.126	ID 0 000	ID 0.000	100.9%	ID 0.000	ID -0 000
3	21:53:29	0 091	0.081	0.108	0.102	ID 0 000	ID 0.000	103 5%	ID -0.003	ID 0 000
x		0.103	0.120	0.136	0.115	ID 0 000	ID 0.000	100.7%	ID -0.001	ID -0 000
σ		0 015	0.034	0.025	0.012	ID 0 000	ID 0.000	2.9%	ID 0.001	ID 0 000
%RSD		14 250	28.670	18.420	10.840	ID 172.400	ID 0.000	2.9	ID 115.400	ID 4802 000

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	21:52:38	0 001	-0.003	0.025	0.020	0 023	97.0%
2	21:53:03	-0 000	-0.006	0.028	0.026	0 025	100.2%
3	21:53:29	-0 002	-0.006	0.020	0.024	0 024	103.5%
x		-0 000	-0.005	0.024	0.023	0 024	100.2%
σ		0 002	0.002	0.004	0.003	0 001	3.3%
%RSD		539 500	40.180	17.070	12.650	3 839	3.2

IS MW10264 6/5/2018 21:58:02

User Pre-dilution: 1.000

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:58:28	98.0%	-0.049	-2.751	16.620	2.020	2.376	2.274	0.748	0 000
2	21:58:54	98.6%	-0.039	1.619	16.150	1.726	1.746	1.348	0.704	0 000
3	21:59:20	100.9%	-0.045	0.550	15.660	1.543	0.992	1.640	0.602	0 000
x		99.2%	-0.044	-0.194	16.140	1.763	1.704	1.754	0.685	0 000
σ		1.6%	0.005	2.278	0.479	0.241	0.693	0.474	0.075	0 000
%RSD		1.6	10.410	1174.000	2.967	13.650	40.660	27.000	10.940	0 000
Run	**Time**	**34S**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:58:28	0.000	150.400	-1.271	-2.596	-2.840	97.1%	0.013	0.062	0 023
2	21:58:54	0.000	161.500	-3.267	-5.848	-3.864	97.8%	-0.020	0.051	0 009
3	21:59:20	0.000	160.000	-4.866	-0.598	-2.292	98.8%	-0.004	0.013	0 019
x		0.000	157.300	-3.134	-3.014	-2.999	97.9%	-0.004	0.042	0 017
σ		0.000	5.982	1.801	2.650	0.798	0.9%	0.017	0.026	0 007
%RSD		0.000	3.803	57.460	87.930	26.600	0.9	458.100	61.590	40.970
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**62Ni**	**63Cu**	**65Cu**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:58:28	0.137	-0.001	2.690	0.336	0.010	0.049	9.542	0.324	0 016
2	21:58:54	0.170	0.009	1.896	-0.782	0.002	0.031	9.529	0.358	0 001
3	21:59:20	0.198	0.014	1.854	-0.385	0.006	0.011	8.492	0.318	0 003
x		0.168	0.008	2.147	-0.277	0.006	0.030	9.188	0.333	0 006
σ		0.031	0.008	0.471	0.567	0.004	0.019	0.602	0.022	0 008
%RSD		18.170	106.200	21.930	204.600	71.260	63.710	6.557	6.527	128 300
Run	**Time**	**66Zn**	**67Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**89Y**	**95Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:58:28	-0.075	0.066	0.034	0.047	0.492	0.019	-0.414	98.4%	-0 042
2	21:58:54	0.010	0.086	0.038	0.045	0.510	0.139	-1.360	99.4%	-0 011
3	21:59:20	0.059	0.073	-0.022	0.066	0.151	0.188	-0.340	100.1%	0 012
x		-0.002	0.075	0.017	0.053	0.385	0.115	-0.705	99.3%	-0 014
σ		0.068	0.010	0.034	0.011	0.203	0.087	0.569	0.8%	0 027
%RSD		3105.000	13.500	204.400	21.530	52.670	75.540	80.680	0 8	196.900
Run	**Time**	**97Mo**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:58:28	-0.018	0.003	0.216	0.002	-0.070	0.002	0.019	0.008	98.4%
2	21:58:54	-0.030	0.005	-0.271	-0.004	0.096	0.005	0.015	0.006	100.3%
3	21:59:20	0.030	-0.012	-0.192	-0.006	0.094	0.000	0.014	0.010	100.9%
x		-0.006	-0.001	-0.083	-0.002	0.040	0.002	0.016	0.008	99.9%
σ		0.032	0.009	0.262	0.004	0.095	0.003	0.002	0.002	1.3%
%RSD		510.600	626.500	316.600	173.200	236.900	105.200	14.560	27.070	1.3
Run	**Time**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**150Sm**	**156Gd**	**159Tb**	**160Dy**	**164Dy**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:58:28	-0.129	-0.101	0.046	0.043	ID -0.000	ID 0.000	102.7%	ID -0.001	ID -0 000
2	21:58:54	-0.107	-0.083	0.063	0.017	ID -0.000	ID 0.000	103.2%	ID -0.002	ID 0 000
3	21:59:20	-0.116	-0.114	0.023	0.042	ID 0.000	ID 0.000	105.2%	ID -0.001	ID -0 000
x		-0.117	-0.099	0.044	0.034	ID -0.000	ID 0.000	103.7%	ID -0.001	ID -0 000
σ		0.011	0.016	0.020	0.015	ID 0.000	ID 0.000	1.3%	ID 0.000	ID 0 000
%RSD		9.462	15.830	46.160	43.870	ID 7286.000	ID 0.000	1.3	ID 23.460	ID 5484 000
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**			
		ppb	ppb	ppb	ppb	ppb	ppb			
1	21:58:28	-0.010	-0.013	0.013	0.009	0.009	101.1%			
2	21:58:54	-0.013	-0.013	0.012	0.011	0.010	102.0%			
3	21:59:20	-0.006	-0.017	0.007	0.003	0.005	102.5%			
x		-0.010	-0.014	0.010	0.008	0.008	101.9%			
σ		0.004	0.002	0.004	0.004	0.003	0.7%			
%RSD		36.820	17.160	33.460	49.940	33.640	0.7			

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Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:04:17	97.8%	-0.049	9.383	16.140	1.313	1.160	1.223	0.484	0 000
2	22:04:42	101.0%	-0.022	10.100	14.720	1.726	1 363	1.541	0.719	0 000
3	22:05:08	102.6%	-0.064	8.651	14.490	1.184	1 033	1.189	0.495	0 000
4	22:05:34	103.0%	-0.041	5.528	13.150	1.216	1.147	1.121	0.487	0 000
5	22:06:00	104.0%	-0.020	7.192	13.010	1.183	0 839	1.097	0.400	0 000
6	22:06:26	105.1%	-0.051	4.394	12.230	1.142	1 017	0.861	0 516	0 000
x		102.2%	-0.041	7.542	13.960	1.294	1 093	1.172	0 517	0 000
σ		2.6%	0.017	2.248	1.425	0.219	0.175	0.221	0.107	0 000
%RSD		2.5	42.050	29.800	10.210	16.950	16 060	18.860	20 620	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:04:17	0.000	132.500	0.078	1.822	-1.178	96 0%	-0.011	-0 005	0 026
2	22:04:42	0.000	138.500	0.017	-1.565	0.301	97 6%	-0.003	0 031	-0 000
3	22:05:08	0.000	153.900	0.512	-4.798	0.630	98 2%	0.029	0 024	0 010
4	22:05:34	0.000	174.700	0.249	-5.875	-0.527	98 5%	-0.020	0 037	0 031
5	22:06:00	0.000	186.900	-0.793	-1.794	-0.427	100 8%	-0.061	0 010	0 009
6	22:06:26	0.000	198.100	-0.784	0.318	-0.577	100 3%	-0.013	0 041	0 000
x		0.000	164.100	-0.120	-1.982	-0.296	98 6%	-0.013	0 023	0 013
σ		0.000	26.620	0.545	2.934	0.655	1 8%	0.029	0 018	0 013
%RSD		0.000	16.220	454.400	148.100	220.900	1.8	217.000	77 070	105 000

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:04:17	0.139	0.010	4.377	0.533	0.006	0 031	8.519	0 280	-0 009
2	22:04:42	0.157	0.004	4.553	-1.097	0.000	0 012	7.290	0 274	0 040
3	22:05:08	0.100	-0.000	4.187	-0.443	0.004	0 039	6.795	0 282	0 005
4	22:05:34	0.123	0.004	4.397	0.262	0.002	0 013	6.557	0 245	0 028
5	22:06:00	0.087	-0.006	3.398	-0.173	0.001	0 018	5.311	0.190	0 012
6	22:06:26	0.091	0.013	3.469	0.984	0.002	0 026	6.846	0 233	-0 020
x		0.116	0.004	4.063	0.011	0.003	0 023	6.886	0 251	0 009
σ		0.028	0.007	0.502	0.742	0.002	0 011	1.042	0 036	0 022
%RSD		24.410	166.200	12.360	6670.000	73.780	47.420	15.130	14 370	240.900

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:04:17	0.582	0.434	0.472	0.005	0.357	0.136	0.673	97.3%	-0 085
2	22:04:42	0.086	0.327	0.081	-0.030	0.640	0 015	0.844	99.0%	-0 079
3	22:05:08	0.015	0.127	0.023	0.028	0.239	0 065	-0.456	100.2%	-0 086
4	22:05:34	0.022	0.021	0.023	0.023	0.244	0.168	0.647	101.5%	-0 078
5	22:06:00	0.004	0.086	0.067	0.072	-0.075	0 378	0.741	101.8%	-0 074
6	22:06:26	0.036	0.007	0.032	-0.004	0.297	-0 041	-0.941	101.5%	-0 065
x		0.124	0.167	0.116	0.016	0.284	0.120	0.252	100.2%	-0 078
σ		0.226	0.174	0.176	0.034	0.230	0.148	0.755	1.8%	0 008
%RSD		182.300	104.400	151.200	219.600	81.180	123 200	300.000	1 8	10 060

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:04:17	-0.080	-0.057	-0.122	-0.006	0.057	-0 001	0.009	0 012	99.5%
2	22:04:42	-0.065	-0.059	-0.127	-0.003	0.059	0 005	0.004	0 008	102.1%
3	22:05:08	-0.112	-0.070	-0.129	-0.003	0.050	-0 003	0.014	0 001	103.1%
4	22:05:34	-0.068	-0.095	0.074	-0.003	-0.012	-0 004	0.007	0 000	104.6%
5	22:06:00	-0.089	-0.049	-0.311	-0.002	0.123	-0 001	0.007	0 012	106.1%
6	22:06:26	-0.063	-0.063	-0.297	-0.004	0.118	0 002	-0.006	0 012	106.6%
x		-0.079	-0.065	-0.152	-0.004	0.066	-0 000	0.006	0 007	103.7%
σ		0.018	0.016	0.141	0.001	0.050	0 003	0.007	0 006	2.7%
%RSD		23.280	24.390	92.660	35.890	75.920	1210 000	118.600	76 810	2.6

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:04:17	-0.171	-0.157	0.019	0.029	ID -0.000	ID 0 000	101.1%	ID -0 000	ID 0 000
2	22:04:42	-0.175	-0.156	0.037	0.026	ID 0.001	ID 0 000	104.6%	ID -0 000	ID -0 000
3	22:05:08	-0.162	-0.161	0.047	-0.002	ID -0.000	ID 0 000	105.8%	ID 0 000	ID -0 000
4	22:05:34	-0.173	-0.149	0.015	0.010	ID 0.000	ID 0 000	107.6%	ID -0 001	ID 0 000
5	22:06:00	-0.175	-0.160	0.065	0.018	ID -0.000	ID 0 000	107.8%	ID -0 000	ID -0 000
6	22:06:26	-0.181	-0.149	0.055	0.024	ID 0.000	ID 0 000	107.7%	ID -0 001	ID -0 000
x		-0.173	-0.155	0.039	0.018	ID 0.000	ID 0 000	105.7%	ID -0 000	ID -0 000
σ		0.006	0.005	0.020	0.012	ID 0.000	ID 0 000	2.6%	ID 0 001	ID 0 000
%RSD		3.667	3.269	50.580	66.110	ID 256.500	ID 109 600	2.5	ID 163 300	ID 3657 000

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	22:04:17	-0.006	-0.015	0.006	0.004	0.006	100.1%
2	22:04:42	-0.009	-0.017	0.007	0.012	0.010	104 0%
3	22:05:08	-0.009	-0.015	0.006	-0.007	0.002	105.7%
4	22:05:34	-0.018	-0.021	0.015	0.013	0.011	107 6%
5	22:06:00	-0.013	-0.017	0.002	0.004	0.002	109.4%
6	22:06:26	-0.014	-0.020	0.005	0.003	0.002	109 6%
x		-0.011	-0.017	0.007	0.005	0.005	106.1%
σ		0.004	0.002	0.004	0.007	0.004	3 6%
%RSD		38.770	13.430	61.660	155.100	75.060	3.4

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Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:11:23	100.8%	-0.036	3.597	9.451	1.015	0 553	0.790	0.366	0 000
2	22:11:49	101.8%	-0.014	-1.600	8.084	0.939	0 556	0.864	0.337	0 000
3	22:12:15	103.3%	-0.042	-1.198	7.364	0.702	0 639	0.978	0.316	0 000
4	22:12:41	103.5%	-0.042	3.716	6.880	0.678	0 500	0.834	0.228	0 000
5	22:13:06	104.8%	-0.047	4.351	6.984	0.771	0.490	0.841	0.438	0 000
6	22:13:32	106.1%	-0.052	-2.264	6.424	0.743	0.950	0.672	0.337	0 000
x		103.4%	-0.039	1.100	7.531	0.808	0 615	0.830	0.337	0 000
σ		1.9%	0.013	3.083	1.092	0.137	0.172	0.100	0.068	0 000
%RSD		1.9	34.490	280.200	14.510	16.930	28 020	12.030	20.330	0 000

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:11:23	0.000	82.920	-5.579	-4.848	-1.898	99.5%	0.003	-0.043	0 007
2	22:11:49	0.000	83.990	-5.914	-0.812	-2.081	101.5%	-0.014	0.075	0 012
3	22:12:15	0.000	79.750	-7.561	0.098	-2.957	102.7%	-0.030	-0.006	0 001
4	22:12:41	0.000	88.700	-8.977	-3.930	-0.942	101.8%	-0.038	0.030	0 018
5	22:13:06	0.000	96.310	-8.175	-1.920	-2.348	102.5%	0.009	-0.004	0 004
6	22:13:32	0.000	93.200	-9.618	-5.001	-2.950	103.1%	-0.030	0.010	0 004
x		0.000	87.480	-7.638	-2.736	-2.196	101.8%	-0.017	0.011	0 008
σ		0.000	6.401	1.626	2.164	0.754	1.3%	0.019	0.040	0 006
%RSD		0.000	7.317	21.290	79.110	34.360	1 3	116.600	376.600	81.970

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:11:23	0.138	0.004	2.918	-1.256	-0.000	0 048	5.501	0.173	0 009
2	22:11:49	0.006	-0.001	2.369	-1.249	0.002	0 017	4.358	0.160	-0 006
3	22:12:15	0.098	0.011	2.122	-1.154	0.013	0 004	4.635	0.167	0 021
4	22:12:41	0.042	-0.005	1.996	-0.129	0.003	0 014	4.151	0.101	0 007
5	22:13:06	0.076	-0.007	1.204	-1.681	0.002	0 002	4.110	0.182	0 006
6	22:13:32	0.068	-0.002	1.219	-0.800	-0.001	0 030	3.137	0.123	-0 008
x		0.071	-0.000	1.971	-1.045	0.003	0 019	4.315	0.151	0 005
σ		0.045	0.007	0.668	0.529	0.005	0 017	0.770	0.032	0 011
%RSD		63.550	9849.000	33.910	50.670	159.300	91 040	17.850	21.170	218.100

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:11:23	0.016	0.165	-0.001	-0.037	-0.046	-0 039	-0.831	101.8%	-0.101
2	22:11:49	0.039	0.069	0.024	-0.031	0.050	0 078	0.258	102.9%	-0 074
3	22:12:15	-0.017	0.138	0.064	0.056	-0.150	0.121	0.282	101.8%	-0 074
4	22:12:41	-0.005	0.034	0.052	-0.065	-0.285	-0 245	-0.085	103.3%	-0 098
5	22:13:06	-0.019	0.148	0.044	-0.022	0.231	-0.172	-0.095	103.6%	-0 097
6	22:13:32	-0.019	0.102	-0.003	-0.056	0.030	-0.101	-1.202	103.6%	-0.101
x		-0.001	0.110	0.030	-0.026	-0.028	-0 060	-0.279	102.8%	-0 091
σ		0.024	0.051	0.028	0.043	0.178	0.141	0.605	0.8%	0 013
%RSD		2831.000	46.190	94.260	168.700	626.100	237.100	216.900	0.8	14 340

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:11:23	-0.124	-0.105	-0.086	-0.001	0.021	-0 005	0.005	0.016	101.7%
2	22:11:49	-0.098	-0.099	-0.003	-0.005	-0.003	0 000	-0.007	0.006	102.9%
3	22:12:15	-0.101	-0.082	0.055	-0.005	-0.016	0 000	0.000	0.015	103.1%
4	22:12:41	-0.095	-0.071	-0.012	-0.002	0.011	0 001	-0.009	0.006	103.5%
5	22:13:06	-0.116	-0.080	-0.016	-0.002	0.032	-0 001	0.002	0.003	103.6%
6	22:13:32	-0.124	-0.099	-0.193	-0.003	0.074	-0 002	-0.001	-0.004	103.9%
x		-0.110	-0.089	-0.042	-0.003	0.020	-0 001	-0.002	0.007	103.1%
σ		0.013	0.013	0.087	0.002	0.031	0 002	0.005	0.008	0.8%
%RSD		12.080	14.900	203.700	62.650	157.000	192.900	306.600	108.800	0.8

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:11:23	-0.209	-0.186	0.014	0.032	ID 0.000	ID 0 000	102.1%	ID -0.002	ID -0 000
2	22:11:49	-0.185	-0.180	0.013	0.011	ID -0.000	ID 0 000	103.1%	ID 0.000	ID 0 000
3	22:12:15	-0.191	-0.177	0.022	0.037	ID -0.000	ID 0 000	104.6%	ID 0.001	ID -0 000
4	22:12:41	-0.192	-0.180	0.033	0.001	ID -0.000	ID 0 000	104.7%	ID 0.000	ID -0 000
5	22:13:06	-0.196	-0.172	0.021	0.012	ID -0.000	ID 0 000	105.8%	ID 0.001	ID 0 000
6	22:13:32	-0.196	-0.167	0.033	0.018	ID 0.000	ID 0 000	105.1%	ID -0.001	ID -0 000
x		-0.195	-0.177	0.023	0.019	ID -0.000	ID 0 000	104.2%	ID -0.000	ID 0 000
σ		0.008	0.006	0.009	0.014	ID 0.000	ID 0 000	1.4%	ID 0.001	ID 0 000
%RSD		4.136	3.642	38.810	73.430	ID 10290.000	ID 244.900	1.3	ID 2576.000	ID 551.900

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	22:11:23	-0.013	-0.019	0.013	0.009	0.010	100.4%
2	22:11:49	-0.008	-0.016	0.006	0.004	0.005	101.3%
3	22:12:15	-0.010	-0.018	0.011	0.003	0.009	102.2%
4	22:12:41	-0.016	-0.018	0.010	-0.006	0.002	102.7%
5	22:13:06	-0.017	-0.017	0.006	0.003	0.003	102.8%
6	22:13:32	-0.015	-0.020	-0.000	0.000	0.004	103.1%
x		-0.013	-0.018	0.008	0.002	0.005	102.1%
σ		0.004	0.001	0.005	0.005	0.003	1.0%
%RSD		26.880	8.130	63.930	217.100	57.290	1 0

Mass Uncorrected ICPS

TUNE MW10253 6/5/2018 16:21:43

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	16:22:09	520377 030	80.000	11637.337	106878.420	13344.276	1752 212	2136 315	10243.235	3632.910
2	16:22:35	534164 000	124.001	11469.069	99247.025	11969.878	1560.168	1924 256	8537.026	3648.919
3	16:23:01	543501.440	56.000	11525.158	93884.269	11120.526	1600.177	1884 245	7764.157	3716.953
x		532680 820	86.667	11543.855	100003.240	12144.893	1637 519	1981 605	8848.139	3666 261
σ		11633 334	34.487	85.678	6529.997	1122.158	101 321	135.468	1268.483	44 625
%RSD		2.184	39.793	0.742	6.530	9.240	6.187	6 836	14.336	1 217

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	16:22:09	103189.520	58769.352	147685.780	64.000	1696.199	1314936.900	52 000	3304.753	1980 271
2	16:22:35	101514.110	60757.650	142491.320	72.000	1700.199	1359021.000	80 000	3280.742	1676.194
3	16:23:01	102901.470	61967.833	141879.490	60.000	1608.178	1404391.200	52 000	2964.606	1672.193
x		102535.030	60498.278	144018.860	65.334	1668.192	1359449.700	61 334	3183.367	1776 219
σ		895.802	1614.938	3190.346	6.110	52.012	44728.720	16.166	189.833	176.725
%RSD		0.874	2.669	2.215	9.352	3.118	3.290	26 357	5.963	9.950

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	16:22:09	944.061	1588.174	138038.360	1188.097	780.042	428 013	3036 636	2616.472	476 016
2	16:22:35	980.066	1660.190	138609.100	1112.085	640.028	352 009	2752 523	2456.416	500 017
3	16:23:01	932.060	1612.179	140272.660	1132.088	596.025	376 010	2500.431	2396.396	612 026
x		952.063	1620.181	138973.370	1144.090	672.032	385 344	2763.197	2489.762	529 353
σ		24.983	36.669	1160.836	39.402	96.092	38 852	268 262	113.764	72 596
%RSD		2.624	2.263	0.835	3.444	14.299	10 082	9.708	4.569	13.714

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	16:22:09	876.053	116.001	628.027	296.006	1016.071	120 001	100 001	668202.270	1084 081
2	16:22:35	876.053	148.002	708.035	208.003	1024.072	124 001	92 001	695605.780	1132 088
3	16:23:01	804.045	120.001	692.033	192.003	988.067	104 001	68 000	707850.670	1156 092
x		852.050	128.001	676.032	232.004	1009.404	116 001	86 667	690552.910	1124 087
σ		41.574	17.436	42.336	56.002	18.906	10 583	16 654	20301.418	36 666
%RSD		4.879	13.622	6.262	24.138	1.873	9.123	19 215	2.940	3 262

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	16:22:09	648.029	1896.248	280.005	368.009	32.000	364 009	216 003	540.020	918800.750
2	16:22:35	680.032	2100.304	404.011	360.009	16.000	300 006	196 003	480.016	947459.000
3	16:23:01	808.045	1960.265	384.010	320.007	16.000	376 010	184 002	384.010	969132.000
x		712.035	1985.606	356.009	349.342	21.333	346 675	198 669	468.015	945130.580
σ		84.673	104.362	66.576	25.718	9.238	40 859	16.166	78.694	25246.287
%RSD		11.892	5.256	18.701	7.362	43.301	11.786	8.137	16.814	2.671

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	16:22:09	4637.484	3825.009	672.031	1024.072	ID 0.000	ID 0 000	1580608.500	ID 40.000	ID 0 000
2	16:22:35	5606.168	4073.144	436.013	852.050	ID 4.000	ID 4 000	1630014.800	ID 40.000	ID 0 000
3	16:23:01	5434.037	3889.043	440.013	756.039	ID 0.000	ID 4 000	1652932.900	ID 48.000	ID 0 000
x		5225.896	3929.066	516.019	877.387	ID 1.333	ID 2 667	1621185.400	ID 42.667	ID 0 000
σ		516.797	128.818	135.125	135.801	ID 2.309	ID 2 309	36961.752	ID 4.619	ID 0 000
%RSD		9.889	3.279	26.186	15.478	ID 173.205	ID 86 603	2.280	ID 10.825	ID 0 000

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	16:22:09	5225.884	12606.957	940.061	924.059	2096.303	1213544.300
2	16:22:35	5398.010	12282.400	852.050	828.047	1760.214	1251104.500
3	16:23:01	4877.641	11737.498	888.054	660.030	1816.228	1281875.600
x		5167.178	12208.952	893.388	804.045	1890.915	1248841.500
σ		265.105	439.358	44.247	133.641	180.063	34221.818
%RSD		5.131	3.599	4.953	16.621	9.523	2.740

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User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	16:27:55	524322.780	68.000	9470.184	61641.063	2824.550	396.011	452.014	2820 549	3132 677
2	16:28:20	538448.320	64.000	9582.332	58934.687	2648.484	432.013	428.013	2740 518	3032 635
3	16:28:46	541047.620	92.001	10263.263	61524.076	2684.497	392.011	396.011	2472.422	3128 675
x		534606.240	74.667	9771.926	60699.942	2719.177	406.678	425.346	2677 830	3097.996
σ		9000.068	15.144	429.189	1529.874	93.015	22.032	28.097	182 334	56 640
%RSD		1.683	20.282	4.392	2.520	3.421	5.417	6.606	6 809	1 828

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	16:27:55	107840 510	44182.284	117334.320	32.000	1032.074	1424746 500	16.000	2368 387	1404.136
2	16:28:20	108218 080	45120.035	121697.400	48.000	1184.097	1463116.400	48.000	2116 309	1576.171
3	16:28:46	106683 580	46307.491	120688.740	24.000	1144.090	1470882 500	40.000	2044 288	1508.157
x		107580.720	45203.270	119906.820	34.667	1120.087	1452915.100	34.667	2176 328	1496.155
σ		799 558	1065.046	2284.221	12.220	78.803	24701 870	16.653	170.181	86 643
%RSD		0.743	2.356	1.905	35.251	7.035	1.700	48.039	7 820	5.791

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	16:27:55	704 034	1600.177	129735.050	756.039	264.005	104.001	1568.170	1412.138	308 007
2	16:28:20	888 054	1592.175	130480.250	756.039	260.005	148.002	1804.225	1420.139	356 009
3	16:28:46	708 035	1532.162	129050.990	716.035	276.005	148.002	1684.196	1364.128	276 005
x		766.708	1574.838	129755.430	742.705	266.672	133.335	1685.530	1398 802	313 340
σ		105.108	37.174	714.845	23.096	8.327	25.404	118.033	30 293	40 268
%RSD		13.709	2.361	0.551	3.110	3.123	19.053	7.003	2.166	12 851

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	16:27:55	372 010	28.000	260.005	92.001	860.051	88.001	96.001	730228.170	556 021
2	16:28:20	440 013	56.000	300.006	160.002	860.051	88.001	96.001	739612.090	768 041
3	16:28:46	400 011	44.000	296.006	132.001	904.056	116.001	108.001	735393.410	672 031
x		404 011	42.667	285.339	128.001	874.719	97.334	100.001	735077.890	665 364
σ		34.178	14.048	22.031	34.177	25.407	16.166	6.928	4699.909	106.167
%RSD		8.460	32.924	7.721	26.700	2.905	16.609	6.928	0.639	15.956

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	16:27:55	396 011	988.067	476.016	164.002	4.000	124.001	92.001	156 002	965385.920
2	16:28:20	516 018	1056.077	344.008	184.002	8.000	112.001	72.000	184 002	966846.810
3	16:28:46	416 012	1120.087	476.016	152.002	4.000	160.002	56.000	156 002	980942.000
x		442 680	1054.744	432.013	166.669	5.333	132.001	73.334	165 335	971058.240
σ		64 295	66.020	76.215	16.166	2.309	24.980	18.037	16.166	8590.693
%RSD		14 524	6.259	17.642	9.700	43.301	18.924	24.596	9.778	0.885

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	16:27:55	2244 347	1692.198	172.002	312.007	ID 0.000	ID 0.000	1600470.800	ID 36 000	ID 0 000
2	16:28:20	2536.444	1892.247	176.002	296.006	ID 0.000	ID 0.000	1631544.600	ID 52 000	ID 4 000
3	16:28:46	2512.436	1904.250	112.001	268.005	ID 4.000	ID 0.000	1667571.400	ID 44 000	ID 0 000
x		2431 076	1829.565	153.335	292.006	ID 1.333	ID 0.000	1633195.600	ID 44 000	ID 1 333
σ		162.156	119.115	35.852	22.272	ID 2.309	ID 0.000	33580.762	ID 8 000	ID 2 309
%RSD		6 670	6.511	23.382	7.627	ID 173.205	ID 0.000	2.056	ID 18.182	ID 173 205

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	16:27:55	568 022	1388.133	300.006	416.012	728.037	1232424.400
2	16:28:20	548 021	1376.131	428.013	304.006	832.048	1249589.400
3	16:28:46	540 020	1504.156	404.011	360.009	912.057	1260777.900
x		552 021	1422.807	377.343	360.009	824.047	1247597 200
σ		14.423	70.706	68.043	56.003	92.271	14281 328
%RSD		2 613	4.969	18.032	15.556	11.197	1.145

S01 ISM-2063 6/5/2018 16:33:16

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	16:33:42	531339.240	960.064	9834 669	T 1287822.300	960963.960	127312.650	146469.470	45558.768	3016 628
2	16:34:08	538680.670	788.043	9922.789	1408112.400	995560.850	130048.590	149167.680	47599.824	2972 610
3	16:34:34	546636.600	888.054	10331 360	T 1356460.600	1006468.800	133164.420	151062.330	47495.141	3032 635
x		538885.500	878.720	10029 606	T 1350798.400	987664.530	130175.220	148899.820	46884.578	3007 291
σ		7650.733	86.389	265 015	T 60344.587	23757.867	2927.941	2308.115	1149.378	31 083
%RSD		1.420	9.831	2 642	T 4.467	2.405	2.249	1.550	2.452	1 034

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	16:33:42	109960.010	45482.290	934303.950	1836.233	31508.353	1378526.200	4769.569	35426.386	14726.950
2	16:34:08	110353.930	48417.213	950351 580	1896.248	31448.092	1369675.600	4457.371	35442.464	14698 893
3	16:34:34	108400.780	49935.464	959026.740	1832.232	31002.177	1376142.300	4229.234	35832.375	14414 322
x		109571.570	47944.989	947894 090	1854.904	31319.541	1374781.400	4485.391	35567.075	14613 388
σ		1032.890	2263.833	12543 265	35.861	276.492	4579.560	271.255	229.897	172.966
%RSD		0.943	4.722	1 323	1.933	0.883	0.333	6.048	0.646	1.184

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	16:33:42	2220.340	10687.876	836695 630	17324.685	8989.573	2028.284	1680.195	11028.386	5197 864
2	16:34:08	2296.364	10375.422	833778 360	17152.276	8264.710	2092.302	1864.240	10996.337	5021.739
3	16:34:34	2140.316	10683.870	833581 530	17152.276	8945.518	2156.321	1688.197	11240.712	4865 633
x		2219.007	10582.390	834685.170	17209.746	8733.267	2092.302	1744.210	11088.478	5028.412
σ		78.032	179.250	1743 884	99.541	406.379	64.018	104.025	132.808	166 216
%RSD		3.517	1.694	0 209	0.578	4.653	3.060	5.964	1.198	3 306

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	16:33:42	4653.494	720.036	3736.963	1488.153	2732.515	836.048	116.001	695566.240	29769 022
2	16:34:08	4861.630	720.036	3488 840	1576.171	2884.574	888.054	112.001	686512.930	28732 852
3	16:34:34	4749.556	924.059	3668.929	1604.178	2928.592	916.058	104.001	701138.820	29487 876
x		4754.893	788.043	3631 577	1556.167	2848.560	880.054	110.668	694406.000	29329.917
σ		104.171	117.793	128 210	60.544	102.880	40.600	6.110	7381.651	535 841
%RSD		2.191	14.948	3 530	3.891	3.612	4.613	5.521	1.063	1 827

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	16:33:42	18539.686	48312.518	660 030	10587.729	184.002	10319.343	2720.511	6130.592	952495.610
2	16:34:08	18579.789	48183.664	664 030	10079.005	188.002	10283.291	2480.425	6382.810	954853.810
3	16:34:34	18700.098	48352.785	612 026	10315.337	228.004	10615.770	2664.490	6290.729	956703.620
x		18606.524	48282.989	645 362	10327.357	200.003	10406.135	2621.808	6268.044	954684.350
σ		83.481	88.343	28.939	254.575	24.332	182.442	125.605	127.630	2109.120
%RSD		0.449	0.183	4.484	2.465	12.166	1.753	4.791	2.036	0.221

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	16:33:42	17473.041	13288.173	15729 052	26339.784	ID 0.000	ID 0.000	1621712.400	ID 40.000	ID 4 000
2	16:34:08	17910.106	13949.414	15272 076	27672.738	ID 8.000	ID 0.000	1624942 300	ID 20.000	ID 0 000
3	16:34:34	18186.794	14418.330	15203.933	27391.673	ID 4.000	ID 0.000	1640858.400	ID 8.000	ID 8 000
x		17856.647	13885.305	15401 687	27134.732	ID 4.000	ID 0.000	1629171 000	ID 22.667	ID 4 000
σ		359.867	567.800	285 546	702.642	ID 4.000	ID 0.000	10249 628	ID 16.166	ID 4 000
%RSD		2.015	4.089	1 854	2.589	ID 100.000	ID 0.000	0 629	ID 71.320	ID 100 000

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	16:33:42	11629.324	27740.998	9622 385	8480.960	20071.760	1238289.600
2	16:34:08	11645.350	29130.435	9518 247	8637.144	20585.197	1247248.900
3	16:34:34	11565.222	29074.210	9430.132	8625.130	21411.587	1261548.300
x		11613.299	28648.548	9523 588	8581.078	20689.515	1249028.900
σ		42.400	786.463	96 237	86.913	675.977	11731.081
%RSD		0.365	2.745	1 011	1.013	3.267	0.939

S02 ISM-2064 6/5/2018 16:39:03

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	16:39:29	536499.430	4481.385	9233 879	T 5933064.800	T 4369589.100	603805.980	702018.150	205484.720	3340.770
2	16:39:55	545228.200	4297.274	9402 096	T 6106369.400	T 4473173 500	624454 690	731344 800	212861.130	3312.757
3	16:40:21	557451.720	4653.494	10271 274	T 6265154.000	T 4601028 200	631294.970	744407 870	215077.140	3212.712
x		546393.110	4477.384	9635.750	T 6101529.400	T 4481263 600	619851 880	725923 610	211141 000	3288.746
σ		10524.610	178.144	556.770	T 166097.470	T 115931.460	14310 851	21708 618	5022 225	67 321
%RSD		1.926	3.979	5.778	T 2.722	T 2 587	2 309	2.990	2 379	2 047

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	16:39:29	111933 890	39684.368	T 3842405.700	8917.484	145188 060	1465807.700	23445 869	177356.170	69580.463
2	16:39:55	113404.490	41080.114	T 3915822.100	8781.317	149155.430	1466782.600	23056 623	180377 390	70747 683
3	16:40:21	111308 360	41595.039	T 4024587 200	9053.652	153672 350	1501564.600	24079.943	181820.790	72096 884
x		112215 580	40786.507	T 3927605 000	8917.485	149338 610	1478051.600	23527.478	179851.450	70808 344
σ		1076 081	988.595	T 91660 524	136.167	4245.109	20368.631	516 518	2278 305	1259 306
%RSD		0.959	2.424	T 2 334	1.527	2 843	1.378	2.195	1 267	1.778

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	16:39:29	8649.159	53170.356	T 3459483 800	83134.159	44327.165	9754 561	3128 675	51321 095	24858 565
2	16:39:55	8909.474	54298.677	T 3575843 200	84655.622	45554.743	9874.724	2736 517	51933.434	24714 072
3	16:40:21	8881.439	54121.357	T 3634913 000	86266.453	45900.917	10283 291	2772 530	52106 671	25007 075
x		8813 357	53863.463	T 3556746.700	84685.411	45260.941	9970 859	2879 241	51787 067	24859.904
σ		142 889	606.761	T 89260 094	1566.359	826.991	277.165	216.766	412.735	146 506
%RSD		1 621	1.126	T 2 510	1.850	1 827	2.780	7 529	0.797	0 589

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	16:39:29	20713 562	3712.951	16330 380	7688.076	10503 607	4105.163	124 001	733172.370	147089 850
2	16:39:55	20657.402	3845.020	16815.488	7712.102	10427.497	4453 368	72 000	737849.240	149506 550
3	16:40:21	21816.793	4001.104	16931.758	7832.230	10804 048	4081.149	112 001	752870.830	150462 030
x		21062 586	3853.025	16692 542	7744.136	10578 384	4213 226	102 667	741297.480	149019.480
σ		653.766	144.243	318.984	77.232	199.101	208 315	27 228	10291.993	1738 056
%RSD		3.104	3.744	1.911	0.997	1 882	4.944	26 520	1.388	1.166

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	16:39:29	92121 866	241175.740	1700.199	51804.516	960 064	50873.958	13015 679	31319 537	965008.220
2	16:39:55	94727.132	245580.020	1676.194	52118.758	1000 069	50978 691	13440.453	31733 331	983391.000
3	16:40:21	95493 087	248625.270	1672.193	53436.301	996 068	53226.768	13288.173	31444 075	997955.080
x		94114 028	245127.010	1682 862	52453.192	985.400	51693.139	13248.101	31498.981	982118.100
σ		1767 259	3745.366	15.147	865.774	22 033	1329.194	215 204	212 291	16510.269
%RSD		1 878	1.528	0.900	1.651	2 236	2 571	1 624	0 674	1.681

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	16:39:29	78826.419	59971.138	74525 266	131392.510	ID 24 000	ID 0 000	1610069.700	ID 44 000	ID 4 000
2	16:39:55	81795 049	61673.336	75749 866	132924.070	ID 16 000	ID 4 000	1654114.500	ID 52 000	ID 0 000
3	16:40:21	84275 226	64877.130	77706.420	135548.010	ID 4 000	ID 0 000	1675368.600	ID 44 000	ID 8 000
x		81632 232	62173.868	75993 851	133288.200	ID 14 667	ID 1 333	1646517.600	ID 46 667	ID 4 000
σ		2728 050	2491.001	1604 550	2101.542	ID 10 066	ID 2 309	33305.702	ID 4 619	ID 4 000
%RSD		3 342	4.007	2.111	1.577	ID 68 635	ID 173 205	2.023	ID 9 897	ID 100 000

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	16:39:29	54153 597	129942.720	43960.944	39507.405	95857 856	1212872.500
2	16:39:55	55447 326	134345.930	45615.121	41051.955	98626 641	1239218.000
3	16:40:21	57011 392	138103.590	45760 030	42576.715	100589 340	1283036.700
x		55537.438	134130.750	45112 031	41045.358	98357.947	1245042.400
σ		1431 027	4084.687	999 501	1534.666	2377.161	35442.854
%RSD		2 577	3.045	2 216	3.739	2.417	2.847

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User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	16:45:17	527415.580	8268.715	9354.033	T 12020125.000	T 8931459.700	T 1198204.800	T 1410166.700	420102.490	3540 865
2	16:45:43	542623.140	8561.054	9822.653	T 12418001.000	T 9166452 300	1274088.700	T 1439358.500	426127.460	3296.750
3	16:46:09	550436.710	8168.601	9297.961	T 12554798.000	T 9131103 500	1301196.000	T 1452700.500	438548 650	3244.726
x		540158.480	8332.790	9491.549	T 12330975.000	T 9076338 500	T 1257829.800	T 1434075.200	428259 540	3360.780
σ		11706.796	203.922	288.112	T 277757.150	T 126707.470	T 53385.962	T 21753.549	9406 088	158.112
%RSD		2.167	2.447	3.035	T 2.253	T 1 396	T 4.244	T 1.517	2.196	4.705

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	16:45:17	112811 340	41051.955	T 7895658.100	18074.513	299604.180	1414894 800	45341.411	347857 640	137557 340
2	16:45:43	110305 200	42085.860	T 7921756.600	17837.928	296063 000	1407866 800	45095.886	346050.100	136505.740
3	16:46:09	110918.450	42733.635	T 8016697.400	18198.824	301967 300	1437756 000	46154.520	352535.780	141332.960
x		111345 000	41957.150	T 7944704.000	18037.089	299211.490	1420172 500	45530.606	348814 510	138465 350
σ		1306 385	848.196	T 63699.003	183.335	2971 672	15627 879	554.096	3347 043	2538.481
%RSD		1.173	2.022	T 0.802	1.016	0.993	1.100	1.217	0.960	1 833

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	16:45:17	16258 218	102856.840	T 6987382.900	168136.250	87197.497	19646.597	4053.133	97199 552	46593 315
2	16:45:43	16494.752	101708.810	T 6921222.400	166188.070	84598.966	18788.326	4041.126	95711.947	47136 813
3	16:46:09	16831 525	106764.760	T 7105433.500	170580.380	88922 268	18908.638	4045.129	98452 294	47764.905
x		16528.165	103776.800	T 7004679.600	168301.570	86906 244	19114.520	4046.463	97121 264	47165 011
σ		288.110	2650.548	T 93315.664	2200.818	2176 317	464.702	6.114	1371 850	586 304
%RSD		1.743	2.554	T 1.332	1.308	2 504	2.431	0.151	1.413	1 243

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	16:45:17	40299.750	7223.599	31279.364	14466.426	19446 057	8360.820	104.001	720221.110	294542.900
2	16:45:43	39929.710	7067.445	32163.221	14831.162	19201.406	8364.825	104.001	715484.580	295983 860
3	16:46:09	40810 597	7279.655	31709.226	15316.169	20031 649	8492.974	104.001	732209.970	305369 510
x		40346 686	7190.233	31717.270	14871.252	19559.704	8406.207	104.001	722638.550	298632 090
σ		442 315	109.969	441.983	426.288	426 629	75.170	0.000	8620.770	5879 093
%RSD		1 096	1.529	1.394	2.867	2.181	0.894	0.000	1.193	1.969

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	16:45:17	186916 000	489453.980	2848.560	104918.080	1920 254	104151.130	26745.265	64106 315	971682.020
2	16:45:43	184269 500	489304.370	2868.568	105080.410	1852 237	102357.850	25966.440	63097 519	963461.240
3	16:46:09	195111 840	506174.030	2644.482	107219.400	1964 266	103282.840	26717.162	64695 517	995040.070
x		188765.780	494977.460	2787.203	105739.290	1912 252	103263.940	26476.289	63966.450	976727.770
σ		5652.909	9696.805	124.004	1284.375	56.442	896.790	441.766	808.128	16382.930
%RSD		2.995	1.959	4.449	1.215	2.952	0.868	1.669	1 263	1.677

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	16:45:17	162002 880	123316.430	151756.610	265160.220	ID 36 000	ID 0.000	1648352.000	ID 44 000	ID 0 000
2	16:45:43	163295.410	124935.810	152740.970	268806.960	ID 20 000	ID 0.000	1664394.000	ID 36 000	ID 4 000
3	16:46:09	165762.490	129038.780	157276.450	275499.400	ID 28 000	ID 4.000	1691798.600	ID 36 000	ID 4 000
x		163686.930	125763.670	153924.680	269822.190	ID 28 000	ID 1.333	1668181.500	ID 38 667	ID 2 667
σ		1910.137	2949.635	2944.155	5243.823	ID 8 000	ID 2.309	21969.532	ID 4 619	ID 2 309
%RSD		1.167	2.345	1.913	1.943	ID 28 571	ID 173.205	1.317	ID 11.945	ID 86 603

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	16:45:17	111568 320	273086.600	93017.194	83773.458	199221.420	1235613 200
2	16:45:43	112721.960	279699.800	91951.725	83089.653	204011.980	1263878.900
3	16:46:09	115310 210	279226.050	93211.670	86485.035	208212.970	1293356 800
x		113200.160	277337.480	92726.863	84449.382	203815.450	1264283 000
σ		1916 235	3688.988	678.295	1795.776	4498.994	28873.912
%RSD		1 693	1.330	0.731	2.126	2 207	2 284

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User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	16:51:05	505248.680	40195.172	9442.148	T 57573635.000	T 42569074.000	T 5903432.200	T 6945143.800	T 1982309 000	3304.753
2	16:51:31	512894.800	41321.480	9514 242	T 59684790.000	T 43734422.000	T 6060178.900	T 7059038.200	T 2017281.400	3396.796
3	16:51:57	519265.380	41530.671	9402 096	T 60762060.000	T 44343735.000	T 6177902.000	T 7181161.700	T 2047377 800	3464 828
x		512469.620	41015.774	9452 828	T 59340162.000	T 43549077.000	T 6047171.000	T 7061781.200	T 2015656.100	3388.793
σ		7018.014	718.319	56 831	T 1621909.800	T 901731.520	T 137696.480	T 118032.850	T 32564 833	80 337
%RSD		1.369	1.751	0 601	T 2.733	T 2.071	T 2.277	T 1.671	T 1 616	2 371

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	16:51:05	109988.440	38144.130	T 36770752 000	85436.709	T 1440851.600	1337707 000	217747.130	1719271 200	651887.950
2	16:51:31	109663.570	39161.535	T 38075907 000	88618.581	T 1513711.600	1408425.400	227202.880	T 1740332 500	686249 660
3	16:51:57	107499.500	39378.707	T 39035479 000	91214.495	T 1531755.800	1412124 300	230203.390	T 1749719 300	692662.910
x		109050.500	38894.791	T 37960713 000	88423.262	T 1495439.700	1386085 600	225051.130	T 1736441 000	676933 510
σ		1352.992	659.098	T 1136749 800	2893.841	T 48127.857	41937 841	6500.932	T 15592 585	21925 839
%RSD		1.241	1.695	T 2.995	3.273	T 3.218	3 026	2.889	T 0 898	3 239

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	16:51:05	76897.863	494144.840	T 32147195 000	804198.720	412838.330	88752.202	15167.858	453312.940	219593 610
2	16:51:31	80468.318	511865.720	T 34021466 000	832056.260	433035.470	92409.493	16254.209	469031 500	227809.490
3	16:51:57	81916.408	524043.640	T 34696986 000	846085.840	440073.030	94086.872	16370.471	471713.460	228317 090
x		79760.863	510018.070	T 33621882 000	827446.940	428648.940	91749.522	15930.846	464685.970	225240 060
σ		2582.986	15034.790	T 1321025.900	21320.580	14137.305	2727.883	663.319	9940.196	4896 554
%RSD		3.238	2.948	T 3.929	2.577	3.298	2.973	4.164	2.139	2.174

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	16:51:05	186156.830	34108.083	146171 540	70598.237	88983.006	39306.316	116.001	695087.400	1499986 300
2	16:51:31	193148.280	34678.783	153480 350	72783.699	92936.165	39459.143	80.000	717801.810	1553554.400
3	16:51:57	194540.790	34867.686	152471 380	73894.860	92186.682	40171.038	100.001	719656.980	1558184 600
x		191281.970	34551.517	150707.760	72425.598	91368.618	39645.499	98.667	710848.730	1537241 800
σ		4492.779	395.470	3960.736	1677.232	2099.711	461.501	18.037	13681.192	32347.161
%RSD		2.349	1.145	2 628	2.316	2.298	1.164	18.281	1.925	2.104

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	16:51:05	935323.800	T 2350832.300	10944 258	498530.480	9165.793	484394.400	123438.480	299145 810	913013.150
2	16:51:31	979131.970	T 2430585.200	11477 082	509310.790	9530.263	498723.070	128717.140	311206.120	953272.510
3	16:51:57	982091.150	T 2480141.000	11533.171	516334.670	9654.427	504319.160	130077.100	314291 070	971713.900
x		965515.640	T 2420519.500	11318.170	508058.640	9450.161	495812.210	127410.900	308214 330	945999.850
σ		26188.731	T 65239.394	325 029	8967.900	253.974	10276.378	3506.779	8003 612	30018.544
%RSD		2.712	T 2.695	2 872	1.765	2.688	2.073	2.752	2 597	3.173

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	16:51:05	802091.210	623536.440	747919 320	1325151.000	ID 148.002	ID 20.000	1584412.600	ID 36 000	ID 4 000
2	16:51:31	834391.250	646709.350	766223 620	1364459.000	ID 88.001	ID 24.000	1620881.600	ID 28 000	ID 0 000
3	16:51:57	847295.720	660510.790	781136 880	1399459.700	ID 112.001	ID 8.000	1666288.300	ID 52 000	ID 0 000
x		827926.060	643585.530	765093 270	1363023.200	ID 116.001	ID 17.333	1623860.900	ID 38 667	ID 1 333
σ		23285.423	18684.066	16637 603	37175.111	ID 30.200	ID 8.327	41019.078	ID 12 220	ID 2 309
%RSD		2.813	2.903	2.175	2.727	ID 26.034	ID 48.038	2.526	ID 31 604	ID 173 205

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	16:51:05	539360.550	1327715.000	435679 080	397153.120	971240.260	1164786 000
2	16:51:31	551143.520	1385629.100	450101.760	413172.600	1005133.000	1224770.900
3	16:51:57	568273.770	1406682.400	459130 620	415068.470	1020668.400	1221878.100
x		552925.950	1373342.200	448303 820	408464.730	999013.910	1203811.700
σ		14538.786	40892.438	11828 697	9841.898	25275.857	33828.144
%RSD		2.629	2.978	2 639	2.409	2.530	2 810

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User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	16:56:52	466180.030	192667.740	8384.848	↑66867711.000	↑49269893.000	↑6847101.800	↑7954172 600	↑58597686.000	3096 662
2	16:57:18	488141.750	194347.710	9253.905	↑68740167.000	↑50852202.000	↑7033037.600	↑8235524 200	↑59722072.000	3300.752
3	16:57:44	491035.800	197663 620	8981.563	↑69823120.000	↑51644762.000	↑7169221.400	↑8374154.900	↑61145517.000	3412 804
x		481785.860	194893 020	8873.439	↑68477000.000	↑50588953.000	↑7016453.600	↑8187950 600	↑59821758.000	3270 072
σ		13592.290	2542.191	444.503	↑1495176.500	↑1209122.300	↑161698.900	↑213994 680	↑1276837.400	160 288
%RSD		2.821	1 304	5.009	↑2.183	↑2.390	↑2.305	↑2 614	↑2.134	4.902

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	16:56:52	103363.980	35932 870	↑44783459.000	105530.880	↑1783061.400	1324059.900	219527 660	↑3289175.100	↑3183918.100
2	16:57:18	103108.380	36137 886	↑45199308.000	105092.580	↑1798891.000	1351655 000	221894.120	↑3351508.600	↑3238656 800
3	16:57:44	103120.550	36604 218	↑45591853.000	106537.450	↑1823524.000	1350832.700	224496.460	↑3383886.200	↑3268153 300
x		103197.640	36224.992	↑45191540.000	105720.300	↑1801825.500	1342182 600	221972.750	↑3341523.300	↑3230242.700
σ		144.187	344 046	↑404252.900	740.826	↑20390.290	15700 028	2485 335	↑48138.611	↑42743 269
%RSD		0.140	0.950	↑0.895	0.701	↑1.132	1.170	1.120	↑1.441	↑1 323

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	16:56:52	380717.250	↑4981158 500	↑98562371.000	↑2320181.800	↑4076302.900	889167.190	135283.130	2326583.400	1089589.100
2	16:57:18	385576.320	↑5035046.400	↑100224190.000	↑2327036.800	↑4136371.300	903378.330	136530.190	2341195.800	1102264.700
3	16:57:44	394037.770	↑5125607 500	↑101270320.000	↑2346989.000	↑4160322.200	897976.720	135433.900	2330355.400	1101722 800
x		386777.110	↑5047270 800	↑100018960.000	↑2331402.500	↑4124332.100	896840.750	135749 070	2332711.500	1097858.900
σ		6740.956	↑72996 282	↑1365592.000	↑13926.661	↑43284.110	7173.348	680 655	7585.797	7166.963
%RSD		1.743	↑1.446	↑1.365	↑0.597	↑1.049	0.800	0 501	0.325	0 653

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	16:56:52	925172.120	160694 220	738803.510	730029.580	177507.820	77120.207	92 001	687482.730	1499538 200
2	16:57:18	931109.300	161839 290	740195.380	733887.630	177819.320	75584.149	116 001	682770.950	1499601 500
3	16:57:44	934390.070	160044 070	741808.490	737747.630	179221.220	77423.415	120 001	690147.010	1502704.700
x		930223.830	160859.190	740269.120	733888.280	178182.790	76709.257	109 334	686800.230	1500614 800
σ		4672.330	908.907	1503.846	3859.028	912.702	986.095	15.144	3735.092	1810.176
%RSD		0.502	0 565	0.203	0.526	0.512	1.285	13 851	0.544	0.121

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	16:56:52	937341.230	↑2328810.900	106500.920	743784.470	81135.698	725595.680	1275665 300	↑2936840.500	917082.100
2	16:57:18	934140.790	↑2355781 600	105226.500	755549.260	81536.156	730801.910	1273719.400	↑2978048.100	932087.950
3	16:57:44	938248.110	2549995.100	108376.420	747415.060	81491.659	730912.250	1291008 000	↑2964484.300	935962.970
x		936576.710	↑2411529 200	106701.280	748916.260	81387.838	729103.280	1280130.900	↑2959791.000	928377.670
σ		2157.753	↑120670 860	1584.488	6024.351	219.490	3038.175	9469.916	↑21000.923	9972.282
%RSD		0.230	↑5 004	1.485	0.804	0.270	0.417	0.740	↑0.710	1.074

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	16:56:52	2131985.500	1630148.400	↑3630437.500	↑6263606.300	ID 416.012	ID 64.000	1579501.600	ID 56.000	ID 12 000
2	16:57:18	2175231.500	1677459.700	↑3756263.400	↑6423811.400	ID 424.012	ID 104.001	1612815.800	ID 84.000	ID 8 000
3	16:57:44	2179984.000	1679855 200	↑3755790.500	↑6449447.000	ID 364.009	ID 80.000	1625441.900	ID 60.000	ID 12 000
x		2162400.300	1662487 800	↑3714163.800	↑6378954.900	ID 401.344	ID 82.667	1605919.800	ID 66.667	ID 10 667
σ		26446.946	28032 292	↑72509.529	↑100713.820	ID 32.580	ID 20.133	23733.843	ID 15.144	ID 2 309
%RSD		1.223	1 686	↑1.952	↑1.579	ID 8.118	ID 24.354	1.478	ID 22.716	ID 21 651

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	16:56:52	2869208.600	↑6605060 300	↑4397252.300	↑3967185.300	↑9828968.700	1172642.900
2	16:57:18	2918233.400	↑6726538.400	↑4481863.300	↑4112067.600	↑10025731.000	1198656 600
3	16:57:44	2960252.600	↑6825913.900	↑4567603.600	↑4159207.300	↑10141340.000	1213455 000
x		2915898.200	↑6719170.900	↑4482239.700	↑4079486.700	↑9998680.000	1194918 200
σ		45566.933	↑110610.990	↑85176.267	↑100071.210	↑157932.980	20661 292
%RSD		1.563	↑1 646	↑1.900	↑2.453	↑1.580	1.729

S06 ISM-2068 6/5/2018 17:02:15

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	17:02:41	448515.810	374914.110	8669.183	T 130343560 000	T 96741458.000	T 13331079.000	T 15696479.000	T 115340030.000	4985.715
2	17:03:07	467833.660	383494.080	8569.064	T 136010870 000	T 100922740.000	T 14004677.000	T 16403973.000	T 117876630.000	4913 665
3	17:03:33	471205.990	387701.330	9009.597	T 139122470 000	T 101657140.000	T 14298332.000	T 16615547.000	T 119874350.000	5033.748
x		462518.490	382036.500	8749.281	T 135158970 000	T 99773779.000	T 13878029.000	T 16238666.000	T 117697000.000	4977.709
σ		12243.339	6517.023	230.932	T 4451023.700	T 2651615.500	T 495907.460	T 481316.860	T 2272491.800	60.440
%RSD		2.647	1.706	2.639	T 3 293	T 2.658	T 3.573	T 2.964	T 1.931	1 214

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	17:02:41	102053.610	33195.862	T 86363864.000	204328.720	T 3499140.700	1312667 300	438162.300	T 6728592.800	T 6539029 300
2	17:03:07	102305.120	34493.903	T 88381557.000	206945.420	T 3606038.600	1339974 300	449829.610	T 6905363.200	T 6626384 200
3	17:03:33	102313.230	36274.567	T 91017967.000	212391 650	T 3656152.000	1338389 500	449842.370	T 6858157.300	T 6646294.400
x		102223.980	34654.777	T 88587796.000	207888 590	T 3587110.400	1330343.700	445944.760	T 6830704.400	T 6603902 600
σ		147.607	1545.644	T 2333895.900	4113 381	T 80198.778	15328.738	6739.812	T 91526.972	T 57057.136
%RSD		0.144	4.460	T 2.635	1.979	T 2.236	1.152	1.511	T 1.340	T 0 864

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	17:02:41	773414.740	T 9931785.400	T 191588170.000	T 4511432 200	T 8255734.800	1780486.400	261892.550	T 4232964.400	2185533 800
2	17:03:07	776801.930	T 10161540.000	T 196357580.000	T 4590337 000	T 8286756.300	1796812.500	265960.770	T 4279714.100	2201812 600
3	17:03:33	786096.660	T 10313430.000	T 199179930.000	T 4723994 000	T 8437150.100	1837405.700	271558.760	T 4333841.900	T 2049405.700
x		778771.110	T 10135585.000	T 195708560.000	T 4608587.700	T 8326547.100	1804901.600	266470.690	T 4282173.500	T 2145584 000
σ		6566.280	T 192141.400	T 3837266.400	T 107449.730	T 97032.771	29309.133	4853.237	T 50483.693	T 83689 652
%RSD		0.843	T 1.896	T 1.961	T 2 332	T 1.165	1.624	1.821	T 1.179	T 3.901

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	17:02:41	1825150.200	306520.610	1414364.800	1445526.400	339419.270	144543.370	144.001	651966.570	T 2763321.100
2	17:03:07	1837944.100	309899.890	1434001.600	1472993.900	343186.630	149449.390	136.001	665681.340	T 2823331 800
3	17:03:33	1865752.500	314792.130	1457460.300	1482353 800	343517.780	147453.120	116.001	677544.910	T 2856092 500
x		1842948.900	310404.210	1435275.600	1466958 000	342041.230	147148.630	132.001	665064.280	T 2814248 500
σ		20758.655	4158.758	21575.998	19141 268	2276.713	2467.146	14.422	12800.330	T 47047.984
%RSD		1.126	1.340	1.503	1 305	0.666	1.677	10.926	1.925	T 1 672

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	17:02:41	1858076.100	T 4653267.700	202087.150	1439969 800	151826.040	1392945.000	2478630.000	T 5671586.300	888860.800
2	17:03:07	1925467.700	T 4782921.100	208867.400	1477446 600	156258.790	1426647.800	2533825.500	T 5783746.400	903134.560
3	17:03:33	1951839.500	T 4841968.300	211510.430	1490415.900	159099.610	1466642.000	2603953.000	T 5921928.600	923375.110
x		1911794.400	T 4759385.700	207488.330	1469277.400	155728.150	1428744.900	2538802.800	T 5792420.400	905123.490
σ		48354.008	T 96526.752	4860.649	26196.464	3665.705	36893.187	62809.607	T 125396.330	17342.906
%RSD		2.529	T 2.028	2.343	1.783	2.354	2.582	2.474	T 2.165	1.916

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	17:02:41	T 3819094.600	T 3011267.800	T 7277935.500	T 12318279 000	ID 752.039	ID 196.003	1501603.500	ID 48.000	ID 24 000
2	17:03:07	T 3958336.100	T 3084089.500	T 7407581.000	T 12749529 000	ID 864.052	ID 184.002	1547020.600	ID 52.000	ID 68 000
3	17:03:33	T 4036164.200	T 3138830.100	T 7655740.800	T 12804861 000	ID 896.055	ID 156.002	1560068.900	ID 68.000	ID 32 000
x		T 3937865.000	T 3078062.500	T 7447085.700	T 12624223 000	ID 837.382	ID 178.669	1536231.000	ID 56.000	ID 41 333
σ		T 109973.190	T 63994.404	T 191975.730	T 266396 240	ID 75.622	ID 20.527	30689.757	ID 10.583	ID 23.438
%RSD		T 2.793	T 2.079	T 2.578	T 2.110	ID 9.031	ID 11.489	1.998	ID 18.898	ID 56.705

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	17:02:41	T 5246900.600	T 12744066.000	T 8643698.900	T 7847796 200	T 18992726.000	1114738 300
2	17:03:07	T 5412856.000	T 13254628.000	T 8946613.200	T 8148988 500	T 19693700.000	1159278 800
3	17:03:33	T 5508477.400	T 13502203.000	T 9091033.900	T 8301402 800	T 20057909.000	1187706 000
x		T 5389411.300	T 13166966.000	T 8893782.000	T 8099395 800	T 19581445.000	1153907.700
σ		T 132355.020	T 386596.190	T 228299.150	T 230833.940	T 541391.110	36779.198
%RSD		T 2.456	T 2.936	T 2.567	T 2 850	T 2.765	3.187

"non responsive based on revised scope"

[redacted]

S07 ISM-2069 6/5/2018 17:08:04

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	17:08:30	431164.720	M 699815.620	9390 080	TM 255283450.000	TM 187923710.000	TM 26242854 000	TM 30775913.000	TM 223410150.000	3540 865
2	17:08:56	440561.410	M 723902.210	9598 353	T 261905680.000	T 193984650.000	T 26776716 000	T 31234437.000	T 228517750.000	3813 003
3	1 :09:22	445302.440	716889.810	9309.977	TM 263679220.000	TM 194315490.000	TM 27240239 000	TM 32060207.000	TM 230107760.000	3716.953
x		439009.520	M 713535.880	9432 803	TM 260289450.000	TM 192074620.000	TM 26753270 000	TM 31356852.000	TM 227345220.000	3690 274
σ		7195.488	M 12388.608	148 859	TM 4425087.300	TM 3598596.200	TM 499105.410	TM 650839.290	TM 3499370.800	138 017
%RSD		1.639	M 1.736	1 578	TM 1.700	TM 1.874	TM 1 866	TM 2.076	TM 1.539	3.740
Run	**Time**	**34S**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
1	1 :08:30	100646.120	33742.377	TM 167934160 000	M 399703.790	TM 6974468.700	1257985.200	M 867492.970	TM 13300576.000	TM 12756207 000
2	17:08:56	100410.900	34477.827	TM 172609970 000	M 407678 140	TM 7117318.100	1284311. 00	M 888257.060	TM 13468994.000	TM 13069550 000
3	17:09:22	99198.366	34839.551	TM 174061340 000	M 409868.670	TM 7093860.700	1292384.000	M 889068.060	TM 13637466.000	T 12976154 000
		100085.130	34353.252	TM 171535160 000	M 405750 200	TM 7061882.500	1278227.000	M 881606.030	TM 13469012.000	TM 12933970 000
σ		776.913	559.095	TM 3201875.400	M 5349 665	TM 76605.766	17988.540	M 12228.996	TM 168444.730	TM 160874 550
%RSD		0.776	1.627	TM 1 867	M 1.318	TM 1.085	1 407	M 1 387	TM 1 251	TM 1 244
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**62Ni**	**63Cu**	**65Cu**
1	17:08:30	1526014.500	TM 19588698.000	T 372760250 000	TM 8852015.700	TM 16060830.000	T 3185836 300	M 505745.610	T 8173021.900	T 3867924 300
2	17:08:56	1562847.000	TM 19882705.000	TM 382890790 000	TM 9125105.200	TM 16428278.000	T 3239343 800	M 519089 420	T 8300996.800	T 3936720 200
3	1 :09:22	1561732.700	TM 19945717.000	TM 383452860 000	TM 9104773.800	T 16226225.000	T 3208723.400	509169.350	T 8377895.800	T 3934977 300
x		1550198.100	TM 19805707.000	TM 379701300 000	TM 9027298.200	TM 16238444.000	T 3211301 200	M 511334 790	T 8283971.500	T 3913207 300
σ		20951.013	TM 190557.170	TM 6017692 200	TM 152139.130	TM 184028.940	T 26846 691	M 6930.449	T 103492.610	T 39225 841
%RSD		1.352	TM 0.962	TM 1 585	TM 1.685	TM 1.133	T 0 836	M 1 355	T 1.249	T 1 002
R	**Time**	**66Zn**	**67Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**89Y**	**95Mo**
1	17:08:30	T 3146746.800	587339.720	T 2461854 500	T 2667641.400	625542.800	267163 830	192.003	626256 680	TM 5519517.700
2	17:08:56	T 3230374.300	593413.920	T 2544503 500	T 2692477.200	639968.510	274402.950	168.002	635007 250	TM 5683717 300
3	17:09:22	T 3222930.000	590757.480	T 2508323 600	T 2700620.100	639859.480	271811.990	156.002	639262 050	TM 5706826.400
x		T 3200017.100	590503.700	T 2504893 900	T 2686912.900	635123.600	271126 260	172.002	633508 660	TM 5636687.100
σ		T 46283.293	3045.042	T 41431.126	T 17179.049	8297.395	3667.952	18.331	6630.929	TM 102127 450
%RSD		T .446	0.516	T 1 654	T 0.639	1.306	1 353	10.657	1 047	TM 1 812
Run	**Time**	**97Mo**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**
1	17:08:30	T 3454464.700	TM 9403579.700	390847.780	T 2509765.300	295063.440	2785184.700	T 4396018.400	T 10969834.000	887 1.930
2	17:08:56	T 3522421.700	TM 9590432.100	392349.770	T 2558128.300	298858.310	M 2818626.900	T 4449634.900	T 11054276.000	883924 140
3	17:09:22	T 3554808.100	TM 9462031.700	394645 540	T 2565331.300	295200.870	M 2825329.700	T 4418743.300	TM 11096369.000	880727 810
x		T 3510564.800	TM 9485347.800	392614 360	T 2544408.300	296374.210	M 2809713 800	T 4421465.500	TM 11040160.000	884121.290
σ		T 51211.717	TM 95583.408	1912 656	T 30217.113	2152.390	M 21505 505	T 26911.700	TM 64437.813	3496.231
%RSD		T .459	TM 1.008	0.487	1.188	0.726	M 0.765	T 0 609	TM 0.584	
Run	**Time**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**150Sm**	**156Gd**	**159Tb**	**160Dy**	**164Dy**
1	17:08:30	T 7638826.100	T 5929217.100	T 14552633 000	TM 24825081.000	ID 1468.149	ID 348 008	14508 9. 00	ID 92.001	ID 52 000
	:08:56	TM 7817300.000	TM 6064239.300	TM 14859323 000	TM 25342102 000	ID 1704.200	ID 316 007	1454902 600	ID 68.000	ID 76 000
3	17:09:22	TM 7819917.800	TM 6075961.800	TM 14781259 000	TM 25374023.000	ID 1836.233	ID 296 006	1482728 000	ID 112.001	ID 4 000
x		TM 7758681.300	TM 6023139.400	TM 14731072 000	TM 25180402 000	ID 1669.527	ID 320 007	1462826 800	ID 90.667	ID 64 000
		TM 103805.940	TM 81549.990	TM 159385 310	TM 308130.480	ID 186.476	ID 26 231	17353.738	ID 22.031	ID 12 000
%RSD		TM 1.338	TM 1.354	TM 1 082	TM 1 224	ID 11.169	ID 8.197	1.186	ID 24.298	ID 18.750
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**			
	17:08:30	TM 10474738.000	T 25243103.000	TM 17046595 000	T 15424615.000	T 37242269.000	1093983 200			
2	17:08:56	TM 10585157.000	TM 25740758.000	TM 17340910 000	TM 15698709.000	TM 38040557.000	1097977 000			
3	17:09:22	TM 10636428.000	TM 25702942.000	TM 17283141 000	TM 15835670.000	TM 37967680.000	1108533.700			
x		TM 10565441.000	TM 25562268.000	TM 17223549 000	TM 15652998.000	TM 37750169.000	1100164.600			
σ		TM 82628.532	TM 277050.350	TM 155944.430	TM 209305.390	TM 441360.810	7517.916			
%RSD		TM 0.782	TM 1.084	TM 0 905	TM 1.337	TM 1.169	0.683			

CV002 ISM-2070 6/5/2018 17:13:53 QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	17:14:19	521102.480	84457.328	9702.491	T 4948073.900	T 2153185.100	302179.890	348939.850	1116292.500	3148 684
2	17:14:44	530182.990	83813.922	9614.374	T 5104354.900	T 2198590 300	307634.350	360157.180	1135004.500	3132 677
3	17:15:10	540621.520	87282.512	9918.784	T 5218795 600	T 2248733 500	312767.220	365637.670	1152982.900	3184.700
x		530635.660	85184.587	9745.216	T 5090408.100	T 2200169 600	307527.150	358244.900	1134760.000	3155 354
σ		9767.390	1845.117	156.638	T 135898 690	T 47793 811	5294.480	8511.576	18346.425	26 645
%RSD		1.841	2.166	1.607	T 2 670	T 2.172	1.722	2.376	1.617	0 844

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	17:14:19	106444.090	35952.970	T 3371386.900	7467 846	123747 690	1430490.400	124.001	714031.170	707261 060
2	17:14:44	106334.500	37203.257	T 3375732.400	7399.776	125082 310	1417695 300	80.000	711992.460	699068.400
3	17:15:10	106233.030	38658.847	T 3400204.500	7563.946	126185.180	1413598 600	96.001	709175.270	695355 370
x		106337.210	37271.691	T 3382441.300	7477.189	125005 060	1420594.800	100.001	711732.970	700561 610
σ		105.558	1354.236	T 15536.124	82.483	1220 584	8811 284	22.271	2438.328	6091 684
%RSD		0.099	3.633	T 0.459	1.103	0.976	0 620	22.271	0.343	0 870

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	17:14:19	82919.723	1099352.000	T 3649005.500	86926 268	915910.930	198049.960	32773.948	507926.510	243561 580
2	17:14:44	81661.556	1098458.500	T 3641410.400	87096 291	898112 050	194573.660	32444.470	499574.850	240671 380
3	17:15:10	82822.622	1097787.200	T 3672265.500	87468.737	903554 380	196562.260	32364.112	501522.740	241647 060
x		82467.967	1098532.500	T 3654227.200	87163.765	905859.120	196395.290	32527.510	503008.030	241960 010
σ		700.058	784.995	T 16076.660	277.458	9120 520	1744.153	217.171	4369.454	1470 295
%RSD		0.849	0.071	T 0.440	0 318	1 007	0.888	0.668	0.869	0 608

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	17:14:19	415677.960	64602.694	301308.710	316604 590	81483 569	34256.782	72.000	725022.330	2628.477
2	17:14:44	413786.170	64291.949	300737.710	314867 300	78640.415	34051.820	92.001	721530.230	2576.458
3	17:15:10	421241.870	65034.531	301342.060	313873 550	80031 521	34164.348	88.001	728560.150	2532.442
x		416902.000	64643.058	301129.500	315115.140	80051 835	34157.650	84.000	725037.570	2579.126
σ		3875.637	372.933	339.703	1382 287	1421 686	102.645	10.583	3514.983	48 073
%RSD		0.930	0.577	0.113	0.439	1.776	0.301	12.599	0.485	1 864

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	17:14:19	1532.162	4197.215	23782.964	1109813 200	17276 571	1100917.000	274004.280	657214.340	982196.050
2	17:14:44	1672.193	4105.163	24192.316	1111663 200	18266.995	1083432.300	270657.980	661726.560	989154.000
3	17:15:10	1576.171	4197.215	24108.036	1121616 300	17741 692	1100481.700	277152.680	670667.120	992916.190
x		1593.509	4166.531	24027.772	1114364 200	17761.753	1094943.700	273938.310	663202.670	988088.740
σ		71.607	53.147	216.157	6348 219	495 517	9971.546	3247.855	6846.790	5438.881
%RSD		4.494	1.276	0.900	0 570	2.790	0.911	1.186	1.032	0.550

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	17:14:19	1796873.200	1380642.000	160174.910	280859 380	ID 32 000	ID 8.000	1654109.500	ID 40.000	ID 100 001
2	17:14:44	1804628.700	1381985.700	159778.300	283499 260	ID 44 000	ID 0.000	1661327.200	ID 24.000	ID 72 000
3	17:15:10	1838934.500	1417560.300	160101.310	284206.150	ID 28 000	ID 4.000	1691908.300	ID 48.000	ID 52 000
x		1813478.800	1393396.000	160018.180	282854.930	ID 34 667	ID 4.000	1669115.000	ID 37.333	ID 74 667
σ		22383.745	20937.689	210.972	1763.968	ID 8 327	ID 4.000	20066.758	ID 12.220	ID 24.111
%RSD		1.234	1.503	0.132	0 624	ID 24 019	ID 100.000	1.202	ID 32.733	ID 32 291

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	17:14:19	2525537.100	T 5793306.600	2063324.800	1784885 300	T 4176266 200	1262351.900
2	17:14:44	2581349.500	T 5938139.300	2063711.100	1815080 500	T 4257637.100	1278606.400
3	17:15:10	2615450.000	T 5956356.700	2110129.000	1839589 800	T 4284818.700	1295934 200
x		2574112.200	T 5895934.200	2079055.000	1813185 200	T 4239574 000	1278964.200
σ		45391.284	T 89343.625	26911.624	27401.444	T 56485 551	16794 010
%RSD		1.763	T 1.515	1.294	1 511	T 1 332	1 313

CB002 IM8714-01 6/5/2018 17:19:42 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	17:20:08	523931.980	116.001	9938.811	81216 597	5466.061	784.042	860.051	5810.328	2992 618
2	17:20:34	540643 040	120.001	9910.773	79348 066	5269.916	708.035	920.058	5373.992	2980 613
3	17:21:00	553880 880	60.000	9994.888	76800 842	4641.486	708.035	772.041	4821.604	3032 635
x		539485.300	98.667	9948.157	79121 835	5125.821	733.371	850.717	5335.308	3001.955
σ		15007.978	33.546	42.829	2216 553	430.759	43.883	74.449	495.496	27 239
%RSD		2.782	33.999	0.431	2 801	8.404	5.984	8.751	9.287	0.907

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	17:20:08	108059.740	34626.534	150658.040	12 000	1288.114	1412615.700	40.000	2084.300	1496.154
2	17:20:34	107207.220	34309.029	148318.510	28 000	1192.098	1488557.700	56.000	2108.307	1716 203
3	17:21:00	106366.970	35454.523	146710.270	28 000	1256.109	1508115 000	40.000	1840.234	1652.188
x		107211.310	34796.695	148562.270	22 667	1245.440	1469762.800	45.333	2010.947	1621 515
σ		846.392	591.401	1985.142	9 238	48.889	50447 620	9.238	148.328	113.186
%RSD		0.789	1.700	1.336	40.754	3.925	3.432	20.377	7.376	6.980

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	17:20:08	636.028	1932.258	127271.940	916 058	488.016	164.002	2972.610	2508.434	332 008
2	17:20:34	564.022	2012.279	128595.000	888 054	448.014	244.004	2600.467	2196.333	340 008
3	17:21:00	696.033	1948.262	129083.570	812 045	492.017	196.003	2472.422	2084.300	384 010
x		632.028	1964.266	128316.830	872 053	476.016	201.336	2681.833	2263.022	352 009
σ		66.097	42.344	937.297	53 821	24.333	40.267	259.831	219.791	28 001
%RSD		10.458	2.156	0.730	6.172	5.112	20.000	9.689	9.712	7.955

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	17:20:08	528.019	76.000	460.015	188 002	1160.093	164.002	112.001	731397.770	1040 075
2	17:20:34	496.017	100.001	424.012	176 002	1204.100	108.001	88.001	753384.310	1144 090
3	17:21:00	608.026	96.001	476.016	156 002	1056.077	128.001	92.001	754384.800	1056 077
x		544.021	90.667	453.348	173 335	1140.090	133.335	97.334	746388.960	1080 081
σ		57.693	12.858	26.635	16.166	76.012	28.379	12.858	12992.387	56 008
%RSD		10.605	14.182	5.875	9 327	6.667	21.284	13.211	1.741	5.186

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	17:20:08	620.027	1560.168	412.012	292 006	8.000	252.004	132.001	384.010	974437.890
2	17:20:34	820.046	1784.220	484.016	208 003	4.000	308.007	124.001	288.006	997274.200
3	17:21:00	704.034	1788.221	480.016	312 007	12.000	308.007	164.002	288.006	1008047.300
x		714.702	1710.869	458.681	270 672	8.000	289.339	140.001	320.007	993253.120
σ		100.436	130.527	40.466	55.186	4.000	32.333	21.166	55.428	17161.717
%RSD		14.053	7.629	8.822	20 389	50.000	11.175	15.119	17.321	1.728

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	17:20:08	4985.715	3953.078	344.008	580 023	ID 0.000	ID 0.000	1624521 800	ID 32.000	ID 4 000
2	17:20:34	5265.913	4281.264	376.010	620 027	ID 0.000	ID 0.000	1672143 300	ID 44.000	ID 4 000
3	17:21:00	5838.351	4121.172	256.005	544 020	ID 0.000	ID 0.000	1694896.900	ID 76.000	ID 0 000
x		5363.326	4118.505	325.341	581 357	ID 0.000	ID 0.000	1663854.000	ID 50.667	ID 2 667
σ		434.585	164.109	62.142	38 021	ID 0.000	ID 0.000	35912.407	ID 22.745	ID 2 309
%RSD		8.103	3.985	19.101	6 540	ID 0.000	ID 0.000	2.158	ID 44.892	ID 86 603

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	17:20:08	852.050	2068.295	692.033	660 030	1532.162	1251435 000
2	17:20:34	856.051	1920.254	816.046	744 038	1544.165	1283425.400
3	17:21:00	824.047	1892.247	660.030	620 027	1532.162	1303690.400
x		844.049	1960.266	722.703	674 698	1536.163	1279516.900
σ		17.438	94.599	82.406	63 294	6.930	26346 052
%RSD		2.066	4.826	11.402	9 381	0.451	2 059

CSA002 ISM-2071 6/5/2018 17:25:32 QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	17:25:58	467978.590	356.009	84380.440	T 234765800.000	T 171826510.000	T 23792077.000	T 27486490 000	T 193508630.000	T 23889155 000
2	17:26:24	481336.370	208.003	84040 524	T 244123530.000	T 177548430.000	T 24569263.000	T 28668674 000	T 201599480.000	T 24204100 000
3	17:26:50	487210.080	316.007	85594 555	T 248237390.000	T 180561950.000	T 24978249.000	T 28625385 000	T 201136900.000	T 24213664 000
x		478841.680	293.340	84671 840	T 242375570.000	T 176645630.000	T 24446530.000	T 28260183 000	T 198748340.000	T 24102306 000
σ		9855.465	76.562	816.969	T 6903798.100	T 4437145.800	T 602534.840	T 670386.950	T 4543612.000	T 184656 690
%RSD		2.058	26.100	0.965	T 2.848	T 2.512	T 2.465	T 2 372	T 2.286	T 0.766

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	17:25:58	T 2468190.700	T 6950116.100	T 150272670 000	350991.460	T 6088118.800	1265614.300	M 959345 030	54077.028	127858.130
2	17:26:24	T 2483871.000	T 7052090.900	T 153686880 000	359913.510	T 6186104.000	1288697.800	M 973995.970	55769.786	128745 630
3	17:26:50	T 2497388.500	T 7129057.800	T 154908730 000	357279.870	T 6288463.400	1286246.000	M 975567 850	55568.246	129063 210
x		T 2483150.000	T 7043754.900	T 152956090 000	356061.610	T 6187562.100	1280186.000	M 969636 290	55138.354	128555 660
σ		T 14612.234	T 89761.619	T 2402872.900	4584.091	T 100180.250	12678.915	M 8947 077	924.642	624 600
%RSD		T 0.588	T 1.274	T 1 571	1.287	T 1.619	0.990	M 0.923	1.677	0.486

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	17:25:58	32749.839	75127.437	T 323728410 000	T 7633993.200	10002.899	9454.163	6827 215	36917.803	17372 800
2	17:26:24	33670.042	75454.812	T 328881280 000	T 7769342.000	10038.949	9714.507	7251 627	37175.113	17609 370
3	17:26:50	33698.172	75883.251	T 327010530 000	T 7795274.100	9590.342	9914.778	7644 030	37762.137	17938.175
x		33372.685	75488.500	T 326540070 000	T 7732869.800	9877.397	9694.483	7240.957	37285.018	17640.115
σ		539.583	379.032	T 2608449 800	T 86605.727	249.249	230.959	408 512	432.763	283.939
%RSD		1.617	0.502	T 0.799	T 1.120	2.523	2.382	5 642	1.161	1 610

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	17:25:58	20982.334	3164.691	14021 553	3020.629	2492.429	96.001	148 002	626343.750	TM 5562447.700
2	17:26:24	20376.609	3124.673	13532 624	3188.701	2580.459	104.001	188 002	636837.910	TM 5597857 300
3	17:26:50	21034.485	3300.752	13336 261	3292.748	2808.544	96.001	168 002	641054.490	TM 5663043.900
x		20797.809	3196.705	13630.146	3167.360	2627.144	98.667	168 002	634745.380	TM 5607783 000
σ		365.701	92.301	352.901	137.309	163.147	4.619	20 000	7575.323	TM 51027 338
%RSD		1.758	2.887	2 589	4.335	6.210	4.681	11.905	1.193	TM 0.910

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	17:25:58	T 3405399.800	TM 9364674.300	372 010	264.005	5165.841	252.004	6282.722	10679.864	877937.740
2	17:26:24	T 3517903.300	TM 9531792.100	372 010	228.004	4845.620	184.002	6074 545	10928.234	902046.750
3	17:26:50	T 3505985.800	TM 9536020.900	424 012	264.005	4717.535	196.003	6066 538	10403.463	903423.470
x		T 3476429.600	TM 9477495.700	389 344	252.004	4909.665	210.670	6141 269	10670.520	894469 320
σ		T 61801.591	TM 97729.151	30 024	20.785	230.913	36.296	122 568	262.511	14333.308
%RSD		T 1.778	TM 1.031	7.711	8.248	4.703	17.229	1.996	2.460	1.602

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	17:25:58	11909.779	9370.054	2524.440	4361.312	ID 44.000	ID 44.000	1504488.200	ID 80.000	ID 48 000
2	17:26:24	11937.825	9754.561	2608.469	4293.271	ID 40.000	ID 20.000	1539733.400	ID 72.000	ID 32 000
3	17:26:50	12795.287	9914.778	2684.497	4733.546	ID 20.000	ID 40.000	1561610.000	ID 76.000	ID 24 000
x		12214.297	9679.798	2605 802	4462.710	ID 34.667	ID 34.667	1535277 200	ID 76.000	ID 34 667
σ		503.347	279.952	80 062	237.005	ID 12.858	ID 12.858	28820.463	ID 4.000	ID 12 220
%RSD		4.121	2.892	3 072	5.311	ID 37.091	ID 37.091	1.877	ID 5.263	ID 35 251

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	17:25:58	720.036	1760.214	40356 062	32163.221	80626.057	1162209.300
2	17:26:24	672.031	1532.162	40718 079	32814.129	82414.003	1166261.500
3	17:26:50	640.028	1328.122	41530 671	33432.948	81398.622	1182645.900
x		677.365	1540.166	40868 271	32803.433	81479.561	1170372.200
σ		40.270	216.157	601 535	634.931	896.717	10820.671
%RSD		5.945	14.035	1.472	1.936	1.101	0.925

CSAB002 ISM-2072 6/5/2018 17:31:22 QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	17:31:48	474904.080	15368.279	84404.721	T 243572900.000	T 175237620.000	T 24278458.000	T 28121650 000	T 198775260.000	T 23516898 000
2	17:32:14	483095.860	15404.356	85092 697	T 247925780.000	T 180141480.000	T 24942318.000	T 28604228 000	T 202368110.000	T 23624480 000
3	17:32:40	491655.790	15648.879	87193.449	T 251845700.000	T 183018900.000	T 25184023.000	T 29154100 000	T 204831120.000	T 23820765 000
x		483218.580	15473.838	85563 622	T 247781460.000	T 179466000.000	T 24801600.000	T 28626659 000	T 201991500.000	T 23654048 000
σ		8376.531	152.659	1452.783	T 4138286.200	T 3934371.500	T 468895.410	T 516590 590	T 3045442.000	T 154076.110
%RSD		1.733	0.987	1 698	T 1.670	T 2.192	T 1.891	T 1 805	T 1.508	T 0 651
Run	**Time**	**34S**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
1	17:31:48	T 2478798.700	T 6900592.900	T 150150210 000	352363.700	T 6100613.000	1272886.300	M 955085 580	179495.900	253824.950
2	17:32:14	T 2446099.200	T 6984686.500	T 152095810 000	348956.630	T 6144493.100	1264271.300	M 968918 020	180935.030	254669 830
3	17:32:40	T 2497723.200	T 6994249.000	T 152355320 000	350026.420	T 6126640.300	1277943.300	M 969537 220	181824.900	254624 270
x		T 2474207.000	T 6959842.800	T 151533780 000	350448.920	T 6123915.500	1271700.300	M 964513 610	180751.940	254373 020
σ		T 26116.474	T 51534.174	T 1205211.700	1742.390	T 22066.569	6912.711	M 8170.776	1175.244	475.187
%RSD		T 1.056	T 0.740	T 0.795	0.497	T 0.360	0.544	M 0 847	0.650	0.187
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**62Ni**	**63Cu**	**65Cu**
1	17:31:48	46911.357	271380.250	T 324731470 000	T 7669551.400	167227.580	42745.706	12630.999	118895.460	58184 662
2	17:32:14	46645.650	267918.960	T 325190050 000	T 7733229.500	167550.920	42600.856	12526 818	119623.290	57019.455
3	17:32:40	46959.668	271608.570	T 326249330 000	T 7726520.400	168287.700	42077.814	13019 686	120444.730	58543 535
x		46838.891	270302.600	T 325390280 000	T 7709767.100	167688.730	42474.792	12725 834	119654.490	57915 884
σ		169.087	2067.443	T 778490.980	T 34989.003	543.332	351.339	259.759	775.107	796.798
%RSD		0.361	0.765	T 0 239	T 0.454	0.324	0.827	2 041	0.648	1 376
Run	**Time**	**66Zn**	**67Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**89Y**	**95Mo**
1	17:31:48	53424.213	8420.890	37408 309	29853.368	9061.662	2836.555	184 002	632179.300	TM 5637407.700
2	17:32:14	54310.767	8517.002	38071.751	30026.079	9446.153	2824.550	136 001	643178.930	TM 5609031 300
3	17:32:40	54431.669	8837.386	38015.456	29407.551	9470.184	2932.593	164 002	634706.540	TM 5636128.900
x		54055.549	8591.759	37831 839	29762.333	9326.000	2864.566	161 335	636688.260	TM 5627522 600
σ		550.085	218.079	367 866	319.155	229.238	59.218	24.111	5761.369	TM 16026.744
%RSD		1.018	2.538	0.972	1.072	2.458	2.067	14.945	0.905	TM 0 285
Run	**Time**	**97Mo**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**
1	17:31:48	T 3491703.000	TM 9472212.300	4381 324	177462.730	8120.547	175430.130	52187 248	122063.480	896073.290
2	17:32:14	T 3507047.200	T 9475658.000	4365 315	177934.080	7736.127	175094.150	52332 288	122397.030	892425.630
3	17:32:40	T 3488428.000	TM 9510898.400	4261 253	178979.360	7856.256	175561.250	52952.771	123617.490	890212.630
x		T 3495726.100	TM 9486256.200	4335.964	178125.390	7904.310	175361.840	52490.769	122692.670	892903 850
σ		T 9940.176	TM 21410.182	65.195	776.200	196.664	240.921	406 625	818.100	2959.456
%RSD		T 0.284	TM 0.226	1 504	0.436	2.488	0.137	0.775	0.667	0.331
Run	**Time**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**150Sm**	**156Gd**	**159Tb**	**160Dy**	**164Dy**
1	17:31:48	172533.820	134113.690	32613 225	56563.906	ID 32.000	ID 64.000	1527255.800	ID 64.000	ID 56 000
2	17:32:14	176294.740	135156.800	32906 547	57168.623	ID 36.000	ID 48.000	1559028.600	ID 68.000	ID 44 000
3	17:32:40	173770.860	135352.400	32898 510	57551.637	ID 36.000	ID 40.000	1575606.400	ID 56.000	ID 44 000
x		174199.810	134874.300	32806 094	57094.722	ID 34.667	ID 50.667	1553963 600	ID 62.667	ID 48 000
σ		1916.798	665.928	167 078	497.995	ID 2.309	ID 12.220	24569.998	ID 6.110	ID 6.928
%RSD		1.100	0.494	0 509	0.872	ID 6.662	ID 24.119	1.581	ID 9.750	ID 14.434
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**			
1	17:31:48	220657.200	534542.440	220846 850	188212.930	462780.150	1173054.200			
2	17:32:14	224100.480	546317.850	224814 080	188631.610	469555.870	1184971.900			
3	17:32:40	223448.820	554411.220	227566 010	192597.920	472229.500	1173661.800			
x		222735.500	545090.510	224408.980	189814.150	468188.510	1177229.300			
σ		1829.117	9991.093	3377 852	2419.884	4870.814	6712.181			
%RSD		0.821	1.833	1 505	1.275	1.040	0.570			

CV006 ISM-2068 6/5/2018 17:37:11 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	17:37:37	475305.140	380738.310	9398.090	↑141275320 000	↑104140890.000	↑14513529.000	↑16807984.000	↑122109370.000	6534.945
2	17:38:03	482925.020	388220.020	9317.987	↑147115340 000	↑106929330.000	↑14859474.000	↑17293289.000	↑124824930.000	6074 545
3	17:38:30	492044.920	394417.620	9165.793	↑148354940 000	↑109046030.000	↑15044008.000	↑17350917.000	↑126364900.000	5942.436
x		483425.030	387791.980	9293.957	↑145581870 000	↑106705420.000	↑14805671.000	↑17150730.000	↑124433070.000	6183.975
σ		8381.085	6849.692	117.998	↑3780732 000	↑2460223.600	↑269301.070	↑298222.160	↑2154660.400	311 044
%RSD		1.734	1.766	1.270	↑2 597	↑2.306	↑1.819	↑1.739	↑1.732	5 030

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	17:37:37	100731.300	63884.368	↑90477724.000	210254 670	↑3622387.600	1320844.700	435254.680	↑6589723.200	↑6406351 800
2	17:38:03	100471.730	68130.786	↑94900194.000	221123 080	↑3770568.300	1361122.100	454529.730	↑6822215.500	↑6613451 200
3	17:38:30	101266.680	67343.478	↑95592250.000	223139 500	↑3800641.800	1359317.700	456244.620	↑6904819.000	↑6676358.100
x		100823.240	66452.877	↑93656723.000	218172.420	↑3731199.200	1347094.800	448676.340	↑6772252.600	↑6565387 000
σ		405.372	2258.959	↑2774753.500	6930 698	↑95425.779	22751.163	11655.082	↑163381.670	↑141274.430
%RSD		0.402	3.399	↑2.963	3.177	↑2.558	1 689	2.598	↑2.413	↑2.152

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	17:37:37	761879.410	↑9894137.700	↑194195160.000	↑4563500 600	↑8088428.900	1770431.500	258912.270	↑4171458.700	2160858.100
2	17:38:03	780594.880	↑10202967.000	↑201730320.000	↑4777958 500	↑8412594.100	1825936.300	269628.650	↑4306744.500	2248283.400
3	17:38:30	790939.560	↑10272741.000	↑205503330.000	↑4785309 300	↑8390267.500	1833008.900	270234.610	↑4350476.000	2260808.700
x		777804.610	↑10123282.000	↑200476270.000	↑4708922 800	↑8297096.800	1809792.200	266258.510	↑4276226.400	2223316.700
σ		14729.640	↑201487.790	↑5757442.700	↑125992.920	↑181056.230	34270.337	6369.241	↑93329.072	54452.120
%RSD		1.894	↑1.990	↑2.872	↑2 676	↑2.182	1.894	2.392	↑2.183	2.449

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	17:37:37	1810716.000	306487.250	1415482.800	1433919 500	337333.160	142678.960	92.001	663288.100	↑2774738.700
2	17:38:03	1891370.300	317891.120	1456472.000	1480118 500	348373.560	149604.550	116.001	690507.000	↑2899540.100
3	17:38:30	1891104.500	319044.170	1468499.900	1486597 800	353228.310	149396.320	140.001	693023.020	↑2921766 300
x		1864396.900	314474.180	1446818.200	1466878 600	346311.680	147226.610	116.001	682272.710	↑2865348 300
σ		46489.250	6940.870	27795.686	28726 685	8145.701	3939.755	24.000	16489.211	↑79253 301
%RSD		2.494	2.207	1.921	1.958	2.352	2.676	20.690	2.417	↑2.766

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	17:37:37	1895558.200	↑4667082.000	210435.810	1470926.100	157014.870	1440114.800	2580439.100	↑5839439.500	909646.600
2	17:38:03	1993034.000	↑4859165.600	215443.790	1510509 300	160375.270	1491729.600	2670048.300	↑6025021.500	952259.370
3	17:38:30	2006450.200	↑4945653.400	215184.250	1537697 300	164330.420	1522467.500	2716334.400	↑6110938.400	954522.080
x		1965014.100	↑4823967.000	213687.950	1506377 600	160573.520	1484770.600	2655607.300	↑5991799.800	938809 350
σ		60523.494	↑142582.330	2819.424	33576 802	3661.801	41615.051	69089.033	↑138764.850	25281.011
%RSD		3.080	↑2.956	1.319	2 229	2.280	2.803	2.602	↑2.316	2.693

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	17:37:37	↑3986425.000	↑3123129.100	↑7531770.000	↑12871140 000	ID 728.037	ID 156.002	1576825.900	ID 68.000	ID 48 000
2	17:38:03	↑4091846.700	↑3182132.400	↑7782658.000	↑13159876 000	ID 852.050	ID 136.001	1621702.500	ID 68.000	ID 40 000
3	17:38:30	↑4201053.600	↑3267031.900	↑7954136.400	↑13663867 000	ID 824.047	ID 176.002	1648758.800	ID 60.000	ID 36 000
x		↑4093108.400	↑3190764.500	↑7756188.100	↑13231628 000	ID 801.378	ID 156.002	1615762.400	ID 65.334	ID 41 333
σ		↑107319.870	↑72338.735	↑212423.710	↑401204.960	ID 65.040	ID 20.000	36332.506	ID 4.619	ID 6.110
%RSD		↑2.622	↑2.267	↑2.739	↑3 032	ID 8.116	ID 12.821	2.249	ID 7.070	ID 14.783

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	17:37:37	↑5487934.200	↑13287307.000	↑9001471.400	↑8128643 600	↑19839453.000	1186647 800
2	17:38:03	↑5685139.700	↑13818677.000	↑9417012.100	↑8476456 200	↑20521130.000	1209688 200
3	17:38:30	↑5715345.100	↑13921463.000	↑9375271.300	↑8539482.400	↑20657648.000	1230686.900
x		↑5629473.000	↑13675815.000	↑9264584.900	↑8381527.400	↑20339411.000	1209007.700
σ		↑123503.050	↑340360.580	↑228816.800	↑221259.450	↑438323.210	22027.418
%RSD		↑2.194	↑2.489	↑2.470	↑2 640	↑2.155	1 822

CB006 IM8714-01 6/5/2018 17:43:02 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	17:43:29	571488.410	108.001	10824 078	125782.270	11537.177	1744.210	2008.278	12338.496	3724.957
2	17:43:54	581028.080	124.001	11108 508	125000.920	11136.551	1412.138	1744.210	11364.905	3512 851
3	17:44:20	592716.130	88.001	11597 273	120639.940	10231.218	1316.120	1608.178	10631.794	3432 813
x		581744.210	106.667	11176 620	123807.710	10968.315	1490.822	1786.889	11445.065	3556 874
σ		10631.963	18.037	391 072	2771.050	669.037	224.630	203.436	856.170	150.965
%RSD		1.828	16.910	3.499	2.238	6.100	15.068	11.385	7.481	4 244

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	17:43:29	109046.360	50741.031	258439 850	28.000	1576.171	1479909.500	108.001	3905.052	1760 214
2	17:43:54	110126.510	53283.180	247723.150	36.000	1500.155	1505155.900	84.000	3512.851	1704 200
3	17:44:20	107126.030	55249.826	233481 810	52.000	1476.150	1529807.500	92.001	3288.746	1788 221
x		108766.300	53091.346	246548 270	38.667	1517.492	1504957.600	94.667	3568.883	1750 878
σ		1519.717	2260.510	12520.429	12.220	52.216	24949.558	12.220	311.950	42.781
%RSD		1.397	4.258	5 078	31.604	3.441	1.658	12.909	8.741	2.443

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	17:43:29	1172.095	2064.294	149318.740	1124.087	668.031	240.004	4225.231	3488.840	452 014
2	17:43:54	1140.090	2008.278	146261 330	1056.077	548.021	240.004	3736.963	3240.724	408 011
3	17:44:20	1044.075	2052.291	147265 360	1080.081	476.016	244.004	3680.935	2832.554	400 011
x		1118.753	2041.621	147615.140	1086.748	564.022	241.337	3881.043	3187.373	420 012
σ		66.623	29.493	1558.431	34.492	97.003	2.309	299.389	331.380	28 002
%RSD		5.955	1.445	1 056	3.174	17.198	0.957	7.714	10.397	6 667

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	17:43:29	560.022	88.001	424 012	236.004	1864.240	120.001	88.001	745141 870	2336 377
2	17:43:54	528.019	104.001	396 011	244.004	1676.194	172.002	92.001	761192 540	2468.420
3	17:44:20	608.026	56.000	360 009	244.004	1880.244	160.002	124.001	769084.180	2368 387
x		565.355	82.667	393 344	241.337	1806.892	150.668	101.334	758472.860	2391 061
σ		40.269	24.441	32 085	4.619	113.471	27.228	19.732	12200 657	68 880
%RSD		7.123	29.565	8.157	1.914	6.280	18.071	19.472	1 609	2 881

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	17:43:29	1288.114	3016.628	536 020	196.003	24.000	280.005	176.002	384.010	1017630.300
2	17:43:54	1484.152	3408.802	492 017	252.004	4.000	164.002	176.002	392.011	1032676.700
3	17:44:20	1268.111	3304.753	476 016	232.004	12.000	260.005	148.002	336.008	1046666.900
x		1346.793	3243.394	501 351	226.670	13.333	234.671	166.669	370.676	1032324 600
σ		119.377	203.160	31 072	28.379	10.066	62.013	16.166	30.289	14521.466
%RSD		8.864	6.264	6.198	12.520	75.498	26.425	9.700	8.171	1.407

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	17:43:29	4097.158	3328.764	528 019	844.049	ID 12.000	ID 0.000	1732611.400	ID 56.000	ID 4 000
2	17:43:54	4297.274	3324.763	532 020	832.048	ID 8.000	ID 0.000	1784017.400	ID 64.000	ID 4 000
3	17:44:20	4649.491	3156.687	460 015	796.044	ID 0.000	ID 0.000	1805023 200	ID 32.000	ID 0 000
x		4347.974	3270.072	506 684	824.047	ID 6.667	ID 0.000	1773884.000	ID 50.667	ID 2 667
σ		279.635	98.214	40.467	24.983	ID 6.110	ID 0.000	37254 315	ID 16.653	ID 2 309
%RSD		6.431	3.003	7.987	3.032	ID 91.652	ID 0.000	2.100	ID 32.869	ID 86 603

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	17:43:29	740.038	1736.208	856 051	844.049	1824.230	1331381.200
2	17:43:54	796.044	1864.240	788 043	716.035	1768.216	1348098.800
3	17:44:20	708.035	1680.195	820 046	744.038	1552.166	1369186.800
x		748.039	1760.214	821 380	768.041	1714.871	1349555.600
σ		44.547	94.342	34 023	67.298	143.662	18944.853
%RSD		5.955	5.360	4.142	8.762	8.377	1.404

Q73287-001/PBW001 6/5/2018 17:48:50 QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	17:49:15	600998.370	92.001	12286.407	153002.400	9005 593	1048.076	1360.128	10163.122	3476 834
2	17:49:41	603493.490	96.001	12703.125	153349.620	7291 667	1144.090	1204.100	8396.862	3636.912
3	17:50:06	606679.770	64.000	13472.512	154861.260	7339.715	852.050	1116.086	8196.633	3556 873
x		603723.880	84.001	12820.681	153737.760	7878.992	1014.739	1226.771	8918.872	3556 873
σ		2847.700	17.436	601.728	988.350	975.961	148.847	123.590	1082.193	80 039
%RSD		0.472	20.757	4.693	0.643	12 387	14.668	10.074	12.134	2 250

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	17:49:15	109119.450	T 17129683.000	257022.760	48.000	1712 202	1465051.100	80.000	178098.040	4897 654
2	17:49:41	106509.040	T 17388701.000	259998.130	20.000	1624.182	1462781.900	84.000	181677.260	4785 580
3	17:50:06	105332.020	T 17550150.000	260201.230	20.000	1572.170	1464493.500	60.000	184601.800	4765 566
x		106986.830	T 17356178.000	259074.040	29.333	1636.185	1464108.800	74.667	181459.030	4816 267
σ		1938.393	T 212112.160	1779.361	16.166	70.783	1182.527	12.858	3257.367	71.191
%RSD		1.812	T 1.222	0.687	55.111	4 326	0.081	17.221	1.795	1.478

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	17:49:15	60439.001	796.044	141006.700	852.050	336 008	232.004	7904.309	5490.079	380 010
2	17:49:41	60874.625	852.050	136835.880	768.041	196 003	252.004	7824.222	5285.927	300 006
3	17:50:06	62601.242	820.046	135405.380	800.044	224 003	192.003	7443.821	5041.753	320 007
x		61304.956	822.713	137749.320	806.712	252 005	225.337	7724.117	5272.587	333 341
σ		1143.551	28.098	2910.238	42.400	74 084	30.551	246.024	224.460	41 635
%RSD		1.865	3.415	2.113	5.256	29 398	13.558	3.185	4.257	12.490

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	17:49:15	864.052	676.032	860.051	5626.183	2392 395	148.002	120.001	728436.600	1324.121
2	17:49:41	1064.078	640.028	732.037	5434.037	2400 398	84.000	124.001	726455.780	1484.152
3	17:50:06	988.067	516.018	744.038	5930.426	2320 371	120.001	156.002	720225.520	1280.113
x		972.066	610.693	778.709	5663.549	2371 055	117.334	133.335	725039.300	1362.795
σ		100.969	83.943	70.700	250.295	44 075	32.084	19.732	4284.893	107 377
%RSD		10.387	13.746	9.079	4.419	1 859	27.344	14.799	0.591	7 879

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	17:49:15	840.049	1636.185	364.009	148.002	4 000	108.001	68.000	148.002	988912.080
2	17:49:41	932.060	1752.212	504.018	116.001	12 000	100.001	48.000	164.002	982341.980
3	17:50:06	696.033	1632.184	396.011	80.000	12 000	80.000	32.000	196.003	986383.760
x		822.714	1673.527	421.346	114.668	9 333	96.001	49.334	169.335	985879 270
σ		118.964	68.173	73.362	34.020	4 619	14.422	18.037	24.441	3313.973
%RSD		14.460	4.074	17.411	29.668	49.487	15.023	36.562	14.433	0.336

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	17:49:15	1944.261	1436.142	228.004	440.013	ID 0 000	ID 4.000	1690267 300	ID 32.000	ID 4 000
2	17:49:41	2176.327	1608.178	208.003	376.010	ID 4 000	ID 4.000	1705113 500	ID 24.000	ID 0 000
3	17:50:06	2320.371	1780.219	156.002	284.006	ID 4 000	ID 4.000	1722855 800	ID 28.000	ID 0 000
x		2146.986	1608.180	197.336	366.676	ID 2 667	ID 4.000	1706078.900	ID 28.000	ID 1 333
σ		189.764	172.038	37.167	78.422	ID 2 309	ID 0.000	16315.716	ID 4.000	ID 2 309
%RSD		8.839	10.698	18.835	21.387	ID 86 603	ID 0.000	0.956	ID 14.286	ID 173 205

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	17:49:15	348.008	956.063	464.015	280.005	900 056	1330952.100
2	17:49:41	404.011	920.058	344.008	280.005	668 031	1352673.400
3	17:50:06	404.011	840.049	276.005	276.005	620 027	1346846.900
x		385.344	905.390	361.343	278.672	729 371	1343490.800
σ		32.333	59.382	95.196	2.309	149.753	11242.840
%RSD		8.391	6.559	26.345	0.829	20 532	0.837

Q73287-002/LCS001 6/5/2018 17 54:37 QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	17:55:03	570567.950	1884.245	14185 872	T 2729748 800	T 1932104.400	268143.020	309215.560	94338.106	3320.761
2	17:55:28	581400.230	1968.267	15159 841	T 2823138.700	T 2009258 500	273514.280	317419.090	96814.448	3032 635
3	17:55:54	584789.320	1932.258	14290 076	T 2852570.700	T 2016202 800	277726.020	321204.540	96899.574	2876 571
x		578919.170	1928.257	14545 263	T 2801819.400	T 1985855 200	273127.780	315946.400	96017.376	3076 655
σ		7428.227	42.154	534.784	T 64126 319	T 46678.922	4803.175	6128.661	1454.913	225 343
%RSD		1.283	2.186	3 677	T 2 289	T 2 351	1.759	1.940	1.515	7 324

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	17:55:03	100946.260	T 16253503.000	T 1809693 200	3933 067	63965 075	1385662.700	48.000	218365.320	31319 537
2	17:55:28	100633.960	T 16410340.000	T 1834470 300	3656.923	63856.120	1383382.300	20.000	215666.270	31544 510
3	17:55:54	98930.745	T 16370897.000	T 1812209.100	3909 054	62855.428	1391407.300	32.000	216379.050	30941.920
x		100170.320	T 16344914.000	T 1818790.900	3833 015	63558 875	1386817.500	33.333	216803.540	31268 656
σ		1084.801	T 81582.990	T 13636.944	152.972	611 633	4135.232	14.048	1398.702	304 500
%RSD		1.083	T 0.499	T 0.750	3.991	0.962	0.298	42.143	0.645	0.974

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	17:55:03	53649.871	22450.725	1609605 500	35020.420	17757.732	4221.229	6875.260	24288.638	10002 899
2	17:55:28	54234.196	22707.523	1600184.700	35402 268	17356.762	4165.197	7055.433	23935.465	9978 866
3	17:55:54	53210.650	22234.058	1614910 500	33866.956	17416.906	4029.120	7059.437	24244.490	9738 540
x		53698.239	22464.102	1608233 600	34763 215	17510.466	4138.515	6996.710	24156.198	9906.768
σ		513.485	237.016	7458.155	799 319	216 239	98.795	105.198	192.430	146.185
%RSD		0.956	1.055	0.464	2 299	1 235	2.387	1.504	0.797	1.476

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	17:55:03	8737.264	2008.278	7023.402	7712.102	5946.439	1824.230	120.001	691587.070	1004 070
2	17:55:28	8913.479	2116.309	6859 245	7692 080	5898.400	1796.223	132.001	694626.160	964 064
3	17:55:54	8601.102	2008.278	7059.437	8348 807	5798 319	1724.205	124.001	691898.830	992 068
x		8750.615	2044.289	6980 695	7917 663	5881 052	1781.552	125.334	692704.020	986.734
σ		156.616	62.372	106.711	373 516	75 568	51.601	6.110	1671.903	20 529
%RSD		1.790	3.051	1 529	4.717	1 285	2.896	4.875	0.241	2 081

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	17:55:03	560.022	1228.104	804 045	21311 292	360 009	21275.186	5353.977	12442.673	959090.400
2	17:55:28	664.030	1368.129	868 052	21415 599	364 009	21279.198	5666.214	12995.643	951482.570
3	17:55:54	732.037	1320.120	820 046	20693 505	332 008	20368.586	5454.052	13280.158	958967.630
x		652.030	1305.451	830.714	21140.132	352 009	20974.323	5491.414	12906.158	956513 530
σ		86.633	71.156	33 311	390 290	17.436	524.587	159.437	425.853	4357.371
%RSD		13.287	5.451	4 010	1 846	4.953	2.501	2.903	3.300	0.456

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	17:55:03	36049.447	28387.495	31564 597	55157.123	ID 8 000	ID 0.000	1653791 800	ID 64.000	ID 0 000
2	17:55:28	36435.370	28608.361	31620 841	55656.923	ID 8 000	ID 0.000	1668775.100	ID 28.000	ID 0 000
3	17:55:54	36021.308	28086.325	32227 505	56249.472	ID 24 000	ID 0.000	1683716.400	ID 36.000	ID 0 000
x		36168.709	28360.727	31804 315	55687 840	ID 13 333	ID 0.000	1668761.100	ID 42.667	ID 0 000
σ		231.364	262.046	367 571	546 830	ID 9 238	ID 0.000	14962 340	ID 18.903	ID 0 000
%RSD		0.640	0.924	1.156	0.982	ID 69 282	ID 0.000	0 897	ID 44.305	ID 0 000

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	17:55:03	23566.258	57374.239	19385 896	18106 593	42769 848	1313985.200
2	17:55:28	24148.169	58495.147	19690.717	17793 820	42741 682	1303790.200
3	17:55:54	24441.149	58934.687	19911 318	17918.126	43478 043	1313071.700
x		24051.859	58268.024	19662 644	17939 513	42996 524	1310282.300
σ		445.326	804.635	263 833	157.480	417 245	5640.899
%RSD		1.852	1.381	1 342	0 878	0.970	0.431

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User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	18:00:49	566066.660	276.005	11929 812	T 15655995.000	1161994 600	150372.190	174975.330	399150.510	7363.740
2	18:01:15	568360.170	248.004	12655 041	T 15911587.000	1198661 300	155143.200	178704.700	412127.540	7744.136
3	18:01:42	578280.840	276.005	12478.735	T 16156447.000	1196110.900	155241.270	180885.830	411801.780	7447 825
x		570902.550	266.672	12354 529	T 15908010.000	1185588.900	153585.550	178188.620	407693.270	7518 567
σ		6491.868	16.166	378 232	T 250245.250	20473 031	2783.284	2988.855	7400.046	199 821
%RSD		1.137	6.062	3 061	T 1.573	1.727	1.812	1.677	1.815	2 658

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	18:00:49	95124.284	T 15638027.000	T 2830306 000	13949.414	230207 510	1394204.300	3552.871	254069.300	6302.740
2	18:01:15	93742.451	T 15799683.000	T 2855184 800	13444.460	228667.900	1377614.800	3464.828	251104.600	6338.771
3	18:01:42	92109.713	T 16235337.000	T 2867128 600	13728.993	235658 600	1392291.500	3328.764	255883.490	6002.485
x		93658.816	T 15891016.000	T 2850873 200	13707.622	231511 340	1388036.800	3448.821	253685.790	6214 665
σ		1509.025	T 308951.580	T 18786.113	253.154	3673 207	9076.319	112.907	2412.416	184 635
%RSD		1.611	T 1.944	T 0 659	1.847	1 587	0.654	3.274	0.951	2.971

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	18:00:49	84068.850	38900.133	765376.750	15672.931	248 004	488.016	2184.329	112754.460	54778 266
2	18:01:15	81099.294	40231.372	766950 850	15143.808	376 010	576.023	1904.250	113298.860	53041.416
3	18:01:42	85371.952	39298.272	T 750017.150	15676.940	272 005	524.019	1868.241	111154.020	53940 013
x		83513.366	39476.592	T 760781 590	15497.893	298 673	529.353	1985.607	112402.450	53919 898
σ		2189.823	683.299	T 9355.438	306.653	68 042	44.245	173.038	1114.907	868 600
%RSD		2.622	1.731	T 1 230	1.979	22.781	8.358	8.715	0.992	1 611

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	18:00:49	45925.069	7992.405	34128.178	6230.677	1236.105	80.000	100.001	678868.620	652 029
2	18:01:15	45691.600	7800.196	33248.101	6274.716	1096 083	152.002	144.001	684529.850	696 033
3	18:01:42	46436.312	7668.055	33714 247	6302.740	1140 090	100.001	116.001	683354.280	604 025
x		46017.660	7820.219	33696 842	6269.378	1157.426	110.668	120.001	682250.910	650 696
σ		380.892	163.100	440 297	36.326	71 603	37.167	22.271	2987.546	46 019
%RSD		0.828	2.086	1 307	0.579	6.186	33.584	18.559	0.438	7 072

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	18:00:49	404.011	760.040	420 012	128.001	4 000	112.001	52.000	228.004	905572.540
2	18:01:15	604.025	1064.078	296 006	156.002	0 000	192.003	144.001	412.012	925805.930
3	18:01:42	532.020	860.051	336 008	112.001	12 000	164.002	36.000	240.004	923153.350
x		513.352	894.723	350 675	132.001	5 333	156.002	77.334	293.340	918177.270
σ		101.305	154.956	63 291	22.271	6.110	40.596	58.287	102.948	10996.292
%RSD		19.734	17.319	18 048	16.872	114 564	26.023	75.371	35.095	1.198

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	18:00:49	1292.115	888.054	44761 824	76744.247	ID 988 067	ID 460.015	1594943 600	ID 612.026	ID 644 029
2	18:01:15	1444.144	924.059	44858.419	80836.381	ID 1004 070	ID 648.029	1619645 500	ID 612.026	ID 736 037
3	18:01:42	1408.137	1084.081	45264.935	80120.496	ID 924 059	ID 560.022	1653255 600	ID 600.025	ID 600 025
x		1381.465	965.398	44961.726	79233.708	ID 972 065	ID 556.022	1622614.900	ID 608.026	ID 660 030
σ		79.446	104.347	266.991	2185.448	ID 42 338	ID 94.071	29269.151	ID 6.929	ID 69.404
%RSD		5.751	10.809	0 594	2.758	ID 4 355	ID 16.919	1 804	ID 1.140	ID 10 515

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	18:00:49	160.002	488.016	20300 396	17833.918	43683 272	1259927.200
2	18:01:15	380.010	964.064	21126.753	18066.493	43948 871	1271882.900
3	18:01:42	160.002	520.019	21423 622	18098.573	44737 676	1284269.100
x		233.338	657.366	20950 257	17999.662	44123 273	1272026.400
σ		127.022	266.090	582 042	144.431	548.410	12171.578
%RSD		54.437	40.478	2.778	0.802	1 243	0.957

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User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	18:06:37	552941.010	188 002	12050.011	T 15652425 000	T 1867515.100	257122 200	298724.970	18419.380	6310.747
2	18:07:03	564987.090	144 001	11617.305	T 15962462 000	T 1932383.100	266338 260	309215.560	19073.068	6150 609
3	18:07:29	577878.570	164 002	12506.784	T 16485184 000	T 1956119.200	267624 370	311619.320	20172.038	6470 888
x		565268.890	165 335	12058.033	T 16033357 000	T 1918672.500	263694.940	306519.950	19221.495	6310.748
σ		12471.166	22 031	444.794	T 420881.760	T 45865.662	5728 374	6856.805	885.706	160.139
%RSD		2.206	13 325	3.689	T 2 625	T 2.390	2.172	2.237	4.608	2 538

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	18:06:37	92150.223	T 16050176 000	T 3252075.700	13841 206	228114.870	1318249.700	308.007	248852.880	4997.723
2	18:07:03	94009.882	T 16742619 000	T 3374512.600	14542 578	237315.380	1359083.200	404.011	258850.110	5173 846
3	18:07:29	92522.927	T 16758998 000	T 3347372.200	14382 258	241638.790	1376185.500	284.006	268122.280	5081.781
x		92894.344	T 16517264 000	T 3324653.500	14255 348	235689.680	1351172.800	332.008	258608.420	5084.450
σ		983.893	T 404593 260	T 64302.452	367 506	6906.971	29766.950	63.501	9636.970	88 092
%RSD		1.059	T 2.450	T 1.934	2 578	2.931	2.203	19.126	3.726	1.733

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	18:06:37	82393.775	28507.966	183559.820	2020 282	104.001	324 007	1280.113	435768.210	211835.730
2	18:07:03	86072.163	28696.709	183584.430	2216 339	104.001	300 006	1176.095	453904.290	220413.960
3	18:07:29	87270.367	29034 049	183736.210	2052 291	76.000	356 009	1320.120	449770.080	216267 800
x		85245.435	28746 242	183626.820	2096 304	94.667	326 674	1258.776	446480.860	216172 500
σ		2541.239	266 516	95.528	105.178	16.166	28 096	74.345	9504.925	4289.912
%RSD		2.981	0.927	0.052	5 017	17.077	8 601	5.906	2.129	1.984

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	18:06:37	40995.637	7684 072	30789.272	6194 647	988.067	128 001	136.001	657874 390	544 020
2	18:07:03	43272.820	7451 830	31267.312	6162 619	968.065	84 000	100.001	681832.450	576 023
3	18:07:29	42403.705	7427 805	31592.719	6214 664	904.056	108 001	76.000	690875.790	692 033
x		42224.054	7521 235	31216.434	6190 643	953.396	106 667	104.001	676860 880	604 025
σ		1149.172	141 531	404.133	26 252	43.884	22 031	30.200	17053.168	77 878
%RSD		2.722	1 882	1.295	0.424	4.603	20 654	29.038	2 519	12 893

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	18:06:37	408.011	848 050	376.010	64 000	0.000	88 001	76.000	280.005	895036.080
2	18:07:03	448.014	1020 072	284.006	80 000	8.000	144 001	64.000	284.006	944876.120
3	18:07:29	404.011	952 063	300.006	80 000	8.000	80 000	76.000	372.010	949452.360
x		420.012	940 061	320.007	74 667	5.333	104 001	72.000	312.007	929788.190
σ		24.332	86 637	49.155	9 238	4.619	34 872	6.928	52.002	30183.061
%RSD		5.793	9 216	15.361	12 372	86.603	33 530	9.623	16.667	3.246

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	18:06:37	956.063	696 033	49810.609	90505 691	ID 288.006	ID 240 004	1597245.700	ID 276.005	ID 388 010
2	18:07:03	940.061	836 048	51953.578	94269 219	ID 292.006	ID 268 005	1640937.700	ID 280.005	ID 408 011
3	18:07:29	1192.098	856 051	53194.532	93519 599	ID 288.006	ID 252 004	1683796.200	ID 312.007	ID 416 012
x		1029.407	796 044	51652.906	92764 836	ID 289.339	ID 253 338	1640659.900	ID 289.339	ID 404 011
σ		141.121	87.187	1711.881	1992 056	ID 2.309	ID 14 048	43275.882	ID 19.732	ID 14.423
%RSD		13.709	10.953	3.314	2.147	ID 0.798	ID 5 545	2.638	ID 6.820	ID 3 570

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	18:06:37	120.001	352 009	24260.544	21323 327	52179.190	1260697.500
2	18:07:03	128.001	496 017	25424.524	21836 853	53182.444	1291136.100
3	18:07:29	148.002	336 008	25677.413	21547.990	54576.754	1293437.500
x		132.001	394 678	25120.827	21569 390	53312.796	1281757.000
σ		14.422	88.126	755.681	257.431	1204.085	18274.318
%RSD		10.926	22 329	3.008	1.194	2.259	1.426

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User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	18:12:24	543518.660	72 000	11244.718	T 20355552 000	T 3278840.800	453121 510	522291.680	11953.852	14290 076
2	18:12:50	548596.730	88 001	11593.266	T 20867128 000	T 3428248.500	468247.130	542493.990	12490.756	14258 013
3	18:13:16	554876.920	72 000	12138.158	T 21331922 000	T 3483524.500	473474.960	547136.270	13576.707	14478.450
x		548997.440	77 334	11658.714	T 20851534 000	T 3396871.300	464947 870	537307.320	12673.771	14342.180
σ		5689.723	9 238	450.301	T 488371.950	T 105887.920	10570 221	13209.451	826.762	119 097
%RSD		1.036	11.945	3.862	T 2 342	T 3.117	2 273	2.458	6.523	0 830

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	18:12:24	87169.159	T 14343531 000	T 2668734.000	34156 310	571380.370	1318654.300	644.029	258866.680	7992.405
2	18:12:50	87302.753	T 14572359 000	T 2725022.500	34759.166	583031.820	1322373.600	440.013	265828.030	8368 830
3	18:13:16	87080.098	T 14851461 000	T 2736407.200	35659 525	588348.860	1334395.600	440.013	274020.890	8464.941
x		87184.004	T 14589117 000	T 2710054.600	34858 334	580920.350	1325141.200	508.018	266238.540	8275 392
σ		112.067	T 254379 380	T 36234.580	756.498	8679.060	8227.497	117.788	7585.439	249.741
%RSD		0.129	T 1.744	T 1.337	2.170	1.494	0.621	23.186	2.849	3 018

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	18:12:24	85129.121	24047 836	1875354.200	40496 844	124.001	524 019	884.054	47958.176	23465.933
2	18:12:50	88440.424	24344 826	1920335.800	42186.443	120.001	552 021	1056.077	47849.461	23887 307
3	18:13:16	88246.077	24433.122	1907766.000	42291 050	128.001	428 013	1124.087	47716.589	23510 076
x		87271.874	24275 261	1901152.000	41658.112	124.001	501 351	1021.406	47841.408	23621.105
σ		1858.221	201 843	23208.717	1007 047	4.000	65 038	123.716	120.995	231 591
%RSD		2.129	0 831	1.221	2.417	3.226	12.972	12.112	0.253	0.980

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	18:12:24	74468.689	12306.441	53774.792	5910.409	784.042	100 001	140.001	655745 820	384 010
2	18:12:50	74751.580	12406 612	55475.540	6082 552	832.048	52 000	128.001	660021 040	436 013
3	18:13:16	74206.015	12033.984	55592.431	5758 287	848.050	84 000	148.002	652215 550	428 013
x		74475.428	12249 012	54947.588	5917 083	821.380	78 667	138.668	655994.140	416 012
σ		272.845	192 838	1017.351	162 235	33.310	24.441	10.067	3908 666	28 002
%RSD		0.366	1 574	1.851	2.742	4.055	31 068	7.260	0 596	6.731

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	18:12:24	256.005	628 027	204.003	92 001	4.000	76 000	28.000	100.001	878833.150
2	18:12:50	268.005	608 026	264.005	92 001	4.000	112 001	28.000	92.001	890595.690
3	18:13:16	364.009	680 032	244.004	80 000	4.000	136 001	24.000	92.001	892817.820
x		296.006	638 695	237.337	88 001	4.000	108 001	26.667	94.667	887415.550
σ		59.197	37.170	30.551	6.928	0.000	30 200	2.309	4.619	7515.163
%RSD		19.999	5 820	12.873	7 873	0.000	27.963	8.660	4.879	0.847

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	18:12:24	568.022	484 016	81422.893	146138 890	ID 4.000	ID 20 000	1574067.500	ID 32.000	ID 16 000
2	18:12:50	740.038	584 024	81475.479	146400 090	ID 40.000	ID 4 000	1571496.800	ID 44.000	ID 24 000
3	18:13:16	920.058	576 023	84522.077	148624 690	ID 8.000	ID 20 000	1593248.300	ID 32.000	ID 8 000
x		742.706	548 021	82473.483	147054 560	ID 17.333	ID 14 667	1579604.200	ID 36.000	ID 16 000
σ		176.033	55 574	1774.329	1366 033	ID 19.732	ID 9 238	11885.837	ID 6.928	ID 8 000
%RSD		23.702	10.141	2.151	0.929	ID 113.836	ID 62.984	0.752	ID 19.245	ID 50 000

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	18:12:24	108.001	232 004	3224.717	2672.493	6731.125	1212182.000
2	18:12:50	60.000	224 003	3256.732	2944 598	6943.325	1232636.300
3	18:13:16	84.000	192 003	3432.813	2724 512	7099.476	1252648.200
x		84.001	216 003	3304.754	2780 534	6924.642	1232488.900
σ		24.000	21.167	112.052	144.444	184.885	20233.525
%RSD		28.572	9.799	3.391	5.195	2.670	1.642

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User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	18:18:11	539971.640	56 000	12086.071	T 27950303 000	T 6313886.700	871704 240	1019169.900	5173.846	17224.447
2	18:18:37	544031.050	28 000	11885.740	T 28618748 000	T 6455978.500	885275.100	1023496.800	5398.010	17144 257
3	18:19:03	558491.380	44 000	11993.918	T 29222648 000	T 6595631.600	902692 200	1049421.900	5394.007	17833.918
x		547498.020	42 667	11988.576	T 28597233 000	T 6455165.600	886557.180	1030696.200	5321.954	17400 874
σ		9734.478	14 048	100.272	T 636445 020	T 140874.210	15533.712	16360.634	128.281	377.165
%RSD		1.778	32.924	0.836	T 2 226	T 2.182	1.752	1.587	2.410	2.168

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	18:18:11	90538.092	T 15194417 000	T 2887687.200	50277 819	862138.950	1314856.000	372.010	261266.550	6090 559
2	18:18:37	89489.183	T 15150647 000	T 2872058.600	50930 352	858449.010	1279994.500	496.017	266562.280	6014.495
3	18:19:03	89274.560	T 15531128 000	T 2939147.400	51623 229	876354.150	1324341.000	556.021	273452.000	6182 636
x		89767.278	T 15292064 000	T 2899631.100	50943 800	865647.370	1306397.200	474.683	267093.610	6095 897
σ		676.115	T 208189 010	T 35102.933	672 806	9454.110	23352.050	93.843	6110.074	84.198
%RSD		0.753	T 1 361	T 1.211	1 321	1.092	1.788	19.770	2.288	1 381

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	18:18:11	84295.460	3536 863	385298.100	7483 863	124.001	528 019	976.066	6098.565	2936 595
2	18:18:37	85760.500	3748.970	378257.310	7491 871	152.002	484 016	1212.101	6194.647	2708 506
3	18:19:03	90205.988	3917 058	385542.600	7740.132	156.002	504 018	1024.072	6354.785	2872 569
x		86753.983	3734 297	383032.670	7571.955	144.001	505 351	1070.747	6215.999	2839 223
σ		3077.961	190 522	4137.389	145.700	17.436	22 032	124.748	129.438	117 644
%RSD		3.548	5.102	1.080	1.924	12.108	4 360	11.651	2.082	4.144

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	18:18:11	49689.784	8645.154	36801.212	5822 338	800.044	92 001	156.002	649398 640	604 025
2	18:18:37	48111.185	8348 807	36346.928	6546.956	916.058	76 000	120.001	628128.770	596 025
3	18:19:03	49697.839	8553 045	36559.996	6426 849	792.043	96 001	140.001	651905.420	580 023
x		49166.269	8515 668	36569.378	6265 381	836.048	88 001	138.668	643144 280	593 358
σ		913.739	151 668	227.287	388 358	69.406	10 583	18.037	13064 074	12 221
%RSD		1.858	1.781	0.622	6.198	8.302	12 026	13.008	2 031	2 060

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	18:18:11	416.012	964 064	260.005	52 000	4.000	28 000	28.000	24.000	901451.000
2	18:18:37	420.012	920 058	264.005	64 000	4.000	84 000	12.000	60.000	876358.650
3	18:19:03	456.014	1072 079	284.006	52 000	0.000	76 000	12.000	52.000	902204.720
x		430.679	985.401	269.338	56 000	2.667	62 667	17.333	45.333	893338.120
σ		22.032	78 224	12.859	6.928	2.309	30 288	9.238	18.903	14709.487
%RSD		5.116	7.938	4.774	12 372	86.603	48 331	53.294	41.698	1.647

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	18:18:11	672.031	436 013	45369.586	80799.978	ID 12.000	ID 8 000	1609195.700	ID 44.000	ID 28 000
2	18:18:37	656.030	488 016	44737.676	78858.769	ID 12.000	ID 4 000	1598665.800	ID 56.000	ID 12 000
3	18:19:03	724.036	636 028	45776.131	81936 635	ID 4.000	ID 20 000	1644954.000	ID 36.000	ID 4 000
x		684.032	520 019	45294.464	80531.794	ID 9.333	ID 10 667	1617605.200	ID 45.333	ID 14 667
σ		35.556	103.777	523.288	1556 360	ID 4.619	ID 8 327	24262.899	ID 10.067	ID 12 220
%RSD		5.198	19.956	1.155	1.933	ID 49.487	ID 78 063	1.500	ID 22.205	ID 83 320

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	18:18:11	68.000	124 001	2568.455	2108 307	5353.977	1241179.000
2	18:18:37	92.001	172 002	2616.472	2236 345	5181.852	1247414.000
3	18:19:03	68.000	164 002	2388.394	2124 311	5261.910	1274169.200
x		76.000	153 335	2524.440	2156 321	5265.913	1254254.100
σ		13.857	25.717	120.241	69.763	86.132	17526.479
%RSD		18.232	16.772	4.763	3 235	1.636	1.397

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User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	18:23:57	550057.480	80 000	12602.950	T 27469117 000	T 5881642.500	813843 630	934376.470	11857.694	6767.158
2	18:24:23	556632.170	76 000	12554.867	T 28206440 000	T 5964835.200	817989 820	953863.190	12839.365	6574.981
3	18:24:49	568031.860	52 000	12827.343	T 28826971 000	T 6175162.600	833295 240	969377.860	12386.577	6655 055
x		558240.500	69 334	12661.720	T 28167509 000	T 6007213.500	821709 560	952539.170	12361.212	6665.731
σ		9094.486	15.144	145.435	T 679763 530	T 151279.360	10245.419	17538.219	491.327	96 532
%RSD		1.629	21 842	1.149	T 2.413	T 2.518	1 247	1.841	3.975	1.448

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	18:23:57	176626.670	T 15278666 000	T 3414969.100	73862 533	1252412.200	1313771.100	368.009	324741.040	4365 315
2	18:24:23	175618.610	T 15548621 000	T 3464167.500	74933.444	1264961.700	1305667.500	352.009	338556.270	4469 378
3	18:24:49	178466.950	T 16121053 000	T 3568892.000	77395.115	1303804.400	1333551.300	356.009	350622.210	4825 606
x		176904.080	T 15649447 000	T 3482676.200	75397 030	1273726.100	1317663.300	358.676	337973.170	4553.433
σ		1444.288	T 430148.970	T 78612.939	1811 344	26793.693	14343.605	8.327	12950.432	241 384
%RSD		0.816	T 2.749	T 2.257	2.402	2.104	1.089	2.322	3.832	5 301

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	18:23:57	104978.950	2492.429	130341.790	2580.459	140.001	712 035	892.055	20151.982	9410.106
2	18:24:23	111336.800	2480.425	129869.420	2468.420	116.001	632 028	1188.097	19839.121	9410.106
3	18:24:49	119025.570	2508.434	132752.970	2488.427	128.001	744 038	1184.097	20164.016	9806 631
x		111780.440	2493.762	130988.060	2512.436	128.001	696 034	1088.083	20051.706	9542 281
σ		7033.808	14 052	1546.598	59.754	12.000	57 694	169.777	184.203	228.934
%RSD		6.293	0 564	1.181	2 378	9.375	8 289	15.603	0.919	2 399

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	18:23:57	15965.569	3736.963	13127.881	7836 235	764.040	180 002	156.002	638477.170	9918.784
2	18:24:23	16302.317	3636.912	13640.827	8292.742	816.046	140 001	148.002	635861 500	10179.144
3	18:24:49	16707.238	3813 003	13496.557	8064.485	880.053	136 001	148.002	653591 640	10563 694
x		16325.041	3728.960	13421.755	8064.487	820.047	152 002	150.668	642643.440	10220 541
σ		371.356	88 318	264.528	228 254	58.110	24 332	4.619	9571.193	324.442
%RSD		2.275	2 368	1.971	2 830	7.086	16 007	3.066	1.489	3.174

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	18:23:57	6410.835	16418 579	276.005	64 000	0.000	36 000	24.000	52.000	852890.520
2	18:24:23	6667.066	16767 377	252.004	28 000	24.000	28 000	16.000	88.001	858130.380
3	18:24:49	6434.856	17300 628	232.004	52 000	4.000	32 000	16.000	60.000	891952.330
x		6504.252	16828 861	253.338	48 000	9.333	32 000	18.667	66.667	867657.740
σ		141.511	444 227	22.031	18 330	12.858	4 000	4.619	18.903	21202.220
%RSD		2.176	2 640	8.696	38.188	137.766	12 500	24.744	28.355	2.444

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	18:23:57	632.028	472 015	71709.064	128012 820	ID 24.000	ID 36 000	1536425.100	ID 76.000	ID 88 001
2	18:24:23	752.039	588 024	73745.348	130105 600	ID 40.000	ID 24 000	1570283.000	ID 136.001	ID 92 001
3	18:24:49	768.041	608 026	74783.911	134932 680	ID 44.000	ID 48 000	1611600.700	ID 84.000	ID 80 000
x		717.369	556 022	73412.774	131017 040	ID 36.000	ID 36 000	1572769.600	ID 98.667	ID 86 667
σ		74.340	73.436	1564.169	3548 824	ID 10.583	ID 12 000	37649.448	ID 32.579	ID 6.110
%RSD		10.363	13 207	2.131	2.709	ID 29.397	ID 33 333	2.394	ID 33.019	ID 7 050

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	18:23:57	56.000	184 002	6350.782	5446 046	13825.176	1192924.000
2	18:24:23	56.000	188 002	6743.136	5313.948	14073.653	1211975.300
3	18:24:49	72.000	176 002	7339.715	5710 249	14819.137	1233583.000
x		61.334	182 669	6811.211	5490 081	14239.322	1212827.400
σ		9.238	6.110	497.969	201.787	517.276	20342.861
%RSD		15.061	3 345	7.311	3 675	3.633	1.677

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User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	18:29:44	539614.450	32.000	12274.387	T 104389560.000	9958.839	1256.109	1448.145	11156.582	4173 201
2	18:30:10	545598 580	32.000	12342.502	T 107954570.000	10079.005	1448.145	1560.168	10467.555	4265 255
3	18:30:36	557990.940	44.000	11929.812	T 107865750.000	10066.988	1452.146	1712.202	10054.971	4517.408
x		547734 660	36.000	12182.234	T 106736630.000	10034.944	1385.466	1573.505	10559.703	4318 621
σ		9372 619	6.928	221.241	T 2033105.600	66.182	112.045	132.533	556.556	178 201
%RSD		1.711	19.245	1.816	T 1.905	0.660	8.087	8.423	5.271	4.126

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	18:29:44	185442.870	T 16004955.000	1188356.900	68.000	12166.205	1269862.200	384.010	306775.050	4525.413
2	18:30:10	187942.030	T 16411273.000	1206172.000	120.001	12154.184	1277356.000	432.013	312441.620	4133.178
3	18:30:36	186998.080	T 16505162.000	1213492.600	60.000	12290.414	1298289.200	420.012	315197.180	4505.400
x		186794.320	T 16307130.000	1202673.800	82.667	12203.601	1281835.800	412.012	311471.280	4387.997
σ		1261.979	T 265868.750	12927.833	32.579	75.422	14733.477	24.981	4294.094	220.906
%RSD		0.676	T 1.630	1.075	39.409	0.618	1.149	6.063	1.379	5 034

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	18:29:44	99595.761	5838.351	211967.500	2448.414	40.000	352.009	844.049	15656.896	7247 623
2	18:30:10	104252.580	5950.442	214245.030	2392.395	56.000	236.004	852.050	15805.218	7459 838
3	18:30:36	104001.000	6034.512	211316.900	2532.442	28.000	248.004	872.052	15925.481	7427 805
x		102616.450	5941.102	212509.810	2457.750	41.333	278.672	856.051	15795.865	7378.422
σ		2619.013	98.413	1537.548	70.489	14.048	63.794	14.424	134.536	114.402
%RSD		2.552	1.656	0.724	2.868	33.986	22.892	1.685	0.852	1 550

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	18:29:44	11465.063	2492.429	8432.904	7079.457	784.042	108.001	100.001	619803.700	17200 390
2	18:30:10	11689.421	2600.467	8833.381	7343.719	740.038	72.000	136.001	629147.730	17056 049
3	18:30:36	12290.414	2828.552	9097.707	7331.707	800.044	84.000	76.000	638647 220	17292 609
x		11814.966	2640.482	8787.997	7251.628	774.708	88.001	104.001	629199 550	17183 016
σ		426.758	171.597	334.717	149.226	31.073	18.331	30.200	9421 870	119 233
%RSD		3.612	6.499	3.809	2.058	4.011	20.830	29.038	1.497	0 694

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	18:29:44	10816.066	28234.901	240.004	32.000	28.000	16.000	28.000	100.001	864442.700
2	18:30:10	11076.459	28949.713	304.006	4.000	24.000	32.000	28.000	80.000	880795.330
3	18:30:36	10707.906	28483.872	312.007	32.000	8.000	24.000	32.000	108.001	891686.390
x		10866.810	28556.162	285.339	22.667	20.000	24.000	29.333	96.001	878974.800
σ		189.444	362.848	39.465	16.166	10.583	8.000	2.309	14.422	13712.782
%RSD		1.743	1.271	13.831	71.320	52.915	33.333	7.873	15.023	1.560

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	18:29:44	520.019	356.009	104.001	140.001	ID 12.000	ID 20.000	1569865.400	ID 48.000	ID 16 000
2	18:30:10	528.019	412.012	68.000	168.002	ID 4.000	ID 8.000	1574908.200	ID 28.000	ID 24 000
3	18:30:36	600.025	476.016	88.001	128.001	ID 20.000	ID 8.000	1604881.400	ID 36.000	ID 20 000
x		549.354	414.679	86.667	145.335	ID 12.000	ID 12.000	1583218.300	ID 37.333	ID 20 000
σ		44.064	60.048	18.037	20.527	ID 8.000	ID 6.928	18929.470	ID 10.066	ID 4 000
%RSD		8.021	14.481	20.812	14.124	ID 66.667	ID 57.735	1.196	ID 26.964	ID 20 000

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	18:29:44	68.000	116.001	1744.210	1380.131	3632.910	1207246.900
2	18:30:10	32.000	112.001	1944.261	1612.179	3744.968	1213849.700
3	18:30:36	68.000	108.001	1768.216	1624.182	3756.974	1245527.000
x		56.000	112.001	1818.896	1538.831	3711.617	1222207.800
σ		20.785	4.000	109.231	137.569	68.426	20463.022
%RSD		37.115	3.571	6.005	8.940	1.844	1.674

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User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	18:35:30	521802.240	42624.998	11296.799	T 99638499.000	8657.168	1196.099	1524.160	6574.981	4461 373
2	18:35:56	530552.630	43699.369	11032.392	T 103547220.000	8785.322	1328.122	1404.136	7295.671	4061.138
3	18:36:22	541865.470	44500.220	11645.350	T 105970140.000	13388.357	1528.161	1808.226	9245.895	4441 361
x		531406.780	43608.196	11324.847	T 103051950.000	10276.949	1350.794	1578.841	7705.516	4321 290
σ		10058.852	940.930	307.440	T 3194742.100	2695.320	167.188	207.520	1381.819	225 521
%RSD		1.893	2.158	2.715	T 3.100	26.227	12.377	13.144	17.933	5 219

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	18:35:30	182878.930	T 14447371.000	1114408.900	80.000	11465.063	1250221.800	460.015	T 3434629.100	1279610.700
2	18:35:56	185003.860	T 14954887.000	1142528.900	108.001	11569.228	1258618.300	460.015	T 3489126.700	1288527 000
3	18:36:22	183227.570	T 15134736.000	1157464.100	128.001	11673.395	1241414.700	400.011	T 3437894.000	1283250 000
x		183703.450	T 14845665.000	1138134.000	105.334	11569.229	1250085.000	440.013	T 3453883.300	1283795.900
σ		1139.596	T 356461.070	21861.485	24.111	104.166	8602.588	34.643	T 30565.331	4483.164
%RSD		0.620	T 2.401	1.921	22.890	0.900	0.688	7.873	T 0.885	0 349

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	18:35:30	240534.960	T 4818490.900	T 3317817.200	78320.983	T 3982760.600	869209.560	130378.440	1132935.100	547489 520
2	18:35:56	243880.030	T 4851473.300	T 3348613.000	78697.024	T 3979352.700	868414.130	129108.000	1134534.800	546068 040
3	18:36:22	239803.300	T 4817959.400	T 3366977.700	78551.458	T 3915653.500	852114.720	127137.620	1116756.500	541168.140
x		241406.100	T 4829307.900	T 3344469.300	78523.155	T 3959255.600	863246.130	128874.680	1128075.400	544908 570
σ		2173.495	T 19197.626	T 24840.838	189.612	T 37798.954	9648.289	1632.962	9835.074	3316 356
%RSD		0.900	T 0.398	T 0.743	0.241	T 0.955	1.118	1.267	0.872	0 609

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	18:35:30	906584.080	151070.490	698079.550	59325.859	32874.401	14029.568	116.001	618042 380	16574.935
2	18:35:56	910536.670	152083.350	694656.910	59467.009	33682.098	13688.917	112.001	613560.470	16835 534
3	18:36:22	895072.160	149241.170	682858.670	59422.648	32480.632	13977.468	156.002	613225 850	16903 693
x		904064.300	150798.340	691865.040	59405.172	33012.377	13898.651	128.001	614942.900	16771 387
σ		8034.287	1440.505	7985.281	72.179	612.502	183.493	24.332	2689.436	173 513
%RSD		0.889	0.955	1.154	0.122	1.855	1.320	19.009	0.437	1 035

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	18:35:30	10251.246	26821.547	10243.235	463312.610	7407.784	454602.060	115907.630	283948.340	830969.530
2	18:35:56	10655.829	28074.278	10231.218	471739.050	7632.017	460165.250	119537.900	285749.090	844656.640
3	18:36:22	10259.257	27202.964	10491.590	470745.460	7323.699	460999.880	120314.590	289464.270	847515.310
x		10388.777	27366.263	10322.014	468599.040	7454.500	458589.060	118586.710	286387.230	841047.160
σ		231.308	642.132	146.980	4605.058	159.379	3477.972	2352.424	2812.791	8843.757
%RSD		2.227	2.346	1.424	0.983	2.138	0.758	1.984	0.982	1.052

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	18:35:30	777756.650	600139.370	T 2807748.800	T 4758942.400	ID 488.016	ID 80.000	1516398.300	ID 44.000	ID 16 000
2	18:35:56	800247.060	623153.510	T 2875990.900	T 4909295.800	ID 488.016	ID 60.000	1544145.100	ID 44.000	ID 28 000
3	18:36:22	801164.630	622113.610	T 2924808.100	T 4961344.000	ID 404.011	ID 48.000	1573512.000	ID 28.000	ID 16 000
x		793056.110	615135.500	T 2869515.900	T 4876527.400	ID 460.015	ID 62.667	1544685.200	ID 38.667	ID 20 000
σ		13257.663	12997.432	T 58797.632	T 105104.330	ID 48.500	ID 16.166	28560.659	ID 9.238	ID 6.928
%RSD		1.672	2.113	T 2.049	T 2.155	ID 10.543	ID 25.797	1.849	ID 23.890	ID 34 641

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	18:35:30	549854.940	1357475.500	180570.100	161442.580	395489.750	1185552.400
2	18:35:56	564658.930	1398767.100	183912.600	165917.990	405386.800	1189701.000
3	18:36:22	559664.940	1420564.200	185853.180	165336.930	406900.190	1211778.100
x		558059.600	1392268.900	183445.290	164232.500	402592.250	1195677.100
σ		7531.427	32042.394	2672.363	2433.543	6197.314	14097.255
%RSD		1.350	2.301	1.457	1.482	1.539	1.179

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User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	18:41:16	534460.730	40.000	11509.132	T 99446038.000	8440.913	1152.092	1340.124	6238.684	4053.133
2	18:41:42	541706 200	36.000	11328.849	T 100584890.000	8653.163	1096.083	1364.128	6446.867	3869 033
3	18:42:08	544694.190	84.000	11521.152	T 103698890.000	8729.255	1108.085	1436.142	7195.571	4085.151
x		540287 040	53.334	11453.044	T 101243270.000	8607.777	1118.753	1380.132	6627.041	4002.439
σ		5262 267	26.634	107.724	T 2201542.100	149.433	29.489	49.970	503.244	116 637
%RSD		0.974	49.938	0.941	T 2.175	1.736	2.636	3.621	7.594	2.914

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	18:41:16	181923.320	T 14785482.000	1113332.800	36.000	11441.025	1243829.000	412.012	282247.800	4493 393
2	18:41:42	180807.920	T 14947605.000	1107087.700	52.000	11372.918	1260338.300	380.010	287583.560	4249 246
3	18:42:08	180438.890	T 15045355.000	1117786.700	76.000	11048.416	1271102.000	388.010	291233.070	4461 373
x		181056.710	T 14926147.000	1112735.700	54.667	11287.453	1258423.100	393.344	287021.480	4401 337
σ		772.856	T 131258.870	5374.440	20.133	209.794	13736.993	16.654	4518.929	132 685
%RSD		0.427	T 0.879	0.483	36.829	1.859	1.092	4.234	1.574	3 015

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	18:41:16	94771.709	5866.374	211563.960	2604.468	192.003	276.005	812.045	15007.525	7043.421
2	18:41:42	97657.650	5970.459	212749.930	2492.429	208.003	284.006	876.053	14771.039	7019 398
3	18:42:08	96157.791	5754.284	210880.460	2516.437	128.001	296.006	804.045	14779.056	7159 535
x		96195.717	5863.705	211731.450	2537.778	176.002	285.339	830.714	14852.540	7074.118
σ		1443.344	108.112	945.923	58.990	42.333	10.067	39.468	134.280	74.942
%RSD		1.500	1.844	0.447	2.324	24.053	3.528	4.751	0.904	1 059

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	18:41:16	11112.514	2556.451	8184.620	6615.018	616.026	40.000	104.001	624411.170	16382.498
2	18:41:42	10904.198	2348.381	7792.187	7207.583	660.030	92.001	96.001	622117.960	16234.164
3	18:42:08	11116.520	2336.377	8104.530	7043.421	732.037	76.000	116.001	616155 390	16334 389
x		11044.411	2413.736	8027.112	6955.341	669.364	69.334	105.334	620894 840	16317 017
σ		121.444	123.740	207.354	305.944	58.566	26.634	10.067	4261 627	75 677
%RSD		1.100	5.127	2.583	4.399	8.749	38.414	9.557	0 686	0.464

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	18:41:16	10567.700	27435.840	372.010	64.000	20.000	76.000	12.000	148.002	849303.640
2	18:41:42	10327.354	26721.177	228.004	44.000	16.000	44.000	52.000	92.001	855864.420
3	18:42:08	10723.929	27552.280	244.004	56.000	24.000	28.000	40.000	92.001	853720.230
x		10539.661	27236.432	281.339	54.667	20.000	49.334	34.667	110.668	852962.760
σ		199.769	450.006	78.929	10.067	4.000	24.441	20.526	32.332	3345.335
%RSD		1.895	1.652	28.055	18.414	20.000	49.542	59.211	29.216	0.392

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	18:41:16	660.030	348.008	136.001	288.006	ID 4.000	ID 0.000	1556968.000	ID 28.000	ID 16 000
2	18:41:42	708.035	516.018	120.001	244.004	ID 8.000	ID 8.000	1585229.800	ID 40.000	ID 12 000
3	18:42:08	800.044	552.021	96.001	248.004	ID 12.000	ID 28.000	1573841.400	ID 60.000	ID 36 000
x		722.703	472.016	117.334	260.005	ID 8.000	ID 12.000	1572013.000	ID 42.667	ID 21 333
σ		71.150	108.892	20.133	24.332	ID 4.000	ID 14.422	14219.358	ID 16.166	ID 12 858
%RSD		9.845	23.070	17.159	9.358	ID 50.000	ID 120.185	0.905	ID 37.889	ID 60 273

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	18:41:16	240.004	632.028	1580.172	1336.123	3436.815	1204599.800
2	18:41:42	264.005	708.035	1560.168	1364.128	3500.845	1207476.900
3	18:42:08	260.005	584.024	1728.206	1356.127	3300.752	1215616.300
x		254.671	641.362	1622.849	1352.126	3412.804	1209231.000
σ		12.859	62.530	91.789	14.425	102.185	5713.889
%RSD		5.049	9.750	5.656	1.067	2.994	0.473

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User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	18:47:01	492566.640	28.000	9890.745	T 19555751.000	4641.486	544.020	720.036	4193.213	2672.493
2	18:47:27	501672.600	36.000	9926.795	T 20110692.000	4605.463	608.026	724.036	4213.225	2824 550
3	18:47:53	508187.920	48.000	9986.877	T 20093734.000	4613.468	540.020	676.032	4229.234	2564.454
x		500809.050	37.333	9934.806	T 19920059.000	4620.139	564.022	706.701	4211.890	2687.166
σ		7846.360	10.066	48.564	T 315613.520	18.915	38.161	26.636	18.047	130 668
%RSD		1.567	26.964	0.489	T 1.584	0.409	6.766	3.769	0.428	4 863

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	18:47:01	104191.710	T 3030528.500	297775.050	48.000	3384.790	1209894 800	124.001	74808.159	1896 248
2	18:47:27	104674.600	T 3141392.100	303305.480	32.000	3140.680	1247909.400	132.001	79004.341	1896 248
3	18:47:53	103185.470	T 3142687.800	298820.810	64.000	3364.781	1247928 300	112.001	78891.118	2004 277
x		104017.260	T 3104869.500	299967.110	48.000	3296.751	1235244 200	122.668	77567.873	1932 258
σ		759.739	T 64384.387	2938.014	16.000	135.530	21953.189	10.067	2390.653	62 371
%RSD		0.730	T 2.074	0.979	33.333	4.111	1.777	8.206	3.082	3 228

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	18:47:01	25613.187	1792.222	145547.160	796.044	68.000	132.001	612.026	3676.933	1548.165
2	18:47:27	25982.498	1848.236	145587.970	832.048	100.001	176.002	484.016	3905.052	1656.189
3	18:47:53	25922.283	1952.263	146142.970	908.057	108.001	156.002	628.027	3796.994	1640.186
x		25839.322	1864.240	145759.370	845.383	92.001	154.668	574.690	3792.993	1614 847
σ		198.140	81.212	332.839	57.185	21.166	22.031	78.932	114.112	58 300
%RSD		0.767	4.356	0.228	6.764	23.007	14.244	13.735	3.009	3 610

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	18:47:01	2644.482	588.024	2144.317	1488.153	760.040	96.001	112.001	621682.890	3368.783
2	18:47:27	3024.631	660.030	2184.329	1568.170	688.033	96.001	108.001	641085.020	3544 867
3	18:47:53	2856.563	624.027	1996.275	1660.190	636.028	104.001	116.001	644762.830	3784.988
x		2841.892	624.027	2108.307	1572.171	694.700	98.667	112.001	635843.580	3566 213
σ		190.498	36.003	99.064	86.088	62.274	4.619	4.000	12400.624	208.922
%RSD		6.703	5.769	4.699	5.476	8.964	4.681	3.571	1.950	5 858

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	18:47:01	2176.327	6186.640	296.006	36.000	8.000	28.000	20.000	44.000	849267.780
2	18:47:27	2268.355	6062.535	320.007	48.000	0.000	32.000	24.000	56.000	889924.220
3	18:47:53	2356.383	5898.400	320.007	20.000	16.000	24.000	20.000	40.000	886950.620
x		2267.022	6049.191	312.007	34.667	8.000	28.000	21.333	46.667	875380.870
σ		90.036	144.583	13.857	14.048	8.000	4.000	2.309	8.327	22663.422
%RSD		3.972	2.390	4.441	40.522	100.000	14.286	10.825	17.843	2.589

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	18:47:01	512.018	448.014	112.001	172.002	ID 4.000	ID 4.000	1525286.400	ID 32.000	ID 4 000
2	18:47:27	524.019	524.019	60.000	140.001	ID 0.000	ID 4.000	1576781.600	ID 28.000	ID 4 000
3	18:47:53	528.019	372.010	100.001	184.002	ID 0.000	ID 0.000	1592336.700	ID 48.000	ID 0 000
x		521.352	448.014	90.667	165.335	ID 1.333	ID 2.667	1564801.600	ID 36.000	ID 2 667
σ		8.327	76.005	27.228	22.745	ID 2.309	ID 2.309	35093.827	ID 10.583	ID 2 309
%RSD		1.597	16.965	30.030	13.757	ID 173.205	ID 86.603	2.243	ID 29.397	ID 86 603

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	18:47:01	120.001	364.009	384.010	276.005	924.059	1163334 200
2	18:47:27	104.001	340.008	368.009	412.012	904.056	1208425 200
3	18:47:53	148.002	356.009	468.015	336.008	940.061	1220472.100
x		124.001	353.342	406.678	341.342	922.725	1197410 500
σ		22.271	12.221	53.718	68.160	18.039	30119 390
%RSD		17.961	3.459	13.209	19.968	1.955	2 515

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User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	18:52:48	524932.650	1856 238	11561.215	T 99968498.000	T 1847843.400	247354.880	287920 560	91190.192	4093.156
2	18:53:13	537437.240	1880 244	11272.761	T 102917220.000	T 1894572.500	253178.930	293847 500	92052.999	4277 262
3	18:53:39	540940.020	1828 231	11569.228	T 104353420.000	T 1913106.200	258013.040	295584 030	93620 894	4065.140
x		534436.640	1854.904	11467.735	T 102413050.000	T 1885174.000	252848.950	292450 690	92288 028	4145.186
σ		8414.967	26 032	168.900	T 2235517.600	T 33631.191	5336.734	4018.146	1232 277	115 236
%RSD		1.575	1.403	1.473	T 2.183	T 1.784	2.111	1 374	1 335	2.780

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	18:52:48	177368.470	T 14565025 000	T 2448586.400	3324.763	65232.297	1228865.000	428 013	357095 080	28548.124
2	18:53:13	178093.940	T 14892069 000	T 2529524.900	3716.953	66762.135	1243517.700	420 012	369300 590	29945.748
3	18:53:39	177241.410	T 14744796 000	T 2469399.100	3440.817	65660.135	1245277.000	372 010	368581 320	29580 251
x		177567.940	T 14733963 000	T 2482503.500	3494.177	65884.856	1239219.900	406 678	364992 330	29358 041
σ		459.936	T 163791 260	T 42030.376	201.467	789.288	9010.618	30 289	6848 664	724 825
%RSD		0 259	T 1.112	T 1.693	5.766	1.198	0.727	7.448	1 876	2.469

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	18:52:48	101124.720	24340 812	1531518.800	32958.783	15781.165	3708.949	1052 076	32155.185	14991.491
2	18:53:13	105295.490	24794 346	1527490.400	33244.082	15328.195	3652.921	1160 093	31343 641	15552 672
3	18:53:39	105031.710	24609.718	1535935.800	33782.564	15901.428	3652.921	1092 082	32066.795	15813 235
x		103817 310	24581 625	1531648.300	33328.476	15670.263	3671.597	1101.417	31855 207	15452.466
σ		2335 577	228 068	4224.164	418.325	302.281	32.348	54 610	445 228	419.937
%RSD		2 250	0.928	0.276	1.255	1.929	0.881	4.958	1 398	2.718

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	18:52:48	18118 623	3945 074	13408.394	9309.977	3764.978	1520.159	100 001	605147.240	15672.931
2	18:53:13	18563.748	3965 084	13167.953	9862.707	3949.076	1488.153	96 001	617064.040	15905.437
3	18:53:39	18218 874	3857 026	13981.475	9670.448	3809.001	1328.122	88 001	616751.000	15985 613
x		18300.415	3922 395	13519.274	9614.378	3841.018	1445.478	94 667	612987.430	15854 660
σ		233.497	57.488	417.942	280.599	96.135	102.886	6.110	6791.606	162.407
%RSD		1 276	1.466	3.091	2.919	2.503	7.118	6.454	1.108	1 024

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	18:52:48	9814 642	25757 697	632.028	18258.975	320.007	18098.573	4905 660	10916 216	831770.030
2	18:53:13	10147.100	26187 233	612.026	18359.228	360.009	18595.830	4825 606	12098 091	853935.520
3	18:53:39	9990 883	26681 029	628.027	18688.067	256.005	17701.595	4785 580	11525.158	844226.590
x		9984 208	26208 653	624.027	18435.423	312.007	18131.999	4838.949	11513.155	843310.710
σ		166 329	462 038	10.584	224.464	52.462	448.054	61.142	591 029	11111.091
%RSD		1 666	1.763	1.696	1.218	16.814	2.471	1 264	5.134	1.318

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	18:52:48	30901.749	22900.128	28801.122	50301.986	ID 8.000	ID 16.000	1541603.600	ID 20 000	ID 20 000
2	18:53:13	30853 544	24248 504	29536.072	50326.153	ID 28.000	ID 12.000	1564609.600	ID 28 000	ID 20 000
3	18:53:39	31263 295	24156.196	29351.323	52570.000	ID 24.000	ID 8.000	1573281.000	ID 44 000	ID 16 000
x		31006.196	23768 276	29229.506	51066.046	ID 20.000	ID 12.000	1559831.400	ID 30 667	ID 18 667
σ		223.955	753 254	382.318	1302.518	ID 10.583	ID 4.000	16370.330	ID 12 220	ID 2 309
%RSD		0.722	3.169	1.308	2.551	ID 52.915	ID 33.333	1.049	ID 39 849	ID 12 372

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	18:52:48	21889 010	54383 308	19662.641	17288.599	43373.419	1197264.100
2	18:53:13	22534.986	54201.956	20224.183	17990.304	42922.748	1201573.700
3	18:53:39	22743 636	54145 537	19738.847	18266.995	44001.187	1194114.300
x		22389 211	54243 600	19875.224	17848.633	43432.451	1197650.700
σ		445 572	124 235	304.600	504.349	541.638	3744.726
%RSD		1.990	0 229	1.533	2.826	1.247	0.313

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User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	18:58:36	526590.710	38558.313	11989.911	T 99783765.000	9057.657	1216.102	1280.113	9686.470	4169.199
2	18:59:02	532216.220	39435.012	11240.712	T 102720260.000	9129.748	1080.081	1300.117	10259.257	4109.165
3	18:59:28	532267.820	40235.394	11332.855	T 104040970.000	8961.538	1188.097	1380.131	10002.899	4125.174
x		530358.250	39409.573	11521.159	T 102181660.000	9049.648	1161.427	1320.120	9982.875	4134 512
σ		3262.888	838.830	408.557	T 2179108.200	84.390	71.826	52.925	286.918	31 088
%RSD		0.615	2.128	3.546	T 2.133	0.933	6.184	4.009	2.874	0.752

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	18:58:36	180877.630	T 15307328.000	1112368.100	108.001	11348.880	1233630.100	380.010	T 3115016.700	1151053 200
2	18:59:02	177524.210	T 15462947.000	1126990.200	60.000	11581.247	1224380.500	428.013	T 3073062.000	1137763.100
3	18:59:28	177052.890	T 15609261.000	1142454.400	124.001	11497.113	1228959.200	460.015	T 3116540.400	1132084 200
x		178484.910	T 15459845.000	1127270.900	97.334	11475.747	1228989.900	422.679	T 3101539.700	1140300.100
σ		2085.512	T 150990.550	15045.114	33.307	117.648	4624.877	40.268	T 24674.181	9735 656
%RSD		1.168	T 0.977	1.335	34.219	1.025	0.376	9.527	T 0.796	0 854

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	18:58:36	225123.470	T 4278194.900	T 3038044.200	71111.216	T 3519890.400	776167.000	117297.730	1005059.900	490253.400
2	18:59:02	222854.940	T 4283067.000	T 3055103.500	72771.578	T 3483868.500	770743.340	114769.730	1000976.300	477575 350
3	18:59:28	222681.740	T 4266915.400	T 3052848.700	73401.887	T 3505080.300	766294.570	115082.640	1000226.600	482933 560
x		223553.380	T 4276059.100	T 3048665.400	72428.227	T 3502946.400	771068.300	115716.700	1002087.600	483587.440
σ		1362.491	T 8284.917	T 9267.137	1183.305	T 18105.510	4944.230	1378.123	2601.203	6364 267
%RSD		0.609	T 0.194	T 0.304	1.634	T 0.517	0.641	1.191	0.260	1 316

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	18:58:36	819467.640	137002.990	618359.820	54415.548	29612.382	12775.251	136.001	604066.400	16230.156
2	18:59:02	806177.550	135417.600	617098.820	54379.278	30014.030	12715.146	104.001	609980 330	15861 340
3	18:59:28	811671.020	134468.170	613743.000	53694.197	29110.354	12502.777	124.001	603089 880	16109 888
x		812438.730	135629.590	616400.550	54163.008	29578.922	12664.391	121.334	605712 200	16067.128
σ		6678.224	1280.638	2386.305	406.407	452.766	143.152	16.166	3728.418	188 089
%RSD		0.822	0.944	0.387	0.750	1.531	1.130	13.324	0 616	1.171

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	18:58:36	10535.653	26512.412	9838.675	428679.590	6743.136	417989.400	108136.880	260802.270	847824.540
2	18:59:02	10860.132	26664.970	10119.060	432021.560	6530.942	421216.450	107872.990	262298.860	849415.710
3	18:59:28	10231.218	26175.189	9522.252	428751.670	7115.492	426708.190	109586.410	263335.450	855249.810
x		10542.334	26450.857	9826.662	429817.600	6796.523	421971.340	108532.100	262145.530	850830.020
σ		314.510	250.625	298.585	1909.020	295.909	4408.141	922.551	1273.536	3909.458
%RSD		2.983	0.948	3.039	0.444	4.354	1.045	0.850	0.486	0.459

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	18:58:36	719599.680	562975.190	T 2585016.100	T 4416568.900	ID 360.009	ID 60.000	1551416.700	ID 44.000	ID 20 000
2	18:59:02	729080.810	561688.900	T 2656241.100	T 4525714.600	ID 492.017	ID 52.000	1580756.100	ID 56.000	ID 4 000
3	18:59:28	728838.130	570027.830	T 2633214.800	T 4509153.800	ID 384.010	ID 52.000	1586327.700	ID 24.000	ID 16 000
x		725839.540	564897.310	T 2624824.000	T 4483812.500	ID 412.012	ID 54.667	1572833.500	ID 41.333	ID 13 333
σ		5405.236	4489.468	T 36346.310	T 58820.356	ID 70.318	ID 4.619	18755.527	ID 16.166	ID 8 327
%RSD		0.745	0.795	T 1.385	T 1.312	ID 17.067	ID 8.449	1.192	ID 39.111	ID 62.450

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	18:58:36	511359.810	1264280.800	169794.240	152001.660	369910.550	1209453.500
2	18:59:02	520076.570	1294453.100	171616.420	152226.310	375958.170	1226116.600
3	18:59:28	525654.250	1305016.300	174622.980	156508.080	380809.930	1227118.900
x		519030.210	1287916.700	172011.210	153578.680	375559.550	1220896.300
σ		7204.435	21139.749	2438.459	2539.419	5460.615	9922.470
%RSD		1.388	1.641	1.418	1.653	1.454	0.813

CV007 ISM-2068 6/5/2018 19:03:58 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	19:04:24	412922.960	337153.060	8344.802	T 120600650.000	T 87923872 000	T 12166244.000	T 14018303 000	T 99517918 000	3821 007
2	19:04:50	424521.180	342302.240	8084.507	T 121238180.000	T 89470345 000	T 12303805.000	T 14313045 000	T 103104180 000	4061.138
3	19:05:16	427284.710	347014.620	8384.848	T 122385810.000	T 90021897 000	T 12510883.000	T 14270268 000	T 103178970 000	4133.178
x		421576 280	342156.640	8271.386	T 121408210.000	T 89138705 000	T 12326977.000	T 14200539 000	T 101933690 000	4005.108
σ		7620.323	4932.392	163.076	T 904645.530	T 1087619 600	T 173484.460	T 159263 580	T 2092453 300	163.454
%RSD		1.808	1.442	1.972	T 0.745	T 1 220	T	T 1.122	T 2 053	4 081

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	19:04:24	82939.953	118574.260	T 70192505.000	162595.940	T 2818658.100	1041104 500	344398.130	T 5279059.400	T 5085873 800
2	19:04:50	83656.114	111344.920	T 72220923.000	171325.660	T 2947072 200	1106777 200	369666 560	T 5705762 500	T 5539921.100
3	19:05:16	83587 328	114887.580	T 73009393.000	171681.940	T 2987698 800	1108510 600	371913 250	T 5707585.400	T 5561419 500
x		83394.465	114935.580	T 71807607.000	168534.520	T 2917809.700	1085464.100	361992 640	T 5564135 800	T 5395738.100
σ		395.119	3614.908	T 1453216.200	5146.038	T 88237 822	38426 283	15278 652	T 246885 050	T 268565 560
%RSD		0.474	3.145	T 2.024	3.053	T 3 024	3 540	4 221	T 4.437	T 4.977

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	19:04:24	611657 230	T 7876812.100	T 152873700.000	T 3596369.300	T 6437632 200	1377701.100	204320.490	T 3312692.100	1704259.100
2	19:04:50	653198.440	T 8439490.000	T 164006230.000	T 3856974.100	T 7017358.700	1495482.000	220512.900	T 3581855 200	1824313 600
3	19:05:16	655317 560	T 8522374.000	T 163394380.000	T 3866045.900	T 6958596 200	1489822.400	221523 020	T 3581754 600	1827397 000
x		640057.740	T 8279558.700	T 160091440.000	T 3773129.800	T 6804529 000	1454335.200	215452.140	T 3492100 600	1785323 200
σ		24618 381	T 351242.180	T 6258226.500	T 153146.250	T 319097.460	66427.356	9653 513	T 155372 380	70220.483
%RSD		3 846	T 4.242	T 3.909	T 4.059	T 4 689	4.568	4.481	T 4.449	3.933

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	19:04:24	1447423 000	242870.970	1124709.200	1143008.400	261017 820	112632.590	124 001	521231.260	2388202 600
2	19:04:50	1533069.100	258398.410	1195525.000	1197334.400	281536.930	123763.960	80 000	559608.840	T 2377164.400
3	19:05:16	1553407 300	261142.190	1194597.000	1211139.300	284185 360	120326.790	108 001	557184.280	T 2397685 500
x		1511299 800	254137.190	1171610.400	1183827.400	275580 040	118907.780	104 001	546008.130	T 2387684 200
σ		56245 834	9852.806	40620.254	36017.837	12680 581	5699.740	22 271	21491.612	T 10270 391
%RSD		3.722	3.877	3.467	3.042	4 601	4.793	21.415	3.936	T 0.430

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	19:04:24	1490946 200	T 3708417.800	165435.130	1160132.600	124960 230	1127961.300	2024734 500	T 4731439.100	733861.130
2	19:04:50	1577681 600	T 3955633.100	171170.050	1215141.700	132484.120	1200293.200	2138983 600	T 4892399.700	770636.860
3	19:05:16	1597936 000	T 3994820.400	174770.470	1227688.400	131469.900	1192380.500	2121176 300	T 4922992 200	767114.940
x		1555521 300	T 3886290.400	170458.550	1200987.600	129638 080	1173545.000	2094964 800	T 4848943.700	757204 310
σ		56833 211	T 155283.360	4708.164	35933.258	4082.756	39674.396	61469.450	T 102905.150	20292.337
%RSD		3 654	T 3.996	2.762	2.992	3.149	3.381	2.934	T 2.122	2.680

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	19:04:24	T 3280488.900	T 2578173.800	T 6117346.400	T 10470500.000	ID 608 026	ID 124.001	1315688.800	ID 68 000	ID 24 000
2	19:04:50	T 3422489 800	T 2692308.500	T 6516213.700	T 11025126.000	ID 676 032	ID 180.002	1383732.800	ID 40 000	ID 24 000
3	19:05:16	T 3436640.400	T 2733017.700	T 6497843.600	T 11030600.000	ID 788 043	ID 160.002	1373097.700	ID 52 000	ID 36 000
x		T 3379873 000	T 2667833.300	T 6377134.600	T 10842075.000	ID 690.700	ID 154.668	1357506.400	ID 53 334	ID 28 000
σ		T 86359.476	T 80271.004	T 225170.530	T 321805.500	ID 90.901	ID 28.379	36603.426	ID 14 048	ID 6.928
%RSD		T 2 555	T 3.009	T 3.531	T 2.968	ID 13.161	ID 18.348	2.696	ID 26 339	ID 24.744

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	19:04:24	T 4632564.900	T 11243504.000	T 7622590.200	T 6871107.100	T 16823419 000	1002169 600
2	19:04:50	T 4793819.900	T 11617781.000	T 7898010.300	T 7168317.000	T 17369056 000	1017579.900
3	19:05:16	T 4829683 300	T 11670793.000	T 7916861.000	T 7236277.900	T 17350891 000	1023941 600
x		T 4752022.700	T 11510693.000	T 7812487.200	T 7091900.700	T 17181122 000	1014563.700
σ		T 104996 030	T 232905.260	T 164725.450	T 194208.710	T 309913.420	11194.986
%RSD		T 2 210	T 2.023	T 2.108	T 2.738	T 1 804	1.103

CB007 IM8714-01 6/5/2018 19:09:48 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	19:10:14	476504.170	52.000	8717.240	74016.088	4613.468	712.035	716.035	4741 551	2520.438
2	19:10:40	485932.420	72.000	9530.263	75972.175	4405.339	556.021	656.030	4461 373	2568.455
3	19:11:06	491518.960	84.000	8865.420	73046.321	4321.288	528.019	688.033	4521.410	2540.445
x		484651 850	69.334	9037.641	74344.861	4446.698	598.692	686.699	4574.778	2543.113
σ		7588.868	16.166	433.009	1490.377	150.417	99.152	30.025	147 516	24.119
%RSD		1.566	23.316	4.791	2.005	3.383	16.561	4.372	3 225	0.948

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	19:10:14	91785 639	82458.505	111044.360	16.000	952.063	1232551 600	44.000	7636 021	1456.146
2	19:10:40	92292 010	85270.772	111292.120	8.000	912.057	1252657.700	28.000	7031.410	1396.134
3	19:11:06	91980 082	88270.370	110451.400	20.000	924.059	1251548 200	56.000	6835 222	1568.170
x		92019 244	85333.215	110929.290	14.667	929.393	1245585.800	42.667	7167 551	1473.484
σ		255.447	2906.436	432.009	6.110	20.529	11301 633	14.048	417 397	87 318
%RSD		0 278	3.406	0.389	41.660	2.209	0.907	32.924	5 823	5.926

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	19:10:14	2384 392	1488.153	115602.820	740.038	468.015	160.002	2456.416	1800 224	276 005
2	19:10:40	2508.434	1708.201	118001.010	808.045	308.007	176.002	2020.282	1880 244	308 007
3	19:11:06	2344 379	1600.177	116131.170	648.029	324.007	184.002	2128.313	1728 206	272 005
x		2412.402	1598.844	116578.330	732.037	366.676	173.335	2201.670	1802 891	285 339
σ		85 539	110.030	1260.080	80.307	88.126	12.220	227.133	76 054	19.732
%RSD		3 546	6.882	1.081	10.970	24.034	7.050	10.316	4 218	6.915

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	19:10:14	352 009	76.000	380.010	316.007	716.035	84.000	104.001	642127.540	1188 097
2	19:10:40	368 009	104.001	364.009	256.005	852.050	76.000	88.001	647097.840	1328.122
3	19:11:06	360 009	64.000	396.011	268.005	872.052	72.000	116.001	655610.350	1268.111
x		360 009	81.334	380.010	280.005	813.379	77.334	102.667	648278 580	1261.443
σ		8 000	20.527	16.001	31.750	84.893	6.110	14.048	6818.512	70 250
%RSD		2 222	25.238	4.211	11.339	10.437	7.901	13.683	1.052	5 569

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	19:10:14	800 044	2276.358	316.007	212.003	8.000	200.003	124.001	288 006	882460.870
2	19:10:40	720 036	2284.360	368.009	260.005	0.000	208.003	112.001	232 004	892434.650
3	19:11:06	844 049	2004.277	320.007	208.003	8.000	160.002	108.001	244 004	911083.420
x		788 043	2188.331	334.674	226.670	5.333	189.336	114.668	254 671	895326 310
σ		62 872	159.446	28.938	28.938	4.619	25.717	8.327	29.486	14528.727
%RSD		7.978	7.286	8.647	12.766	86.603	13.583	7.262	11 578	1.623

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	19:10:14	2932 593	2288.361	324.007	648.029	ID 4.000	ID 0.000	1540570.500	ID 32 000	ID 4 000
2	19:10:40	3464 828	2504.433	304.006	516.018	ID 0.000	ID 0.000	1567350.000	ID 20 000	ID 4 000
3	19:11:06	3112 668	2520.438	268.005	568.022	ID 0.000	ID 0.000	1609975.900	ID 32 000	ID 4 000
x		3170 030	2437.744	298.673	577.357	ID 1.333	ID 0.000	1572632.200	ID 28 000	ID 4 000
σ		270.714	129.617	28.380	66.498	ID 2.309	ID 0.000	35002.871	ID 6.928	ID 0 000
%RSD		8 540	5.317	9.502	11.518	ID 173.205	ID 0.000	2.226	ID 24.744	ID 0 000

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	19:10:14	524 019	1304.117	600.025	472.015	1320.120	1196326 500
2	19:10:40	608 026	1208.101	612.026	528.019	1408.137	1213285.900
3	19:11:06	592 024	1232.105	564.022	484.016	1324.121	1235952.400
x		574 690	1248.108	592.024	494.684	1350.793	1215188.300
σ		44 605	49.969	24.982	29.486	49.702	19881 334
%RSD		7.762	4.004	4.220	5.961	3.679	1 636

TE18019-007/MC0AA0 6/5/2018 19:15:36

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	19:16:02	537333.990	136 001	10856.126	T 13074582 000	1356332.100	175872 660	202268.100	11653.363	11913.786
2	19:16:28	543187.130	72 000	10772.001	T 13570898 000	1390830.800	178938 360	206361.110	11957.858	11973 885
3	19:16:54	547131.970	88 001	11156.582	T 13678220 000	T 1310992.900	179889.480	206188.290	12186.238	11553 203
x		542551.030	98 667	10928.236	T 13441233 000	T 1352718.600	178233 500	204939.170	11932.486	11813 624
σ		4929.865	33 307	202.177	T 322031.730	T 40041.421	2099.125	2314.825	267.342	227 525
%RSD		0.909	33.757	1.850	T 2 396	T 2.960	1.178	1.130	2.240	1.926

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	19:16:02	98310.387	T 13823784 000	T 2311715.200	10619.776	170633.610	1250004.700	380.010	266217.960	7099.476
2	19:16:28	95051.336	T 14018559 000	T 2341778.100	10359.400	173705.320	1247857.500	400.011	264326.580	6803.192
3	19:16:54	94398.890	T 14169150 000	T 2354153.900	10042.955	175639.100	1255618.500	376.010	268089.080	6911 294
x		95920.205	T 14003831 000	T 2335882.400	10340.710	173326.010	1251160.300	385.344	266211.210	6937.988
σ		2095.507	T 173153.700	T 21824.991	288 865	2524.208	4007.454	12.859	1881.261	149.935
%RSD		2.185	T 1 236	T 0.934	2.793	1.456	0.320	3.337	0.707	2.161

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	19:16:02	88974.908	34453.713	863629.800	18555.727	256.005	856 051	1600.177	473893.000	230624.460
2	19:16:28	88630.728	34706.917	870598.390	18547.707	304.006	848 050	1412.138	474025.250	228882 520
3	19:16:54	88606.434	33545.466	867627.760	18696 087	216.003	916 058	1144.090	472404.360	226340 520
x		88737.357	34235 365	867285.320	18599 841	258.671	873 386	1385.468	473440.870	228615 830
σ		206.084	610.736	3496.893	83.449	44.062	37.171	229.210	900.073	2154 389
%RSD		0.232	1.784	0.403	0.449	17.034	4 256	16.544	0.190	0.942

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	19:16:02	17565.263	3680.935	12703.125	6771.162	784.042	100 001	100.001	613260 610	1324.121
2	19:16:28	17685.555	3508 849	12759.223	6831 218	748.039	112 001	104.001	612330 690	1492.154
3	19:16:54	17300.628	3272.739	13288.173	6763.155	772.041	76 000	108.001	612200 340	1404.136
x		17517.149	3487 508	12916.840	6788 512	768.041	96 001	104.001	612597 220	1406 804
σ		196.923	204.933	322.804	37 201	18.332	18 331	4.000	578 204	84 048
%RSD		1.124	5 876	2.499	0 548	2.387	19 094	3.846	0 094	5.974

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	19:16:02	916.058	2200 334	256.005	92 001	4.000	84 000	84.000	296.006	840804.950
2	19:16:28	1008.070	2304 366	272.005	152 002	8.000	160 002	104.001	352.009	845866.290
3	19:16:54	856.051	2300 365	348.008	160 002	8.000	120 001	84.000	336.008	848375.810
x		926.726	2268 355	292.006	134 668	6.667	121 334	90.667	328.007	845015.690
σ		76.569	58.942	49.155	37.167	2.309	38 018	11.547	28.846	3856.440
%RSD		8.262	2 598	16.834	27 599	34.641	31 333	12.736	8.794	0.456

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	19:16:02	3488.840	2464.419	26432.120	46166 596	ID 60.000	ID 72 000	1510802.000	ID 92.001	ID 76 000
2	19:16:28	3488.840	3068 650	26640.882	47301 883	ID 56.000	ID 40 000	1546251.400	ID 92.001	ID 80 000
3	19:16:54	3628.908	2924 590	26408.032	47744.773	ID 64.000	ID 64 000	1548167.200	ID 64.000	ID 76 000
x		3535.529	2819 220	26493.678	47071 084	ID 60.000	ID 58 667	1535073.500	ID 82.667	ID 77 334
σ		80.869	315 596	128.050	814 010	ID 4.000	ID 16 653	21041.614	ID 16.166	ID 2 309
%RSD		2.287	11.194	0.483	1.729	ID 6.667	ID 28 386	1.371	ID 19.556	ID 2.986

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	19:16:02	208.003	452 014	27869.490	24007.704	59071.797	1198239.300
2	19:16:28	204.003	408 011	29544.104	25123.477	61604.757	1214272.500
3	19:16:54	180.002	384 010	29837.302	25356 285	62072.725	1222371.900
x		197.336	414 679	29083.632	24829.155	60916.426	1211627.900
σ		15.144	34.489	1061.648	720 858	1614.541	12281.760
%RSD		7.674	8 317	3.650	2.903	2.650	1.014

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User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	19:21:50	527931.170	132 001	10900.192	T 13077150 000	T 1280823.300	177663 560	206513.350	7291.667	11312 824
2	19:22:16	529912.220	80 000	11929.812	T 13536959 000	1394411.000	176536 520	203761.060	6899.283	10944 258
3	19:22:42	539197.030	84 000	10916.216	T 13675063 000	T 1330896.900	181783 890	211382.780	6811.200	11060.435
x		532346.810	98 667	11248.740	T 13429724 000	T 1335377.100	178661 320	207219.070	7000.716	11105 839
σ		6014.594	28.937	589.880	T 313048 660	T 56926.199	2762 311	3859.557	255.790	188.431
%RSD		1.130	29 328	5.244	T 2 331	T 4.263	1 546	1.863	3.654	1 697

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	19:21:50	91327.910	T 14694573 000	T 2332146.800	10499 601	175085.950	1218469.200	340.008	277206.690	6266.709
2	19:22:16	89270.510	T 14491556 000	T 2305616.200	10427.497	172513.340	1178982.700	272.005	284355.860	5534.112
3	19:22:42	88039.588	T 14825131 000	T 2342667.500	10727.935	176007.890	1227674.200	324.007	294551.220	5810 328
x		89546.003	T 14670420 000	T 2326810.200	10551 678	174535.730	1208375.400	312.007	285371.260	5870 383
σ		1661.382	T 168094.120	T 19093.424	156 843	1811.083	25867.553	35.554	8716.735	369.972
%RSD		1.855	T 1.146	T 0.821	1.486	1.038	2.141	11.395	3.055	6 302

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	19:21:50	95055.389	31998.494	749069.520	15608.793	216.003	848 050	1164.093	494025.070	241961 290
2	19:22:16	93114.431	31681.104	736316.460	15027 566	240.004	804 045	1368.129	482399.710	234786.980
3	19:22:42	100078.340	32886.456	747286.790	15384 313	164.002	732 037	956.063	497426.340	242267 260
x		96082.721	32188 684	744224.260	15340 224	206.670	794.710	1162.762	491283.700	239671 840
σ		3593.824	624.778	6906.116	293.111	38.851	58 567	206.036	7879.482	4233.179
%RSD		3.740	1.941	0.928	1.911	18.799	7 370	17.720	1.604	1.766

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	19:21:50	17537.196	3444 819	12715.146	6270.712	668.031	128 001	120.001	612465 390	1084 081
2	19:22:16	16879.637	3528 859	12995.643	6566.974	664.030	60 000	128.001	584529 560	1108 085
3	19:22:42	17284.590	3560 875	13348.283	6839 226	756.039	64 000	96.001	614873 030	1036 074
x		17233.807	3511 517	13019.690	6558.971	696.034	84 001	114.668	603956 000	1076 080
σ		331.708	59.940	317.253	284 341	52.005	38.158	16.654	16866.799	36 666
%RSD		1.925	1.707	2.437	4 335	7.472	45.426	14.523	2.793	3.407

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	19:21:50	668.031	1884 245	300.006	112 001	8.000	92 001	104.001	336.008	854437.880
2	19:22:16	692.033	1812 227	256.005	72 000	16.000	80 000	104.001	280.005	822173.990
3	19:22:42	672.031	1868 241	200.003	104 001	12.000	88 001	116.001	280.005	847752.840
x		677.365	1854.904	252.005	96 001	12.000	86 667	108.001	298.673	841454.900
σ		12.859	37 816	50.122	21.166	4.000	6.110	6.928	32.333	17029.026
%RSD		1.898	2 039	19.889	22 048	33.333	7 050	6.415	10.826	2.024

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	19:21:50	2884.574	1948 262	27624.555	46915 383	ID 80.000	ID 60 000	1529763.500	ID 120.001	ID 68 000
2	19:22:16	2668.491	2100 304	26299.639	46810.709	ID 96.001	ID 64 000	1530408.800	ID 108.001	ID 80 000
3	19:22:42	2916.587	2216 339	27311.371	48376.945	ID 32.000	ID 56 000	1579196.600	ID 68.000	ID 72 000
x		2823.217	2088 302	27078.522	47367 679	ID 69.334	ID 60 000	1546456.300	ID 98.667	ID 73 334
σ		134.949	134.441	692.470	875 616	ID 33.307	ID 4 000	28355.758	ID 27.228	ID 6.110
%RSD		4.780	6.438	2.557	1 849	ID 48.039	ID 6 667	1.834	ID 27.596	ID 8 332

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	19:21:50	148.002	320 007	27435.840	23020 508	57491.160	1244324.200
2	19:22:16	116.001	280 005	27086.529	23341 533	56809.818	1214277.200
3	19:22:42	100.001	248 004	27291.296	23433 830	58180.630	1246328.900
x		121.334	282 672	27271.222	23265 290	57493.869	1234976.800
σ		24.441	36 075	175.518	216.952	685.410	17954.357
%RSD		20.143	12.762	0.644	0.933	1.192	1.454

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User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	19:27:37	516986.790	88 001	10912.210	T 16451463 000	T 1666593.900	226043.460	260371.170	18266.995	4785 580
2	19:28:03	528335.070	96 001	11308.817	T 16956574 000	T 1692257.700	228932 050	265886.100	16931.758	4829 609
3	19:28:30	539429.410	112 001	10988.325	T 17177836 000	T 1720267.300	233605.710	271521.400	17878.027	4893 652
x		528250.420	98 667	11069.784	T 16861958 000	T 1693039.700	229527 070	265926.220	17692.260	4836 280
σ		11221.546	12 220	210.478	T 372315.140	T 26845.260	3816 080	5575.220	686.729	54 344
%RSD		2.124	12 385	1.901	T 2 208	T 1.586	1 663	2.097	3.882	1.124

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	19:27:37	105737.870	T 13905726 000	T 2989006.500	14189 880	240510.160	1219959.600	304.006	302725.990	5157 835
2	19:28:03	105441.600	T 14165911 000	T 3018281.600	14245.990	243023.980	1213412.700	292.006	304097.670	5249.901
3	19:28:30	103286.900	T 14571685 000	T 3095027.000	15372 288	249875.170	1220133.500	288.006	315268.170	5221 881
x		104822.120	T 14214441 000	T 3034105.000	14602.719	244469.770	1217835.300	294.673	307363.940	5209 872
σ		1337.770	T 335621.130	T 54752.850	667 056	4847.021	3831.018	8.327	6879.537	47.193
%RSD		1.276	T 2 361	T 1.805	4 568	1.983	0.315	2.826	2.238	0.906

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	19:27:37	99117.268	39917 644	185291.060	2352 382	208.003	760 040	896.055	130626.860	63916 651
2	19:28:03	102710.790	39640.127	185488.000	2376 390	292.006	684 032	840.049	130826.410	62992 612
3	19:28:30	105843.390	39994 064	188553.610	2616.472	260.005	720 036	844.049	132956.660	64287.913
x		102557.150	39850 611	186444.220	2448.414	253.338	721 369	860.051	131469.970	63732 392
σ		3365.693	186 247	1829.438	146 036	42.396	38 021	31.245	1291.366	667 019
%RSD		3.282	0.467	0.981	5.965	16.735	5 271	3.633	0.982	1 047

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	19:27:37	37183.154	6835 222	27969.876	6266.709	680.032	112 001	64.000	604834 690	3224.717
2	19:28:03	36853.477	6731.125	27239.100	6907 291	692.033	60 000	104.001	601783.700	3108 667
3	19:28:30	37504.806	6731.125	28114.433	6895 279	640.028	96 001	100.001	617155 350	3308.755
x		37180.479	6765 824	27774.470	6689.759	670.698	89 334	89.334	607924 580	3214 046
σ		325.673	60.101	469.244	366.422	27.230	26 634	22.031	8138 331	100.470
%RSD		0.876	0 888	1.689	5.477	4.060	29 814	24.661	1 339	3.126

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	19:27:37	2120.310	5301.939	264.005	96 001	12.000	108 001	140.001	332.008	824617.670
2	19:28:03	2024.283	5153 832	368.009	128 001	8.000	144 001	112.001	344.008	819030.070
3	19:28:30	2012.279	5386 001	336.008	96 001	16.000	136 001	104.001	368.009	849509.840
x		2052.291	5280 591	322.674	106 667	12.000	129 334	118.668	348.008	831052.530
σ		59.211	117 547	53.269	18.475	4.000	18.904	18.904	18.331	16226.822
%RSD		2.885	2 226	16.509	17 321	33.333	14 616	15.930	5.267	1.953

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	19:27:37	856.051	656 030	58845.970	103729.150	ID 292.006	ID 256 005	1495233.700	ID 376.010	ID 500 017
2	19:28:03	828.047	732 037	59438.779	104832 860	ID 360.009	ID 292 006	1528707.500	ID 360.009	ID 436 013
3	19:28:30	928.059	844 049	60596.307	107077 320	ID 244.004	ID 280 005	1552750.200	ID 308.007	ID 452 014
x		870.719	744 039	59627.019	105213.110	ID 298.673	ID 276 005	1525563.800	ID 348.008	ID 462 681
σ		51.594	94 583	890.222	1706.169	ID 58.289	ID 18 331	28886.833	ID 35.554	ID 33 309
%RSD		5.925	12.712	1.493	1 622	ID 19.516	ID 6 642	1.894	ID 10.217	ID 7.199

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	19:27:37	88.001	192 003	22474.799	19389.907	46895.253	1161686.600
2	19:28:03	140.001	276 005	23132.865	19602.478	48614.528	1186961.500
3	19:28:30	88.001	232 004	23967.571	19975.495	50233.514	1223787.700
x		105.334	233 337	23191.745	19655.960	48581.098	1190811.900
σ		30.023	42 017	748.126	296.434	1669.381	31229.114
%RSD		28.502	18 007	3.226	1 508	3.436	2.623

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User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	19:33:24	523343 670	40 000	10804.048	T 9911473.200	T 9941941.700	1364133.400	T 1522795 000	19859.175	9009 597
2	19:33:50	527518 690	20 000	11228.693	T 10063292.000	T 9908427.700	T 1349128.100	T 1554226.700	20400.677	9450.158
3	19:34:15	538267 600	64 000	11176.613	T 10290540.000	T 10107096.000	T 1375538.500	T 1569370.400	20521.016	8845 395
x		529709.990	41 333	11069.785	T 10088435.000	T 9985821.800	T 1362933.300	T 1548797 300	20260.289	9101.717
σ		7699 501	22 030	231.603	T 190780.260	T 106354.970	T 13246.024	T 23757 649	352.547	312.728
%RSD		1.454	53 299	2.092	T 1.891	T 1.065	T 0.972	T 1 534	1.740	3.436

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	19:33:24	84696.091	T 14555255 000	1484905.800	30492.019	502340.570	1221421.900	528 019	348948.240	42287 026
2	19:33:50	83206.988	T 14497024 000	1478291.800	30074.279	504447.660	1224719.200	596 025	358817.100	42548 550
3	19:34:15	82859.035	T 14654716 000	T 1434885.800	30138.545	499767.470	1223011.600	568 022	358930.510	42604 880
x		83587.371	T 14568998 000	T 1466027.800	30234.947	502185.240	1223050.900	564 022	355565.280	42480.152
σ		975.814	T 79739 070	T 27171.765	224.937	2343.957	1648.971	34.179	5730.808	169 607
%RSD		1.167	T 0 547	T 1.853	0.744	0.467	0.135	6 060	1.612	0 399

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	19:33:24	110711.320	12438 667	560566.810	11224.687	204.003	2308.368	920 058	89327.202	43176 247
2	19:33:50	110333.630	12458.701	561447.200	11925.805	220.003	2396.396	956 063	88816.988	43357 323
3	19:34:15	111653.610	12162.198	560597.010	11601.279	164.002	2428.407	1008 070	90894.512	43296.964
x		110899.520	12353.188	560870.340	11583.924	196.003	2377.724	961 397	89679.568	43276 845
σ		679.821	165.706	499.805	350.881	28.845	62.160	44 248	1082.658	92 200
%RSD		0.613	1 341	0.089	3.029	14.717	2.614	4 602	1.207	0 213

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	19:33:24	22213.997	3837 016	16839.544	6354.785	684.032	72.000	108 001	615003.430	308 007
2	19:33:50	22547.023	4545.425	16699.219	6643.044	700.034	88.001	120 001	608338.560	276 005
3	19:34:15	22193.935	4577.445	16607.008	7087.464	612.026	104.001	168 002	605507.550	344 008
x		22318.318	4319.962	16715.257	6695.098	665.364	88.001	132 001	609616.510	309 340
σ		198.318	418 550	117.094	369.103	46.880	16.000	31.750	4875.225	34 021
%RSD		0.889	9 689	0.701	5.513	7.046	18.182	24 053	0.800	10.998

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	19:33:24	200.003	448 014	420.012	100.001	4.000	100.001	20 000	156.002	847914.180
2	19:33:50	216.003	512 018	248.004	96.001	12.000	60.000	48 000	148.002	838835.070
3	19:34:15	200.003	484 016	224.003	112.001	4.000	64.000	24 000	180.002	834878.920
x		205.336	481 349	297.340	102.667	6.667	74.667	30 667	161.335	840542.720
σ		9.238	32 085	106.913	8.327	4.619	22.031	15.144	16.654	6683.305
%RSD		4.499	6 666	35.956	8.110	69.282	29.505	49 382	10.322	0.795

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	19:33:24	708.035	512 018	24007.704	41160.568	ID 24.000	ID 20.000	1538362.900	ID 52.000	ID 20 000
2	19:33:50	704.034	640 028	24336.799	42552.574	ID 12.000	ID 24.000	1558366.200	ID 68.000	ID 28 000
3	19:34:15	840.049	568 022	23795.004	41997.349	ID 20.000	ID 28.000	1564118.600	ID 36.000	ID 52 000
x		750.706	573 356	24046.502	41903.497	ID 18.667	ID 24.000	1553615.900	ID 52.000	ID 33 333
σ		77.399	64.172	272.973	700.733	ID 6.110	ID 4.000	13518.968	ID 16.000	ID 16 653
%RSD		10.310	11.192	1.135	1.672	ID 32.733	ID 16.667	0.870	ID 30.769	ID 49.960

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	19:33:24	44.000	104 001	12711.139	10780.012	25990.527	1224611.000
2	19:33:50	60.000	112 001	12675.076	10731.941	26227.378	1206904.200
3	19:34:15	84.000	148 002	13063.765	11104.502	26769.354	1225886.000
x		62.667	121 334	12816.660	10872.152	26329.086	1219133.700
σ		20.133	23.438	214.758	202.651	399.251	10610.241
%RSD		32.127	19 317	1.676	1.864	1.516	0.870

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User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	19:39:11	525387.940	140 001	11148.569	T 17875474 000	T 2557814.500	350555 070	405150.100	10030.938	4461 373
2	19:39:36	533953.290	76 000	11336.861	T 18260723 000	T 2644792.900	358199 650	411539.490	10062.982	4441 361
3	19:40:03	540612.910	92 001	11328.849	T 18300713 000	T 2653757.800	362199 280	418484.800	10199.173	4197 215
x		533318.050	102 667	11271.426	T 18145637 000	T 2618788.400	356984 670	411724.800	10097.698	4366 650
σ		7632.340	33 307	106.473	T 234820 880	T 52994.850	5916.421	6669.281	89.329	147 075
%RSD		1.431	32.442	0.945	T 1 294	T 2.024	1 657	1.620	0.885	3 368

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	19:39:11	88181.295	T 14648807 000	T 2728224.400	48211 851	821713.930	1226770.700	280.005	345404.360	6775.166
2	19:39:36	89995.394	T 14979791 000	T 2810001.500	50914 240	844302.740	1233253.300	236.004	358938.910	7195 571
3	19:40:03	89991.344	T 15208645 000	T 2861105.900	50986.747	852522.790	1241103.600	228.004	364822.070	7199 575
x		89389.344	T 14945748 000	T 2799777.300	50037 612	839513.150	1233709.200	248.004	356388.450	7056.770
σ		1046.203	T 281467 050	T 67028.134	1581 572	15953.107	7177.328	28.001	9956.930	243 885
%RSD		1.170	T 1 883	T 2.394	3.161	1.900	0.582	11.291	2.794	3.456

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	19:39:11	114127.710	28315 213	164203.590	2624.475	188.002	776 042	720.036	65409.887	31580 667
2	19:39:36	118305.920	28471 825	165459.680	2724 512	192.003	972 065	560.022	66733.877	31849 841
3	19:40:03	121681.130	29150 515	164559.530	2560.452	160.002	716 035	700.034	65187.900	31817.700
x		118038.250	28645 851	164740.940	2636.480	180.002	821 381	660.030	65777.221	31749.403
σ		3783.815	444 012	647.397	82 686	17.436	133.901	87.186	835.890	147 011
%RSD		3.206	1 550	0.393	3.136	9.687	16 302	13.209	1.271	0.463

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	19:39:11	120660.270	19594.456	87282.512	6995 375	708.035	80 000	84.000	617938 010	252 004
2	19:39:36	122417.370	19875 219	90019.693	7123 500	744.038	108 001	92.001	617372.750	224 003
3	19:40:03	122506.870	20107 860	89545.877	8024.441	600.025	80 000	108.001	614612 240	240 004
x		121861.500	19859.178	88949.360	7381.105	684.033	89 334	94.667	616641 000	238 671
σ		1041.261	257 077	1462.845	560 816	74.947	16.166	12.220	1779 545	14 048
%RSD		0.854	1 295	1.645	7 598	10.957	18 096	12.909	0 289	5 886

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	19:39:11	120.001	544 020	308.007	108 001	36.000	68 000	340.008	992.068	847232.980
2	19:39:36	136.001	412 012	368.009	112 001	20.000	108 001	348.008	968.065	846135.130
3	19:40:03	196.003	388 010	348.008	116 001	48.000	52 000	384.010	900.056	862448.770
x		150.668	448 014	341.341	112 001	34.667	76 000	357.342	953.396	851938.960
σ		40.067	84 005	30.552	4 000	14.048	28 845	23.439	47.728	9118.301
%RSD		26.593	18.751	8.951	3 571	40.522	37.953	6.559	5.006	1.070

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	19:39:11	1052.076	920 058	115216.740	201893 880	ID 128.001	ID 152 002	1544889.600	ID 164.002	ID 288 006
2	19:39:36	1124.087	956 063	116708.330	204954 010	ID 208.003	ID 148 002	1552088.400	ID 280.005	ID 304 006
3	19:40:03	1228.104	896 055	118684.030	211205.730	ID 180.002	ID 144 001	1593016.700	ID 216.003	ID 276 005
x		1134.756	924 059	116869.700	206017 870	ID 172.002	ID 148 002	1563331.600	ID 220.003	ID 289 339
σ		88.497	30 203	1739.268	4746 211	ID 40.596	ID 4 000	25958.827	ID 58.105	ID 14 048
%RSD		7.799	3 269	1.488	2 304	ID 23.602	ID 2.703	1.660	ID 26.411	ID 4 855

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	19:39:11	140.001	352 009	14718.933	12210 279	31066.451	1221299.700
2	19:39:36	172.002	400 011	14646.788	12831 350	32046.706	1231237.800
3	19:40:03	164.002	380 010	15219.967	12843 372	31219.105	1242235.100
x		158.668	377 343	14861.896	12628 334	31444.087	1231590.900
σ		16.654	24.112	312.190	362 096	527.435	10472.190
%RSD		10.496	6 390	2.101	2 867	1.677	0.850

TE18019-012/MC0AB4 6/5/2018 19:44:33

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	19:44:58	530225.970	236 004	10948.264	T 26708697 000	T 4316844.700	593071 520	683266.560	5021.739	6066 538
2	19:45:24	531489.700	336 008	10896.186	T 27133153 000	T 4402545.700	600013 560	691802.230	4853.625	6106 572
3	19:45:50	537544.800	240 004	11569.228	T 27541064 000	T 4512191.900	610449.480	705844.410	5069.773	6154 613
x		533086.820	270 672	11137.893	T 27127638 000	T 4410527.400	601178.190	693637.730	4981.712	6109 241
σ		3912.084	56 618	374.454	T 416210.970	T 97917.868	8747 322	11400.294	113.497	44 098
%RSD		0.734	20.918	3.362	T 1 534	T 2.220	1.455	1.644	2.278	0.722

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	19:44:58	115574.370	T 14456338 000	T 3445819.800	34702 898	577744.480	1231294.300	316.007	373377.760	5009.731
2	19:45:24	114916.020	T 14767471 000	T 3475450.600	34642 610	584940.850	1221351.400	300.006	371500.890	5089.787
3	19:45:50	111917.640	T 14740235 000	T 3479694.500	35112 865	591515.750	1219418.900	316.007	382297.260	5241 895
x		114136.010	T 14654681 000	T 3466988.300	34819.458	584733.690	1224021.500	310.673	375725.300	5113 804
σ		1949.162	T 172309 280	T 18454.880	255 880	6887.967	6372.079	9.238	5768.330	117.931
%RSD		1.708	T 1.176	T 0.532	0.735	1.178	0.521	2.974	1.535	2 306

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	19:44:58	121925.180	20886 056	169298.850	2520.438	180.002	484 016	484.016	46758.373	22506 898
2	19:45:24	125420.070	20725 597	168357.290	2340 378	220.003	540 020	552.021	46706.037	22711 535
3	19:45:50	125489.250	20476 891	165152.800	2472.422	168.002	456 014	424.012	46532.928	22908.153
x		124278.170	20696.181	167602.980	2444.413	189.336	493 350	486.683	46665.779	22708 862
σ		2038.042	206.163	2173.515	93 241	27.228	42.774	64.046	117.991	200 641
%RSD		1.640	0.996	1.297	3 814	14.381	8 670	13.160	0.253	0 884

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	19:44:58	29748.940	5678 224	22334.366	7335.711	620.027	64 000	100.001	600269 510	1064 078
2	19:45:24	29507.958	5818 335	23177.006	7503 883	644.029	52 000	72.000	604144 530	1048 076
3	19:45:50	29009.953	5634.190	22827.900	7543.925	660.030	80 000	112.001	602096.120	1048 076
x		29422.283	5710 249	22779.757	7461.173	641.362	65 334	94.667	602170 050	1053.410
σ		376.869	96.159	423.378	110.482	20.135	14 048	20.527	1938 566	9 239
%RSD		1.281	1 684	1.859	1.481	3.139	21 501	21.683	0 322	0 877

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	19:44:58	572.023	1912 252	252.004	100 001	16.000	60 000	44.000	160.002	830692.280
2	19:45:24	632.028	1704 200	164.002	48 000	8.000	80 000	48.000	168.002	838186.010
3	19:45:50	732.037	1612.179	264.005	92 001	16.000	64 000	76.000	152.002	827383.950
x		645.362	1742 877	226.670	80 000	13.333	68 000	56.000	160.002	832087.410
σ		80.836	153.730	54.603	28 000	4.619	10 583	17.436	8.000	5534.523
%RSD		12.526	8 820	24.089	35 000	34.641	15 563	31.135	5.000	0.665

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	19:44:58	512.018	276 005	56886.415	102163.130	ID 52.000	ID 84 000	1528834.600	ID 132.001	ID 100 001
2	19:45:24	520.019	420 012	58208.855	102386 250	ID 44.000	ID 108 001	1540854.500	ID 120.001	ID 144 001
3	19:45:50	520.019	432 013	57886.287	103672 340	ID 116.001	ID 52 000	1552039.300	ID 124.001	ID 132 001
x		517.352	376 010	57660.519	102740 570	ID 70.667	ID 81 334	1540576.100	ID 125.334	ID 125 334
σ		4.619	86 814	689.522	814 609	ID 39.464	ID 28 095	11604.860	ID 6.110	ID 22.745
%RSD		0.893	23 088	1.196	0.793	ID 55.844	ID 34 543	0.753	ID 4.875	ID 18.148

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	19:44:58	48.000	96 001	5838.351	5273.918	12510.791	1186146.900
2	19:45:24	96.001	148 002	5934.429	5145 826	12378.564	1189626.100
3	19:45:50	64.000	164 002	5846.358	5313.948	12458.701	1189340.400
x		69.334	136 001	5873.046	5244 564	12449.352	1188371.100
σ		24.441	35 553	53.310	87 821	66.607	1931.511
%RSD		35.251	26.142	0.908	1 675	0.535	0.163

CV008 ISM-2068 6/5/2018 19:50:20 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	19:50:45	408058.690	333932.980	7852.252	T 120230620.000	T 87243118 000	T 12050309.000	T 13905017 000	T 101165210 000	4169.199
2	19:51:12	412246.000	338556.270	8120.547	T 122522390.000	T 90394244 000	T 12395190.000	T 14332426 000	T 102391760 000	4301 276
3	19:51:38	417371.250	338242.100	7495.875	T 122944020.000	T 89880665 000	T 12542175.000	T 14357673 000	T 103103860 000	4077.147
x		412558 650	336910.450	7822.891	T 121899010.000	T 89172675 000	T 12329224.000	T 14198372 000	T 102220270 000	4182 541
σ		4664.150	2583.343	313.370	T 1460167.700	T 1690661 000	T 252481.000	T 254365.970	T 980635 620	112 659
%RSD		1.131	0.767	4.006	T 1.198	T 1 896	T	T 1.792	T 0.959	2 694

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	19:50:45	84327 833	126299.140	T 74642699.000	175651.390	T 3009215.100	1105544 500	364246.150	T 5569368 800	T 5389460.700
2	19:51:12	83097.745	132850.740	T 75740540.000	175114.630	T 3024470 600	1091628 600	363863 630	T 5498845 600	T 5358602 800
3	19:51:38	82903 539	130696.090	T 75813194.000	177208.630	T 3029883 800	1105118 300	363573 610	T 5595678.900	T 5442809 600
x		83443 039	129948.660	T 75398811.000	175991.550	T 3021189 800	1100763.800	363894.460	T 5554631.100	T 5396957.700
σ		772 382	3339.139	T 655819.150	1087.650	T 10717 821	7914 214	337 330	T 50070 648	T 42601 049
%RSD		0.926	2.570	T 0.870	0.618	T 0 355	0.719	0 093	T 0.901	T 0.789

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	19:50:45	642799 370	T 8277029.200	T 163519490.000	T 3836205.000	T 6727718.400	1457038.800	216436.730	T 3496102 600	1802155 600
2	19:51:12	633068.100	T 8239647.300	T 165913470.000	T 3884539.700	T 6814890 800	1464813.500	215472 630	T 3457938 200	1781116.900
3	19:51:38	645967 350	T 8287629.600	T 167462900.000	T 3938708.400	T 6761192 300	1462035.300	215909 350	T 3491072 200	1803081 000
x		640611 600	T 8268102.000	T 165631950.000	T 3886484.400	T 6767933 800	1461295.900	215939 570	T 3481704 300	1795451 200
σ		6722.158	T 25206.098	T 1986718.000	T 51279.353	T 43975.456	3939.743	482.761	T 20735.188	12422 502
%RSD		1 049	T 0.305	T 1.199	T 1.319	T 0 650	0.270	0 224	T 0 596	0 692

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	19:50:45	1509056 000	256695.460	1178346.600	1187855.800	279068.130	120627.730	152 002	554721.690	T 2340323.700
2	19:51:12	1515690 600	252922.200	1176621.100	1193631.600	278644 280	120099.060	92 001	556912.530	T 2344708.100
3	19:51:38	1535798 800	256654.030	1187762.200	1199866.500	281254 270	120184.460	112 001	562202.530	T 2388642 800
x		1520181 800	255423.890	1180910.000	1193784.600	279655 560	120303.750	118 668	557945 580	T 2357891 500
σ		13925 564	2166.634	5996.600	6006.769	1400 645	283.808	30 551	3845.924	T 26721.451
%RSD		0.916	0.848	0.508	0.503	0 501	0.236	25.745	0.689	T 1.133

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	19:50:45	1604619.900	T 3942727.300	177888.990	1246833.700	134557 810	1225029.700	2170233.100	T 4909317.700	786216.700
2	19:51:12	1598458.700	T 3982227.800	176069.350	1243008.400	132704 090	1219512.900	2181657 000	T 4999547.100	782398.740
3	19:51:38	1624323.900	T 4025236.800	180816.120	1271419.100	134777 840	1230286.700	2203054.700	T 5047831 600	796987.480
x		1609134.100	T 3983397.300	178258.160	1253753.700	134013 250	1224943.100	2184981 600	T 4985565 500	788534 310
σ		13510 593	T 41267.191	2394.819	15417.712	1139 088	5387.423	16661.457	T 70307.447	7565.467
%RSD		0 840	T 1.036	1.343	1.230	0 850	0.440	0.763	T 1.410	0.959

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	19:50:45	T 3397938 600	2908528.500	T 6497552.600	T 11105670.000	ID 700 034	ID 124.001	1406509.100	ID 76 000	ID 68 000
2	19:51:12	T 3460979 300	T 2708506.900	T 6580090.600	T 11265593.000	ID 612 026	ID 148.002	1432615.300	ID 76 000	ID 52 000
3	19:51:38	T 3511992.100	T 2776604.100	T 6704570.700	T 11369089.000	ID 684 032	ID 140.001	1449663.700	ID 64 000	ID 44 000
x		T 3456970 000	T 2797879.900	T 6594071.300	T 11246784.000	ID 665 364	ID 137.335	1429596 000	ID 72 000	ID 54 667
σ		T 57132 364	T 101693.920	T 104214.760	T 132712.720	ID 46 880	ID 12.220	21735.138	ID 6.928	ID 12 220
%RSD		T 1 653	T 3.635	T 1.580	T 1.180	ID 7 046	ID 8.898	1.520	ID 9 623	ID 22 354

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	19:50:45	T 4931528 500	T 12138316.000	T 8228027.900	T 7456350.100	T 18020153 000	1073190.900
2	19:51:12	T 4997640.900	T 12211574.000	T 8291138.700	T 7508381.300	T 18163511 000	1068591 800
3	19:51:38	T 5038117 800	T 12239288.000	T 8332879.500	T 7564178.500	T 18484551 000	1089492 000
x		T 4989095 800	T 12196393.000	T 8284015.400	T 7509636.600	T 18222738 000	1077091.600
σ		T 53805.985	T 52170.158	T 52787.508	T 53925.167	T 237796 500	10982 511
%RSD		T 1 078	T 0.428	T 0.637	T 0.718	T 1 305	1 020

CB008 IM8714-01 6/5/2018 19:56:10 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	19:56:36	458385.600	84.000	8504.988	57712.912	4657.496	664.030	744.038	4733 546	2592.464
2	19:57:02	474084.970	60.000	8645.154	59672.690	4849.622	600.025	732.037	4981.712	2652.485
3	19:57:27	480781.280	52.000	8881.439	60572.106	4933.679	632.028	932.060	4897 654	2560.452
x		471083.950	65.334	8677.194	59319.236	4813.599	632.028	802.712	4870.971	2601 800
σ		11495.485	16.653	190.260	1462.000	141.571	32.003	112.179	126 217	46.722
%RSD		2.440	25.490	2.193	2.465	2.941	5.064	13.975	2 591	1.796

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	19:56:36	89634.968	75580.107	100009.400	12.000	904.056	1201362 600	40.000	8096 521	1484.152
2	19:57:02	92142.121	79667.543	102954.210	12.000	848.050	1211684.100	40.000	8096 521	1508.157
3	19:57:27	90145 239	84080.990	103858.990	4.000	996.068	1239189 800	20.000	8100 525	1632.184
x		90640.776	79776.213	102274.200	9.333	916.058	1217412.200	33.333	8097 855	1541.498
σ		1324.999	4251.483	2012.869	4.619	74.736	19553 285	11.547	2 312	79.448
%RSD		1.462	5.329	1.968	49.487	8.158	1 606	34.641	0 029	5.154

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	19:56:36	2792 538	1500.155	106740.400	804.045	428.013	172.002	1340.124	1208.101	300 006
2	19:57:02	2652.485	1628.183	108132.820	744.038	376.010	176.002	1344.125	1488.153	320 007
3	19:57:27	2516.437	1508.157	110967.190	752.039	336.008	160.002	1344.125	1340.124	304 006
x		2653 820	1545.498	108613.470	766.707	380.010	169.335	1342.791	1345.459	308 007
σ		138 055	71.719	2153.996	32.582	46.133	8.327	2.310	140.102	10 583
%RSD		5 202	4.640	1.983	4.250	12.140	4.917	0.172	10.413	3.436

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	19:56:36	384 010	76.000	308.007	228.004	844.049	72.000	68.000	612852.130	1216.102
2	19:57:02	432 013	108.001	292.006	348.008	784.042	84.000	88.001	626487.400	1360.128
3	19:57:27	416 012	88.001	380.010	184.002	692.033	132.001	52.000	634706.540	1224.103
x		410 678	90.667	326.674	253.338	773.375	96.001	69.334	624682 020	1266.778
σ		24.442	16.166	46.878	84.887	76.567	31.749	18.037	11038.493	80.942
%RSD		5.952	17.830	14.350	33.508	9.900	33.072	26.015	1.767	6 390

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	19:56:36	732 037	2264.354	380.010	168.002	16.000	200.003	84.000	260 005	829708.570
2	19:57:02	860 051	2372.388	368.009	168.002	12.000	104.001	132.001	204 003	852329.960
3	19:57:27	788 043	2188.330	372.010	172.002	20.000	168.002	132.001	300 006	880489.270
x		793 377	2275.024	373.343	169.335	16.000	157.335	116.001	254 671	854175.930
σ		64.174	92.492	6.110	2.309	4.000	48.882	27.713	48 223	25440.626
%RSD		8 089	4.066	1.637	1.364	25.000	31.069	23.891	18.936	2.978

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	19:56:36	2952 601	2128.313	280.005	472.015	ID 0.000	ID 0.000	1450873.900	ID 40 000	ID 0 000
2	19:57:02	2972 610	2352.382	372.010	668.031	ID 0.000	ID 4.000	1511519.000	ID 36 000	ID 0 000
3	19:57:27	3128 675	2332.375	252.004	732.037	ID 8.000	ID 0.000	1539890.100	ID 36 000	ID 4 000
x		3017.962	2271.023	301.340	624.028	ID 2.667	ID 1.333	1500761.000	ID 37 333	ID 1 333
σ		96.401	123.995	62.783	135.481	ID 4.619	ID 2.309	45472.772	ID 2 309	ID 2 309
%RSD		3.194	5.460	20.835	21.711	ID 173.205	ID 173.205	3.030	ID 6.186	ID 173 205

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	19:56:36	576 023	1216.102	516.018	580.023	1324.121	1114872 800
2	19:57:02	552 021	1440.143	580.023	572.023	1156.092	1170783.100
3	19:57:27	476 016	1384.132	608.026	596.025	1372.130	1197578 200
x		534 687	1346.792	568.022	582.690	1284.114	1161078.000
σ		52 208	116.595	47.163	12.221	113.439	42198.186
%RSD		9.764	8.657	8.303	2.097	8.834	3 634

Q73543-001/PBW001 6/5/2018 20:01:58 QC Status: FAIL (Initial: UNKNOWN)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	20:02:24	515047.750	44.000	11348.880	99190.256	5654 205	712.035	828.047	5714.252	2792 538
2	20:02:50	521115.360	56.000	11256.736	103067.810	6466 884	888.054	904.056	6166.623	2864 566
3	20:03:16	541744.940	52.000	10776.006	95326.921	5357.980	704.034	788.043	5045.756	3048 641
x		525969.350	50.667	11127.208	99194.995	5826 356	768.041	840.049	5642.210	2901.915
σ		13994.853	6.110	307.619	3870.446	574.147	104.011	58.931	563.895	132 074
%RSD		2.661	12.059	2.765	3.902	9 854	13.542	7.015	9.994	4 551

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	20:02:24	93082.019	T 11987539.000	129095.780	24.000	1256.109	1134186.000	40.000	232515.470	4093.156
2	20:02:50	92162.376	T 11964423.000	126539.280	16.000	1100 084	1149282.300	64.000	242680.760	4281 264
3	20:03:16	92441.903	T 12608976.000	119078.420	24.000	1096 083	1226921.300	48.000	256459.310	4257 250
x		92562.099	T 12186979.000	124904.490	21.333	1150.758	1170129.800	50.667	243885.180	4210 557
σ		471.456	T 365642.500	5204.926	4.619	91 258	49758.648	12.220	12017.273	102 379
%RSD		0.509	T 3.000	4.167	21.651	7.930	4.252	24.119	4.927	2.431

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	20:02:24	76909.991	24360.880	109838.180	544.020	192 003	220.003	2244.347	1644.187	256 005
2	20:02:50	80622.013	24999.047	108936.730	596.025	228 004	240.004	1984.272	1692.198	340 008
3	20:03:16	88314.907	27287.281	109229.080	500.017	244 004	212.003	1760.214	1572.170	260 005
x		81948.970	25549.069	109334.660	546.687	221 337	224.003	1996.278	1636.185	285 339
σ		5817.099	1538.782	459.909	48.059	26 634	14.423	242.290	60.412	47 387
%RSD		7.098	6.023	0.421	8.791	12 033	6.439	12.137	3.692	16 607

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	20:02:24	696.033	872.052	508.018	5858.367	824 047	80.000	124.001	565742.770	508 018
2	20:02:50	708.035	812.045	596.025	5878.383	860 051	84.000	108.001	567202.530	648 029
3	20:03:16	616.026	932.060	640.028	5726.262	768 041	60.000	88.001	609094.250	564 022
x		673.365	872.053	581.357	5821.004	817 380	74.667	106.667	580679.850	573 356
σ		50.018	60.007	67.216	82.657	46 366	12.858	18.037	24618.417	70.471
%RSD		7.428	6.881	11.562	1.420	5 673	17.221	16.910	4.240	12 291

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	20:02:24	300.006	700.034	312.007	72.000	8 000	96.001	44.000	108.001	800416.310
2	20:02:50	368.009	880.053	336.008	88.001	20 000	96.001	44.000	156.002	813053.930
3	20:03:16	340.008	936.060	328.007	96.001	12 000	56.000	80.000	100.001	843456.140
x		336.008	838.716	325.341	85.334	13 333	82.667	56.000	121.334	818975.460
σ		34.178	123.324	12.221	12.220	6.110	23.094	20.785	30.288	22122.502
%RSD		10.172	14.704	3.756	14.321	45 826	27.936	37.116	24.962	2.701

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	20:02:24	1312.119	840.049	160.002	336.008	ID 0 000	ID 0.000	1485951.100	ID 28.000	ID 0 000
2	20:02:50	1500.155	1024.072	240.004	404.011	ID 0 000	ID 8.000	1499659.900	ID 28.000	ID 0 000
3	20:03:16	1416.138	1100.084	212.003	308.007	ID 0 000	ID 0.000	1558798 000	ID 24.000	ID 0 000
x		1409.471	988.068	204.003	349.342	ID 0 000	ID 2.667	1514803.000	ID 26.667	ID 0 000
σ		94.195	133.704	40.597	49.372	ID 0 000	ID 4.619	38712.414	ID 2.309	ID 0 000
%RSD		6.683	13.532	19.900	14.133	ID 0 000	ID 173.205	2 556	ID 8.660	ID 0 000

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	20:02:24	184.002	612.026	432.013	280.005	796 044	1179286.700
2	20:02:50	220.003	596.025	360.009	360.009	804 045	1184868.900
3	20:03:16	196.003	488.016	308.007	244.004	628 027	1233950.300
x		200.003	565.356	366.676	294.673	742.705	1199368.700
σ		18.331	67.454	62.271	59.377	99 395	30078.383
%RSD		9.165	11.931	16.983	20.150	13 383	2.508

Q73543-002/LCS001 6/5/2018 20 07:46 QC Status: FAIL (Initial: UNKNOWN)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	20:08:11	502070.810	1752.212	10407.468	T 2314349 000	T 1642532.600	221407.570	256484.170	75850.915	2864 566
2	20:08:37	510292.360	1604.178	10335.365	T 2360499.700	T 1680668.400	226361.140	264538.090	78535 284	2716 509
3	20:09:03	517433.020	1732.207	10555.683	T 2402601 300	T 1689958.500	230946.480	264720.580	78579.762	2736 517
x		509932.060	1696.199	10432.839	T 2359150 000	T 1671053.100	226238.400	261914.280	77655 320	2772 531
σ		7687.439	80.318	112.328	T 44141 647	T 25132.500	4770.636	4703.496	1562 819	80 330
%RSD		1.508	4.735	1.077	T 1 871	T 1.504	2.109	1.796	2 013	2 897

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	20:08:11	93738.399	T 11137300.000	1404872.500	2756 524	48590.366	1150890 000	40.000	290288 270	26456 207
2	20:08:37	92300.112	T 11578344.000	1439868.300	3096 662	49774.362	1165659 200	76.000	289043.980	26167.161
3	20:09:03	92636.362	T 11695349.000	1470945.600	3100 663	51385.549	1163665 600	48.000	289401 850	26400 003
x		92891.625	T 11470331.000	1438562.100	2984 616	49916.759	1160071.600	54.667	289578 030	26341.124
σ		752.354	T 294287.010	33055.878	197 544	1403.022	8013.703	18.903	640 580	153 255
%RSD		0.810	T 2.566	2.298	6 619	2.811	0 691	34.579	0 221	0 582

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	20:08:11	80791.889	56882.384	1273875.700	28258.994	13885.291	3132.677	2200.334	17092.134	7636 021
2	20:08:37	81042.666	57700.817	1287000.000	28210 807	13781.092	3272.739	2100.304	17440.964	8072.494
3	20:09:03	82672.927	58120.148	1303966.000	28877.425	14101.708	3324.763	2092.302	17072 087	7784.179
x		81502.494	57567.783	1288280.500	28449 075	13922.697	3243.393	2130.980	17201.728	7830 898
σ		1021.351	629.514	15085.988	371.743	163.548	99.348	60.195	207.426	221.955
%RSD		1.253	1.094	1.171	1 307	1.175	3.063	2.825	1 206	2 834

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	20:08:11	6807.196	1864.240	5626.183	7740.132	3680.935	1324.121	128.001	572594.850	352 009
2	20:08:37	7063.441	1872.242	5638.193	7756.149	3792.992	1308.118	92.001	587534.600	328 007
3	20:09:03	7227.603	1808.226	5390.004	8100 525	3756.974	1436.142	128.001	584027.400	348 008
x		7032.746	1848.236	5551.460	7865 602	3743.634	1356.127	116.001	581385 620	342 675
σ		211.878	34.880	139.954	203 607	57.208	69.756	20.785	7812.385	12 859
%RSD		3.013	1.887	2.521	2 589	1.528	5.144	17.918	1.344	3.752

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	20:08:11	232.004	556.021	676.032	17116.191	284.006	16125.923	4233.236	10663 841	787492.740
2	20:08:37	256.005	664.030	744.038	17256 523	308.007	16859.590	4577.445	10583.723	810199.170
3	20:09:03	208.003	572.023	744.038	17705 604	296.006	16991.899	4529.415	10523 636	807737.790
x		232.004	597.358	721.369	17359.439	296.006	16659.137	4446.699	10590.400	801809.900
σ		24.001	58.292	39.264	307 890	12.000	466.492	186.417	70 340	12459.951
%RSD		10.345	9.758	5.443	1.774	4.054	2.800	4.192	0 664	1.554

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	20:08:11	29463.778	22759.686	25500.791	45272.985	ID 0.000	ID 8.000	1441560.400	ID 44 000	ID 0 000
2	20:08:37	30046.162	22747.648	26689.059	47036.162	ID 4.000	ID 4.000	1485669.100	ID 32 000	ID 0 000
3	20:09:03	30010.013	23722.768	26845.636	47056 292	ID 8.000	ID 0.000	1514129.100	ID 28 000	ID 0 000
x		29839.985	23076.701	26345.162	46455.146	ID 4.000	ID 4.000	1480452.900	ID 34 667	ID 0 000
σ		326.305	559.543	735.425	1023 831	ID 4.000	ID 4.000	36564.437	ID 8 327	ID 0 000
%RSD		1.094	2.425	2.792	2 204	ID 100.000	ID 100.000	2.470	ID 24 019	ID 0 000

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	20:08:11	19718.793	48654.796	16534.843	15167 858	35735.900	1140908.900
2	20:08:37	20147.971	50668.527	16679.173	15648 879	37114.805	1161168 600
3	20:09:03	20898.091	51329.151	17216.428	16298 308	38329.102	1199899 300
x		20254.952	50217.491	16810.148	15705 015	37059.936	1167325.600
σ		596.883	1393.061	359.173	567 312	1297.471	29973 279
%RSD		2.947	2.774	2.137	3 612	3.501	2 568

TE23024-010/MH0AB6 6/5/2018 20:13:33

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	20:13:59	418717.690	1980.271	10050.966	T 119866290.000	T 210722610.000	T 28993665.000	T 33057452 000	T 71001893.000	662806.920
2	20:14:25	433345.190	2172.326	9890.745	T 125521080.000	T 221815340.000	T 30435532.000	T 34963271 000	T 74747470.000	685907.420
3	20:14:51	439712.080	2272.356	9954.833	T 127537780.000	T 224768560.000	T 30696712.000	T 35269115 000	T 76185271.000	700971.760
x		430591.650	2141.651	9965.515	T 124308380.000	T 219102170.000	T 30041970.000	T 34429946 000	T 73978211.000	683228.700
σ		10764.641	148.439	80.642	T 3976921.800	T 7405615.600	T 917202.390	T 1198411 500	T 2675942.700	19222.913
%RSD		2.500	6.931	0.809	T 3.199	T 3.380	T 3.053	T 3.481	T 3.617	2 814

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	20:13:59	474183.090	T 10703901.000	T 16779935.000	TM 3085294.200	TM 50638462.000	1083912 800	79942 547	479457.760	337232 640
2	20:14:25	494264.610	T 11350112.000	T 17730587.000	TM 3238525.800	TM 53098260.000	1144805 800	83773.458	502541.840	355709 360
3	20:14:51	492357.090	T 11363251.000	T 17867636.000	TM 3282978.200	TM 54048284.000	1151859 500	86416 221	513898.290	358896.910
x		486934.930	T 11139088.000	T 17459386.000	TM 3202266.100	TM 52595002.000	1126859.400	83377.409	498632.630	350612.970
σ		11084.527	T 376940.450	T 592398.690	TM 103710.230	TM 1759736.800	37359 649	3254.959	17549.900	11696.795
%RSD		2.276	T 3.384	T 3.393	TM 3.239	TM 3.346	3 315	3.904	3.520	3 336

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	20:13:59	49560.906	TM 23093064.000	T 182574230.000	T 4409074.700	192704.700	101457.320	16899 683	248223.850	119566 360
2	20:14:25	51067.311	TM 24478794.000	T 192401180.000	T 4625836.900	202630.000	109541.750	18250.955	260905.900	127300.440
3	20:14:51	52565.970	TM 24896816.000	T 195130640.000	T 4739512.400	206525.700	108006.970	17833.918	264903.070	126482 300
x		51064.729	TM 24156224.000	T 190035350.000	T 4591474.700	200620.130	106335.340	17661 519	258010.940	124449.700
σ		1502.534	TM 944149.890	T 6604067.200	T 167877.490	7126.337	4293.627	691.936	8708.310	4248 832
%RSD		2.942	TM 3.909	T 3.475	T 3.656	3.552	4.038	3.918	3.375	3.414

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	20:13:59	319186.220	53798.970	247247.300	94800.077	1084.081	260.005	172 002	1163558.200	19538 305
2	20:14:25	333916.240	56043.888	256074.040	96251.016	1156.092	284.006	248 004	1224192.300	19786.978
3	20:14:51	336223.330	56543.749	259339.140	98525.276	1184.097	324.007	236 004	1227071.800	20123.904
x		329775.260	55462.203	254220.160	96525.457	1141.423	289.339	218 670	1204940.800	19816 396
σ		9242.643	1461.924	6255.459	1877.702	51.596	32.333	40 859	35867.245	293.906
%RSD		2.803	2.636	2.461	1.945	4.520	11.175	18 685	2.977	1.483

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	20:13:59	12130.144	31737.349	1212.101	3740.965	468.015	3604.896	6671 069	15396.339	739519.290
2	20:14:25	13191.997	32950.747	1324.121	3792.992	488.016	3736.963	6923 306	16671.155	770712.290
3	20:14:51	13091.816	33396.782	1196.099	3901.050	444.014	3664.927	6859 245	16687.192	769607.620
x		12804.652	32694.959	1244.107	3811.669	466.682	3668.929	6817 873	16251.562	759946.400
σ		586.285	858.778	69.755	81.660	22.032	66.124	131.109	740.688	17699.013
%RSD		4.579	2.627	5.607	2.142	4.721	1.802	1.923	4.558	2.329

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	20:13:59	3180.698	2400.398	1541471.400	2844748.000	ID 128171.590	ID 108920.490	1337334.800	ID 90303.188	ID 92571 542
2	20:14:25	3144.682	2664.490	1597083.000	2915295.400	ID 132630.770	ID 113875.800	1405531.900	ID 94893.285	ID 97069 830
3	20:14:51	3300.752	2512.436	1641497.900	T 2708938.600	ID 134737.090	ID 112027.320	1417623.000	ID 95821.379	ID 97803 598
x		3208.711	2525.774	1593350.800	T 2822994.000	ID 131846.480	ID 111607.870	1386829.900	ID 93672.617	ID 95814.990
σ		81.719	132.550	50117.600	T 104884.250	ID 3352.279	ID 2504.141	43288.241	ID 2954.679	ID 2832.767
%RSD		2.547	5.248	3.145	T 3.715	ID 2.543	ID 2.244	3.121	ID 3.154	ID 2.956

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	20:13:59	5450.049	14017.545	505861.280	408371.600	1043209.500	1021676 800
2	20:14:25	5994.478	14149.801	527544.470	418438.220	1067766.400	1035555 300
3	20:14:51	5570.140	14069.646	521523.190	421318.110	1078402.300	1042722 200
x		5671.556	14078.997	518309.650	416042.640	1063126.000	1033318.100
σ		286.033	66.622	11193.091	6797.586	18049.451	10699 599
%RSD		5.043	0.473	2.160	1.634	1.698	1 035

TE23024-011/MH0AC7 6/5/2018 20:19:20

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	20:19:46	461958.100	716 035	11188 631	T 162142880.000	T 99400558.000	T 13632950.000	T 15702176.000	T 31303242.000	234097 200
2	20:20:11	474895.550	888 054	11745 511	T 165803020.000	T 102363770.000	T 14130833.000	T 16208006.000	T 31926729.000	236493.140
3	20:20:37	481092.980	788 043	11681.408	T 169634160.000	T 104321980.000	T 14329817.000	T 16433116.000	T 32305435.000	238162 500
x		472648.880	797 378	11538 517	T 165860020.000	T 102028770.000	T 14031200.000	T 16114433.000	T 31845135.000	236250.940
σ		9763.274	86 389	304.700	T 3745966.500	T 2477753.500	T 358957.990	T 374346.230	T 506054.310	2043.445
%RSD		2.066	10 834	2 641	T 2.259	T 2.428	T 2.558	T 2.323	T 1.589	0 865

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	20:19:46	189345.880	T 11924954 000	T 27868508 000	M 454236.150	TM 7693308.800	1156946.400	41241.024	268836.000	122283.140
2	20:20:11	191029.200	T 12339099 000	T 28619242 000	M 457478.910	TM 7941470.300	1187855 800	42134.140	274888.850	124427.170
3	20:20:37	190376.350	T 12581532 000	T 29402909 000	M 465920.080	TM 8066193.600	1201817 600	43691.320	276371.690	126987 010
x		190250.480	T 12281862 000	T 28630220 000	M 459211.710	TM 7900324.200	1182206 600	42355.495	273365.520	124565.770
σ		848.693	T 332009 840	T 767259 260	M 6031.628	TM 189817.070	22962 848	1240.055	3992.124	2354.997
%RSD		0.446	T 2.703	T 2 680	M 1.313	TM 2.403	1.942	2.928	1.460	1 891

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	20:19:46	38759.382	T 4812201 600	T 56327653 000	1417714.500	46927.460	36097.687	6615.018	86424.317	42053 674
2	20:20:11	40126.794	T 4898865.100	T 58002731 000	1442348.600	46094.137	36322.807	7067.445	86404.078	42516 362
3	20:20:37	40348.018	T 4982989 200	T 59223111 000	1469989.500	48932.658	35788.157	6883.268	88472.816	42814.108
x		39744.731	T 4898018 600	T 57851165 000	1443350.900	47318.085	36069.550	6855.243	87100.404	42461 381
σ		860.477	T 85396.966	T 1453667 200	26151.906	1459.020	268.433	227.512	1188.587	383.187
%RSD		2.165	T 1.744	T 2 513	1.812	3.083	0.744	3.319	1.365	0.902

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	20:19:46	114737.220	19578.413	88476 865	53786.881	836.048	164.002	136.001	763798.530	55894.743
2	20:20:11	119163.810	20661.414	92008.438	55342.529	796.044	136.001	136.001	774613.180	56442.968
3	20:20:37	117350.580	20388 643	90529.991	55556.154	848.050	128.001	140.001	781323.480	57918 543
x		117083.870	20209.490	90338.432	54895.188	826.714	142.668	137.335	773245.070	56752 085
σ		2225.312	563 289	1773 562	965.747	27.231	18.904	2.309	8842.213	1046.712
%RSD		1.901	2.787	1.963	1.759	3.294	13.250	1.682	1.144	1 844

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	20:19:46	35193.254	94597.455	572 023	1048.076	152.002	1152.092	1508.157	3736.963	786243.370
2	20:20:11	36584.117	95314.763	496 017	1160.093	180.002	1244.107	1376.131	3552.871	791215.370
3	20:20:37	37492.743	97564.406	700 034	1144.090	156.002	1152.092	1568.170	3452.822	795126.760
x		36423.371	95825 541	589 358	1117.420	162.668	1182.763	1484.152	3580.885	790861.830
σ		1158.142	1548 022	103.107	60.584	15.144	53.125	98.244	144.127	4452.231
%RSD		3.180	1 615	17.495	5.422	9.310	4.492	6.620	4.025	0.563

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	20:19:46	2968.608	2444.412	420614.980	744407.870	ID 40770.372	ID 34654.668	1457489.400	ID 29058.145	ID 29046 097
2	20:20:11	3212.712	2580.459	427424 610	765558.530	ID 40529.023	ID 34743.089	1492483 800	ID 30106.412	ID 29150 515
3	20:20:37	3332.766	2840 557	431983 380	780532.680	ID 42170.349	ID 35687.663	1513982.700	ID 29652.546	ID 29917 632
x		3171.362	2621 809	426674 320	763499.690	ID 41156.581	ID 35028.473	1487985 300	ID 29605.701	ID 29371.415
σ		185.567	201 283	5721 218	18150.197	ID 886.203	ID 572.584	28514 050	ID 525.701	ID 475.911
%RSD		5.851	7 677	1 341	2.377	ID 2.153	ID 1.635	1.916	ID 1.776	ID 1 620

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	20:19:46	2240.346	5862 370	115541 860	93256.237	236443.560	1102380 500
2	20:20:11	2396.396	5702 243	119220.740	97122.530	242502.950	1116937 500
3	20:20:37	2684.497	6018.498	120225.130	96988.756	244053.730	1130736 000
x		2440.413	5861 037	118329 240	95789.174	241000.080	1116684 600
σ		225.323	158.132	2465 628	2194.607	4021.522	14179.450
%RSD		9.233	2 698	2 084	2.291	1.669	1 270

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User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	20:25:33	454142.550	644 029	11597 273	T 220363120.000	T 142839320.000	T 19687813.000	T 22278101.000	T 25533948.000	158449 600
2	20:25:59	475488.610	624 027	11404.968	T 227230650.000	T 147217580.000	T 20142854.000	T 23078453.000	T 26726373.000	166691.440
3	20:26:25	477379.030	644 029	11601 279	T 229972660.000	T 149486510.000	T 20505665.000	T 23448087.000	T 26857377.000	163859.940
x		469003.390	637 361	11534 507	T 225855480.000	T 146514470.000	T 20112111.000	T 22934880.000	T 26372566.000	163000 330
σ		12904.534	11 548	112 202	T 4950163.400	T 3378913.400	T 409791.760	T 598060.550	T 729212.160	4187 622
%RSD		2.751	1 812	0.973	T 2.192	T 2.306	T 2.038	T 2.608	T 2.765	2 569

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	20:25:33	641809.100	T 11481785 000	T 34174596 000	M 483142.850	TM 8320014.400	1101616 300	38803.617	262941.530	101388 360
2	20:25:59	680894.070	T 12077489 000	T 35914532 000	M 498594.670	TM 8629444.000	1155775 800	40581.315	277239.930	107552 280
3	20:26:25	665248.140	T 11889425 000	T 35358763 000	M 495894.510	TM 8608228.500	1153132.100	39439.034	278316.020	106411 620
x		662650.440	T 11816233 000	T 35149297 000	M 492544.010	TM 8519229.000	1136841.400	39607.989	272832.490	105117.420
σ		19671.548	T 304521.710	T 888679 630	M 8252.825	TM 172850.670	30534.445	900.812	8582.707	3279.432
%RSD		2.969	T 2 577	T 2 528	M 1.676	TM 2.029	2 686	2.274	3.146	3.120

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	20:25:33	37742.033	T 4767792 000	T 46539128 000	1165649.800	46794.605	32890.474	6855.241	85388.142	39998 086
2	20:25:59	39720.565	T 5088491 300	T 49457252 000	1235782.800	50132.820	35096.788	7327.703	89120.683	43550.476
3	20:26:25	40995.637	T 5072133 000	T 49192076 000	1217952.200	49685.757	34747.109	7239.615	90303.188	42443.940
x		39486.078	T 4976138 800	T 48396152 000	1206461.600	48871.061	34244.790	7140.853	88270.671	41997 501
σ		1639.428	T 180618 860	T 1613686.400	36451.113	1812.103	1185.832	251.238	2565.406	1817.787
%RSD		4.152	T 3 630	T 3 334	3.021	3.708	3.463	3.518	2.906	4 328

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	20:25:33	115667.850	19085.100	87711 647	45892.866	996.068	204.003	140.001	688426.310	67254 658
2	20:25:59	120290.190	19337.768	90112 840	47076.422	876.053	272.005	92.001	733088.490	71583 835
3	20:26:25	119582.630	19446 057	90282.938	48195.744	956.063	184.002	216.003	718898.990	70565.924
x		118513.550	19289 642	89369.141	47055.011	942.728	220.003	149.335	713471.260	69801.473
σ		2489.721	185 229	1437.950	1151.588	61.109	46.132	62.526	22820.444	2263 566
%RSD		2.101	0.960	1 609	2.447	6.482	20.969	41.870	3.199	3 243

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	20:25:33	42946.890	111653 610	480 016	1168.094	156.002	1128.088	936.060	2732.515	745822.870
2	20:25:59	46214.903	116992 860	496 017	1196.099	208.003	1136.089	1208.101	3056.644	771932.490
3	20:26:25	46311.517	118122.980	664 030	1120.087	212.003	1056.077	1200.099	2832.554	777410.270
x		45157.770	115589 820	546 688	1161.427	192.003	1106.751	1114.754	2873.904	765055.210
σ		1915.287	3455 367	101.936	38.442	31.242	44.067	154.804	165.974	16879.389
%RSD		4.241	2.989	18 646	3.310	16.272	3.982	13.887	5.775	2.206

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	20:25:33	4353.307	3212.712	380274.900	676295.930	ID 31367.745	ID 25761.712	1421948.400	ID 22109.678	ID 22470.787
2	20:25:59	4441.361	3580 885	395637 500	704867.870	ID 32183.309	ID 27704.861	1472634 600	ID 22811.850	ID 22868 026
3	20:26:25	4273.260	3332.766	396135 630	702959.140	ID 32436.434	ID 27512.128	1464784.400	ID 23100.763	ID 24043 823
x		4355.976	3375.454	390682 680	694707.650	ID 31995.830	ID 26992.900	1453122 500	ID 22674.097	ID 23127 545
σ		84.082	187.762	9016 838	15973.549	ID 558.467	ID 1070.586	27281 398	ID 509.700	ID 818 000
%RSD		1.930	5 563	2 308	2.299	ID 1.745	ID 3.966	1 877	ID 2.248	ID 3 537

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	20:25:33	1756.213	4277 262	97454.948	78769.809	199990.160	1065562 600
2	20:25:59	1960.265	4617.471	101611.460	82349.273	206159.490	1084767.700
3	20:26:25	1984.272	4721 538	100252.730	82470.642	204304.030	1089468.900
x		1900.250	4538.757	99773 044	81196.575	203484.560	1079933 000
σ		125.316	232 362	2119 367	2102.517	3165.247	12665 229
%RSD		6.595	5.120	2.124	2.589	1.556	1.173

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User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	20:31:21	427047.310	2432.408	15059.632	T 259350590.000	T 267076050.000	T 36748458.000	T 42283769.000	T 88724368.000	889775 510
2	20:31:48	439864.950	2352.382	15043.599	T 269902380.000	T 278347500.000	T 38292728.000	T 44441383.000	T 93408232.000	933465 510
3	20:32:13	453870.260	2336.377	14634.763	T 277242950.000	T 286295580.000	T 39816097.000	T 45273605.000	T 95013766.000	954144.910
x		440260.840	2373.722	14912.665	T 268831970.000	T 277239710.000	T 38285761.000	T 43999586.000	T 92382122.000	925795 310
σ		13415.853	51.450	240.803	T 8994082.700	T 9657533.100	T 1533831.400	T 1543103.300	T 3267844.800	32863 034
%RSD		3.047	2.167	1.615	T 3.346	T 3.483	T 4.006	T 3.507	T 3.537	3 550

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	20:31:21	865008.640	T 11650750.000	T 144648470.000	TM 2675435.100	TM 44050220.000	1125670.800	52404.809	497567.550	379651.450
2	20:31:48	926385.450	T 12502984.000	T 155231900.000	TM 2837557.200	TM 46762554.000	1210383.200	56963.014	530165.800	406257 600
3	20:32:13	933297.830	T 12722897.000	T 157094500.000	TM 2910611.300	TM 48016102.000	1227208.300	56672.751	537729.790	410249 330
x		908230.640	T 12292210.000	T 152324960.000	TM 2807867.900	TM 46276292.000	1187754.100	55346.858	521821.050	398719.460
σ		37590.578	T 566298.530	T 6712945.200	TM 120366.320	TM 2027164.000	54419.910	2552.019	21341.918	16633 554
%RSD		4.139	T 4.607	T 4.407	TM 4.287	TM 4.381	4.582	4.611	4.090	4.172

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	20:31:21	54991.875	TM 25065832.000	T 203590080.000	T 4771716.100	197149.900	121510.300	21443.681	278798.030	136603 550
2	20:31:48	58136.276	TM 26857803.000	T 218375390.000	T 5183013.100	215064.780	132276.380	22603.198	296646.140	143604.980
3	20:32:13	59140.352	TM 27151248.000	T 220964900.000	T 5295259.300	216939.440	131628.740	23281.339	302821.870	144469.920
x		57422.834	TM 26358294.000	T 214310120.000	T 5083329.500	209718.040	128471.810	22442.739	292755.350	141559.490
σ		2164.305	TM 1128880.800	T 9373681.100	T 275639.220	10924.610	6037.533	929.278	12475.574	4313 697
%RSD		3.769	TM 4.283	T 4.374	T 5.422	5.209	4.700	4.141	4.261	3 047

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	20:31:21	393966.020	66019.377	308668.990	72771.578	1708.201	372.010	164.002	1524944.400	51365.407
2	20:31:48	418688.050	70105.487	323018.560	76117.691	1740.209	440.013	260.005	1615464.000	55177 276
3	20:32:13	421648.520	71123.334	326560.120	76861.480	1964.266	356.009	268.005	1654223.700	57011 392
x		411434.200	69082.733	319415.890	75250.249	1804.226	389.344	230.670	1598210.700	54518 025
σ		15200.133	2701.317	9474.048	2178.570	139.520	44.604	57.875	66344.137	2880.147
%RSD		3.694	3.910	2.966	2.895	7.733	11.456	25.090	4.151	5 283

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	20:31:21	33147.642	84384.487	1520.159	4181.206	508.018	4069.142	6779.170	17340.724	740464.940
2	20:31:48	35776.098	90485.440	1760.214	4653.494	600.025	4361.312	7591.975	18571.768	798541.400
3	20:32:13	35655.505	93462.874	1608.178	4473.380	660.030	4405.339	7411.789	19117.184	798746.230
x		34859.748	89444.267	1629.517	4436.027	589.358	4278.598	7260.978	18343.225	779250.860
σ		1483.953	4627.884	121.441	238.349	76.565	182.725	426.874	910.015	33589.746
%RSD		4.257	5.174	7.453	5.373	12.991	4.271	5.879	4.961	4.311

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	20:31:21	2100.304	1624.182	1998056.100	T 3271016.000	ID 198054.070	ID 160264.870	1412249.600	ID 139828.190	ID 141500.180
2	20:31:48	2188.330	1740.209	2111845.800	T 3478290.400	ID 208904.450	ID 168922.210	1471974.500	ID 144221.040	ID 146653.130
3	20:32:13	2192.332	1812.227	2151535.800	T 3509152.000	ID 208764.500	ID 172324.940	1498325.500	ID 148322.590	ID 148755 330
x		2160.322	1725.539	2087145.900	T 3419486.100	ID 205241.000	ID 167170.670	1460849.900	ID 144123.940	ID 145636 210
σ		52.015	94.877	79665.377	T 129501.540	ID 6224.464	ID 6217.896	44103.100	ID 4248.034	ID 3732.946
%RSD		2.408	5.498	3.817	T 3.787	ID 3.033	ID 3.719	3.019	ID 2.947	ID 2 563

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	20:31:21	7808.204	19008.900	523846.090	420055.910	1068292.100	1036313.100
2	20:31:48	8200.638	19871.208	550484.120	442141.410	1135032.400	1073057.100
3	20:32:13	8328.784	20641.357	560048.970	447249.000	1142324.000	1079977.000
x		8112.542	19840.488	544793.060	436482.110	1115216.200	1063115.700
σ		271.240	816.662	18760.417	14452.920	40800.691	23468.222
%RSD		3.343	4.116	3.444	3.311	3.659	2.207

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User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	20:37:10	483147.120	436.013	11925.805	T 218917910.000	T 95803648.000	T 13134681.000	T 14999138 000	T 17126559.000	112965.720
2	20:37:36	487022.050	440.013	11981.898	T 227003470.000	T 98203229.000	T 13490121.000	T 15429249 000	T 17569368.000	112892 590
3	20:38:02	491826.840	392.011	11881.733	T 227794150.000	T 99513177.000	T 13674341.000	T 15569048 000	T 17624760.000	113420.740
x		487332.000	422.679	11929.812	T 224571840.000	T 97840018.000	T 13433048.000	T 15332478 000	T 17440229.000	113093 020
σ		4348.153	26.635	50.202	T 4912383.500	T 1881247.700	T 274320.090	T 297023 070	T 273054.460	286.164
%RSD		0.892	6.301	0.421	T 2.187	T 1.923	T 2.042	T 1.937	T 1.566	0 253
Run	**Time**	**34S**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
1	20:37:10	113502.000	T 12192654.000	T 41917525.000	326196.270	T 5627555.900	1228337.900	37746 053	156785.990	71640 390
2	20:37:36	113241.980	T 12444339.000	T 42507067.000	329187.060	T 5756024.700	1227556.600	37746 053	159729.240	72177 682
3	20:38:02	111369.290	T 12446464.000	T 42132539.000	331827.490	T 5738117.300	1224531.000	37150.990	164359.060	71228 358
x		112704.420	T 12361152.000	T 42185711.000	329070.270	T 5707232.600	1226808.500	37547 699	160291.430	71682.143
σ		1163.545	T 145927.440	T 298346.120	2817.430	T 69580.546	2010.667	343 560	3817.704	476 037
%RSD		1.032	T 1.181	T 0.707	0.856	T 1.219	0.164	0.915	2.382	0 664
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**62Ni**	**63Cu**	**65Cu**
1	20:37:10	30524.154	T 3078016.100	T 28857177.000	711640.260	28222.854	17428.935	4373 319	32472.596	15396 339
2	20:37:36	31532.457	T 3105565.300	T 29126358.000	713027.160	28869.393	16971.852	4377 322	32573.045	14855 211
3	20:38:02	32319.915	T 3107337.000	T 29321042.000	712349.090	28668.598	17954.215	4649.491	32536.883	15424 398
x		31458.842	T 3096972.800	T 29101526.000	712338.840	28586.948	17451.667	4466.711	32527.508	15225 316
σ		900.141	T 16440.882	T 232927.610	693.509	330.913	491.576	158 305	50.877	320 827
%RSD		2.861	T 0.531	T 0.800	0.097	1.158	2.817	3 544	0.156	2.107
Run	**Time**	**66Zn**	**67Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**89Y**	**95Mo**
1	20:37:10	56269.628	10888.174	47438.774	26424.090	928.059	124.001	112 001	680766.920	47515 272
2	20:37:36	57374.239	11437.018	48626.608	26167.161	856.051	108.001	140 001	687263.300	47611.903
3	20:38:02	55890.712	10683.870	48393.052	26849.650	1012.071	124.001	156 002	682503.420	46452.414
x		56511.526	11003.021	48152.811	26480.300	932.060	118.668	136 001	683511.210	47193.197
σ		770.778	389.487	629.305	344.700	78.087	9.238	22 271	3363.405	643 353
%RSD		1.364	3.540	1.307	1.302	8.378	7.785	16 376	0.492	1 363
Run	**Time**	**97Mo**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**
1	20:37:10	29740.907	77399.158	676.032	532.020	140.001	512.018	644 029	1508.157	801160.170
2	20:37:36	29600.333	77876.228	692.033	544.020	148.002	500.017	664 030	1360.128	811465.830
3	20:38:02	29837.302	76004.512	704.034	632.028	188.002	492.017	600 025	1648.187	807653.080
x		29726.181	77093.299	690.700	569.356	158.668	501.351	636 028	1505.491	806759.700
σ		119.169	972.621	14.049	54.606	25.717	10.067	32.744	144.048	5210.591
%RSD		0.401	1.262	2.034	9.591	16.208	2.008	5.148	9.568	0.646
Run	**Time**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**150Sm**	**156Gd**	**159Tb**	**160Dy**	**164Dy**
1	20:37:10	3476.834	2696.502	549018.980	991171.840	ID 18295.066	ID 15540.646	1500804.600	ID 12743.195	ID 12434 660
2	20:37:36	3476.834	2868.568	552690.980	996963.490	ID 18058.473	ID 15700.992	1502441.500	ID 12659.048	ID 12867.414
3	20:38:02	3548.869	2588.462	551432.300	993254.140	ID 18471.513	ID 15248.026	1500147.000	ID 12779.258	ID 12703.125
x		3500.845	2717.844	551047.420	993796.490	ID 18275.017	ID 15496.555	1501131.000	ID 12727.167	ID 12668.400
σ		41.589	141.267	1866.007	2933.666	ID 207.248	ID 229.679	1181.590	ID 61.687	ID 218.457
%RSD		1.188	5.198	0.339	0.295	ID 1.134	ID 1.482	0.079	ID 0.485	ID 1.724
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**			
1	20:37:10	1060.078	2700.503	57313.763	44975.139	118114.850	1103923.000			
2	20:37:36	1176.095	2640.481	58551.600	46685.908	116956.280	1102667.600			
3	20:38:02	996.068	2692.500	57180.718	47253.569	117692.050	1094501.400			
x		1077.414	2677.828	57682.027	46304.872	117587.720	1100364.000			
σ		91.257	32.590	756.005	1186.045	586.286	5115.827			
%RSD		8.470	1.217	1.311	2.561	0.499	0.465			

TE23024-015/MH0AD1 6/5/2018 20:42:32

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	20:42:58	499399.350	36 000	14394.282	T 410740420.000	T 208407060 000	T 28750511.000	T 32922449.000	203555.400	79380.418
2	20:43:25	507566.550	44 000	14811.121	T 426065280.000	T 214666300 000	T 29576506.000	T 33867446.000	207887.830	80387.428
3	20:43:51	513096.350	44 000	14931.367	T 433231590.000	T 220153810 000	T 30171742.000	T 34150209.000	209044.400	80528.987
x		506687.420	41 333	14712.257	T 423345760.000	T 214409050 000	T 29499586.000	T 33646701.000	206829.210	80098.944
σ		6890.690	4 619	281.861	T 11489564.000	T 5877597.900	T 713730.980	T 642957.980	2893.574	626 275
%RSD		1.360	11.175	1.916	T 2.714	T 2.741	T 2.419	T 1.911	1.399	0.782

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	20:42:58	724501.940	T 13423089 000	T 37964067.000	301600.480	T 5200730.100	1200926.400	1728.206	122417.370	6651 051
2	20:43:25	729217.600	T 13630952 000	T 38486267.000	306124.380	T 5252702.700	1187153.500	1824.230	133535.150	6659 058
3	20:43:51	728149.820	T 13710406 000	T 38659173.000	306045.140	T 5310416 600	1198675.400	1808.226	137969.060	7103.480
x		727289.790	T 13588149 000	T 38369835.000	304590.000	T 5254616.400	1195585.100	1786.887	131307.190	6804 530
σ		2472.674	T 148363.970	T 361884.000	2589.300	T 54868 275	7388.210	51.445	8011.653	258.929
%RSD		0.340	T 1 092	T 0.943	0.850	T 1 044	0.618	2.879	6.101	3 805

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	20:42:58	40673.831	T 2275957.900	T 19578029.000	476081.710	3160 689	5101.795	6578.985	10491.590	3176 696
2	20:43:25	44439.852	T 2287562 200	T 19849732.000	479773.680	2960 605	5073.776	7115.492	10763.989	3172 694
3	20:43:51	46291.389	T 2303034.700	T 20010505.000	485646.150	3564 877	4825.606	7027.406	11248.724	3072 651
x		43801.691	T 2288851 600	T 19812755.000	480500.510	3228.724	5000.392	6907.294	10834.767	3140 681
σ		2862.634	T 13584 376	T 218596.410	4823.469	307 827	152.016	287.715	383.498	58.949
%RSD		6.535	T 0 594	T 1.103	1.004	9 534	3.040	4.165	3.540	1 877

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	20:42:58	17705.604	4237 239	16566.916	20926.172	1264.110	88.001	128.001	601445.260	2304 366
2	20:43:25	18134.663	4189 211	16943.786	21178.905	1088 082	140.001	108.001	599371.560	2580.459
3	20:43:51	17926.146	4121.172	17348.743	21852.901	1320.120	128.001	104.001	602525.720	2652.485
x		17922.138	4182 540	16953.148	21319.326	1224.104	118.668	113.334	601114.180	2512.437
σ		214.558	58 320	390.997	479.057	121 082	27.228	12.858	1602.934	183.758
%RSD		1.197	1 394	2.306	2.247	9 891	22.945	11.346	0.267	7 314

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	20:42:58	1668.192	4081.149	292.006	84.000	0 000	64.000	96.001	228.004	822348.190
2	20:43:25	1728.206	4253 248	352.009	56.000	8 000	36.000	60.000	320.007	833210.250
3	20:43:51	1712.202	4193 213	304.006	68.000	0 000	32.000	32.000	236.004	839936.350
x		1702.867	4175 870	316.007	69.334	2 667	44.000	62.667	261.338	831831.600
σ		31.077	87 350	31.750	14.048	4 619	17.436	32.084	50.966	8874.759
%RSD		1.825	2 092	10.047	20.261	173 205	39.626	51.197	19.502	1.067

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	20:42:58	1312.119	1048 076	296250.430	525314.920	ID 288 006	ID 312.007	1559283.700	ID 144.001	ID 148 002
2	20:43:25	1260.110	1060 078	301667.180	532285.010	ID 344 008	ID 232.004	1585510.400	ID 248.004	ID 172 002
3	20:43:51	1312.119	1020 072	298858.310	526882.840	ID 264 005	ID 208.003	1592573 200	ID 216.003	ID 184 002
x		1294.782	1042.742	298925.300	528160.920	ID 298 673	ID 250.671	1579122 500	ID 202.670	ID 168 002
σ		30.028	20 529	2708.994	3656.594	ID 41 055	ID 54.457	17540 005	ID 53.268	ID 18 331
%RSD		2.319	1.969	0.906	0.692	ID 13.746	ID 21.724	1.111	ID 26.283	ID 10.911

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	20:42:58	64.000	128 001	14302.100	11953.852	29760.989	1107477.000
2	20:43:25	48.000	168 002	14730.958	12134.151	30837.476	1129281.200
3	20:43:51	44.000	168 002	14895.293	12490.756	31211 071	1138293.500
x		52.000	154 668	14642.784	12192.920	30603.179	1125017.200
σ		10.583	23 094	306.269	273.234	752 898	15844.572
%RSD		20.352	14.932	2.092	2.241	2.460	1.408

CV009 ISM-2068 6/5/2018 20:48:22 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	20:48:47	411894.850	331425.720	7872.274	T 119731250.000	T 87439766 000	T 12065942.000	T 13910252 000	T 100305850 000	4001.104
2	20:49:13	416549.960	340399.690	8268.715	T 123058260.000	T 90263509 000	T 12420006.000	T 14265107 000	T 101790570 000	3989 098
3	20:49:39	421445.190	342935.130	8360.820	T 127664380.000	T 93103115 000	T 12786247.000	T 14610880 000	T 105480810 000	4069.142
x		416630 000	338253.510	8167.270	T 123484630.000	T 90268796 000	T 12424065.000	T 14262080 000	T 102525740 000	4019.781
σ		4775.674	6047.413	259.592	T 3983715.600	T 2831678.100	T 360169.650	T 350323.740	T 2664660 200	43.167
%RSD		1.146	1.788	3.178	T 3.226	T 3.137	T	T 2.456	T 2 599	1 074

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	20:48:47	82757 889	111223.070	T 70807129.000	169773.770	T 2904449.700	1100907 800	361884.110	T 5534923.400	T 5387617 200
2	20:49:13	81317.722	116358.780	T 72773414.000	171546.800	T 2968916 500	1101560.700	368333.170	T 5627593.900	T 5439576 300
3	20:49:39	81208 507	118976.770	T 74787499.000	174659.850	T 3052767.100	1125299.100	365410 640	T 5640490 500	T 5517458.400
x		81761 372	115519.540	T 72789347.000	171993.470	T 2975377 800	1109255.900	365209 300	T 5601002 600	T 5448217 300
σ		864.734	3944.392	T 1990232.600	2473.478	T 74369.473	13897.708	3229 239	T 57588 387	T 65350.488
%RSD		1 058	3.414	T 2.734	1.438	T 2.499	1 253	0 884	T 1 028	T 1.199

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	20:48:47	638071 680	T 8270503.600	T 159602580.000	T 3765088.600	T 6796704 600	1455338.500	216078 270	T 3509617 800	1797469 500
2	20:49:13	643475 620	T 8341281.300	T 161664680.000	T 3840813.900	T 6890438 000	1474338.600	220541.760	T 3555831 000	1807598.400
3	20:49:39	649075 520	T 8427738.100	T 163718450.000	T 3876430.500	T 6819763 800	1462791.600	217788 340	T 3557407 200	1824759 800
x		643540.940	T 8346507.600	T 161661910.000	T 3827444.300	T 6835635 500	1464156.200	218136.120	T 3540952 000	1809942 500
σ		5502 210	T 78747.419	T 2057935.100	T 56862.232	T 48840.760	9573.309	2251.978	T 27147 635	13795 347
%RSD		0 855	T 0.943	T 1.273	T 1.486	T 0.715	0.654	1 032	T 0.767	0.762

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	20:48:47	1524035 600	255933.200	1182973.400	1208077.800	281482 890	121632.320	92 001	564192.630	T 2350614.700
2	20:49:13	1525442 800	258311.390	1183282.300	1202549.400	280065 530	122270.930	104 001	565250.490	T 2400395 300
3	20:49:39	1554397 800	259053.170	1206923.000	1219954.900	283316 310	120574.870	56 000	571000.080	T 2396772.100
x		1534625.400	257765.920	1191059.600	1210194.000	281621 570	121492.710	84 001	566814.400	T 2382594 000
σ		17137 869	1629.945	13738.990	8893.590	1629 820	856.609	24.980	3663.292	T 27754 063
%RSD		1.117	0.632	1.154	0.735	0 579	0.705	29.738	0.646	T 1.165

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	20:48:47	1572484.700	T 3915600.000	172927.030	1221784.100	131706.130	1201128.100	2129475 300	T 4848759.400	780861.430
2	20:49:13	1595145.700	T 3996512.000	173832.310	1232057.100	132537 080	1202530.700	2139995.100	T 4994202 600	788635.580
3	20:49:39	1603889 600	T 4015620.100	179528.700	1246215.700	135935.160	1222682.400	2191288.700	T 5078055 500	794770.690
x		1590506 600	T 3975910.700	175429.340	1233352.300	133392.790	1208780.400	2153586.400	T 4973672 500	788089 230
σ		16208 248	T 53097.212	3578.882	12267.199	2240 615	12059.872	33072.168	T 116018.490	6970.705
%RSD		1 019	T 1.335	2.040	0.995	1 680	0.998	1 536	T 2 333	0.885

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	20:48:47	T 3393268.900	T 2663002.200	T 6421162.100	T 10919300.000	ID 764 040	ID 184.002	1390297.500	ID 56 000	ID 32 000
2	20:49:13	T 3476261.900	T 2728364.200	T 6598897.200	T 11205035.000	ID 732 037	ID 192.003	1419807.100	ID 48 000	ID 48 000
3	20:49:39	T 3545705 800	T 2768078.700	T 6648660.100	T 11473644.000	ID 680 032	ID 164.002	1440313.000	ID 36 000	ID 60 000
x		T 3471745 600	T 2719815.000	T 6556239.800	T 11199326.000	ID 725 370	ID 180.002	1416805.900	ID 46 667	ID 46 667
σ		T 76318.746	T 53057.334	T 119597.560	T 277216.210	ID 42 399	ID 14.423	25142.486	ID 10 067	ID 14 048
%RSD		T 2.198	T 1.951	T 1.824	T 2.475	ID 5 845	ID 8.012	1.775	ID 21 571	ID 30.102

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	20:48:47	T 4723921 000	T 11358291.000	T 7737171.200	T 7075985.400	T 17127427 000	1018693 300
2	20:49:13	T 4884784 200	T 11688104.000	T 7993566.900	T 7256060.200	T 17418105 000	1045641.400
3	20:49:39	T 4981754 800	T 11955235.000	T 8167436.400	T 7427823.800	T 18105183 000	1084023.700
x		T 4863486.700	T 11667210.000	T 7966058.100	T 7253289.800	T 17550238 000	1049452.800
σ		T 130229 630	T 299019.830	T 216447.610	T 175935.540	T 502092 070	32831 539
%RSD		T 2 678	T 2.563	T 2.717	T 2.426	T 2 861	3.128

CB009 IM8714-01 6/5/2018 20:54:11 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	20:54:37	494273.160	84.000	9169.798	85894.068	9081.687	1336.123	1528.161	5990.475	2368 387
2	20:55:03	505827.010	80.000	9482.200	84886.297	8985.568	1228.104	1464.148	5746 278	2568.455
3	20:55:29	512556.050	92.001	9197.834	84263.086	9566.310	1268.111	1480.151	6074 545	2560.452
x		504218.740	85.334	9283.277	85014.484	9211.188	1277.446	1490.820	5937 099	2499 098
σ		9246.940	6.110	172.841	823.012	311.277	54.611	33.314	170 519	113 270
%RSD		1.834	7.160	1.862	0.968	3.379	4.275	2.235	2 872	4 532

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	20:54:37	89805 054	90805.405	121908.910	32.000	1252.108	1289214 800	48.000	5622.180	1648.187
2	20:55:03	90039.942	94427.256	122698.060	56.000	1216.102	1311549.400	76.000	5570.140	1508.157
3	20:55:29	90205.988	95983.503	118700.300	44.000	1160.093	1341306 300	36.000	5045.756	1596.176
x		90016.995	93738.722	121102.420	44.000	1209.434	1314023.500	53.334	5412 692	1584.173
σ		201.450	2656.828	2117.392	12.000	46.369	26133.748	20.527	318 839	70.783
%RSD		0 224	2.834	1.748	27.273	3.834	1.989	38.487	5 891	4.468

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	20:54:37	1904 250	1852.237	125236.940	868.052	404.011	172.002	2820.549	2196 333	352 009
2	20:55:03	1784 220	2036.286	125993.900	800.044	444.014	192.003	2524.440	1888 246	328 007
3	20:55:29	1792 222	2064.294	126368.330	908.057	572.023	172.002	2492.429	1964 266	376 010
x		1826 897	1984.272	125866.390	858.718	473.349	178.669	2612.472	2016 282	352 009
σ		67.109	115.200	576.371	54.608	87.763	11.547	180.909	160.495	24 001
%RSD		3 673	5.806	0.458	6.359	18.541	6.463	6.925	7.960	6 818

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	20:54:37	380 010	116.001	304.006	288.006	900.056	96.001	88.001	680328.470	1336.123
2	20:55:03	512 018	92.001	292.006	280.005	888.054	104.001	60.000	690120.670	1428.141
3	20:55:29	400 011	68.000	284.006	316.007	876.053	108.001	88.001	695772.720	1380.131
x		430 680	92.001	293.339	294.673	888.054	102.667	78.667	688740 620	1381.465
σ		71.147	24.000	10.067	18.904	12.001	6.110	16.166	7814.066	46 023
%RSD		16 520	26.087	3.432	6.415	1.351	5.951	20.550	1.135	3 331

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	20:54:37	872 052	2264.354	396.011	136.001	4.000	208.003	76.000	304 006	933198.130
2	20:55:03	992 068	2332.375	376.010	188.002	20.000	184.002	112.001	280 005	937005.710
3	20:55:29	832 048	2320.371	352.009	208.003	8.000	244.004	120.001	312 007	935001.970
x		898.723	2305.700	374.676	177.336	10.667	212.003	102.667	298 673	935068 600
σ		83 277	36.307	22.031	37.167	8.327	30.200	23.438	16 654	1904.662
%RSD		9 266	1.575	5.880	20.959	78.063	14.245	22.829	5 576	0.204

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	20:54:37	3124 673	2508.434	432.013	708.035	ID 0.000	ID 8.000	1624027.100	ID 44 000	ID 0 000
2	20:55:03	3412 804	2652.485	312.007	780.042	ID 4.000	ID 0.000	1640070.300	ID 56 000	ID 4 000
3	20:55:29	3380.789	2812.546	376.010	636.028	ID 8.000	ID 4.000	1653667.600	ID 40 000	ID 4 000
x		3306 088	2657.822	373.343	708.035	ID 4.000	ID 4.000	1639255.000	ID 46 667	ID 2 667
σ		157.923	152.126	60.048	72.007	ID 4.000	ID 4.000	14837.095	ID 8 327	ID 2 309
%RSD		4.777	5.724	16.084	10.170	ID 100.000	ID 100.000	0.905	ID 17 843	ID 86 603

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	20:54:37	580 023	1412.138	636.028	592.024	1476.150	1239161 500
2	20:55:03	560 022	1336.123	712.035	608.026	1368.129	1258103 300
3	20:55:29	644 029	1300.117	612.026	592.024	1596.176	1264181 500
x		594 691	1349.459	653.363	597.358	1480.152	1253815.400
σ		43 882	57.189	52.210	9.238	114.076	13049 502
%RSD		7 379	4.238	7.991	1.547	7.707	1 041

TE23024-016/MH0AD2 6/5/2018 21:00 00

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	21:00:26	494491.320	132.001	15721.035	TM 734870260.000	T 237355460 000	T 32467415.000	T 37139899.000	T 4029439.400	62924 020
2	21:00:52	510545.280	108.001	16009.666	TM 756260510.000	T 243143060 000	T 33459967.000	T 38256297.000	T 4122377.100	64166 847
3	21:01:18	509885.140	156.002	16174.030	TM 760954160.000	T 246104000 000	T 33956617.000	T 38956487.000	T 4167076.300	64441 266
x		504973.910	132.001	15968.244	TM 750694980.000	T 242200840 000	T 33294667.000	T 38117561.000	T 4106297.600	63844 044
σ		9084.192	24.000	229.321	TM 13904092.000	T 4449726.700	T 758237.400	T 916206.090	T 70213.226	808.493
%RSD		1.799	18.182	1.436	TM 1.852	T 1 837	T 2.277	T 2.404	T 1.710	1 266

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	21:00:26	443003.760	T 13292763.000	T 59095723.000	212428.710	T 3721001 600	1195660.900	17412.896	204464.460	33706 210
2	21:00:52	444159 380	T 13710121.000	T 61143581.000	219185.530	T 3812370 500	1197873.600	18824.419	219350.410	34690 840
3	21:01:18	450093 250	T 14012029.000	T 61961124.000	222570.390	T 3844986.700	1214596.700	17833.918	226782.000	34043.782
x		445752.130	T 13671638.000	T 60733476.000	218061.550	T 3792786 300	1202710.400	18023.745	216865.630	34146.944
σ		3803 662	T 361173.600	T 1476065.700	5163.423	T 64270.779	10353.125	724.655	11364.362	500 356
%RSD		0 853	T 2.642	T 2.430	2.368	T 1 695	0.861	4.021	5.240	1.465

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	21:00:26	46746 295	2092928.200	T 20132205.000	484680.620	20661.414	15873.366	8721.245	1117192.700	538895 820
2	21:00:52	52058 325	2123489.500	T 20600313.000	491382.140	20725 597	15464.484	8937.508	1112433.000	537574.910
3	21:01:18	55012 027	2124741.000	T 20772301.000	500426.720	21383 504	16017.684	9233.879	1109052.900	535587 540
x		51272 216	2113719.600	T 20501606.000	492163.160	20923 505	15785.178	8964.211	1112892.900	537352.750
σ		4188 563	18016.696	T 331267.120	7902.054	399 662	286.950	257.358	4089.318	1665 291
%RSD		8.169	0.852	T 1.616	1.606	1.910	1.818	2.871	0.367	0 310

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	21:00:26	275424 630	43715.465	200713.760	75927.713	1316.120	188.002	124.001	616181.480	112401 040
2	21:00:52	274149 630	43184.295	200265.620	77694.291	1364.128	152.002	120.001	613751.690	111426.150
3	21:01:18	278058.410	44222.528	204657.810	78442.285	1492.154	228.004	140.001	615064.290	113591 380
x		275877 560	43707.429	201879.060	77354.763	1390 801	189.336	128.001	614999.150	112472 860
σ		1993 364	519.163	2416.874	1291.211	90.998	38.019	10.583	1216.201	1084.400
%RSD		0.723	1.188	1.197	1.669	6 543	20.080	8.268	0.198	0.964

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	21:00:26	70606 315	184166.940	596.025	4057.135	348 008	3873.035	2788.536	8248.692	793155.240
2	21:00:52	72012 047	185307.470	632.028	3881.039	324 007	4105.163	2824.550	8096.521	793119.640
3	21:01:18	71260 673	186214.270	640.028	4121.172	332 008	4077.147	2800.541	8821.366	805179.160
x		71293 012	185229.560	622.693	4019.782	334 674	4018.448	2804.543	8388.860	797151.350
σ		703.424	1025.889	23.440	124.348	12 221	126.708	18.337	382.211	6952.311
%RSD		0.987	0.554	3.764	3.093	3 652	3.153	0.654	4.556	0.872

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	21:00:26	33557 522	26118.987	413223.380	736899.500	ID 3941 071	ID 3396.796	1475523.400	ID 2928.592	ID 2976 611
2	21:00:52	34031.726	25874.111	421407.070	753070.020	ID 4349 305	ID 3536.863	1496816.000	ID 2904.582	ID 2876 571
3	21:01:18	34702 898	26970.096	427424.610	763222.300	ID 4381 324	ID 3636.912	1548970.900	ID 2816 547	ID 2620.474
x		34097 382	26321.065	420685.020	751063.940	ID 4223.900	ID 3523.524	1507103.400	ID 2883 240	ID 2824 552
σ		575 504	575.259	7128.099	13275.570	ID 245.459	ID 120.613	37788.977	ID 58.992	ID 183 679
%RSD		1 688	2.186	1.694	1.768	ID 5 811	ID 3.423	2.507	ID 2.046	ID 6 503

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	21:00:26	488 016	1152.092	1491325.700	1237007.800	3224744 600	1061336.500
2	21:00:52	548 021	1264.110	1558415.200	1292626.000	3373541 200	1089584.500
3	21:01:18	472 015	1144.090	1583236.300	1306527.800	3404506 200	1103163.300
x		502 684	1186.764	1544325.700	1278720.500	3334264 000	1084694.700
σ		40 069	67.103	47547.582	36786.939	96101.913	21337.791
%RSD		7.971	5.654	3.079	2.877	2 882	1.967

TE23024-016MS/MH0AD2S 6/5/2018 21:05:47

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	21:06:14	498765.870	37227.381	15965.569	TM 781646940.000	T 257691050.000	T 35228423.000	T 40599920.000	T 4464996.900	65409 887
2	21:06:39	508650.760	38208.467	15949.533	TM 797955690.000	T 265566230.000	T 36209884.000	T 41810127.000	T 4562835.200	67060 875
3	21:07:05	507223.760	38666.889	15789.183	TM 806922660.000	T 266330640.000	T 36359817.000	T 41682525.000	T 4541723.200	65773.153
x		504880.130	38034.246	15901.428	TM 795508430.000	T 263195970.000	T 35932708.000	T 41364191.000	T 4523185.100	66081 305
σ		5342.955	735.399	97.538	TM 12814339.000	T 4782698.600	T 614518.310	T 664945.470	T 51486.204	867 559
%RSD		1.058	1.934	0.613	TM 1.611	T 1.817	T 1.710	T 1.608	T 1.138	1 313

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	21:06:14	452168.670	T 13945609.000	T 62935537.000	231008.410	T 4040054.700	1187134.800	19285.629	T 3185948.000	1188389.700
2	21:06:39	462247.730	T 14396941.000	T 64411235.000	234890.250	T 4127705.500	1227881.300	19373.864	T 3276985.900	1204918.900
3	21:07:05	445502.170	T 13983885.000	T 63149102.000	230682.260	T 4038687.700	1184527.200	19020.931	T 3185621.500	1158187.100
x		453306.190	T 14108812.000	T 63498625.000	232193.640	T 4068816.000	1199847.800	19226.808	T 3216185.100	1183831.900
σ		8430.533	T 250260.210	T 797524.610	2341.021	T 51004.381	24312.744	183.672	T 52655.300	23696.939
%RSD		1.860	T 1.774	T 1.256	1.008	T 1.254	2.026	0.955	T 1.637	2 002

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	21:06:14	187014.490	T 6540156.700	T 24589734.000	596522.230	T 3500525.800	738913.970	118513.270	2153403.600	1020563 000
2	21:06:39	192651.310	T 6692607.700	T 24838473.000	607478.720	T 3574194.000	760953.250	121742.140	2214459.900	1038182.400
3	21:07:05	187461.830	T 6571662.700	T 24604152.000	589262.830	T 3449375.400	723143.800	120009.600	2113116.600	999774 090
x		189042.540	T 6601475.700	T 24677453.000	597754.590	T 3508031.700	741003.670	120088.340	2160326.700	1019506 500
σ		3133.275	T 80479.435	T 139633.910	9170.264	T 62746.900	18991.151	1615.874	51025.123	19225.963
%RSD		1.657	T 1.219	T 0.566	1.534	T 1.789	2.563	1.346	2.362	1 886

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	21:06:14	1031106.900	167853.810	779866.340	124366.140	29250.919	12041.997	140.001	613777.770	119025 570
2	21:06:39	1045057.500	171845.760	792443.300	127373.710	28379.464	12074.051	152.002	612695.690	119342.720
3	21:07:05	1025326.400	168607.000	773689.920	126103.780	27704.861	11513.139	220.003	599198.050	114339 000
x		1033830.300	169435.520	781999.860	125947.880	28445.081	11876.396	170.669	608557.170	117569.100
σ		10143.550	2121.027	9556.998	1509.834	775.115	314.998	43.144	8123.273	2801 833
%RSD		0.981	1.252	1.222	1.199	2.725	2.652	25.280	1.335	2 383

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	21:06:14	77548.744	196562.260	9334.008	405454.430	6506.920	395498.190	104638.070	257097.340	800251.520
2	21:06:39	76707.865	198448.640	9229.874	413320.700	7027.406	401511.740	105125.050	258991.010	803352.080
3	21:07:05	74262.590	193415.260	9197.834	395641.720	6823.211	388350.750	104504.160	251845.660	777783.300
x		76173.067	196142.050	9253.905	404805.620	6785.846	395120.230	104755.760	255978.000	793795.630
σ		1707.105	2542.867	71.197	8857.331	262.247	6588.631	326.745	3701.850	13953.478
%RSD		2.241	1.296	0.769	2.188	3.865	1.668	0.312	1.446	1.758

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	21:06:14	711472.960	555726.460	T 3197267.300	T 5415334.900	ID 4789.582	ID 3869.033	1502563.400	ID 3060.646	ID 3144 682
2	21:06:39	718806.450	555605.710	T 3218547.500	T 5543619.000	ID 4929.676	ID 3817.005	1533338.100	ID 3400.798	ID 3016 628
3	21:07:05	706772.680	548282.220	T 3174786.700	T 5415264.300	ID 4929.676	ID 3728.959	1494026.600	ID 3056.644	ID 3144 682
x		712350.700	553204.800	T 3196867.200	T 5458072.700	ID 4882.978	ID 3804.999	1509976.000	ID 3172.696	ID 3101.997
σ		6064.710	4263.508	T 21883.149	T 74085.276	ID 80.883	ID 70.804	20677.529	ID 197.552	ID 73.932
%RSD		0.851	0.771	T 0.685	T 1.357	ID 1.656	ID 1.861	1.369	ID 6.227	ID 2 383

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	21:06:14	501706.850	1239713.000	1809116.500	1510206.900	T 3707991.900	T 1014387.500
2	21:06:39	507540.840	1264573.900	1840743.000	1536992.700	T 3793065.400	T 1029356.400
3	21:07:05	500431.000	1236706.300	1802428.700	1491384.100	T 3718402.900	T 1013965.800
x		503226.230	1246997.700	1817429.400	1512861.200	T 3739820.100	T 1019236.600
σ		3790.627	15295.516	20465.197	22919.838	T 46404.695	T 8766.574
%RSD		0.753	1.227	1.126	1.515	T 1.241	T 0.860

TE23024-016DU/MH0AD2D 6/5/2018 21:11:36

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	21:12:02	501021.800	100.001	16133.941	TM 773712070.000	T 253623810 000	T 34898185.000	T 40313553.000	T 4231353.100	66152 583
2	21:12:27	510999.690	140.001	15941.516	TM 811112120.000	T 266013820 000	T 36402006.000	T 41805574.000	T 4360698.700	67000 319
3	21:12:53	521493.140	96.001	16663.137	TM 817915300.000	T 266431900 000	T 37041171.000	T 42497583.000	T 4318326.000	67977 355
x		511171.540	112.001	16246.198	TM 800913160.000	T 262023180 000	T 36113787.000	T 41538903.000	T 4303459.300	67043.419
σ		10236.748	24.331	373.678	TM 23801165.000	T 7277071.100	T 1100181.600	T 1116168.100	T 65941.909	913.149
%RSD		2.003	21.724	2.300	TM 2.972	T 2.777	T 3.046	T 2.687	T 1.532	1 362

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	21:12:02	458466.490	T 14313703.000	T 64105168.000	230517.130	T 4036418 500	1221661.800	18760.253	236679.060	35848.454
2	21:12:27	466039.400	T 14827697.000	T 66220013.000	238484.840	T 4157560 300	1236668.600	18355.218	242002.630	36773 070
3	21:12:53	465234 040	T 15020814.000	T 67023324.000	244177.810	T 4236899 800	1235754.500	18852.492	246039.210	36005 228
x		463246 640	T 14720738.000	T 65782835.000	237726.590	T 4143626 200	1231361.600	18655.987	241573.640	36208.917
σ		4159 276	T 365488.370	T 1507399.400	6861.834	T 100964 380	8412.733	264.526	4694.795	494 819
%RSD		0 898	T 2.483	T 2.291	2.886	T 2.437	0.683	1.418	1.943	1 367

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	21:12:02	54891.115	2247333.400	T 21616129.000	521969.680	22366.465	17080.106	10583.723	1182636 500	571583.490
2	21:12:27	56930.762	T 2221066.100	T 22135148.000	531145.810	22651 348	16827.516	11380.930	1188277.300	572370 090
3	21:12:53	60681 011	T 2247198.000	T 22405902.000	539115.270	22932 229	16795.441	11749.518	1209162 300	570602 520
x		57500.963	T 2238532.500	T 22052393.000	530743.590	22650 014	16901.021	11238.057	1193358.700	571518.700
σ		2936.762	T 15126.507	T 401337.230	8579.871	282 884	155.919	595.885	13973.923	885 563
%RSD		5.107	T 0.676	T 1.820	1.617	1 249	0.923	5.302	1.171	0.155

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	21:12:02	287213 300	45361.536	213618.940	80913.232	1512.158	168.002	164.002	628982.250	117045.710
2	21:12:27	293830 840	46271.261	218155.130	83648.022	1540.164	208.003	156.002	629008.380	119289 860
3	21:12:53	292798 280	46669.804	216918.830	83320.278	1416.138	168.002	184.002	639131.230	120766 010
x		291280 810	46100.867	216230.970	82627.177	1489.487	181.336	168.002	632373.950	119033 860
σ		3560.198	670.572	2345.017	1493.339	65 047	23.095	14.423	5851.988	1873 317
%RSD		1 222	1.455	1.084	1.807	4 367	12.736	8.585	0.925	1 574

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	21:12:02	74072 661	193070.240	720.036	4757.561	324 007	4409.341	3164.691	8360.820	808125.670
2	21:12:27	75572 024	199505.060	624.027	4709.530	372 010	4529.415	3036.636	8693.211	822352.660
3	21:12:53	77201 061	199389.960	704.034	4769.569	296 006	4657.496	3016.628	8797.337	822803.820
x		75615 249	197321.750	682.699	4745.553	330 674	4532.084	3072.652	8617.123	817760.720
σ		1564 648	3682.371	51.438	31.770	38.438	124.099	80.334	227.988	8347.242
%RSD		2 069	1.866	7.534	0.669	11 624	2.738	2.614	2.646	1.021

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	21:12:02	36153.966	28499.935	449123.790	790276.760	ID 4205 220	ID 3356.777	1522198.900	ID 2952.601	ID 2812 546
2	21:12:27	38224 552	28913.569	454036.180	809164.580	ID 4509.403	ID 3556.873	1551426.500	ID 2988.616	ID 3180 698
3	21:12:53	38280 848	29797.137	460650.690	826986.150	ID 4597.458	ID 3873.035	1568317.700	ID 3108 667	ID 2892 577
x		37553.122	29070.214	454603.550	808809.160	ID 4437 360	ID 3595.562	1547314.400	ID 3016 628	ID 2961.940
σ		1212 031	662.636	5784.356	18357.275	ID 205 804	ID 260.294	23332.806	ID 81.717	ID 193 630
%RSD		3 228	2.279	1.272	2.270	ID 4 638	ID 7.239	1.508	ID 2.709	ID 6 537

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	21:12:02	484 016	1396.134	1633569.900	1353687.100	3541522.700	1084938.700
2	21:12:27	676 032	1428.141	1678779.400	1374305.800	T 3422235.700	T 1029398.600
3	21:12:53	592 024	1444.144	1703769.500	1401335.700	T 3479822 600	1134139.500
x		584 024	1422.806	1672039.600	1376442.900	T 3481193.700	T 1082825.600
σ		96 257	24.445	35581.801	23896.055	T 59655 321	T 52402.412
%RSD		16.482	1.718	2.128	1.736	T 1.714	T 4.839

TE23024-016L(5)/MH0AD2L 6/5/2018 21:17:23

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	21:17:49	477050.410	96 001	10920.222	T 171440180.000	T 56126390 000	T 7740608.600	T 8944576.100	992637 610	17982 284
2	21:18:15	491762.700	36 000	10852.120	T 171100770.000	T 56193325 000	T 7685830.700	T 8915676.400	T 967938 640	17597 341
3	21:18:41	491501.860	52 000	10659.835	T 173698280.000	T 56840890 000	T 7831873.000	T 8985843.900	997246.780	17773.771
x		486771.660	61 334	10810.726	T 172079740.000	T 56386868 000	T 7752770.800	T 8948698.800	T 985941 010	17784.465
σ		8419.856	31 070	135.039	T 1411926.000	T 394616 080	T 73776.911	T 35264.945	T 15759.921	192 694
%RSD		1.730	50 658	1.249	T 0.821	T 0.700	T 0.952	T 0.394	T 1 598	1 083

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	21:17:49	182161.190	T 3019281 500	T 14242253.000	52324.230	883748 530	1255495.700	4801.590	72876 626	9730 529
2	21:18:15	179643.490	T 3008086 300	T 14241261.000	52517.622	864819.990	1267184.500	4501.398	73725.144	9602 358
3	21:18:41	178458.750	T 3013113 800	T 14327155.000	51868.975	877406 840	1265406.200	4733.546	73620 084	9938 811
x		180087 810	T 3013493.900	T 14270223.000	52236.942	875325.120	1262695.500	4678.845	73407 285	9757 233
σ		1890.786	T 5607 266	T 49307.262	333.017	9634.451	6298.245	157.395	462 557	169 809
%RSD		1 050	T 0.186	T 0.346	0.638	1.101	0.499	3.364	0 630	1.740

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	21:17:49	18964.784	511960 050	T 5171231.800	123405.930	5950.442	6394.820	3700.945	293377 000	141055 640
2	21:18:15	19133 226	517377 240	T 5119875.800	120900.220	5357.980	5930.426	4125.174	292028.120	141536 890
3	21:18:41	19450 068	522789.750	T 5218641.900	123800.580	5269.916	6434.856	3993.100	297537 590	143152.160
x		19182 693	517375 680	T 5169916.500	122702.240	5526.113	6253.367	3939.740	294314 240	141914 890
σ		246 395	5414 849	T 49396.187	1573.023	370.109	280.391	217.090	2871 823	1098.186
%RSD		1 284	1 047	T 0.955	1.282	6 697	4.484	5.510	0.976	0.774

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	21:17:49	76719.992	12731.174	55963.269	20099.838	884 054	172.002	92.001	630336.700	27194.934
2	21:18:15	76404 687	11869.713	56269.628	20176.049	992 068	152.002	84.000	648381.310	28178 682
3	21:18:41	76707 865	12350 516	57696.785	20276.328	1040 075	124.001	100.001	643209.470	27761 075
x		76610 848	12317.134	56643.227	20184.072	972 065	149.335	92.001	640642.490	27711 564
σ		178 644	431 699	925.176	88.518	79.911	24.111	8.000	9292.151	493.739
%RSD		0 233	3 505	1.633	0.439	8 221	16.146	8.696	1.450	1.782

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	21:17:49	17761.741	45937.145	464.015	1180.096	76 000	968.065	788.043	2284 360	835818.540
2	21:18:15	17669 516	45760 030	352.009	916.058	88 001	1016.071	772.041	1932 258	853513.910
3	21:18:41	17404 877	46275 286	472.015	1120.087	56 000	976.066	772.041	2092 302	851872.570
x		17612 045	45990 821	429.346	1072.080	73 334	986.734	777.375	2102.973	847068.340
σ		185 244	261.788	67.096	138.411	16.166	25.720	9.239	176 294	9777.118
%RSD		1 052	0 569	15.627	12.910	22 044	2.607	1.188	8 383	1.154

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	21:17:49	8705 226	6562.971	101660.130	180816.120	ID 1148 091	ID 932.060	1514953.700	ID 704 034	ID 668 031
2	21:18:15	8753 284	6486.902	100702.910	180377.390	ID 952 063	ID 836.048	1534296.900	ID 640 028	ID 724 036
3	21:18:41	8625.130	6595 000	102864.960	180065.780	ID 1064 078	ID 884.054	1543905.100	ID 692 033	ID 596 025
x		8694 547	6548 291	101742.670	180419.760	ID 1054.744	ID 884.054	1531051.900	ID 678 698	ID 662 697
σ		64.741	55 524	1083.386	376.961	ID 98 347	ID 48.006	14745.954	ID 34 023	ID 64.172
%RSD		0.745	0 848	1.065	0.209	ID 9 324	ID 5.430	0.963	ID 5 013	ID 9 684

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	21:17:49	196 003	468 015	363254.170	301058.640	759048.130	1096306.100
2	21:18:15	152 002	500 017	362136.250	300454.310	755571.400	1116454.900
3	21:18:41	168 002	396 011	361640.380	308239.260	764968 860	1123223.000
x		172 002	454 681	362343.600	303250.740	759862 800	1111994.700
σ		22 272	53 270	826.634	4330.743	4751.405	14001.766
%RSD		12.948	11.716	0.228	1.428	0 625	1.259

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User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	21:23:36	509452.230	1712.202	15949.533	TM 779549280.000	T 258701880 000	T 35558275.000	T 41171997.000	T 4549593.800	67060 875
2	21:24:02	516231.710	1736.208	16330.380	TM 808175280.000	T 267767510 000	T 36871303.000	T 42717410.000	T 4701808.700	67735.102
3	21:24:28	529052.700	1720.204	16498.761	TM 824240300.000	T 273181820 000	T 37700222.000	T 43358413.000	T 4797617.500	68728 389
x		518245.540	1722.872	16259.558	TM 803988290.000	T 266550400 000	T 36709934.000	T 42415940.000	T 4683006.700	67841.456
σ		9954.207	12.223	281.380	TM 22637797.000	T 7316294 000	T 1080052.900	T 1123951.300	T 125076.310	838 829
%RSD		1.921	0.709	1.731	TM 2.816	T 2.745	T 2.942	T 2.650	T 2.671	1 236

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	21:23:36	459207 250	T 14348273.000	T 66447581.000	241134.400	T 4152256.400	1228709.700	18832.440	298000.020	60245 399
2	21:24:02	465532 310	T 14801445.000	T 68488654.000	246796.310	T 4281326.700	1253318.700	19935.384	306111.870	61092.447
3	21:24:28	471768.900	T 14978754.000	T 68752765.000	248778.390	T 4362580 000	1264994.800	19795.000	313597.990	61096.481
x		465502 820	T 14709491.000	T 67896334.000	245569.700	T 4265387.700	1249007.700	19520.941	305903.300	60811.442
σ		6280 877	T 325143.550	T 1261586.900	3966.873	T 106063 830	18522.693	600.377	7801.078	490 212
%RSD		1 349	T 2.210	T 1.858	1.615	T 2.487	1.483	3.076	2.550	0 806

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	21:23:36	57793 551	2318786.100	T 23650907.000	573403.160	36668 542	20027.638	9782.599	1209129 500	584010 080
2	21:24:02	61334.478	T 2265623.200	T 24062111.000	582876.000	37597 283	20829.895	11100.496	1229928.900	585811.110
3	21:24:28	61939 593	T 2294737.400	T 24399589.000	586213.800	37641 512	20067.749	11661.376	1243810.100	589657 040
x		60355 874	T 2293048.900	T 24037535.000	580830.990	37302.446	20308.427	10848.157	1227622 800	586492.740
σ		2239 568	T 26621.623	T 374945.560	6645.650	549.422	452.049	964.472	17454.955	2884 529
%RSD		3.711	T 1.161	T 1.560	1.144	1.473	2.226	8.891	1.422	0.492

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	21:23:36	296891.900	47249.543	219383.390	85197.922	4249 246	1432.142	160.002	635639.210	120221 060
2	21:24:02	301863 090	48163.531	222570.390	85371.952	4481 385	1584.173	140.001	647381.580	122885.190
3	21:24:28	307834 590	48489.695	227483.480	86064.068	4421 348	1356.127	232.004	645317.060	122279 070
x		302196 530	47967.590	223145.750	85544.647	4383.993	1457.480	177.336	642779.290	121795.110
σ		5478.962	642.876	4080.585	458.170	120.494	116.116	48.389	6269.054	1396.447
%RSD		1 813	1.340	1.829	0.536	2.748	7.967	27.286	0.975	1.147

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	21:23:36	76715.950	196586.920	1224.103	20304.407	688 033	21018.438	7403.780	19879.230	823268.410
2	21:24:02	77338 515	202218.750	1116.086	21247.104	656 030	21038.496	7383.760	19317.715	835787.220
3	21:24:28	79028 604	201684.160	1060.078	21423.622	652 029	20773.734	7535.917	19217.449	837152.110
x		77694 356	200163.270	1133.422	20991.711	665 364	20943.556	7441.152	19471.465	832069.250
σ		1196 687	3108.730	83.376	601.731	19.733	147.412	82.676	356.676	7652.240
%RSD		1 540	1.553	7.356	2.867	2.966	0.704	1.111	1.832	0.920

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	21:23:36	64804.484	50930.352	479210.160	860801.030	ID 4545.425	ID 3656.923	1555785.800	ID 3116.670	ID 3296.750
2	21:24:02	65139.467	51824.660	490189.270	870315.210	ID 4457 371	ID 3893.046	1575753.900	ID 3052.643	ID 3096 662
3	21:24:28	66665 250	52026.095	499574.850	888910.360	ID 4717 535	ID 4033.122	1589090.300	ID 2848 560	ID 3140 680
x		65536.400	51593.702	489658.090	873342.200	ID 4573.444	ID 3861.030	1573543.300	ID 3005.958	ID 3178 031
σ		991 856	583.240	10192.730	14297.048	ID 132 326	ID 190.132	16761.932	ID 140.019	ID 105.143
%RSD		1 513	1.130	2.082	1.637	ID 2 893	ID 4.924	1.065	ID 4.658	ID 3 308

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	21:23:36	21435 658	52332.288	1686607.300	1395146.400	T 3433082 200	1113049.800
2	21:24:02	21383 504	54451.819	1720532.700	1413362.500	T 3488447 500	T 1044662.700
3	21:24:28	21965 240	53371.829	1715443.100	1439515.400	T 3544509.700	T 1060011.100
x		21594 801	53385.312	1707527.700	1416008.100	T 3488679 800	T 1072574.500
σ		321 868	1059.830	18295.414	22302.461	T 55714.115	T 35882.900
%RSD		1.490	1.985	1.071	1.575	T 1 597	T 3.345

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Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	21:29:23	501749.670	39181.643	16206.102	TM 787818340.000	T 263138910.000	T 36375185.000	T 42030368.000	T 4621295.700	69907 589
2	21:29:49	516184.520	39768.829	16093.852	TM 812753210.000	T 266804590.000	T 37277753.000	T 42666233.000	T 4623523.200	68950.484
3	21:30:15	522493.480	39805.027	16162.003	TM 822523160.000	T 271482610.000	T 37793347.000	T 43236800.000	T 4700843.500	70331 663
x		513475.890	39585.166	16153.986	TM 807698240.000	T 267142040.000	T 37148761.000	T 42644467.000	T 4648554.100	69729.912
σ		10633.859	349.930	56.553	TM 17896113.000	T 4182072.800	T 717826.700	T 603510.770	T 45297.596	707 524
%RSD		2.071	0.884	0.350	TM 2.216	T 1.565	T 1.932	T 1.415	T 0.974	1 015
Run	**Time**	**34S**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
1	21:29:23	471133.500	T 13807898.000	T 63140767.000	232845.830	T 4126393.200	1233441.700	19602.478	T 3430656.700	1241919 200
2	21:29:49	473167.840	T 14074613.000	T 64080721.000	237220.340	T 4132954.700	1252506.600	20878.033	T 3444614.400	1267633.900
3	21:30:15	472327.590	T 14144427.000	T 64621116.000	239096.510	T 4157997.700	1259672.000	20942.218	T 3497289.100	1267411 600
x		472209.640	T 14008979.000	T 63947535.000	236387.560	T 4139115.200	1248540.100	20474.243	T 3457520.100	1258988 200
σ		1022.288	T 177605.920	T 749107.410	3207.475	T 16678.620	13557.570	755.653	T 35140.945	14782 601
%RSD		0.216	T 1.268	T 1.171	1.357	T 0.403	1.086	3.691	T 1.016	1.174
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**62Ni**	**63Cu**	**65Cu**
1	21:29:23	199394.070	T 6930068.700	T 25054281.000	613208.460	T 3727581.600	792038.420	128525.780	2304733.700	1083852.700
2	21:29:49	201737.610	T 7036249.900	T 25563451.000	616546.660	T 3774782.700	791277.650	127406.270	2306184.700	1084504 300
3	21:30:15	202712.250	T 7029547.100	T 25605342.000	618525.070	T 3760323.000	797290.220	128391.430	2290232.800	1077465 000
x		201281.310	T 6998621.900	T 25407691.000	616093.400	T 3754229.100	793535.430	128107.830	2300383.700	1081940.700
σ		1705.504	T 59463.369	T 306777.920	2687.127	T 24183.419	3273.917	611.269	8820.857	3889.718
%RSD		0.847	T 0.850	T 1.207	0.436	T 0.644	0.413	0.477	0.383	0 360
Run	**Time**	**66Zn**	**67Zn**	**68Zn**	**75As**	**78Se**	**82Se**	**83Kr**	**89Y**	**95Mo**
1	21:29:23	1092553.700	176561.100	826981.680	133205.160	29841.319	12871.421	196.003	626513.520	122047 210
2	21:29:49	1099375.100	178245.600	828054.440	134553.730	30479.968	12394.591	188.002	623680.050	119712.750
3	21:30:15	1090537.100	177352.070	828707.110	133311.080	30226.912	12787.273	216.003	632662.900	121819.420
x		1094155.300	177386.260	827914.410	133689.990	30182.733	12684.428	200.003	627618.820	121193.130
σ		4631.591	842.767	871.196	749.895	321.609	254.508	14.423	4592.293	1287 094
%RSD		0.423	0.475	0.105	0.561	1.066	2.006	7.211	0.732	1 062
Run	**Time**	**97Mo**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**
1	21:29:23	77783.237	199739.390	9434.137	415347.820	6819.207	405826.410	108640.330	263057.630	790975.150
2	21:29:49	76606.804	198177.370	9334.008	413604.210	7023.402	409682.580	107004.250	259604.380	791602.420
3	21:30:15	77467.886	198017.070	9490.210	418747.330	7191.567	408566.110	107795.860	259463.470	802211.500
x		77285.976	198644.610	9419.452	415899.790	7011.392	408025.030	107813.480	260708.490	794929.690
σ		608.948	951.487	79.130	2615.616	186.470	1984.205	818.180	2035.632	6314.028
%RSD		0.788	0.479	0.840	0.629	2.660	0.486	0.759	0.781	0.794
Run	**Time**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**150Sm**	**156Gd**	**159Tb**	**160Dy**	**164Dy**
1	21:29:23	785789.920	615477.240	T 3251868.300	T 5552340.800	ID 4725.540	ID 3925.063	1474149.300	ID 2968.608	ID 3208.710
2	21:29:49	787537.200	611678.950	T 3273548.600	T 5543760.300	ID 4593.455	ID 4065.140	1494620.400	ID 3020.629	ID 2928 592
3	21:30:15	784287.480	607774.010	T 3281224.000	T 5616818.300	ID 4673.507	ID 3929.065	1514636.500	ID 2908.584	ID 3164 691
x		785871.530	611643.400	T 3268880.300	T 5570973.100	ID 4664.167	ID 3973.089	1494468.700	ID 2965.940	ID 3100 664
σ		1626.398	3851.736	T 15224.483	T 39934.225	ID 66.536	ID 79.743	20244.052	ID 56.071	ID 150 636
%RSD		0.207	0.630	T 0.466	T 0.717	ID 1.427	ID 2.007	1.355	ID 1.890	ID 4 858
Run	**Time**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**209Bi**			
1	21:29:23	494311.660	1221577.100	1760147.400	1456699.700	T 3664562.200	T 1002117.200			
2	21:29:49	497165.300	1230526.800	1767858.000	1472115.300	T 3659160.700	T 1020417.200			
3	21:30:15	502751.670	1246508.200	1791816.300	1496041.900	T 3707164.300	T 1031127.400			
x		498076.210	1232870.700	1773273.900	1474952.300	T 3676962.400	T 1017887.200			
σ		4293.104	12629.707	16514.489	19823.928	T 26294.659	T 14669.648			
%RSD		0.862	1.024	0.931	1.344	T 0.715	T 1.441			

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User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	21:35:11	501407.130	336 008	17440.964	T 404578010 000	T 294447410.000	T 40734395.000	T 47128101 000	T 11099762.000	176032.470
2	21:35:37	507283.740	260 005	17232.466	T 414835030 000	T 299149750.000	T 41669777.000	T 47953263 000	T 11206412.000	178528.430
3	21:36:02	512924.820	236 004	18062.483	T 423062280 000	T 306985750.000	T 42238458.000	T 48037989 000	T 11329619.000	176794.700
x		507205.230	277 339	17578.638	T 414158440 000	T 300194300.000	T 41547543.000	T 47706451 000	T 11211931.000	177118 540
σ		5759.244	52 207	431.796	T 9260691 000	T 6334095.700	T 759445.070	T 502654 260	T 115027.840	1279.104
%RSD		1.135	18 824	2.456	T 2 236	T 2.110	T 1.828	T 1 054	T 1.026	0.722

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	21:35:11	171444.420	T 14040794 000	T 55378346.000	365894.140	T 6378547.400	1258462.400	43803.998	169045.030	49560.906
2	21:35:37	169585.430	T 14232641 000	T 55611226.000	369128.120	T 6434429.500	1274969.300	44117 893	172947.510	50511.436
3	21:36:02	167939.770	T 14322436 000	T 55983136.000	369843 240	T 6471966.800	1275674.800	44685 354	174487.780	50165 042
x		169656.540	T 14198624 000	T 55657569.000	368288 500	T 6428314.600	1269702.200	44202.415	172160.110	50079.128
σ		1753.407	T 143869 570	T 305046.640	2104.178	T 47008.948	9740.341	446.716	2805.513	481 054
%RSD		1.034	T 1 013	T 0.548	0 571	T 0.731	0.767	1 011	1.630	0.961

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	21:35:11	41973.210	T 4172279.400	T 39551448.000	975039 300	23955.532	15857.331	5998.482	40516.956	18074 513
2	21:35:37	43622.910	T 4174789 300	T 39263161.000	962292.100	24517.406	15071.657	7199 575	40235.394	17825 899
3	21:36:02	44520.343	T 4223450.700	T 39865548.000	978484 650	24260.544	15127.774	7119.496	40927.252	17861.987
x		43372.154	T 4190173.100	T 39560052.000	971938 690	24244.494	15352.254	6772 517	40559.867	17920 800
σ		1291.949	T 28846 561	T 301285.750	8529.950	281.281	438.309	671 529	347.920	134 337
%RSD		2.979	T 0 688	T 0.762	0 878	1.160	2.855	9.916	0.858	0.750

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	21:35:11	70432.637	14366 227	63133.833	77831.754	1136.089	288.006	108 001	681328.170	34067 895
2	21:35:37	70969.840	14410 314	61866.976	78300.766	1128.088	192.003	184 002	682810.420	34096 027
3	21:36:02	69923.744	14895 293	61520.042	79064.998	1260.110	148.002	140 001	680617.840	34051 820
x		70442.074	14557 278	62173.617	78399.173	1174.762	209.337	144 001	681585.480	34071.914
σ		523.112	293 559	849.472	622.483	74.021	71.594	38.158	1118.707	22 376
%RSD		0.743	2 017	1.366	0.794	6.301	34.200	26.499	0.164	0 066

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	21:35:11	21451.705	55967 300	536.020	512 018	80.000	516.018	536 020	1704.200	834780.490
2	21:35:37	21572.062	54883 054	436.013	516 018	100.001	460.015	624 027	1544.165	848218.940
3	21:36:02	21283.209	56225 286	520.019	652 029	136.001	432.013	512 018	1796.223	837742.890
x		21435.659	55691 880	497.351	560 022	105.334	469.349	557 355	1681.529	840247.440
σ		145.093	712 242	53.719	79.706	28.379	42.774	58.974	127.549	7060.637
%RSD		0.677	1 279	10.801	14 233	26.942	9.113	10 581	7.585	0.840

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	21:35:11	5053.762	3572 881	852307.540	1540169.100	ID 11200.650	ID 9354.033	1564624.400	ID 7948.357	ID 7972 383
2	21:35:37	4845.620	3788.990	863899.260	1553672.100	ID 11012.361	ID 9642.411	1580741.400	ID 8529.016	ID 8344 802
3	21:36:02	5073.776	3881 039	862722.680	1563961 500	ID 11513.139	ID 9702.491	1602596.900	ID 8408.876	ID 8216 656
x		4991.052	3747 637	859643.160	1552600.900	ID 11242.050	ID 9566.312	1582654.200	ID 8295.416	ID 8177.947
σ		126.345	158.187	6380.014	11932 304	ID 252.943	ID 186.277	19058.380	ID 306.506	ID 189 203
%RSD		2.531	4 221	0.742	0.769	ID 2.250	ID 1.947	1.204	ID 3.695	ID 2 314

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	21:35:11	716.035	1984 272	177569.300	153137 200	379318.690	1123436.600
2	21:35:37	800.044	2008 278	182542.610	153709.120	386567.070	1134065.000
3	21:36:02	936.060	1884 245	183818.250	153860 280	388941.190	1133018.800
x		817.380	1958.932	181310.050	153568 870	384942.320	1130173.500
σ		111.032	65.785	3301.781	381 397	5012.784	5857.709
%RSD		13.584	3 358	1.821	0 248	1.302	0.518

TE23024-018/MH0AD8 6/5/2018 21:40:32

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	21:40:59	479730.980	636 028	12618.978	T 235705930.000	T 155588380.000	T 21276181.000	T 24527112.000	T 29257621.000	179151 530
2	21:41:24	493537.470	636 028	12318.461	T 238220330.000	T 156984350.000	T 21704715.000	T 24840237.000	T 29805545.000	179475.400
3	21:41:50	489740.390	700 034	12294.421	T 244276070.000	T 159501570.000	T 22006900.000	T 25277968.000	T 30159550.000	175557.150
x		487669.620	657 363	12410 620	T 239400780.000	T 157358100.000	T 21662599.000	T 24881772.000	T 29740906.000	178061 360
σ		7132.381	36.954	180 843	T 4405328.300	T 1983187.100	T 367175.750	T 377146.960	T 454425.850	2174.748
%RSD		1.463	5 622	1.457	T 1.840	T 1.260	T 1.695	T 1.516	T 1.528	1 221

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	21:40:59	715766.490	T 12335626 000	T 37351018 000	M 524339.960	TM 9025567.500	1217200.100	43441.827	310776.250	119123.150
2	21:41:24	722791.080	T 12607835 000	T 38044091 000	M 529998.180	TM 9268343.100	1243305 500	43836.191	314065.610	119602.960
3	21:41:50	707652.670	T 12692266 000	T 38310057 000	M 535660.660	TM 9247154.900	1216438.700	43952.895	313243.130	116586 390
x		715403.410	T 12545242 000	T 37901722 000	M 529999.600	TM 9180355.200	1225648.100	43743.638	312694.990	118437 500
σ		7575.736	T 186376 850	T 495116 540	M 5660.346	TM 134468.060	15296.498	267.810	1711.815	1620.959
%RSD		1.059	T 1.486	T 1 306	M 1.068	TM 1.465	1 248	0.612	0.547	1 369

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	21:40:59	47507.220	T 5362566 500	T 52735403 000	1315579.300	55072.483	37605.325	11501.120	101404.590	47422 669
2	21:41:24	47901.805	T 5518383 600	T 53542413 000	1335259.100	54907.236	38369.314	11657.369	101234.230	47358 249
3	21:41:50	47861.540	T 5407330 300	T 53463940 000	1332268.300	54133.447	36793.171	12330.482	99040.225	46633 572
x		47756.855	T 5429426 800	T 53247252 000	1327702.200	54704.389	37589.270	11829.657	100559.680	47138.163
σ		217.126	T 80224 290	T 445007.470	10604.720	501.306	788.194	440.707	1318.643	438.174
%RSD		0.455	T 1.478	T 0 836	0.799	0.916	2.097	3.725	1.311	0.930

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	21:40:59	128468.790	21692.420	98667.188	53005.152	1548.165	216.003	184.002	752640.660	73583.718
2	21:41:24	128639.780	21848 889	99198 366	52094.585	1652.188	224.003	224.003	759960.760	72585.728
3	21:41:50	129722.830	21527.931	97053 615	52340.346	1564.169	264.005	216.003	751861.680	72141 323
x		128943.800	21689.747	98306 390	52480.028	1588.174	234.671	208.003	754821.030	72770 256
σ		680.058	160.496	1116.969	471.080	56.012	25.717	21.167	4468.140	738 690
%RSD		0.527	0.740	1.136	0.898	3.527	10.959	10.176	0.592	1 015

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	21:40:59	46822.787	120733.470	612 026	1324.121	204.003	1348.125	1232.105	3240.724	777019.510
2	21:41:24	46581.237	121184.920	680 032	1268.111	196.003	1184.097	1376.131	3260.733	805517.880
3	21:41:50	47297.857	119688 350	492 017	1356.127	200.003	1284.114	1268.111	3232.721	791010.740
x		46900.627	120535 580	594 691	1316.120	200.003	1272.112	1292.115	3244.726	791182.710
σ		364.596	767 658	95.199	44.550	4.000	82.670	74.954	14.429	14249.964
%RSD		0.777	0 637	16 008	3.385	2.000	6.499	5.801	0.445	1.801

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	21:40:59	4697.522	3620.904	410596.170	736501.970	ID 32476.614	ID 28664.583	1427714 500	ID 23445.869	ID 23349 558
2	21:41:24	4729.543	3628.908	419014.110	748401.500	ID 34445.675	ID 29491.892	1505121 800	ID 23975.598	ID 23441 856
3	21:41:50	4709.530	3740.965	417599 880	754185.580	ID 33951.350	ID 29198.709	1485046.700	ID 23863.228	ID 24661 895
x		4712.198	3663 593	415736.720	746363.020	ID 33624.546	ID 29118.395	1472627.700	ID 23761.565	ID 23817.770
σ		16.176	67.126	4507 655	9016.323	ID 1024.403	ID 419.462	40170 241	ID 279.114	ID 732.489
%RSD		0.343	1 832	1 084	1.208	ID 3.047	ID 1.441	2.728	ID 1.175	ID 3 075

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	21:40:59	2016.281	4865 633	103615 540	83587.328	207377.510	1050834 300
2	21:41:24	2160.322	4909 663	103469.470	83676.346	210835.170	1080069 300
3	21:41:50	2028.284	5149 829	105327.960	85732.168	217058.940	1095195 500
x		2068.295	4975 042	104137 660	84331.947	211757.210	1075366.400
σ		79.923	152.963	1033.418	1213.443	4906.128	22551.401
%RSD		3.864	3 075	0.992	1.439	2.317	2 097

CV010 ISM-2068 6/5/2018 21:46:22 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	21:46:47	421936.590	342000.480	8252.697	T 123357330.000	T 90425017 000	T 12601205.000	T 14523037 000	T 106022740 000	3784.988
2	21:47:13	425525.600	346750.420	7820.217	T 127265400.000	T 92932665 000	T 12953553.000	T 14907059 000	T 107825070 000	4161.194
3	21:47:39	430257.080	350412.420	8232.674	T 128807030.000	T 94281654 000	T 13005118.000	T 15126083 000	T 109274650 000	4101.160
x		425906.420	346387.770	8101.863	T 126476580.000	T 92546445 000	T 12853292.000	T 14852059 000	T 107707490 000	4015.781
σ		4173.300	4217.677	244.117	T 2809178.300	T 1957111.900	T 219830.530	T 305261 840	T 1629138 200	202.114
%RSD		0.980	1.218	3.013	T 2.221	T 2.115	T	T 2 055	T 1 513	5 033

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	21:46:47	82555 601	123759.890	T 77772871.000	181386.100	T 3108348 500	1156162.900	380641.410	T 5854671.900	T 5725181.700
2	21:47:13	83174 619	128033.180	T 79658344.000	185131.040	T 3215574.400	1169045.100	386234 000	T 5988344 800	T 5818322 500
3	21:47:39	84165.968	127646.440	T 79914120.000	184733.080	T 3193702.700	1174377 000	389746.790	T 5987256.400	T 5808112 200
x		83298.729	126479.840	T 79115112.000	183750.070	T 3172541.900	1166528.300	385540.730	T 5943424.400	T 5783872.100
σ		812 325	2363.466	T 1169428.400	2056.908	T 56658.496	9364 253	4592.106	T 76863 842	T 51083.146
%RSD		0.975	1.869	T 1.478	1.119	T 1.786	0 803	1.191	T 1 293	T 0 883

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	21:46:47	675643 040	T 8687787.600	T 172421560.000	T 4030243.900	T 7193487 000	1552235.400	234526.760	T 3698997 800	1922111.100
2	21:47:13	679968.960	T 8876232.800	T 173865190.000	T 4085112.600	T 7246293 600	1574072.400	237443.470	T 3738604 300	1933428.400
3	21:47:39	691174 340	T 8991538.100	T 175712110.000	T 4132426.400	T 7353180.900	1586061.800	238972 520	T 3821774 600	1946747.700
x		682262.120	T 8851852.800	T 173999620.000	T 4082594.300	T 7264320 500	1570789.900	236980.920	T 3753125 600	1934095.700
σ		8015 564	T 153335.800	T 1649389.600	T 51137.783	T 81358 842	17150.431	2258 689	T 62663 255	12331 889
%RSD		1.175	T 1.732	T 0.948	T 1.253	T 1.120	1.092	0.953	T 1 670	0 638

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	21:46:47	1604151.100	267587.030	1243409.300	1282610.100	297629 240	129246.430	112 001	594944.070	T 2497185 600
2	21:47:13	1609566 000	273398.010	1263278.400	1292355.500	303101.190	128285.580	116 001	606692.800	T 2523035 000
3	21:47:39	1640377 600	275993.680	1277322.800	1288067.000	306453 880	130773.460	144 001	602690.620	T 2543434 300
x		1618031 600	272326.240	1261336.800	1287677.500	302394.770	129435.160	124 001	601442 500	T 2521218 300
σ		19540.714	4304.589	17039.940	4884.329	4454 530	1254.632	17.436	5972.982	T 23177 802
%RSD		1 208	1.581	1.351	0.379	1.473	0.969	14 061	0.993	T 0.919

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	21:46:47	1687360.100	T 4171273.000	187088.360	1312848.000	141141 280	1291539.400	2293575 300	T 5256487 000	834185.460
2	21:47:13	1707267 300	T 4275709.900	188414.050	1329760.100	142768.700	1290234.700	2326260.100	T 5295556.900	836028.850
3	21:47:39	1736738 600	T 4299234.800	191480.890	1332087.000	143103 200	1301333.700	2322624 600	T 5369089.400	843908.550
x		1710455.400	T 4248739.200	188994.440	1324898.400	142337.730	1294369.300	2314153 300	T 5307044.400	838040.950
σ		24843.136	T 68111.072	2253.045	10500.556	1049 564	6066.594	17913 587	T 57173.406	5164.400
%RSD		1.452	T 1.603	1.192	0.793	0.737	0.469	0.774	T 1 077	0.616

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	21:46:47	T 3626328 600	T 2844452.700	T 6921010.200	T 11820432.000	ID 700 034	ID 176.002	1473057.000	ID 56 000	ID 32 000
2	21:47:13	T 3666551 600	T 2885694.700	T 6963497.900	T 11948257.000	ID 764 040	ID 148.002	1507047.200	ID 52 000	ID 52 000
3	21:47:39	T 3707942 000	T 2917523.100	T 7017589.600	T 11957649.000	ID 816 046	ID 176.002	1503747.400	ID 64 000	ID 64 000
x		T 3666940.700	T 2882556.800	T 6967365.900	T 11908779.000	ID 760 040	ID 166.669	1494617 200	ID 57 334	ID 49 334
σ		T 40808 069	T 36636.121	T 48405.718	T 76655.282	ID 58.109	ID 16.166	18744.471	ID 6.110	ID 16.166
%RSD		T 1.113	T 1.271	T 0.695	T 0.644	ID 7 646	ID 9.700	1.254	ID 10 657	ID 32.769

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	21:46:47	T 5101444.700	T 12397115.000	T 8411149.000	T 7633914.200	T 18459765 000	1104224.100
2	21:47:13	T 5191886.700	T 12580411.000	T 8544059.500	T 7716116.500	T 18978874 000	1123613.100
3	21:47:39	T 5215998 800	T 12751923.000	T 8620331.000	T 7903636.700	T 19002484 000	1130763.900
x		T 5169776.700	T 12576483.000	T 8525179.800	T 7751222.500	T 18813708 000	1119533.700
σ		T 60392 881	T 177436.450	T 105861.270	T 138245.730	T 306750 660	13732.123
%RSD		T 1.168	T 1.411	T 1.242	T 1.784	T 1 630	1 227

CB01 0IM8714-01 6/5/2018 21:52:12 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	21:52:38	497717 330	28.000	9586.337	123015.370	8917.484	1236.105	1232.105	5321.954	2460.418
2	21:53:03	512140.130	76.000	9526.258	117631.070	8633.140	1264.110	1344.125	5373.992	2372 388
3	21:53:29	518179 640	60.000	9578.326	119415.910	8148.579	1088 082	1228.104	5201.866	2532.442
x		509345.700	54.667	9563.640	120020.780	8566.401	1196 099	1268.111	5299.271	2455 083
σ		10513.472	24.441	32.621	2742.642	388.773	94 588	65 860	88.276	80.160
%RSD		2 064	44.708	0.341	2.285	4.538	7.908	5.194	1.666	3 265

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	21:52:38	94350.263	85015.802	120330.860	16.000	896.055	1342829.600	20 000	4125.174	1480.151
2	21:53:03	93762.710	91903.114	120770.080	20.000	1052.076	1379380.100	40 000	4345.302	1396.134
3	21:53:29	94273.271	96717.162	123222.850	20.000	1060.078	1378775.600	28 000	4473.380	1624.182
x		94128.748	91212.026	121441.260	18.667	1002.736	1366995.100	29 333	4314.619	1500.156
σ		319.327	5881.212	1558.454	2.309	92.475	20930.132	10 066	176.119	115 332
%RSD		0.339	6.448	1.283	12.372	9.222	1.531	34 317	4.082	7 688

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	21:52:38	1380.131	1864.240	125245.080	804.045	440.013	184 002	5838 351	3664.927	324 007
2	21:53:03	1468.149	1868.241	127911.050	760.040	420.012	200 003	5269.916	3484.838	324 007
3	21:53:29	1240.106	1852.237	128855.560	772.041	432.013	216 003	5369.989	3456.824	364 009
x		1362.795	1861.572	127337.230	778.709	430.679	200 003	5492.752	3535.530	337 341
σ		115.005	8.329	1872.389	22.747	10.067	16 000	303.451	112.933	23 095
%RSD		8.439	0.447	1.470	2.921	2.337	8 000	5 525	3.194	6 846

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	21:52:38	408.011	88.001	356.009	200.003	904.056	116 001	112 001	697903.760	1328.122
2	21:53:03	348.008	100.001	312.007	224.003	888.054	108 001	92 001	706803.480	1420.139
3	21:53:29	400.011	124.001	324.007	184.002	1120.087	124 001	124 001	710601.340	1464.148
x		385.344	104.001	330.674	202.670	970.732	116 001	109 334	705102.860	1404.136
σ		32.580	18.331	22.746	20.133	129.592	8 000	16.166	6517.378	69.411
%RSD		8.455	17.625	6.879	9.934	13.350	6 897	14.786	0.924	4.943

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	21:52:38	944.061	2372.388	404.011	184.002	16.000	168 002	100 001	276.005	925045.370
2	21:53:03	940.061	2476.423	480.016	248.004	16.000	196 003	124 001	264.005	949039.120
3	21:53:29	940.061	2312.369	408.011	196.003	28.000	168 002	124 001	256.005	961277.780
x		941.394	2387.060	430.680	209.336	20.000	177 336	116 001	265.338	945120.760
σ		2.310	83.005	42.773	34.021	6.928	16.166	13 857	10.067	18431.281
%RSD		0.245	3.477	9.932	16.252	34.641	9.116	11.945	3.794	1.950

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	21:52:38	3120.672	2584.461	392.011	588.024	ID 0.000	ID 0 000	1596516.100	ID 24.000	ID 0 000
2	21:53:03	3384.790	2760.526	384.010	632.028	ID 4.000	ID 0 000	1647900.500	ID 48.000	ID 0 000
3	21:53:29	3196.705	2364.386	332.008	576.023	ID 4.000	ID 0 000	1690860.800	ID 8.000	ID 4 000
x		3234.056	2569.791	369.343	598.691	ID 2.667	ID 0 000	1645092 500	ID 26.667	ID 1 333
σ		135.963	198.477	32.580	29.487	ID 2.309	ID 0 000	47234.992	ID 20.133	ID 2 309
%RSD		4.204	7.723	8.821	4.925	ID 86.603	ID 0 000	2.871	ID 75.498	ID 173 205

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	21:52:38	552.021	1308.118	604.025	520.019	1288.114	1210247.000
2	21:53:03	552.021	1256.109	648.029	588.024	1328.122	1249962.300
3	21:53:29	544.020	1292.115	588.024	588.024	1448.145	1291392.300
x		549.354	1285.447	613.359	565.355	1354.794	1250533.900
σ		4.619	26.638	31.072	39.263	83.282	40575.640
%RSD		0.841	2.072	5.066	6.945	6.147	3.245

IS MW10264 6/5/2018 21:58:02

User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	21:58:28	523738.730	32.000	9217.859	98630.696	6214.664	980.066	1068.079	4161.194	2624.475
2	21:58:54	527243.720	40.000	9642.411	98432.022	5746.278	832.048	808.045	4105.163	2784 535
3	21:59:20	539631.670	36.000	9690.475	98464.458	5486.076	652.029	904.056	3937 069	2660.488
x		530204.710	36.000	9516.915	98509.058	5815.672	821.381	926.727	4067 809	2689 833
σ		8349.964	4.000	260.103	106.582	369.218	164.278	131.491	116 638	83.968
%RSD		1.575	11.111	2.733	0.108	6.349	20.000	14.189	2 867	3.122

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	21:58:28	98403 640	77839.840	114273.990	24.000	904.056	1410799 600	40.000	3464 828	1612.179
2	21:58:54	98553 658	80994.128	111994.820	12.000	844.049	1420843.900	24.000	3620.904	1528.161
3	21:59:20	99324 070	81584.697	110674.770	32.000	956.063	1435924 500	32.000	3556 873	1616.180
x		98760.456	80139.555	112314.530	22.667	901.390	1422522.700	32.000	3547 535	1585 507
σ		493 834	2013.383	1820.785	10.066	56.055	12646 260	8.000	78.456	49.703
%RSD		0 500	2.512	1.621	44.411	6.219	0 889	25.000	2 212	3.135

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	21:58:28	1048 076	1516.159	135878.100	752.039	348.008	220.003	4361.312	2876 571	340 008
2	21:58:54	1112 085	1644.187	134129.990	664.030	276.005	188.002	4393.331	3060 646	308 007
3	21:59:20	1192 098	1716.203	135279.050	704.034	316.007	152.002	4133.178	2896 579	316 007
x		1117.420	1625.516	135095.710	706.701	313.340	186.669	4295.941	2944 599	321 340
σ		72.159	101.321	888.363	44.065	36.076	34.020	141.862	100.997	16 654
%RSD		6.458	6.233	0.658	6.235	11.513	18.225	3.302	3.430	5.183

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	21:58:28	256 005	64.000	328.007	184.002	1036.074	96.001	84.000	723373.080	524 019
2	21:58:54	416 012	72.000	340.008	164.002	1052.076	112.001	52.000	730563.580	628 027
3	21:59:20	512 018	68.000	256.005	192.003	928.059	124.001	88.001	735525.900	704 034
x		394 678	68.000	308.007	180.002	1005.403	110.668	74.667	729820.850	618 693
σ		129 333	4.000	45.433	14.423	67.458	14.048	19.732	6110.359	90 370
%RSD		32.769	5.882	14.751	8.012	6.710	12.694	26.426	0.837	14 607

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	21:58:28	400 011	1052.076	472.015	188.002	12.000	148.002	120.001	208 003	955530.970
2	21:58:54	380 010	1076.080	372.010	124.001	0.000	188.002	112.001	204 003	973854.750
3	21:59:20	504 018	996.068	392.011	112.001	12.000	136.001	112.001	232 004	980253.500
x		428 013	1041.408	412.012	141.335	8.000	157.335	114.668	214 670	969879.740
σ		66 577	41.059	52.918	40.858	6.928	27.228	4.619	15.144	12831.658
%RSD		15 555	3.943	12.844	28.909	86.603	17.306	4.028	7 055	1.323

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	21:58:28	1312.119	1152.092	228.004	412.012	ID 0.000	ID 0.000	1676697.900	ID 32 000	ID 0 000
2	21:58:54	1524.160	1288.114	260.005	344.008	ID 0.000	ID 0.000	1685411.000	ID 24 000	ID 4 000
3	21:59:20	1464.148	1088.082	196.003	420.012	ID 4.000	ID 0.000	1718155.100	ID 28 000	ID 0 000
x		1433.476	1176.096	228.004	392.011	ID 1.333	ID 0.000	1693421.300	ID 28 000	ID 1 333
σ		109 298	102.154	32.001	41.763	ID 2.309	ID 0.000	21858.640	ID 4 000	ID 2 309
%RSD		7 625	8.686	14.035	10.654	ID 173.205	ID 0.000	1.291	ID 14 286	ID 173 205

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	21:58:28	440 013	1056.077	512.018	448.014	980.066	1261671 200
2	21:58:54	416 012	1084.081	500.017	464.015	1052.076	1273127.700
3	21:59:20	500 017	956.063	452.014	400.011	956.063	1278251 200
x		452 014	1032.074	488.016	437.347	996.069	1271016.700
σ		43 269	67.300	31.751	33.309	49.967	8489.188
%RSD		9 573	6.521	6.506	7.616	5.016	0 668

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User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	22:04:17	522665 230	32.000	10091.021	96996 863	4933.679	676.032	760.040	3584.887	2760 526
2	22:04:42	539920 000	56.000	10363.405	95464.717	5774.300	740.038	868.052	4153.190	2688.499
3	22:05:08	548368 380	20.000	10283.291	95274 235	4817.601	660.030	768.041	3692.941	2464.419
4	22:05:34	550846.140	40.000	10203.178	93061.761	4929.676	696.033	756.039	3712.951	2576.458
5	22:06:00	555829.970	60.000	10243.235	92834 879	4881.644	620.027	752.039	3544.867	2564.454
6	22:06:26	561909 020	32.000	10223.206	91947 674	4857.628	672.031	688.033	3829.011	2640.481
x		546589.790	40.000	10234.556	94263 355	5032.421	677.365	765.374	3752.974	2615 806
σ		13843.485	15.388	90.297	1938 245	366.094	39.736	58.009	220.328	103 866
%RSD		2 533	38.471	0.882	2 056	7.275	5.866	7.579	5.871	3.971

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	22:04:17	102572.860	73175.616	115314.280	40 000	1000.069	1395367 600	28.000	2948.600	1620.181
2	22:04:42	101749.370	75842.831	117204.240	28 000	1112.085	1418008 600	32.000	3380.789	1456.146
3	22:05:08	101664.190	79768.646	118618.980	16 000	1140.090	1426367.900	48.000	2980.613	1540.164
4	22:05:34	100135.120	85137.215	118846.670	12 000	1068.079	1430939 500	24.000	3244.726	1696.199
5	22:06:00	100070.230	89132.831	119232.930	28 000	1100.084	1464828.100	4.000	2856.563	1572.170
6	22:06:26	100248.670	91955.776	119143.480	36 000	1084.081	1456796 600	28.000	3108.667	1500.155
x		101073.410	82502.153	118060.100	26 667	1084.081	1432051.400	27.333	3086.660	1564.169
σ		1060.306	7471.055	1533.123	10.930	47.940	25546 329	14.180	197.602	85.995
%RSD		1.049	9.056	1.299	40.988	4.422	1.784	51.877	6.402	5.498

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	22:04:17	1044.075	1624.182	140244.110	760 040	308.007	184.002	4025.118	2640.481	280 005
2	22:04:42	1076.080	1584.173	143192.950	636 028	264.005	152.002	3740.965	2660.488	396 011
3	22:05:08	972.065	1544.165	142956.350	696 033	296.006	204.003	3628.908	2720.511	320 007
4	22:05:34	1044.075	1592.175	144506.640	760 040	284.006	156.002	3584.887	2560.452	372 010
5	22:06:00	968.065	1520.159	143531.550	736 037	280.005	168.002	3272.739	2332.375	344 008
6	22:06:26	964.064	1724.205	143086.880	832 048	288.006	184.002	3708.949	2532.442	268 005
x		1011.404	1598.177	142919.750	736.704	286.672	174.669	3660.261	2574.458	330 008
σ		48.959	71.827	1425.165	66 287	14.896	19.705	244.476	136.863	50 520
%RSD		4.841	4.494	0.997	8.998	5.196	11.281	6.679	5.316	15 309

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	22:04:17	1448.145	188.002	948.062	104 001	976.066	116.001	120.001	715299.590	388 010
2	22:04:42	556.021	156.002	408.011	80 000	1096.083	100.001	128.001	727960.100	416 012
3	22:05:08	428.013	88.001	328.007	152 002	960.064	104.001	84.000	736806.740	396 011
4	22:05:34	444.014	52.000	332.008	132 001	972.065	124.001	124.001	746428.750	428 013
5	22:06:00	416.012	76.000	404.011	136 001	860.051	160.002	128.001	748290.900	444 014
6	22:06:26	476.016	48.000	352.009	164 002	996.068	88.001	68.000	745990.920	472 015
x		628.037	101.334	462.018	128 001	976.733	115.334	108.668	736796.170	424 012
σ		404.896	57.616	240.617	31 087	75.542	25.225	25.975	13035.628	31.192
%RSD		64.470	56.857	52.080	24 287	7.734	21.871	23.903	1.769	7 356

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	22:04:17	276.005	736.037	400.011	108 001	8.000	124.001	96.001	236.004	966368.920
2	22:04:42	312.007	740.038	408.011	136 001	8.000	188.002	84.000	216.003	991541.680
3	22:05:08	220.003	688.033	412.012	136 001	4.000	108.001	112.001	176.002	1001332.900
4	22:05:34	312.007	564.022	464.015	144 001	12.000	92.001	96.001	172.002	1015555.200
5	22:06:00	272.005	820.046	380.010	156 002	4.000	128.001	96.001	252.004	1030414.000
6	22:06:26	324.007	744.038	384.010	136 001	4.000	156.002	60.000	252.004	1035339.500
x		286.006	715.369	408.012	136 001	6.667	132.668	90.667	217.337	1006758.700
σ		38.597	85.403	30.254	15.799	3.266	34.541	17.466	36.105	25869.458
%RSD		13.495	11.938	7.415	11 617	48.990	26.036	19.264	16.612	2.570

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	22:04:17	968.065	788.043	184.002	372 010	ID 0.000	ID 4.000	1650431 200	ID 44.000	ID 4 000
2	22:04:42	956.063	812.045	220.003	376 010	ID 8.000	ID 4.000	1707542 200	ID 44.000	ID 0 000
3	22:05:08	1084.081	788.043	240.004	300 006	ID 0.000	ID 0.000	1727930.100	ID 52.000	ID 0 000
4	22:05:34	1004.070	880.053	188.002	340 008	ID 4.000	ID 0.000	1756908.400	ID 32.000	ID 4 000
5	22:06:00	996.068	816.046	276.005	364 009	ID 0.000	ID 0.000	1761078 200	ID 44.000	ID 0 000
6	22:06:26	944.061	896.055	260.005	384 010	ID 4.000	ID 4.000	1758341.700	ID 28.000	ID 0 000
x		992.068	830.048	228.004	356 009	ID 2.667	ID 2.000	1727038 600	ID 40.667	ID 1 333
σ		50.604	46.704	37.610	31 294	ID 3.266	ID 2.191	43082.199	ID 8.914	ID 2 066
%RSD		5.101	5.627	16.495	8.790	ID 122.475	ID 109.545	2.495	ID 21.921	ID 154.919

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	22:04:17	484.016	980.066	440.013	392 011	952.063	1248296.400
2	22:04:42	472.015	984.067	460.015	484 016	1084.081	1298042 300
3	22:05:08	480.016	1052.076	460.015	316 007	960.064	1318383 000
4	22:05:34	372.010	892.055	560.022	508 018	1064.078	1342504.900
5	22:06:00	444.014	1024.072	436.013	432 013	908.057	1364971.400
6	22:06:26	432.013	936.060	464.015	420 012	932.060	1367169.900
x		447.347	978.066	470.015	425 346	983.400	1323228 000
σ		42.290	57.959	45.593	68.434	72.780	45425 864
%RSD		9.454	5.926	9.700	16 089	7.401	3.433

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User Pre-dilution: 1.00

Run	Time	6Li	9Be	13C	23Na	24Mg	25Mg	26Mg	27Al	31P
1	22:11:23	538624.730	44.000	9842.680	82911 631	4513.405	540.020	652.029	3424.809	2804 543
2	22:11:49	544491 800	64.000	9654.427	81240 867	4469.378	552.021	688.033	3432.813	2696 502
3	22:12:15	552354.730	40.000	10010.910	81564.472	4137.181	588.024	740.038	3468.830	2556.451
4	22:12:41	553479.910	40.000	10475.566	80500 675	4097.158	552.021	696.033	3272.739	2944 598
5	22:13:06	560463 240	36.000	10315.337	79833 353	4229.234	544.020	692.033	3712.951	2756 524
6	22:13:32	567219 800	32.000	9958.839	79420 857	4229.234	672.031	648.029	3528.859	2956 603
x		552772 370	42.667	10042.960	80911.976	4279.265	574.690	686.033	3473.500	2785 870
σ		10366 063	11.219	303.483	1271 894	172.813	50.643	33.637	144.744	152.430
%RSD		1 875	26.295	3.022	1 572	4.038	8.812	4.903	4.167	5.472

Run	Time	34S	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
1	22:11:23	102731.080	63912.615	109923.460	16 000	988.067	1444960.400	36.000	2764.527	1540.164
2	22:11:49	102507.950	65494.647	111645.490	32 000	996.068	1474610 500	28.000	2836.555	1608.178
3	22:12:15	102090.110	65688.389	110658.520	36 000	948.062	1491890 200	20.000	2856.563	1544.165
4	22:12:41	102540.410	67589.755	107682.190	20 000	1076.080	1479132 200	16.000	2740.518	1656.189
5	22:13:06	101286.960	69313.927	109233.140	28 000	988.067	1489661.900	40.000	2728.514	1560.168
6	22:13:32	102495.780	69168.548	107613.170	16 000	952.063	1497458.700	20.000	2796.539	1572.170
x		102275.380	66861.314	109459.330	24 667	991.401	1479619 000	26.667	2787.203	1580.172
σ		527.610	2182.092	1615.580	8 548	46.131	18953 818	9.689	51.907	44 552
%RSD		0.516	3.264	1.476	34 654	4.653	1 281	36.332	1.862	2 819

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	62Ni	63Cu	65Cu
1	22:11:23	1064.078	1608.178	140329.750	636 028	264.005	224.003	3300.752	2232.344	332 008
2	22:11:49	804.045	1588.174	140872.120	648 029	292.006	168.002	3016.628	2208.336	304 006
3	22:12:15	1000.069	1744.210	140819.100	660 030	400.011	144.001	3108.667	2248.349	372 010
4	22:12:41	888.054	1552.166	139942.360	748 039	296.006	164.002	2964.606	1924.256	336 008
5	22:13:06	956.063	1532.162	137863.070	616 026	292.006	140.001	2968.608	2336.377	336 008
6	22:13:32	944.061	1596.176	138446.030	696 033	268.005	196.003	2684.497	2052.291	304 006
x		942.728	1603.511	139712.070	667 364	302.006	172.669	3007.293	2166.992	330 674
σ		89.906	74.611	1267.080	47 698	49.882	32.142	201.989	150.577	25 257
%RSD		9.537	4.653	0.907	7.147	16.517	18.615	6.717	6.949	7 638

Run	Time	66Zn	67Zn	68Zn	75As	78Se	82Se	83Kr	89Y	95Mo
1	22:11:23	436.013	100.001	288.006	148 002	868.052	88.001	72.000	748202.430	352 009
2	22:11:49	488.016	68.000	328.007	128 001	916.058	112.001	112.001	756634.180	444 014
3	22:12:15	380.010	92.001	388.010	132 001	836.048	120.001	112.001	748618.270	440 013
4	22:12:41	404.011	56.000	372.010	140 001	792.043	60.000	100.001	759256.340	368 009
5	22:13:06	380.010	96.001	360.009	136 001	992.068	72.000	100.001	761564.770	372 010
6	22:13:32	380.010	80.000	292.006	116 001	916.058	80.000	60.000	761201.400	360 009
x		411.345	82.000	338.008	133 335	886.721	88.667	92.667	755912.900	389 344
σ		43.558	17.298	42.088	10.930	70.284	23.244	21.677	6070.810	41 392
%RSD		10.589	21.094	12.452	8.198	7.926	26.215	23.392	0.803	10 631

Run	Time	97Mo	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In
1	22:11:23	196.003	504.018	420.012	164 002	0.000	84.000	88.001	268.005	987387.690
2	22:11:49	252.004	544.020	444.014	116 001	4.000	140.001	56.000	208.003	999504.410
3	22:12:15	244.004	632.028	456.014	124 001	8.000	136.001	76.000	264.005	1000985.500
4	22:12:41	260.005	696.033	444.014	152 002	8.000	144.001	52.000	208.003	1004844.900
5	22:13:06	216.003	652.029	444.014	152 002	16.000	128.001	80.000	188.002	1006322.400
6	22:13:32	200.003	548.021	404.011	144 001	4.000	116.001	72.000	148.002	1008642.200
x		228.004	596.025	435.346	142 001	6.667	124.668	70.667	214.003	1001281.200
σ		27.598	74.711	19.337	18 374	5.465	22.259	14.010	45.871	7596.990
%RSD		12.104	12.535	4.442	12.939	81.976	17.855	19.825	21.435	0.759

Run	Time	121Sb	123Sb	135Ba	137Ba	150Sm	156Gd	159Tb	160Dy	164Dy
1	22:11:23	656.030	608.026	180.002	388 010	ID 4.000	ID 0.000	1668093 600	ID 24.000	ID 0 000
2	22:11:49	876.053	656.030	180.002	332 008	ID 0.000	ID 0.000	1684160 000	ID 52.000	ID 4 000
3	22:12:15	824.047	676.032	196.003	408 011	ID 0.000	ID 0.000	1707842.100	ID 60.000	ID 0 000
4	22:12:41	820.046	660.030	216.003	308 007	ID 0.000	ID 0.000	1709766.700	ID 48.000	ID 0 000
5	22:13:06	788.043	716.035	196.003	340 008	ID 0.000	ID 4.000	1728666.700	ID 56.000	ID 8 000
6	22:13:32	788.043	748.039	216.003	356 009	ID 4.000	ID 0.000	1715988.400	ID 32.000	ID 0 000
x		792.044	677.365	197.336	355 342	ID 1.333	ID 0.667	1702419 600	ID 45.333	ID 2 000
σ		74.024	49.103	16.133	37 046	ID 2.066	ID 1.633	22217 518	ID 14.236	ID 3 347
%RSD		9.346	7.249	8.176	10.425	ID 154.919	ID 244.949	1 305	ID 31.403	ID 167 332

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
1	22:11:23	404.011	888.054	504.018	444 014	1012.071	1252775.700
2	22:11:49	468.015	972.065	440.013	404 011	936.060	1263585.700
3	22:12:15	448.014	936.060	496.017	400 011	1048.076	1275234 500
4	22:12:41	380.010	928.059	492.017	312 007	876.053	1281306.900
5	22:13:06	368.009	976.066	448.014	400 011	896.055	1282927.700
6	22:13:32	396.011	872.052	384.010	376 010	1012.071	1285838 300
x		410.678	928.726	460.681	389 344	963.398	1273611 500
σ		39.249	42.520	45.988	43.796	70.456	12905 695
%RSD		9.557	4.578	9.983	11 249	7.313	1 013

Performance Report

ICP-MS
Preparation Log Books and Records, Analysis Records

Analytical Review Report

Data File: ***MS2060518F ISM, generated 08.17.51 06-0***

Analyst: [redacted]

ICPMS2

Parameter	Review Message			Result	LDR	TV	Rec/RPD	RSD	IDL/MDL	PQL
1·	Sample ID:	TUNE MW10253	EPA Sample ID:	TUNE		Date:	6/5/2018	08:47:26	Dilution:	1
2·	Sample ID:	S0 BLANK S0 IM871	EPA Sample ID:	S0		Date:	6/5/2018	16:27:29	Dilution:	1
3	Sample ID:	S01 ISM-2063	EPA Sample ID:	S01		Date:	6/5/2018	16:33:16	Dilution:	1
4·	Sample ID:	S02 ISM-2064	EPA Sample ID:	S02		Date:	6/5/2018	16:39:03	Dilution:	1
5·	Sample ID:	S03 ISM-2065	EPA Sample ID:	S03		Date:	6/5/2018	16:44:52	Dilution:	1
6·	Sample ID:	S04 ISM-2066	EPA Sample ID:	S04		Date:	6/5/2018	16:50:39	Dilution:	1
7·	Sample ID:	S05 ISM-2067	EPA Sample ID:	S05		Date:	6/5/2018	16:56:27	Dilution:	1
8·	Sample ID	S06 ISM-2068	EPA Sample ID	S06		Date	6/5/2018	17 02 15	Dilution	1
9·	Sample ID:	S07 ISM-2069	EPA Sample ID:	S07		Date:	6/5/2018	17:08:04	Dilution:	1
10·	Sample ID:	ICV002 ISM-2070	EPA Sample ID:	ICV002		Date:	6/5/2018	17:13:53	Dilution:	1
11·	Sample ID:	ICB002 IM8714-01	EPA Sample ID:	ICB002		Date:	6/5/2018	17:19:42	Dilution:	1
12·	Sample ID:	ICSA002 ISM-2071	EPA Sample ID:	ICSA002		Date:	6/5/2018	17:25:32	Dilution:	1
13	Sample ID:	ICSAB002 ISM-2072	EPA Sample ID:	ICSAB002		Date:	6/5/2018	17:31:22	Dilution:	1
14·	Sample ID:	CCV006 ISM-2068	EPA Sample ID:	CCV006		Date:	6/5/2018	17:37:11	Dilution:	1
15·	Sample ID:	CCB006 IM8714-01	EPA Sample ID:	CCB006		Date:	6/5/2018	17:43:02	Dilution:	1
16·	Sample ID:	TQ73287-001	EPA Sample ID:	PBW001		Date:	6/5/2018	17:48:50	Dilution:	1
17·	Sample ID:	TQ73287-002	EPA Sample ID:	LCS001		Date:	6/5/2018	17:54:37	Dilution:	1
18·	Sample ID	TE18019 001	EPA Sample ID	MC0AA3		Date	6/5/2018	18 00 24	Dilution	1
19·	Sample ID:	TE18019-002	EPA Sample ID:	MC0AA4		Date:	6/5/2018	18:06:11	Dilution:	1
20·	Sample ID:	TE18019-003	EPA Sample ID:	MC0AA7		Date:	6/5/2018	18:11:58	Dilution:	1
21·	Sample ID:	TE18019-004	EPA Sample ID:	MC0AA8		Date:	6/5/2018	18:17:46	Dilution:	1
22·	Sample ID:	TE18019-005	EPA Sample ID:	MC0AB2		Date:	6/5/2018	18:23:31	Dilution:	1
23	Sample ID:	TE18019-006	EPA Sample ID:	MC0AB3		Date:	6/5/2018	18:29:19	Dilution:	1
24·	Sample ID:	TE18019-006S	EPA Sample ID:	MC0AB3S		Date:	6/5/2018	18:35:05	Dilution:	1
25·	Sample ID:	TE18019-006D	EPA Sample ID:	MC0AB3D		Date:	6/5/2018	18:40:50	Dilution:	1
26·	Sample ID:	TE18019-006L	EPA Sample ID:	MC0AB3L		Date:	6/5/2018	18:46:36	Dilution:	5
23Na	RPD IS OUT OF CRITERIA			8500.0000	120000		15.0	0.82	5.70	500.00
27·	Sample ID:	TE18019-006A	EPA Sample ID:	MC0AB3A		Date:	6/5/2018	18:52:22	Dilution:	1
28·	Sample ID:	TE18019-006A	EPA Sample ID:	MC0AB3A		Date:	6/5/2018	18:58:09	Dilution:	1
29·	Sample ID:	CCV007 ISM-2068	EPA Sample ID:	CCV007		Date:	6/5/2018	19:03:58	Dilution:	1
30·	Sample ID:	CCB007 IM8714-01	EPA Sample ID:	CCB007		Date:	6/5/2018	19:09:48	Dilution:	1
31·	Sample ID:	TE18019-007	EPA Sample ID:	MC0AA0		Date:	6/5/2018	19:15:36	Dilution:	1
32·	Sample ID:	TE18019-008	EPA Sample ID:	MC0AA1		Date:	6/5/2018	19:21:24	Dilution:	1
33·	Sample ID:	TE18019-009	EPA Sample ID:	MC0AA2		Date:	6/5/2018	19:27:11	Dilution:	1
34·	Sample ID:	TE18019-010	EPA Sample ID:	MC0AA5		Date:	6/5/2018	19:32:58	Dilution:	1
35·	Sample ID:	TE18019-011	EPA Sample ID:	MC0AA6		Date:	6/5/2018	19:38:45	Dilution:	1
36·	Sample ID:	TE18019-012	EPA Sample ID:	MC0AB4		Date:	6/5/2018	19:44:33	Dilution:	1
37·	Sample ID:	CCV008 ISM-2068	EPA Sample ID:	CCV008		Date:	6/5/2018	19:50:20	Dilution:	1
38·	Sample ID:	CCB008 IM8714-01	EPA Sample ID:	CCB008		Date:	6/5/2018	19:56:10	Dilution:	1
39·	Sample ID:	TQ73543-001	EPA Sample ID:	TQ73543-001MB		Date:	6/5/2018	20:01:58	Dilution:	1
55Mn	MB result is greater than +/- High Det Lim			2.6890	2000			1.86	0.25	1.00

Analytical Review Report

Data File: ***MS2060518F ISM, generated 08.17.51 06-0***

Analyst: [redacted]

ICPMS2

Parameter	Review Message	Result	LDR	TV	Rec/RPD	RSD	IDL/MDL	PQL
40· Sample ID:	**TQ73543-002**	**EPA Sample ID:**	**LCS**		**Date:**	**6/5/2018**	**20:07:46**	**Dilution: 1**
41· Sample ID:	**TE23024-010**	**EPA Sample ID:**	**MH0AB6**		**Date:**	**6/5/2018**	**20:13:33**	**Dilution: 1**
13C	Associated ISTD1 or ISTD2 failed.	-92.5300	20000			1.47	0.00	1.00
31P	Associated ISTD1 or ISTD2 failed.	0.0000	0			0.00	0.00	1.00
43Ca	PARAMETER IS OVER RANGE	025000.0000	120000			0 40	10 40	500 00
44Ca	PARAMETER IS OVER RANGE	022000.0000	120000			0.58	10.40	500.00
53Cl O	Associated ISTD1 or ISTD2 failed.	4.6060	1000000			7.77	0.00	1.00
55Mn	PARAMETER IS OVER RANGE	2779 0000	2000			0.75	0.25	1.00
89Y		204940.7500	20000	100.0		3.00	0.00	20.00
95Mo	Associated ISTD1 or ISTD2 failed.	4.5930	2000			1.81	0.00	10.00
97Mo	Associated ISTD1 or ISTD2 failed.	4.9540	2000			2.06	0.00	10.00
42· Sample ID:	**TE23024-011**	**EPA Sample ID:**	**MH0AC7**		**Date:**	**6/5/2018**	**20:19:20**	**Dilution: 1**
43Ca	PARAMETER IS OVER RANGE	140700.0000	120000			0.97	10.40	500.00
44Ca	PARAMETER IS OVER RANGE	146300.0000	120000			0.47	10.40	500.00
43· Sample ID:	**TE23024-012**	**EPA Sample ID:**	**MH0AC8**		**Date:**	**6/5/2018**	**20:25:07**	**Dilution: 1**
43Ca	PARAMETER IS OVER RANGE	156600.0000	120000			1.06	10.40	500.00
44Ca	PARAMETER IS OVER RANGE	164100.0000	120000			0.67	10.40	500.00
44· Sample ID:	**TE23024-013**	**EPA Sample ID:**	**MH0AC9**		**Date:**	**6/5/2018**	**20:30:54**	**Dilution: 1**
13C	Associated ISTD1 or ISTD2 failed.	-79.1900	20000			3.40	0.00	1.00
31P	Associated ISTD1 or ISTD2 failed.	0.0000	0			0.00	0.00	1.00
43Ca	PARAMETER IS OVER RANGE	852300.0000	120000			0.73	10.40	500.00
44Ca	PARAMETER IS OVER RANGE	853200.0000	120000			0.73	10.40	500.00
53Cl O	Associated ISTD1 or ISTD2 failed	4.5570	1000000			4.11	0.00	1.00
55Mn	PARAMETER IS OVER RANGE	2878.0000	2000			0.32	0.25	1.00
89Y		598210.7500	20000	100.0		4.20	0.00	20.00
95Mo	Associated ISTD1 or ISTD2 failed.	10.8800	2000			1.36	0.00	10.00
97Mo	Associated ISTD1 or ISTD2 failed.	11.9100	2000			0.74	0.00	10.00
45 Sample ID:	**TE23024-014**	**EPA Sample ID:**	**MH0AD0**		**Date:**	**6/5/2018**	**20:36:44**	**Dilution: 1**
46· Sample ID:	**TE23024-015**	**EPA Sample ID:**	**MH0AD1**		**Date:**	**6/5/2018**	**20:42:32**	**Dilution: 1**
47· Sample ID:	**CCV009 ISM-2068**	**EPA Sample ID:**	**CCV009**		**Date:**	**6/5/2018**	**20:48:22**	**Dilution: 1**
48· Sample ID:	**CCB009 IM8714-01**	**EPA Sample ID:**	**CCB009**		**Date:**	**6/5/2018**	**20:54:11**	**Dilution: 1**
49· Sample ID:	**TE23024-016**	**EPA Sample ID:**	**MH0AD2**		**Date:**	**6/5/2018**	**21:00:00**	**Dilution: 1**
23Na	PARAMETER IS OVER RANGE	165000.0000	120000			1.25	5.70	500.00
50· Sample ID:	**TE23024-016S**	**EPA Sample ID:**	**MH0AD2S**		**Date:**	**6/5/2018**	**21:05:47**	**Dilution: 1**
23Na	PARAMETER IS OVER RANGE	174500.0000	120000			2.31	5.70	500.00
51· Sample ID:	**TE23024-016D**	**EPA Sample ID:**	**MH0AD2D**		**Date:**	**6/5/2018**	**21:11:36**	**Dilution: 1**
23Na	PARAMETER IS OVER RANGE	171500.0000	120000		0.0	2.28	5.70	500.00
52· Sample ID:	**TE23024-016L**	**EPA Sample ID:**	**MH0AD2L**		**Date:**	**6/5/2018**	**21:17:23**	**Dilution: 5**
23Na	RPD IS OUT OF CRITERIA	42870.0000	120000		30.0	0.70	5.70	500.00
26Mg	RPD IS OUT OF CRITERIA	20760.0000	120000		28.0	0.61	1.50	500.00
27Al	RPD IS OUT OF CRITERIA	324.5000	120000		29.0	1.84	0.65	20.00
39K	RPD IS OUT OF CRITERIA	8763.0000	120000		14.0	0.48	30.10	500.00
57Fe	RPD IS OUT OF CRITERIA	1641.0000	120000		19.0	1.83	3.80	200.00
59Co	RPD IS OUT OF CRITERIA	0.6640	2000		22.0	7.51	0.02	1.00
60Ni	RPD IS OUT OF CRITERIA	3.7490	2000		87.0	5.12	0.09	1.00
65Cu	RPD IS OUT OF CRITERIA	70.1800	2000		26.0	0.64	0.08	2.00
66Zn	RPD IS OUT OF CRITERIA	46.6100	2000		32.0	1.14	0.36	2.00
75As	RPD IS OUT OF CRITERIA	13.5800	2000		25.0	1.30	0.47	1.00
135Ba	RPD IS OUT OF CRITERIA	69.7300	10000		16.0	1.38	0.17	10.00
208Pb	RPD IS OUT OF CRITERIA	40.0300	2000		13.0	1 13	0 02	1 00

Analytical Review Report

Data File: ***MS2060518F ISM, generated 08.17.51 06-0***

Analyst: non responsive based on revised SOP [redacted]

ICPMS2

Parameter	Review Message			Result	LDR	TV	Rec/RPD	RSD	IDL/MDL	PQL
53·	**Sample ID:**	**TE23024-016A**	**EPA Sample ID:**	**MH0AD2A**		**Date:**	**6/5/2018**	**21:23:10**	**Dilution:**	**1**
54·	**Sample ID:**	**TE23024-016A**	**EPA Sample ID:**	**MH0AD2A**		**Date:**	**6/5/2018**	**21:28:58**	**Dilution:**	**1**
55	**Sample ID:**	**TE23024-017**	**EPA Sample ID:**	**MH0AD3**		**Date:**	**6/5/2018**	**21:34:45**	**Dilution:**	**1**
56·	**Sample ID:**	**TE23024-018**	**EPA Sample ID:**	**MH0AD8**		**Date:**	**6/5/2018**	**21:40:32**	**Dilution:**	**1**
43Ca	PARAMETER IS OVER RANGE			156300.0000	120000			1.65	10.40	500.00
44Ca	PARAMETER IS OVER RANGE			164000.0000	120000			1.31	10.40	500.00
57·	**Sample ID:**	**CCV010 ISM-2068**	**EPA Sample ID:**	**CCV010**		**Date:**	**6/5/2018**	**21:46:22**	**Dilution:**	**1**
58	**Sample ID:**	**CCB01 0IM8714-01**	**EPA Sample ID:**	**CCB01**		**Date:**	**6/5/2018**	**21:52:12**	**Dilution:**	**1**
59·	**Sample ID:**	**IS MW10264**	**EPA Sample ID:**	**IS**		**Date:**	**6/5/2018**	**21:58:02**	**Dilution:**	**1**
60·	**Sample ID:**	**RINSE**	**EPA Sample ID:**	**RINSE**		**Date:**	**6/5/2018**	**22:03:50**	**Dilution:**	**1**
61·	**Sample ID:**	**RINSE**	**EPA Sample ID:**	**RINSE**		**Date:**	**6/5/2018**	**22:10:57**	**Dilution:**	**1**

Analyst: [redacted]
Status: Level 2 review released
Matrix: Aqueous

Printed: 06/06/18 1044

Prep Batch: 73287

ISM02.4 MS A PREP 200.8: ICP-MS - ICP-MS digestion for waters

Start Date: 05/29/2018 1556
End Date: 05/29/2018 2105

Level 2 Analyst [redacted]

Digestion Cup ID: 18-544

Ext Solvent: 1:1 HNO3/1:1 HCl
Reagents Vol. (mL): 1.0, 0.5
Chem ID: IM8721-01 (8/15/18), IM8652-01 (7/11/18)

Hot Block ID: Hot Block # 8

Digestion Temperature (°C): 94

Sample ID	QC Code	Client Sample ID	Run	Analysis Descript	Initial Vol. (mL)	Spike ID	Spike Vol. (mL)	Final Vol. (mL)	Holding Time Expires	Analytical Due Date	Comments
TQ73287-001	MB	PBW	1	ISM02.4 MS	50		0.0	50			LCS/MS pipette 315
TQ73287-002	LCS	LCS	1	ISM02.4 MS	50	18-193B (1/31/19)	1.0	50			
TE18019-001	Sample	MC0AA3	1	ISM02.4 MS	50		0.0	50	11/12/2018 1745	05/31/2018	
TE18019-002	Sample	MC0AA4	1	ISM02.4 MS	50		0.0	50	11/13/2018 0916	05/31/2018	
TE18019-003	Sample	MC0AA7	1	ISM02.4 MS	50		0.0	50	11/12/2018 1845	05/31/2018	
TE18019-004	Sample	MC0AA8	1	ISM02.4 MS	50		0.0	50	11/12/2018 1916	05/31/2018	
TE18019-005	Sample	MC0AB2	1	ISM02.4 MS	50		0.0	50	11/12/2018 1805	05/31/2018	
TE18019-006	Sample	MC0AB3	1	ISM02.4 MS	50		0.0	50	11/13/2018 1016	05/31/2018	
TE18019-006MS	MS	MC0AB3S	1	ISM02.4 MS	50	17-1246 (1/6/19)	0.5	50			
TE18019-006DU	Duplicate	MC0AB3D	1	ISM02.4 MS	50		0.0	50			
TE18019-007	Sample	MC0AA0	1	ISM02.4 MS	50		0.0	50	11/11/2018 1047	05/31/2018	
TE18019-008	Sample	MC0AA1	1	ISM02.4 MS	50		0.0	50	11/11/2018 1047	05/31/2018	
TE18019-009	Sample	MC0AA2	1	ISM02.4 MS	50		0.0	50	11/11/2018 1115	05/31/2018	
TE18019-010	Sample	MC0AA5	1	ISM02.4 MS	50		0.0	50	11/12/2018 1015	05/31/2018	
TE18019-011	Sample	MC0AA6	1	ISM02.4 MS	50		0.0	50	11/12/2018 1835	05/31/2018	
TE18019-012	Sample	MC0AB4	1	ISM02.4 MS	50		0.0	50	11/13/2018 1640	05/31/2018	

(end of report) **Total Samples: 12** **All samples have a pH < 2**

ISM Standard Log

Analyst:	non responsive based [redacted]	**Working Standard ID #:**	ISM-2063
Date:	6/4/2018	**Expiration Date:**	6/18/2018
Final Dilution Volume (mL):	200	**Solvent:**	1% HNO3 18-949
Working Standard Name:	Standard 1 ICPMS S01		
Comments:			

Analyte	Stock Standard Shealy ID	Vendor/Alternate ID	Conc. of Stock Std. (µg/mL)	Aliquot Volume (mL)	Final Conc. (µg/L)
Aluminum	18-192	IV Shealy-14	20	0.2	20
Antimony	18-192	IV Shealy-14	2	0.2	2
Arsenic	18-192	IV Shealy-14	1	0.2	1
Barium	18-192	IV Shealy-14	10	0.2	10
Beryllium	18-192	IV Shealy-14	1	0.2	1
Cadmium	18-192	IV Shealy-14	1	0.2	1
Calcium	18-192	IV Shealy-14	500	0.2	500
Chromium	18-192	IV Shealy-14	2	0.2	2
Cobalt	18-192	IV Shealy-14	1	0.2	1
Copper	18-192	IV Shealy-14	2	0.2	2
Iron	18-192	IV Shealy-14	200	0.2	200
Lead	18-192	IV Shealy-14	1	0.2	1
Magnesium	18-192	IV Shealy-14	500	0.2	500
Manganese	18-192	IV Shealy-14	1	0.2	1
Molybdenum	18-192	IV Shealy-14	10	0.2	10
Nickel	18-192	IV Shealy-14	1	0.2	1
Potassium	18-192	IV Shealy-14	500	0.2	500
Selenium	18-192	IV Shealy-14	5	0.2	5
Silver	18-192	IV Shealy-14	1	0.2	1
Sodium	18-192	IV Shealy-14	500	0.2	500
Thallium	18-192	IV Shealy-14	1	0.2	1
Titanium	18-192	IV Shealy-14	10	0.2	10
Vanadium	18-192	IV Shealy-14	5	0.2	5
Zinc	18-192	IV Shealy-14	2	0.2	2

$$Final\ Concentration\ \left(\frac{\mu g}{L}\right) = \frac{\left(Concentration\ of\ Stock\ Standard\ \left(\frac{\mu g}{mL}\right) \times Aliquoted\ Volume(mL)\right)}{Final\ Dilution\ Volume\ (mL)} \times \left(\frac{1000\ mL}{1\ L}\right)$$

Level 2 Reviewed By:	non responsi [redacted]	**Date:**	6/6/2018

ISM Standard Log

Analyst:	[redacted]	**Working Standard ID #:**	ISM-2064
Date:	6/4/2018	**Expiration Date:**	6/18/2018
Final Dilution Volume (mL):	200	**Solvent:**	1% HNO3 18-949
Working Standard Name:	Standard 2 ICPMS S02		
Comments:			

Analyte	Stock Standard Shealy ID	Vendor/Alternate ID	Conc. of Stock Std. (µg/mL)	Aliquot Volume (mL)	Final Conc. (µg/L)
Aluminum	18-192	IV Shealy-14	20	1	100
Antimony	18-192	IV Shealy-14	2	1	10
Arsenic	18-192	IV Shealy-14	1	1	5
Barium	18-192	IV Shealy-14	10	1	50
Beryllium	18-192	IV Shealy-14	1	1	5
Cadmium	18-192	IV Shealy-14	1	1	5
Calcium	18-192	IV Shealy-14	500	1	2,500
Chromium	18-192	IV Shealy-14	2	1	10
Cobalt	18-192	IV Shealy-14	1	1	5
Copper	18-192	IV Shealy-14	2	1	10
Iron	18-192	IV Shealy-14	200	1	1,000
Lead	18-192	IV Shealy-14	1	1	5
Magnesium	18-192	IV Shealy-14	500	1	2,500
Manganese	18-192	IV Shealy-14	1	1	5
Molybdenum	18-192	IV Shealy-14	10	1	50
Nickel	18-192	IV Shealy-14	1	1	5
Potassium	18-192	IV Shealy-14	500	1	2,500
Selenium	18-192	IV Shealy-14	5	1	25
Silver	18-192	IV Shealy-14	1	1	5
Sodium	18-192	IV Shealy-14	500	1	2,500
Thallium	18-192	IV Shealy-14	1	1	5
Titanium	18-192	IV Shealy-14	10	1	50
Vanadium	18-192	IV Shealy-14	5	1	25
Zinc	18-192	IV Shealy-14	2	1	10

$$Final\ Concentration\ \left(\frac{\mu g}{L}\right) = \frac{\left(Concentration\ of\ Stock\ Standard\ \left(\frac{\mu g}{mL}\right) \times Aliquoted\ Volume(mL)\right)}{Final\ Dilution\ Volume\ (mL)} \times \left(\frac{1000\ mL}{1\ L}\right)$$

Level 2 Reviewed By:	[redacted]	**Date:**	6/6/2018

ISM Standard Log

Analyst:	[redacted]	**Working Standard ID #:**	ISM-2065
Date:	6/4/2018	**Expiration Date:**	6/18/2018
Final Dilution Volume (mL):	200	**Solvent:**	1% HNO3 18-949
Working Standard Name:	Standard 3 ICPMS S03		
Comments:			

Analyte	Stock Standard Shealy ID	Vendor/Alternate ID	Conc. of Stock Std. (µg/mL)	Aliquot Volume (mL)	Final Conc. (µg/L)
Aluminum	18-192	IV Shealy-14	20	2	200
Antimony	18-192	IV Shealy-14	2	2	20
Arsenic	18-192	IV Shealy-14	1	2	10
Barium	18-192	IV Shealy-14	10	2	100
Beryllium	18-192	IV Shealy-14	1	2	10
Cadmium	18-192	IV Shealy-14	1	2	10
Calcium	18-192	IV Shealy-14	500	2	5,000
Chromium	18-192	IV Shealy-14	2	2	20
Cobalt	18-192	IV Shealy-14	1	2	10
Copper	18-192	IV Shealy-14	2	2	20
Iron	18-192	IV Shealy-14	200	2	2,000
Lead	18-192	IV Shealy-14	1	2	10
Magnesium	18-192	IV Shealy-14	500	2	5,000
Manganese	18-192	IV Shealy-14	1	2	10
Molybdenum	18-192	IV Shealy-14	10	2	100
Nickel	18-192	IV Shealy-14	1	2	10
Potassium	18-192	IV Shealy-14	500	2	5,000
Selenium	18-192	IV Shealy-14	5	2	50
Silver	18-192	IV Shealy-14	1	2	10
Sodium	18-192	IV Shealy-14	500	2	5,000
Thallium	18-192	IV Shealy-14	1	2	10
Titanium	18-192	IV Shealy-14	10	2	100
Vanadium	18-192	IV Shealy-14	5	2	50
Zinc	18-192	IV Shealy-14	2	2	20

$$Final\ Concentration\ \left(\frac{\mu g}{L}\right) = \frac{\left(Concentration\ of\ Stock\ Standard\ \left(\frac{\mu g}{mL}\right) \times Aliquoted\ Volume(mL)\right)}{Final\ Dilution\ Volume\ (mL)} \times \left(\frac{1000\ mL}{1\ L}\right)$$

Level 2 Reviewed By:	[redacted]	**Date:**	6/6/2018

ISM Standard Log

Analyst	[redacted]	**Working Standard ID #:**	ISM-2066
Date:	6/4/2018	**Expiration Date:**	6/18/2018
Final Dilution Volume (mL):	200	**Solvent:**	1% HNO3 18-949
Working Standard Name:	Standard 4 ICPMS S04		
Comments:			

Analyte	Stock Standard Shealy ID	Vendor/Alternate ID	Conc. of Stock Std. (µg/mL)	Aliquot Volume (mL)	Final Conc. (µg/L)
Aluminum	18-192	IV Shealy-14	20	10	1,000
Antimony	18-192	IV Shealy-14	2	10	100
Arsenic	18-192	IV Shealy-14	1	10	50
Barium	18-192	IV Shealy-14	10	10	500
Beryllium	18-192	IV Shealy-14	1	10	50
Cadmium	18-192	IV Shealy-14	1	10	50
Calcium	18-192	IV Shealy-14	500	10	25,000
Chromium	18-192	IV Shealy-14	2	10	100
Cobalt	18-192	IV Shealy-14	1	10	50
Copper	18-192	IV Shealy-14	2	10	100
Iron	18-192	IV Shealy-14	200	10	10,000
Lead	18-192	IV Shealy-14	1	10	50
Magnesium	18-192	IV Shealy-14	500	10	25,000
Manganese	18-192	IV Shealy-14	1	10	50
Molybdenum	18-192	IV Shealy-14	10	10	500
Nickel	18-192	IV Shealy-14	1	10	50
Potassium	18-192	IV Shealy-14	500	10	25,000
Selenium	18-192	IV Shealy-14	5	10	250
Silver	18-192	IV Shealy-14	1	10	50
Sodium	18-192	IV Shealy-14	500	10	25,000
Thallium	18-192	IV Shealy-14	1	10	50
Titanium	18-192	IV Shealy-14	10	10	500
Vanadium	18-192	IV Shealy-14	5	10	250
Zinc	18-192	IV Shealy-14	2	10	100

$$Final\ Concentration\ \left(\frac{\mu g}{L}\right) = \frac{\left(Concentration\ of\ Stock\ Standard\ \left(\frac{\mu g}{mL}\right) \times Aliquoted\ Volume(mL)\right)}{Final\ Dilution\ Volume\ (mL)} \times \left(\frac{1000\ mL}{1\ L}\right)$$

Level 2 Reviewed By	[redacted]	**Date:**	6/6/2018

ISM Standard Log

Analyst:	non responsive based [redacted]	**Working Standard ID #:**	ISM-2067
Date:	6/4/2018	**Expiration Date:**	6/18/2018
Final Dilution Volume (mL):	200	**Solvent:**	1% HNO3 18-949
Working Standard Name:	Standard 5 ICPMS S05		
Comments:			

Analyte	Stock Standard Shealy ID	Vendor/Alternate ID	Conc. of Stock Std. (µg/mL)	Aliquot Volume (mL)	Final Conc. (µg/L)
Aluminum	17-1162	IV Shealy-15	2400	2.5	30,000
Antimony	17-1162	IV Shealy-15	20	2.5	250
Arsenic	17-1162	IV Shealy-15	40	2.5	500
Barium	17-1162	IV Shealy-15	200	2.5	2,500
Beryllium	17-1162	IV Shealy-15	20	2.5	250
Cadmium	17-1162	IV Shealy-15	40	2.5	500
Calcium	17-1162	IV Shealy-15	2400	2.5	30,000
Chromium	17-1162	IV Shealy-15	40	2.5	500
Cobalt	17-1162	IV Shealy-15	40	2.5	500
Copper	17-1162	IV Shealy-15	40	2.5	500
Iron	17-1162	IV Shealy-15	2400	2.5	30,000
Lead	17-1162	IV Shealy-15	40	2.5	500
Magnesium	17-1162	IV Shealy-15	2400	2.5	30,000
Manganese	17-1162	IV Shealy-15	40	2.5	500
Molybdenum	17-1162	IV Shealy-15	40	2.5	500
Nickel	17-1162	IV Shealy-15	40	2.5	500
Potassium	17-1162	IV Shealy-15	2400	2.5	30,000
Selenium	17-1162	IV Shealy-15	40	2.5	500
Silver	17-1162	IV Shealy-15	6	2.5	75
Sodium	17-1162	IV Shealy-15	2400	2.5	30,000
Thallium	17-1162	IV Shealy-15	20	2.5	250
Titanium	17-1162	IV Shealy-15	40	2.5	500
Vanadium	17-1162	IV Shealy-15	40	2.5	500
Zinc	17-1162	IV Shealy-15	40	2.5	500

$$Final\ Concentration\ \left(\frac{\mu g}{L}\right) = \frac{\left(Concentration\ of\ Stock\ Standard\ \left(\frac{\mu g}{mL}\right) \times Aliquoted\ Volume(mL)\right)}{Final\ Dilution\ Volume\ (mL)} \times \left(\frac{1000\ mL}{1\ L}\right)$$

Level 2 Reviewed By	non responsive based [redacted]	**Date:**	6/6/2018

ISM Standard Log

Analyst:	[redacted]	**Working Standard ID #:**	ISM-2068
Date:	6/4/2018	**Expiration Date:**	6/18/2018
Final Dilution Volume (mL):	200	**Solvent:**	1% HNO3 18-949
Working Standard Name:	Standard 6 ICPMS S06		
Comments:			

Analyte	Stock Standard Shealy ID	Vendor/Alternate ID	Conc. of Stock Std. (µg/mL)	Aliquot Volume (mL)	Final Conc. (µg/L)
Aluminum	17-1162	IV Shealy-15	2400	5	60,000
Antimony	17-1162	IV Shealy-15	20	5	500
Arsenic	17-1162	IV Shealy-15	40	5	1,000
Barium	17-1162	IV Shealy-15	200	5	5,000
Beryllium	17-1162	IV Shealy-15	20	5	500
Cadmium	17-1162	IV Shealy-15	40	5	1,000
Calcium	17-1162	IV Shealy-15	2400	5	60,000
Chromium	17-1162	IV Shealy-15	40	5	1,000
Cobalt	17-1162	IV Shealy-15	40	5	1,000
Copper	17-1162	IV Shealy-15	40	5	1,000
Iron	17-1162	IV Shealy-15	2400	5	60,000
Lead	17-1162	IV Shealy-15	40	5	1,000
Magnesium	17-1162	IV Shealy-15	2400	5	60,000
Manganese	17-1162	IV Shealy-15	40	5	1,000
Molybdenum	17-1162	IV Shealy-15	40	5	1,000
Nickel	17-1162	IV Shealy-15	40	5	1,000
Potassium	17-1162	IV Shealy-15	2400	5	60,000
Selenium	17-1162	IV Shealy-15	40	5	1,000
Silver	17-1162	IV Shealy-15	6	5	150
Sodium	17-1162	IV Shealy-15	2400	5	60,000
Thallium	17-1162	IV Shealy-15	20	5	500
Titanium	17-1162	IV Shealy-15	40	5	1,000
Vanadium	17-1162	IV Shealy-15	40	5	1,000
Zinc	17-1162	IV Shealy-15	40	5	1,000

$$Final\ Concentration\ \left(\frac{\mu g}{L}\right) = \frac{\left(Concentration\ of\ Stock\ Standard\ \left(\frac{\mu g}{mL}\right) \times Aliquoted\ Volume(mL)\right)}{Final\ Dilution\ Volume\ (mL)} \times \left(\frac{1000\ mL}{1\ L}\right)$$

Level 2 Reviewed By	[redacted]	**Date:**	6/6/2018

ISM Standard Log

Analyst:	[redacted]	**Working Standard ID #:**	ISM-2069
Date:	6/4/2018	**Expiration Date:**	6/18/2018
Final Dilution Volume (mL):	200	**Solvent:**	1% HNO3 18-949
Working Standard Name:	Standard 7 ICPMS S07		
Comments:			

Analyte	Stock Standard Shealy ID	Vendor/Alternate ID	Conc. of Stock Std. (µg/mL)	Aliquot Volume (mL)	Final Conc. (µg/L)
Aluminum	17-1162	IV Shealy-15	2400	10	120,000
Antimony	17-1162	IV Shealy-15	20	10	1,000
Arsenic	17-1162	IV Shealy-15	40	10	2,000
Barium	17-1162	IV Shealy-15	200	10	10,000
Beryllium	17-1162	IV Shealy-15	20	10	1,000
Cadmium	17-1162	IV Shealy-15	40	10	2,000
Calcium	17-1162	IV Shealy-15	2400	10	120,000
Chromium	17-1162	IV Shealy-15	40	10	2,000
Cobalt	17-1162	IV Shealy-15	40	10	2,000
Copper	17-1162	IV Shealy-15	40	10	2,000
Iron	17-1162	IV Shealy-15	2400	10	120,000
Lead	17-1162	IV Shealy-15	40	10	2,000
Magnesium	17-1162	IV Shealy-15	2400	10	120,000
Manganese	17-1162	IV Shealy-15	40	10	2,000
Molybdenum	17-1162	IV Shealy-15	40	10	2,000
Nickel	17-1162	IV Shealy-15	40	10	2,000
Potassium	17-1162	IV Shealy-15	2400	10	120,000
Selenium	17-1162	IV Shealy-15	40	10	2,000
Silver	17-1162	IV Shealy-15	6	10	300
Sodium	17-1162	IV Shealy-15	2400	10	120,000
Thallium	17-1162	IV Shealy-15	20	10	1,000
Titanium	17-1162	IV Shealy-15	40	10	2,000
Vanadium	17-1162	IV Shealy-15	40	10	2,000
Zinc	17-1162	IV Shealy-15	40	10	2,000

$$Final\ Concentration\ \left(\frac{\mu g}{L}\right) = \frac{\left(Concentration\ of\ Stock\ Standard\ \left(\frac{\mu g}{mL}\right) \times Aliquoted\ Volume(mL)\right)}{Final\ Dilution\ Volume\ (mL)} \times \left(\frac{1000\ mL}{1\ L}\right)$$

Level 2 Reviewed By:	[redacted]	**Date:**	6/6/2018

ISM Standard Log

Analyst	[redacted]	**Working Standard ID #:**	ISM-2070
Date:	6/4/2018	**Expiration Date:**	6/18/2018
Final Dilution Volume (mL):	200	**Solvent:**	1% HNO3 18-949
Working Standard Name:	ICPMS ISM ICV		
Comments:	*PROVIDED BY EPA NO TRUE VALUE GIVEN		

Analyte	Stock Standard Shealy ID	Vendor/Alternate ID	Conc. of Stock Std. (µg/mL)	Aliquot Volume (mL)	Final Conc. (µg/L)
Aluminum	17-1001	USEPA ICV1-0307	25.2	4	504
Antimony	17-1001	USEPA ICV1-0307	9.95	4	199
Arsenic	17-1001	USEPA ICV1-0307	10	4	200
Barium	17-1001	USEPA ICV1-0307	4.95	4	99
Beryllium	17-1001	USEPA ICV1-0307	4.95	4	99
Cadmium	17-1001	USEPA ICV1-0307	4.95	4	99
Calcium	17-1001	USEPA ICV1-0307	100.25	4	2,005
Chromium	17-1001	USEPA ICV1-0307	4.9	4	98
Cobalt	17-1001	USEPA ICV1-0307	5	4	100
Copper	17-1001	USEPA ICV1-0307	4.9	4	98
Iron	17-1001	USEPA ICV1-0307	50.8	4	1,016
Lead	17-1001	USEPA ICV1-0307	10	4	200
Magnesium	17-1001	USEPA ICV1-0307	60.75	4	1,215
Manganese	17-1001	USEPA ICV1-0307	5	4	100
Molybdenum	NA	USEPA ICV1-0307	NA	NA	#VALUE!
Nickel	17-1001	USEPA ICV1-0307	5.05	4	101
Potassium	17-1001	USEPA ICV1-0307	100.2	4	2,004
Selenium	17-1001	USEPA ICV1-0307	10.3	4	206
Silver	17-1001	USEPA ICV1-0307	5	4	100
Sodium	17-1001	USEPA ICV1-0307	100.95	4	2,019
Thallium	17-1001	USEPA ICV1-0307	10.3	4	206
Titanium	NA	USEPA ICV1-0307	NA	NA	#VALUE!
Vanadium	17-1001	USEPA ICV1-0307	5	4	100
Zinc	17-1001	USEPA ICV1-0307	10.25	4	205

$$Final\ Concentration\ \left(\frac{\mu g}{L}\right) = \frac{\left(Concentration\ of\ Stock\ Standard\ \left(\frac{\mu g}{mL}\right) \times Aliquoted\ Volume(mL)\right)}{Final\ Dilution\ Volume\ (mL)} \times \left(\frac{1000\ mL}{1\ L}\right)$$

Level 2 Reviewed By:	[redacted]	**Date:**	6/6/2018

ISM Standard Log

Analyst:	[redacted]	**Working Standard ID #:**	ICSA ISM-2071
Date:	6/4/2018	**Expiration Date:**	6/18/2018
Final Dilution Volume (mL):	100	**Solvent:**	1% HNO3 18-949
Working Standard Name:	ICSA ISM		
Comments:	*Actual final concentration values provided by EPA		

Analyte	Stock Standard Shealy ID	Vendor/Alternate ID	Conc. of Stock Std. (µg/mL)	Aliquot Volume (mL)	Final Conc. (µg/L)
Aluminum	18-532	USEPA ICSA-0803	1000	10	100,000
Antimony	NA	NA	NA	NA	#VALUE!
Arsenic	NA	NA	NA	NA	#VALUE!
Barium	NA	NA	NA	NA	#VALUE!
Beryllium	NA	NA	NA	NA	#VALUE!
Cadmium	NA	NA	NA	NA	#VALUE!
Calcium	18-532	USEPA ICSA-0803	1000	10	100,000
Chromium	NA	NA	NA	NA	#VALUE!
Cobalt	NA	NA	NA	NA	#VALUE!
Copper	NA	NA	NA	NA	#VALUE!
Iron	18-532	USEPA ICSA-0803	1000	10	100,000
Lead	NA	NA	NA	NA	#VALUE!
Magnesium	18-532	USEPA ICSA-0803	1000	10	100,000
Manganese	NA	NA	NA	NA	#VALUE!
Molybdenum	18-532	USEPA ICSA-0803	20	10	2,000
Nickel	NA	NA	NA	NA	#VALUE!
Potassium	18-532	USEPA ICSA-0803	1000	10	100,000
Selenium	NA	NA	NA	NA	#VALUE!
Silver	NA	NA	NA	NA	#VALUE!
Sodium	18-532	USEPA ICSA-0803	1000	10	100,000
Thallium	NA	NA	NA	NA	#VALUE!
Titanium	18-532	USEPA ICSA-0803	20	10	2,000
Vanadium	NA	NA	NA	NA	#VALUE!
Zinc	NA	NA	NA	NA	#VALUE!

$$Final\ Concentration\ \left(\frac{\mu g}{L}\right) = \frac{\left(Concentration\ of\ Stock\ Standard\ \left(\frac{\mu g}{mL}\right) \times Aliquoted\ Volume(mL)\right)}{Final\ Dilution\ Volume\ (mL)} \times \left(\frac{1000\ mL}{1\ L}\right)$$

Level 2 Reviewed By	[redacted]	**Date:**	6/6/2018

ISM Standard Log

Analyst:	[redacted]	**Working Standard ID #:**	ISM-2072
Date:	6/4/2018	**Expiration Date:**	6/18/2018
Final Dilution Volume (mL):	100	**Solvent:**	1% HNO3 18-949
Working Standard Name:	ICSAB ISM		
Comments:	*Final concentration values provided by EPA		

Analyte	Stock Standard Shealy ID	Vendor/Alternate ID	Conc. of Stock Std. (µg/mL)	Aliquot Volume (mL)	Final Conc. (µg/L)
Aluminum	18-532	USEPA ICSA-0803	1000	10	100,000
Antimony	17-1000	USEPA ICSB-0803	0.22	10	22
Arsenic	17-1000	USEPA ICSB-0803	0.19	10	19
Barium	17-1000	USEPA ICSB-0803	0.22	10	22
Beryllium	17-1000	USEPA ICSB-0803	0.19	10	19
Cadmium	17-1000	USEPA ICSB-0803	0.2	10	20
Calcium	18-532	USEPA ICSA-0803	1000	10	100,000
Chromium	17-1000	USEPA ICSB-0803	0.4	10	40
Cobalt	17-1000	USEPA ICSB-0803	0.2	10	20
Copper	17-1000	USEPA ICSB-0803	0.25	10	25
Iron	18-532	USEPA ICSA-0803	1000	10	100,000
Lead	17-1000	USEPA ICSB-0803	0.25	10	25
Magnesium	18-532	USEPA ICSA-0803	1000	10	100,000
Manganese	17-1000	USEPA ICSB-0803	0.27	10	27
Molybdenum	18-532	USEPA ICSA-0803	20	10	2,000
Nickel	17-1000	USEPA ICSB-0803	0.24	10	24
Potassium	18-532	USEPA ICSA-0803	1000	10	100,000
Selenium	17-1000	USEPA ICSB-0803	0.19	10	19
Silver	17-1000	USEPA ICSB-0803	0.18	10	18
Sodium	18-532	USEPA ICSA-0803	1000	10	100,000
Thallium	17-1000	USEPA ICSB-0803	0.21	10	21
Titanium	18-532	USEPA ICSA-0803	20	10	2,000
Vanadium	17-1000	USEPA ICSB-0803	0.19	10	19
Zinc	17-1000	USEPA ICSB-0803	0.29	10	29

$$Final\ Concentration\ \left(\frac{\mu g}{L}\right) = \frac{\left(Concentration\ of\ Stock\ Standard\ \left(\frac{\mu g}{mL}\right) \times Aliquoted\ Volume(mL)\right)}{Final\ Dilution\ Volume\ (mL)} \times \left(\frac{1000\ mL}{1\ L}\right)$$

Level 2 Reviewed By	[redacted]	**Date:**	6/6/2018

Metals Working Standard Log

Analyst:	[redacted]	**Working Standard ID #:**	MW-10253		
Prep Date:	5/23/2018	**Working Standard Name:**	TUNE SOLUTION		
Expiration Date:	8/15/2018	**Solvent:**	1% HNO3 18-814		
Final Volume (mL):	1000	**Balance ID:**	NA	**Pipette ID:**	315
Comments:					

Shealy ID	Stock Standard Name	Analyte(s)	Stock Std Conc. (µg/mL or mg/L)	Aliquot Volume (mL)	Final Conc. (µg/L)	Final Conc. (mg/L)
18-162A	IV Shealy-37	Li	10	1	10	0.01
18-162A	IV Shealy-37	Be	10	1	10	0.01
18-162A	IV Shealy-37	Ce	10	1	10	0.01
18-162A	IV Shealy-37	Co	10	1	10	0.01
18-162A	IV Shealy-37	In	10	1	10	0.01
18-162A	IV Shealy-37	Pb	10	1	10	0.01
18-162A	IV Shealy-37	Mg	10	1	10	0.01
18-162A	IV Shealy-37	U	10	1	10	0.01
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Level 2 Reviewed By:	[redacted]	**Date:**	6/1/2018

Metals Working Standard Log

Analyst	[redacted]	**Working Standard ID #:**	MW-10264		
Prep Date:	5/29/2018	**Working Standard Name:**	ICPMS IS (X-2)		
Expiration Date:	8/29/2018	**Solvent:**	1% HNO3 18-814		
Final Volume (mL):	8000	**Balance ID:**	NA	**Pipette ID:**	325
Comments:					

Shealy ID	Stock Standard Name	Analyte(s)	Stock Std Conc. (µg/mL or mg/L)	Aliquot Volume (mL)	Final Conc. (µg/L)	Final Conc. (mg/L)
17-2185	Shealy-32 (Inorganics Ventures)	Li-6	100	16	200	0.2
17-2185	Shealy-32 (Inorganics Ventures)	Sc	100	16	200	0.2
17-2185	Shealy-32 (Inorganics Ventures)	Bi	20	16	40	0.04
17-2185	Shealy-32 (Inorganics Ventures)	In	20	16	40	0.04
17-2185	Shealy-32 (Inorganics Ventures)	Tb	20	16	40	0.04
17-2185	Shealy-32 (Inorganics Ventures)	Y	20	16	40	0.04
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Level 2 Reviewed By:	CJZ	**Date:**	6/1/2018

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CERTIFICATE OF ANALYSIS

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info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	SHEALY-22
Lot Number:	K2-MEB614058
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	200 µg/mL ea: Barium, 100 µg/mL ea: Iron, 50 µg/mL ea: Manganese, Nickel, Cobalt, Vanadium, Zinc, 25 µg/mL ea: Copper, 20 µg/mL ea: Chromium, 10 µg/mL ea: Antimony, Selenium, 5 µg/mL ea: Thallium, Beryllium, Cadmium, Silver, 4 µg/mL ea: Arsenic, 2 µg/mL ea: Lead

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	10.00 ± 0.07 µg/mL	Arsenic, As	4.002 ± 0.024 µg/mL
Barium, Ba	200.0 ± 0.8 µg/mL	Beryllium, Be	5.000 ± 0.025 µg/mL
Cadmium, Cd	4.999 ± 0.029 µg/mL	Chromium, Cr	20.00 ± 0.10 µg/mL
Cobalt, Co	49.99 ± 0.22 µg/mL	Copper, Cu	25.00 ± 0.09 µg/mL
Iron, Fe	100.0 ± 0.4 µg/mL	Lead, Pb	2.000 ± 0.010 µg/mL
Manganese, Mn	49.98 ± 0.19 µg/mL	Nickel, Ni	50.01 ± 0.22 µg/mL
Selenium, Se	10.00 ± 0.05 µg/mL	Silver, Ag	5.001 ± 0.034 µg/mL
Thallium, Tl	5.000 ± 0.038 µg/mL	Vanadium, V	50.01 ± 0.21 µg/mL
Zinc, Zn	49.99 ± 0.20 µg/mL		

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

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999b	999b
As	ICP Assay	3103a	100818
As	Calculated		See Sec. 4.2
Ba	ICP Assay	3104a	070222
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Cd	ICP Assay	3108	060531
Cd	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr	ICP Assay	3112a	030730
Cr	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Sb	ICP Assay	3102A	061229
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	993012
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

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

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

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 06, 2016

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

11.2 Lot Expiration Date

- **January 06, 2019**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: 1/6/18

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

"non responsive based on revised scope"

Product Documentation Technician

"non responsive based on revised scope"

Certificate Approved By:

[redacted]

Supervisor, Quality Control

[redacted]

Certifying Officer:

[redacted]

PhD., Senior Technical Director

[redacted]

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

CERTIFICATE OF ANALYSIS

18-193 (A,B) 1/29/18 SBE

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

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution		
Catalog Number:	SHEALY-18		
Lot Number:	N2-MEB664905		
Matrix:	2% (v/v) HNO3 tr. Tartaric Acid		
Value / Analyte(s):	50 000 µg/L ea:		
	Calcium,	Potassium,	Magnesium,
	Sodium,		
	20 000 µg/L ea:		
	Iron,		
	2 000 µg/L ea:		
	Aluminum,		
	1 000 µg/L ea:		
	Barium,		
	500 µg/L ea:		
	Selenium,	Vanadium,	
	200 µg/L ea:		
	Zinc,	Antimony,	Chromium,
	Copper,		
	100 µg/L ea:		
	Cadmium,	Cobalt,	Beryllium,
	Arsenic,	Thallium,	Nickel,
	Lead,	Silver,	Manganese

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	2 000 ± 11 µg/L	Antimony, Sb	200.0 ± 1.6 µg/L
Arsenic, As	100.0 ± 0.8 µg/L	Barium, Ba	1 000 ± 6 µg/L
Beryllium, Be	100.0 ± 0.7 µg/L	Cadmium, Cd	100.0 ± 0.7 µg/L
Calcium, Ca	50 020.0 ± 250.0 µg/L	Chromium, Cr	200.0 ± 1.5 µg/L
Cobalt, Co	100.0 ± 0.7 µg/L	Copper, Cu	200.0 ± 0.9 µg/L
Iron, Fe	20 000.0 ± 100.0 µg/L	Lead, Pb	100.0 ± 0.7 µg/L
Magnesium, Mg	50 020.0 ± 250.0 µg/L	Manganese, Mn	100.0 ± 0.7 µg/L
Nickel, Ni	100.0 ± 0.8 µg/L	Potassium, K	50 020.0 ± 240.0 µg/L
Selenium, Se	500.1 ± 3.7 µg/L	Silver, Ag	100.0 ± 0.9 µg/L
Sodium, Na	50 020.0 ± 240.0 µg/L	Thallium, Tl	100.0 ± 0.8 µg/L
Vanadium, V	500.1 ± 2.9 µg/L	Zinc, Zn	200.0 ± 1.2 µg/L

Density: 1.008 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	992212
Ag	Volhard	999b	999b
Al	ICP Assay	3101a	060502
Al	Calculated		See Sec. 4.2
As	ICP Assay	3103a	100818
Ba	ICP Assay	3104a	070222
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Co	ICP Assay	3113	000630 Co
Co	EDTA	928	928
Cr	ICP Assay	3112a	030730Cr3
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	050302
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Sb	ICP Assay	3102A	061229
Sb	Calculated		See Sec. 4.2
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	993012
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

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

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

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 26, 2018

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

11.2 Lot Expiration Date

- January 26, 2021

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: 1/31/18

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

"non responsive based on revised scope"

Supervisor, Quality Control

"non responsive based on revised scope"

Certifying Officer:

"non responsive based on revised scope"

CEO, Senior Technical Director

"non responsive based on revised scope"

MERCURY

Inorganic Analysis Data Sheet (Form 1-IN)
Initial and Continuing Calibration Verification (Form 2-IN)
Blanks (Form 3-IN)
Matrix Spike Sample Recovery (Form 5A-IN)
Duplicates (Form 6-IN)
Laboratory Control Sample (Form 7-IN)
Method Detection Limit (Form 9-IN)
Analysis Log (Form 12-IN)
Initial Calibration (Form 15-IN)
Initial Calibration Summary (Form 16-IN)
Mercury Raw Data
Mercury Preparation Log Books, Preparation Records, Analysis Records

Mercury
Sample Analysis Data Sheet

SDG COVER PAGE

Lab Name: Shealy Environmental Services, In

Contract: EPW14035

Lab Code: EQI

Case No: 47639

MA No.:

SDG No: MC0AA3

SOW No.: ISM02.4

EPA Sample No.	Lab Sample ID	Analysis Method ICP-AES	ICP-MS	Mercury	Cyanide
MC0AA0	TE18019 007			X	
MC0AA1	TE18019-008			X	
MC0AA2	TE18019-009			X	
MC0AA3	TE18019-001			X	
MC0AA4	TE18019 002			X	
MC0AA5	TE18019-010			X	
MC0AA6	TE18019-011			X	
MC0AA7	TE18019-003			X	
MC0AA8	TE18019 004			X	
MC0AB2	TE18019-005			X	
MC0AB3	TE18019-006			X	
MC0AB3D	TE18019-006D			X	
MC0AB S	TE18019 006S			X	
MC0AB4	TE18019-012			X	

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the SDG Narrative. Release of the data contained in this hardcopy data package and in the electronic data submitted has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: "non responsive based on revised scope"

Name: "non responsive based on revised scope"

Date: 6/6/2018

Title: Technical Director

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AA0

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 007

% Solids: Date Re eived: 05/18/2018

Analyti al Method: CVAA

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	05/30/2018	11:23:53

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AA1

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 008

% Solids: Date Re eived: 05/18/2018

Analyti al Method: CVAA

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	05/30/2018	11:25:46

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AA2

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 009

% Solids: Date Re eived: 05/18/2018

Analyti al Method: CVAA

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	05/30/2018	11:27:39

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AA

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 001

% Solids: Date Re eived: 05/18/2018

Analyti al Method: CVAA

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	05/30/2018	11:04:34

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AA4

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 002

% Solids: Date Re eived: 05/18/2018

Analyti al Method: CVAA

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	05/30/2018	11:06:25

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AA5

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 010

% Solids: Date Re eived: 05/18/2018

Analyti al Method: CVAA

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	05/30/2018	11:29:30

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AA6

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 011

% Solids: Date Re eived: 05/18/2018

Analyti al Method: CVAA

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	05/30/2018	11:31:21

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AA7

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 00

% Solids: Date Re eived: 05/18/2018

Analyti al Method: CVAA

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	05/30/2018	11:08:15

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AA8

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 004

% Solids: Date Re eived: 05/18/2018

Analyti al Method: CVAA

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	05/30/2018	11:10:06

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AB2

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 005

% Solids: Date Re eived: 05/18/2018

Analyti al Method: CVAA

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	05/30/2018	11:11:57

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AB

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 006

% Solids: Date Re eived: 05/18/2018

Analyti al Method: CVAA

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	05/30/2018	11:13:49

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AB4

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 012

% Solids: Date Re eived: 05/19/2018

Analyti al Method: CVAA

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	05/30/2018	11:33:12

NOTE: Hardness (total) is reported in mg/L

Comments:

Mercury
QC Summary/Forms

FORM 2 IN

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Shealy Environmental Services, In Contract: EPW14035

Lab Code: EQI Case No.: 47639 MA No : SDG No.: MC0AA3

Initial Calibration Verifi ation Sour e: USEPA ICV5 0508

Continuing Calibration Verifi ation Sour e: IV

Run Bat h: HG405 018ISMA Analyti al Method: CVAA

Concentration Units: ug/L

	Initial Calibration Verification				Continuing Calibration Verifi ation						
	ID: ICV110				ID: CCV128				ID: CCV129		
Analyte	True	Found	%R	%RSD	True	Found	%R	%RSD	Found	%R	%RSD
Mercury	4.0	4.1	104		5.0	5.2	104		5.2	103	

FORM 2 IN

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Shealy Environmental Services, In Contract: EPW14035

Lab Code: EQI Case No.: 47639 MA No : SDG No.: MC0AA3

Initial Calibration Verifi ation Sour e: USEPA ICV5 0508

Continuing Calibration Verifi ation Sour e: IV

Run Bat h: HG405 018ISMA Analyti al Method: CVAA

Concentration Units: ug/L

	Initial Calibration Verification				Continuing Calibration Verifi ation						
	ID:				ID: CCV130				ID:		
Analyte	True	Found	%R	%RSD	True	Found	%R	%RSD	Found	%R	%RSD
Mercury					5.0	5.2	104				

FORM 3 IN
BLANKS

Lab Name: Shealy Environmental Services, In Contract: EPW14035

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Preparation Blank Matrix: WATER

Preparation Blank Concentration Units (ug/L, mg/kg, mg/kg dry weight, or ug): UG/L

Analytical Method: CVAA Preparation Batch: 73310

Run Batch: HG4053018ISMA Preparation Method 7470A

	Initial Calibration Blank(ug/L)		Continuing Calibration Blank (ug/L)						- Preparation Blank	
Analyte	ID: ICB110	Q	ID: CCB128	Q	ID: CCB129	Q	ID: CCB130	Q	ID: PBW001	Q
Mercury	-0.069	J	-0.029	J	-0.036	J	-0.036	J	-0.036	J

FORM 5A IN

MATRIX SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MC0AB3S

Lab Name: Shealy Environmental Services, I Contract: EPW14035

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Analytical Method: CVAA

% Solids:

Concentration Units (ug/L, mg/L, or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q
Mercury	75 - 125	1.0		0.20	U	1.0	104	

FORM 6 IN

DUPLICATES

EPA SAMPLE NO.

MC0AB D

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Analyti al Method: CVAA

% Solids:

Concentration Units:(ug/L, mg/L, or mg/kg dry weight): UG/L

Analyte	Control Limit	Sam le (S)	Q	Duplicate (D)	Q	RPD	Q
Mercury		0.20	U	0.20	U		

FORM 9-IN

METHOD DETECTION LIMITS

Lab Name: Shealy Environmental Services, I Contract: EPW14035

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Analytical Method: CVAA Instrument ID: Hg4

Preparation Method: 7470A

Concentration Units (ug/L, ug, mg/kg): UG/L

Analyte	Wavelength/Mass	MDL	Date Analyzed
Mercury	253.70	0.022	12/28/2017

FORM 12-IN

ANALYSIS LOG

Lab Name: Shealy Environmental Services, Inc. Contract: EPW14035

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Instrument ID: Hg4 Analytical Method: CVAA

Start Date: 05/30/2018 End Date: 05/30/2018

Run Batch: HG4053018ISMA

EPA Sample NO.	D/F	Time	Analytes																									
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN		
S0	1.0	1039															X											
S01	1.0	1041															X											
S02	1.0	1043															X											
S03	1.0	1045															X											
S04	1.0	1047															X											
S05	1.0	1049															X											
ICV110	1.0	1051															X											
ICB110	1.0	1054															X											
CCV128	1.0	1056															X											
CCB128	1.0	1058															X											
ZZZZZZ	1.0	1100																										
PBW001	1.0	1102															X											
MC0AA3	1.0	1104															X											
MC0AA4	1.0	1106															X											
MC0AA7	1.0	1108															X											
MC0AA8	1.0	1110															X											
MC0AB2	1.0	1111															X											
MC0AB3	1 0	1113															X											
MC0AB3S	1.0	1115															X											
MC0AB3D	1.0	1117															X											
CCV129	1.0	1119															X											
CCB129	1.0	1121															X											
MC0AA0	1.0	1123															X											
MC0AA1	1.0	1125															X											
MC0AA2	1.0	1127															X											
MC0AA5	1.0	1129															X											
MC0AA6	1.0	1131															X											
MC0AB4	1.0	1133															X											
CCV130	1.0	1135															X											
CCB130	1.0	1136															X											

FORM 15 IN

INITIAL CALIBRATION

Lab Name: Shealy Environmental Services, Inc. **Contract:** EPW14035

Lab Code: EQI **Case No.:** 47639 **MA No.:** _____ **SDG No.:** MC0AA3

Instrument ID: Hg4 **Start Date:** 5/30/2018

Analytical Method: CVAA **Run Batch:** HG4053018ISMA

Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Mercury	0.00	0 046	0	0 200	0 18	9	0 500	0 50	1

FORM 15 IN

INITIAL CALIBRATION

Lab Name: Shealy Environmental Services, **Contract:** EPW14035

Lab Code: EQI **Case No.:** 47639 **MA No.:** _____ **SDG No.:** MC0AA3

Instrument ID: Hg4 **Start Date:** 5/30/2018

Analytical Method: CVAA **Run Batch:** HG4053018ISMA

Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Mercury	1 00	0 98	2	5 00	5 2	3	10 0	9 9	1

FORM 16 IN

INITIAL CALIBRATION SUMMARY

Lab Name: Shealy Environmental Services, Inc. **Contract:** EPW14035

Lab Code: EQI **Case No.:** 47639 **MA No.:** _____ **SDG No.:** MC0AA3

Instrument ID: Hg4 **Start Date:** 5/30/2018

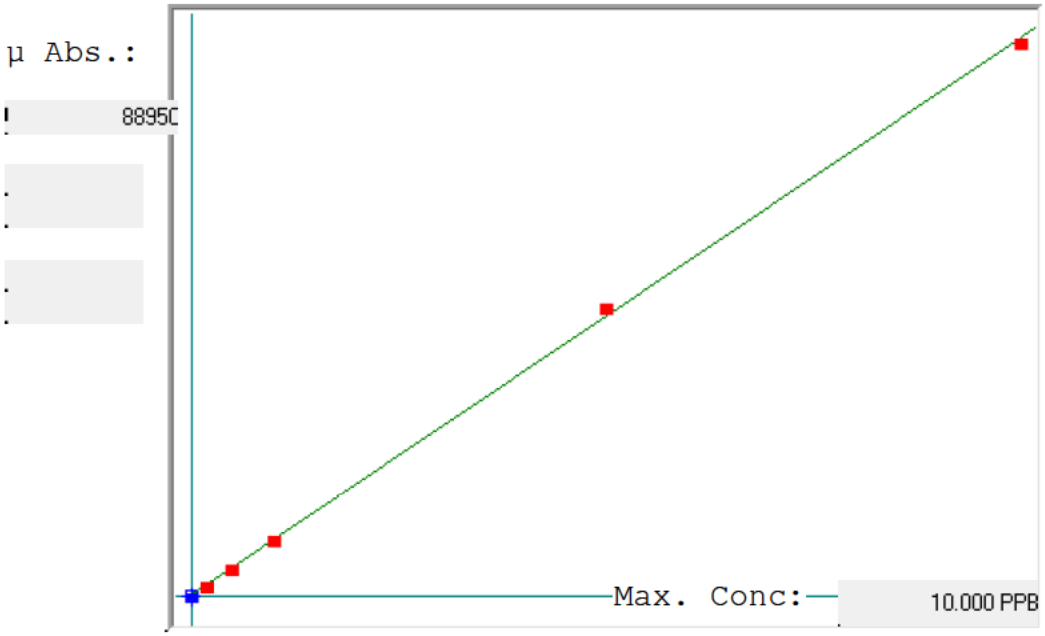
Analytical Method: CVAA **Run Batch:** HG4053018ISMA

Analyte	Corr. Coeff.	Slope	Intercept	Calib. Type	Weighting
Mercury	0.9998	0.000112	-0.0168	Lin. Req	None

Mercury
Raw Data

HG4ISMW

Linear



A= 0.0000e+000

B= 1.1164e-004

C= -1.6793e-002

Rho= 0.9997565

Accept= Accepted

Accepted Date=

05/30/18 10:51

Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4
BLANK S0 5/31/18	0.000	-0.046	-0.046	-262	0.000	-262			
CAL 1 S01 18HG0716 5/31/18	0.200	0.183	-0.017	1791	0.0 %	1791			
CAL 2 S02 18HG0715 5/31/18	0.500	0.496	-0.004	4594	0.0 %	4594			
CAL 3 S03 18HG0714 5/31/18	1.000	0.984	-0.016	8963	0.0 %	8963			
CAL 4 S04 18HG0713 5/31/18	5.000	5.169	0.169	46455	0.0 %	46455			
CAL 5 S05 18HG0712 5/31/18	10.000	9.914	-0.086	88950	0.0 %	88950			

HG4053018A

Method: HG4ISMW Operator: [redacted] Date of Analysis: 30 May 2018 10:17:08

Sample ID	Extended ID	Conc.	Units	µ Abs.	Date
BLANK S0 5/31/18 - 1		-	PPB	-262	30 May 2018 10:39:35
CAL 1 S01 18HG0716 5/31/18 - 1		-	PPB	1791	30 May 2018 10:41:25
CAL 2 S02 18HG0715 5/31/18 - 1		-	PPB	4594	30 May 2018 10:43:18
CAL 3 S03 18HG0714 5/31/18 - 1		-	PPB	8963	30 May 2018 10:45:13
CAL 4 S04 18HG0713 5/31/18 - 1		-	PPB	46455	30 May 2018 10:47:08
CAL 5 S05 18HG0712 5/31/18 - 1		-	PPB	88950	30 May 2018 10:49:15
ICV110 18HG0717 5/31/18 - 1		103.6% 4.1445	PPB	37274	30 May 2018 10:51:41
ICB110 5/31/18 - 1		-0.0694	PPB	-471	30 May 2018 10:54:14
CCV128 18HG0713 5/31/18 - 1		104.2% 5.2120	PPB	46836	30 May 2018 10:56:37
CCB128 5/31/18 - 1		-0.0286	PPB	-106	30 May 2018 10:58:28
SNCL2 - 1	IM8739-01 (6/1/18)	-0.0083	PPB	76	30 May 2018 11:00:52
TQ73310001 - 1	PBW001	-0.0359	PPB	-171	30 May 2018 11:02:43
TE18019001 - 1	MC0AA3	-0.0213	PPB	-40	30 May 2018 11:04:34
TE18019002 - 1	MC0AA4	-0.0018	PPB	134	30 May 2018 11:06:25
TE18019003 - 1	MC0AA7	-0.0153	PPB	13	30 May 2018 11:08:15
TE18019004 - 1	MC0AA8	-0.0414	PPB	-220	30 May 2018 11:10:06
TE18019005 - 1	MC0AB2	-0.0228	PPB	-54	30 May 2018 11:11:57
TE18019006 - 1	MC0AB3	0.0034	PPB	181	30 May 2018 11:13:49
TE18019006MS - 1	MC0AB3S	1.0397	PPB	9463	30 May 2018 11:15:40
TE18019006DU - 1	MC0AB3D	-0.0659	PPB	-440	30 May 2018 11:17:32
CCV12918HG0713 5/31/18 - 1		103.3% 5.1634	PPB	46401	30 May 2018 11:19:40
CCB129 5/31/18 - 1		-0.0362	PPB	-174	30 May 2018 11:21:30
TE18019007 - 1	MC0AA0	-0.0295	PPB	-114	30 May 2018 11:23:53
TE18019008 - 1	MC0AA1	-0.0312	PPB	-129	30 May 2018 11:25:46
TE18019009 - 1	MC0AA2	-0.0078	PPB	81	30 May 2018 11:27:39
TE18019010 - 1	MC0AA5	0.0025	PPB	173	30 May 2018 11:29:30
TE18019011 - 1	MC0AA6	-0.0251	PPB	-74	30 May 2018 11:31:21
TE18019012 - 1	MC0AB4	-0.0456	PPB	-258	30 May 2018 11:33:12
CCV130 18HG0713 5/31/18 - 1		103.6% 5.1810	PPB	46559	30 May 2018 11:35:03
CCB130 5/31/18 - 1		-0.0363	PPB	-175	30 May 2018 11:36:53

Mercury
Preparation Log Books and Records, Analysis Records

Analytical Review Report

Data File: ***HG4053018ISMA***

Analyst: [redacted]

Hg4

Parameter	Review Message			Result	LDR	TV	Rec/RPD	RSD	IDL/MDL	PQL
1	Sample ID:	BLANK S0 5/31/18	EPA Sample ID:	S0		Date:	5/30/2018	10:39:35	Dilution:	1
2	Sample ID:	S01 18H-G0716 5/31/1	EPA Sample ID:	S01		Date:	5/30/2018	10:41:25	Dilution:	1
3	Sample ID:	S02 18H-G0715 5/31/1	EPA Sample ID:	S02		Date:	5/30/2018	10:43:18	Dilution:	1
4	Sample ID:	S03 18H-G0714 5/31/1	EPA Sample ID:	S03		Date:	5/30/2018	10:45:13	Dilution:	1
5	Sample ID:	S04 18H-G0713 5/31/1	EPA Sample ID:	S04		Date:	5/30/2018	10:47:08	Dilution:	1
6	Sample ID:	S05 18H-G0712 5/31/1	EPA Sample ID:	S05		Date:	5/30/2018	10:49:15	Dilution:	1
7	Sample ID:	ICV110	EPA Sample ID:	ICV110		Date:	5/30/2018	10:51:41	Dilution:	1
8	Sample ID	ICB110	EPA Sample ID	ICB110		Date	5/30/2018	10 54 14	Dilution	1
9	Sample ID:	CCV128	EPA Sample ID:	CCV128		Date:	5/30/2018	10:56:37	Dilution:	1
10	Sample ID:	CCB128	EPA Sample ID:	CCB128		Date:	5/30/2018	10:58:28	Dilution:	1
11	Sample ID:	SNCL2	EPA Sample ID:	SNCL2 - 1		Date:	5/30/2018	11:00:52	Dilution:	1
12	Sample ID:	TQ73310-001	EPA Sample ID:	PBW001		Date:	5/30/2018	11:02:43	Dilution:	1
13	Sample ID:	TE18019-001	EPA Sample ID:	MC0AA3		Date:	5/30/2018	11:04:34	Dilution:	1
14	Sample ID:	TE18019-002	EPA Sample ID:	MC0AA4		Date:	5/30/2018	11:06:25	Dilution:	1
15	Sample ID:	TE18019-003	EPA Sample ID:	MC0AA7		Date:	5/30/2018	11:08:15	Dilution:	1
16	Sample ID:	TE18019-004	EPA Sample ID:	MC0AA8		Date:	5/30/2018	11:10:06	Dilution:	1
17	Sample ID:	TE18019-005	EPA Sample ID:	MC0AB2		Date:	5/30/2018	11:11:57	Dilution:	1
18	Sample ID	TE18019 006	EPA Sample ID	MC0AB3		Date	5/30/2018	11 13 49	Dilution	1
19	Sample ID:	TE18019-006S	EPA Sample ID:	MC0AB3S		Date:	5/30/2018	11:15:40	Dilution:	1
20	Sample ID:	TE18019-006D	EPA Sample ID:	MC0AB3D		Date:	5/30/2018	11:17:32	Dilution:	1
21	Sample ID:	CCV129	EPA Sample ID:	CCV129		Date:	5/30/2018	11:19:40	Dilution:	1
22	Sample ID:	CCB129	EPA Sample ID:	CCB129		Date:	5/30/2018	11:21:30	Dilution:	1
23	Sample ID:	TE18019-007	EPA Sample ID:	MC0AA0		Date:	5/30/2018	11:23:53	Dilution:	1
24	Sample ID:	TE18019-008	EPA Sample ID:	MC0AA1		Date:	5/30/2018	11:25:46	Dilution:	1
25	Sample ID:	TE18019-009	EPA Sample ID:	MC0AA2		Date:	5/30/2018	11:27:39	Dilution:	1
26	Sample ID:	TE18019-010	EPA Sample ID:	MC0AA5		Date:	5/30/2018	11:29:30	Dilution:	1
27	Sample ID:	TE18019-011	EPA Sample ID:	MC0AA6		Date:	5/30/2018	11:31:21	Dilution:	1
28	Sample ID	TE18019 012	EPA Sample ID	MC0AB4		Date	5/30/2018	11 33 12	Dilution	1
29	Sample ID:	CCV130	EPA Sample ID:	CCV130		Date:	5/30/2018	11:35:03	Dilution:	1
30	Sample ID:	CCB130	EPA Sample ID:	CCB130		Date:	5/30/2018	11:36:53	Dilution:	1

Analyst: [redacted]
Status: Level 2 review released
Matrix: Aqueous

Printed: 06/01/18 1042

Prep Batch: 73310

ISM02.4 A PREP 7470A: Mercury - Mercury Preparation for waters

Start Date: 05/29/2018 1633
End Date: 05/29/2018 1833

Level 2 Analyst [redacted]

Digestion Cup ID: 18-843

Ext Solvent: H2SO4/HNO3/KMnO4/K2S2O8/NaCl-NH2OH-HCl

Reagents Vol. (mL): 2.5, 1.25, 7.5, 4.0, 3.0

Chem ID: 18-549 (9/17/22), 18-814 (1/11/20), IM8727-01 (8/20/18), IM8735-01(8/28/18), IM8730-01 (8/24/18)

Hot Block ID: Hot Block # 7

Digestion Temperature (°C): 97

Sample ID	QC Code	Client Sample ID	Run	Analysis Descript	Initial Vol. (mL)	Spike ID	Spike Vol. (mL)	Final Vol. (mL)	Holding Time Expires	Analytical Due Date	Comments
TQ73310-001	MB	PBW	1	ISM02.4 HG	50.000		0.0	70			MS pipette 315
TE18019-001	Sample	MC0AA3	1	ISM02.4 HG	50.000		0.0	70	06/11/2018 1745	05/31/2018	
TE18019-002	Sample	MC0AA4	1	ISM02.4 HG	50.000		0.0	70	06/12/2018 0916	05/31/2018	
TE18019-003	Sample	MC0AA7	1	ISM02.4 HG	50.000		0.0	70	06/11/2018 1845	05/31/2018	
TE18019-004	Sample	MC0AA8	1	ISM02.4 HG	50.000		0.0	70	06/11/2018 1916	05/31/2018	
TE18019-005	Sample	MC0AB2	1	ISM02.4 HG	50.000		0.0	70	06/11/2018 1805	05/31/2018	
TE18019-006	Sample	MC0AB3	1	ISM02.4 HG	50.000		0.0	70	06/12/2018 1016	05/31/2018	
TE18019-006MS	MS	MC0AB3S	1	ISM02.4 HG	50.000	18HG0711 (5/31/18)	0.5	70			
TE18019-006DU	Duplicate	MC0AB3D	1	ISM02.4 HG	50.000		0.0	70			
TE18019-007	Sample	MC0AA0	1	ISM02.4 HG	50.000		0.0	70	06/10/2018 1047	05/31/2018	
TE18019-008	Sample	MC0AA1	1	ISM02.4 HG	50.000		0.0	70	06/10/2018 1047	05/31/2018	
TE18019-009	Sample	MC0AA2	1	ISM02.4 HG	50.000		0.0	70	06/10/2018 1115	05/31/2018	
TE18019-010	Sample	MC0AA5	1	ISM02.4 HG	50.000		0.0	70	06/11/2018 1015	05/31/2018	
TE18019-011	Sample	MC0AA6	1	ISM02.4 HG	50.000		0.0	70	06/11/2018 1835	05/31/2018	
TE18019-012	Sample	MC0AB4	1	ISM02.4 HG	50.000		0.0	70	06/12/2018 1640	05/31/2018	
TQ73310-004	Standard	Conc = 0.0 ug/L	1	ISM02.4 HG	50.000		0.0	70			S0
TQ73310-104	Standard	Conc = 10 ug/L	1	ISM02.4 HG	50.000	18HG0712 (5/31/18)	0.0	70			S05
TQ73310-204	Standard	Conc = 5.0 ug/L	1	ISM02.4 HG	50.000	18HG0713 (5/31/18)	0.0	70			S04
TQ73310-304	Standard	Conc = 1.0 ug/L	1	ISM02.4 HG	50.000	18HG0714 (5/31/18)	0.0	70			S03
TQ73310-404	Standard	Conc = 0.50 ug/L	1	ISM02.4 HG	50.000	18HG0715 (5/31/18)	0.0	70			S02
TQ73310-504	Standard	Conc = 0.20 ug/L	1	ISM02.4 HG	50.000	18HG0716 (5/31/18)	0.0	70			S01
TQ73310-101	MB		1	ISM02.4 HG	50.000		0.0	70			CCB
TQ73310-704	Standard	Conc = 5.0 ug/L	1	ISM02.4 HG	50.000	18HG0713 (5/31/18)	0.0	70			CCV
TQ73310-201	MB		1	ISM02.4 HG	50.000		0.0	70			ICB
TQ73310-904	Standard	Conc = 4.0 ug/L	1	ISM02.4 HG	50.000	18HG0717	0.0	70			ICV

Analyst: [redacted]
Status: Level 2 review released
Matrix: Aqueous

Printed: 06/01/18 1042

Prep Batch: 73310

ISM02.4 A PREP 7470A: Mercury - Mercury Preparation for waters

Start Date: 05/29/2018 1633
End Date: 05/29/2018 1833

Level 2 Analyst [redacted]

Digestion Cup ID: 18-843

Ext Solvent: H2SO4/HNO3/KMnO4/K2S2O8/NaCl-NH2OH-HCl

Reagents Vol. (mL): 2.5, 1.25, 7.5, 4.0, 3.0

Chem ID: 18-549 (9/17/22), 18-814 (1/11/20), IM8727-01 (8/20/18), IM8735-01(8/28/18), IM8730-01 (8/24/18)

Hot Block ID: Hot Block # 7

Digestion Temperature (°C): 97

Sample ID	QC Code	Client Sample ID	Run	Analysis Descript	Initial Vol. (mL)	Spike ID	Spike Vol. (mL)	Final Vol. (mL)	Holding Time Expires	Analytical Due Date	Comments
						(5/31/18)					

(end of report) **Total Samples: 12** **All samples have a pH < 2**

Mercury (Hg) Standard Log

Analyst:	[redacted]	Primary Stock Intermediate Standard ID #:	18HG0659
Prep Date:	5/29/2018	Expiration Date:	8/14/2018
Solvent Name:	DI H2O		
Solvent ID:	NA	Secondary Stock Intermediate Standard ID #:	
Expiration Date:	NA	Expiration Date:	
Final Volume (mL):	100	Pipette ID:	315/326

Working Standard (Year_HG_Number)	Mercury Stock Intermediate ID#	QC (Select One)	Concentration of Stock Intermediate Std. (µg/L)	Aliquoted Volume (mL)	Final Conc. (µg/L)	Expiration Date
18HG0711	18HG0659		1000	10	100	5/31/2018
18HG0712	18HG0711		100	10	10	5/31/2018
18HG0713	18HG0711	CCV	100	5	5	5/31/2018
18HG0714	18HG0711		100	1	1	5/31/2018
18HG0715	18HG0713		5	10	0.5	5/31/2018
18HG0716	18HG0713		5	4	0.2	5/31/2018
18HG0717	ICV5-0508	ICV	400	1	4	5/31/2018
					0	
					0	
					0	

Comments:	Preserved with 0.15mL HNO3 (18-814 (1/11/20)), Standard PB: 73310

Level 2:	[redacted]
Date:	5/31/2018

Mercury (Hg) Standard Log

Analyst	non responsive based on [redacted]	Primary Stock Intermediate Standard ID #:	NA
Prep Date:	5/14/2018	Expiration Date:	NA
Solvent Name:	DI H2O		
Solvent ID:	NA	Secondary Stock Intermediate Standard ID #:	NA
Expiration Date:	NA	Expiration Date:	NA
Final Volume (mL):	500	Pipette ID:	315

Working Standard (Year_HG_Number)	Mercury Stock Intermediate ID#	QC (Select One)	Concentration of Stock Intermediate Std. (µg/L)	Aliquoted Volume (mL)	Final Conc. (µg/L)	Expiration Date
18HG0659	17-2031(12/18)		1000000	0.5	1000	8/14/2018
18HG0660	17-2060(12/18)		1000000	0.5	1000	8/14/2018
					0	
					0	
					0	
					0	
					0	
					0	
					0	
					0	

Comments:	Presevered with 10mL of HNO3 (18-814 (1/11/20))

Level 2:	non responsive bas [redacted]
Date:	5/18/2018

17-2031 11·24·17

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

CERTIFICATE OF ANALYSIS

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

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 853.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGHG1
Lot Number:	K2-HG653768
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Mercury
Starting Material:	Hg metal
Starting Material Lot#:	05214TX, R307HGA1, 1780
Starting Material Purity:	99.9994%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value:	1004 ± 3 µg/mL
Certified Density:	1.026 g/mL (measured at 20 ± 1 °C)

Assay Information:

Assay Method #1	**1000 ± 4 µg/mL** ICP Assay NIST SRM 3133 Lot Number: 061204
Assay Method #2	**1006 ± 3 µg/mL** EDTA NIST SRM 928 Lot Number: 928

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

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

Characterization of CRM by two independent methods

Characterization of CRM/RM by Two Methods

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

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

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

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

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

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM by one method

Characterization of CRM/RM by One Method

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

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

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

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

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

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

M	Ag		0.001716	M	Eu	<	0.000203	O	Na		0.000767	M	Se	<	0.013814	O	Zn		0.000124
O	Al		0.000161	O	Fe		0.000146	M	Nb	<	0.000203	O	Si		0.000445	M	Zr	<	0.001219
M	As	<	0.002844	M	Ga	<	0.000203	M	Nd	<	0.000203	M	Sm	<	0.000203				
O	Au	<	0.003219	M	Gd	<	0.000203	O	Ni	<	0.001812	M	Sn	<	0.000203				
O	B	<	0.002479	M	Ge	<	0.000609	M	Os	<	0.000202	O	Sr	<	0.000152				
M	Ba	<	0.000203	M	Hf	<	0.000203	O	P	<	0.010730	M	Ta	<	0.000203				
O	Be	<	0.000322	s	Hg	<		M	Pb	<	0.000203	M	Tb	<	0.000203				
M	Bi	<	0.013001	M	Ho	<	0.000203	M	Pd	<	0.000404	M	Te	<	0.001422				
O	Ca		0.001767	M	In	<	0.004063	M	Pr	<	0.000203	M	Th	<	0.000203				
M	Cd		0.000074	M	Ir	<	0.000202	M	Pt	<	0.000203	O	Ti	<	0.000530				
M	Ce	<	0.000203	M	K		0.000432	M	Rb	<	0.001219	O	Tl	<	0.002788				
M	Co	<	0.000406	M	La	<	0.000203	M	Re	<	0.001016	M	Tm	<	0.000203				
O	Cr		0.000167	O	Li	<	0.000180	M	Rh	<	0.000203	M	U	<	0.000813				
M	Cs	<	0.000203	M	Lu	<	0.000203	M	Ru	<	0.000202	M	V	<	0.000406				
M	Cu	<	0.000406	O	Mg		0.000379	O	S	<	0.023508	M	W	<	0.000609				
M	Dy	<	0.000203	M	Mn	<	0.000203	O	Sb	<	0.009657	M	Y	<	0.000203				
M	Er	<	0.000203	O	Mo	<	0.002152	M	Sc	<	0.000406	M	Yb	<	0.000203				

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

10.3 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 13, 2017

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

11.2 Lot Expiration Date

- January 13, 2021

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

"non responsive based on revised scope"

Product Documentation Technician

"non responsive based on revised scope"

Certificate Approved By:

"non responsive based on revised scope"

Supervisor, Quality Control

"non responsive based on revised scope"

Certifying Officer:

"non responsive based on revised scop

CEO, Senior Technical Director

"non responsive based on revised scope"

CYANIDE

Inorganic Analysis Data Sheet (Form 1-IN)
Initial and Continuing Calibration Verification (Form 2-IN)
Blanks (Form 3-IN)
Matrix Spike Sample Recovery (Form 5A-IN)
Post Digestion/Distillation Spike Sample Recovery (Form 5B-IN)
Duplicates (Form 6-IN)
Method Detection Limit (Form 9-IN)
Analysis Log (Form 12-IN)
Initial Calibration (Form 15-IN)
Initial Calibration Summary (Form 16-IN)
Cyanide Raw Data
Cyanide Preparation Log Books, Preparation Records, Analysis Records

Cyanide
Sample Analysis Data Sheet

SDG COVER PAGE

Lab Name: Shealy Environmental Services, In

Contract: EPW14035

Lab Code: EQI

Case No: 47639

MA No.:

SDG No: MC0AA3

SOW No.: ISM02.4

EPA Sample No.	Lab Sample ID	Analysis Method ICP-AES	ICP-MS	Mercury	Cyanide
MC0AA0	TE18019 007				X
MC0AA1	TE18019-008				X
MC0AA2	TE18019-009				X
MC0AA3	TE18019-001				X
MC0AA4	TE18019 002				X
MC0AA5	TE18019-010				X
MC0AA6	TE18019-011				X
MC0AA7	TE18019-003				X
MC0AA8	TE18019 004				X
MC0AB2	TE18019-005				X
MC0AB3	TE18019-006				X
MC0AB3D	TE18019-006D				X
MC0AB S	TE18019 006S				X
MC0AB4	TE18019-012				X

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the SDG Narrative. Release of the data contained in this hardcopy data package and in the electronic data submitted has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: "non responsive based on revised scope" [redacted]

Name: "non responsive based on revised scope" [redacted]

Date: 6/6/2018

Title: Technical Director

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AA0

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 007

% Solids: Date Re eived: 05/18/2018

Analyti al Method: Spectrophotometry

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	10.0	U	05/25/2018	22:44:50

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AA1

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 008

% Solids: Date Re eived: 05/18/2018

Analyti al Method: Spectrophotometry

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	10.0	U	05/25/2018	22:46:01

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AA2

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 009

% Solids: Date Re eived: 05/18/2018

Analyti al Method: Spectrophotometry

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	10.0	U	05/25/2018	22:47:11

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AA

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 001

% Solids: Date Re eived: 05/18/2018

Analyti al Method: Spectrophotometry

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	10.0	U	05/25/2018	22:35:27

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AA4

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 002

% Solids: Date Re eived: 05/18/2018

Analyti al Method: Spectrophotometry

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	10.0	U	05/25/2018	22:36:36

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AA5

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 010

% Solids: Date Re eived: 05/18/2018

Analyti al Method: Spectrophotometry

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	10.0	U	05/25/2018	22:48:21

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AA6

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 011

% Solids: Date Re eived: 05/18/2018

Analyti al Method: Spectrophotometry

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	10.0	U	05/25/2018	22:49:32

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AA7

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 00

% Solids: Date Re eived: 05/18/2018

Analyti al Method: Spectrophotometry

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	10.0	U	05/25/2018	22:37:45

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AA8

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 004

% Solids: Date Re eived: 05/18/2018

Analyti al Method: Spectrophotometry

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	10.0	U	05/25/2018	22:38:55

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AB2

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 005

% Solids: Date Re eived: 05/18/2018

Analyti al Method: Spectrophotometry

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	10.0	U	05/25/2018	22:40:07

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AB

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 006

% Solids: Date Re eived: 05/18/2018

Analyti al Method: Spectrophotometry

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	10.0	U	05/25/2018	22:41:17

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 1 IN

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MC0AB4

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Lab Sam le ID: TE18019 012

% Solids: Date Re eived: 05/19/2018

Analyti al Method: Spectrophotometry

Con entration Units (ug/L ug mg/kg dry weight or ug): UG/L

CAS No	Analyte	Con entration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	10.0	U	05/25/2018	22:50:41

NOTE: Hardness (total) is reported in mg/L

Comments:

Cyanide
QC Summary/Forms

FORM 2 IN

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Shealy Environmental Services, In Contract: EPW14035

Lab Code: EQI Case No.: 47639 MA No : SDG No.: MC0AA3

Initial Calibration Verifi ation Sour e: USEPA ICV6 0400

Continuing Calibration Verifi ation Sour e: Fisher Scientific

Run Bat h: OM 5 25 2018 22 21 42 Analyti al Method: Spectrophotometry

Concentration Units: ug/L

	Initial Calibration Verification				Continuing Calibration Verifi ation						
	ID: ICV007				ID: CCV017				ID: CCV018		
Analyte	True	Found	%R	%RSD	True	Found	%R	%RSD	Found	%R	%RSD
Cyanide	99.0	97.6	99		80.0	84.3	105		80.7	101	

FORM 3 IN
BLANKS

Lab Name: Shealy Environmental Services, In Contract: EPW14035

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Preparation Blank Matrix: WATER

Preparation Blank Concentration Units (ug/L, mg/kg, mg/kg dry weight, or ug): UG/L

Analytical Method: Spectrophotometry Preparation Batch: 73195

Run Batch: OM 5-25-2018 22-21-42 Preparation Method Micro-distillation_Aqueous

	Initial Calibration Blank(ug/L)		Continuing Calibration Blank (ug/L)						- Preparation Blank	
Analyte	ID: ICB007	Q	ID: CCB017	Q	ID: CCB018	Q	ID:	Q	ID: PBW005	Q
Cyanide	10.0	U	10.0	U	10.0	U			10.0	U

FORM 5A IN

MATRIX SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MC0AB3S

Lab Name: Shealy Environmental Services, I Contract: EPW14035

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Analytical Method: Spectrophotometry

% Solids:

Concentration Units (ug/L, mg/L, or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q
Cyanide	75 - 125	104		10.0	U	100	104	

FORM 6 IN

DUPLICATES

EPA SAMPLE NO.

MC0AB D

Lab Name: Shealy Environmental Services, I Contra t: EPW140 5

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Matrix: WATER Analyti al Method: Spectrophotometry

% Solids:

Concentration Units:(ug/L, mg/L, or mg/kg dry weight): UG/L

Analyte	Control Limit	Sam le (S)	Q	Duplicate (D)	Q	RPD	Q
Cyanide		10.0	U	10.0	U		

FORM 9-IN

METHOD DETECTION LIMITS

Lab Name: Shealy Environmental Services, I Contract: EPW14035

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Analytical Method: Spectrophotometry Instrument ID: AA2

Preparation Method: Micro-distillation Aqueous

Concentration Units (ug/L, ug, mg/kg): UG/L

Analyte	Wavelength/Mass	MDL	Date Analyzed
Cyanide	580.00	2.2	09/01/2017

FORM 12-IN

ANALYSIS LOG

Lab Name: Shealy Environmental Services, Inc. Contract: EPW14035

Lab Code: EQI Case No.: 47639 MA No.: SDG No.: MC0AA3

Instrument ID: AA2 Analytical Method: Spectrophotometry

Start Date: 05/25/2018 End Date: 05/25/2018

Run Batch: OM 5-25-2018 22-21-42

EPA Sample NO.	D/F	Time	Analytes																									
			AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN		
S06	1.0	2222																								X		
S05	1.0	2223																								X		
S04	1.0	2224																								X		
S03	1.0	2226																								X		
S02	1.0	2227																								X		
S01	1.0	2228																								X		
ICV007	1.0	2229																								X		
ICB007	1.0	2230																								X		
CCV017	1.0	2231																								X		
CCB017	1.0	2233																								X		
PBW005	1.0	2234																								X		
MC0AA3	1.0	2235																								X		
MC0AA4	1.0	2236																								X		
MC0AA7	1.0	2237																								X		
MC0AA8	1.0	2238																								X		
MC0AB2	1.0	2240																								X		
MC0AB3	1.0	2241																								X		
MC0AB3S	1 0	2242																								X		
MC0AB3D	1.0	2243																								X		
MC0AA0	1.0	2244																								X		
MC0AA1	1.0	2246																								X		
MC0AA2	1.0	2247																								X		
MC0AA5	1.0	2248																								X		
MC0AA6	1.0	2249																								X		
MC0AB4	1.0	2250																								X		
CCV018	1.0	2251																								X		
CCB018	1.0	2253																								X		

FORM 15 IN

INITIAL CALIBRATION

Lab Name: Shealy Environmental Services, Inc. **Contract:** EPW14035

Lab Code: EQI **Case No.:** 47639 **MA No.:** _____ **SDG No.:** MC0AA3

Instrument ID: AA2 **Start Date:** 5/25/2018

Analytical Method: Spectrophotometry **Run Batch:** OM_5-25-2018_22-21-42

Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Cyanide	0.00	-1.8	0	10 0	8 9	11	50 0	49	1

FORM 15 IN

INITIAL CALIBRATION

Lab Name: Shealy Environmental Services, **Contract:** EPW14035

Lab Code: EQI **Case No.:** 47639 **MA No.:** _____ **SDG No.:** MC0AA3

Instrument ID: AA2 **Start Date:** 5/25/2018

Analytical Method: Spectrophotometry **Run Batch:** OM 5-25-2018 22-21-42

Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Cyanide	80 0	82	3	100	104	4	200	197	2

FORM 16 IN

INITIAL CALIBRATION SUMMARY

Lab Name: Shealy Environmental Services, Inc. **Contract:** EPW14035

Lab Code: EQI **Case No.:** 47639 **MA No.:** _____ **SDG No.:** MC0AA3

Instrument ID: AA2 **Start Date:** 5/25/2018

Analytical Method: Spectrophotometry **Run Batch:** OM_5-25-2018_22-21-42

Analyte	Corr. Coeff.	Slope	Intercept	Calib. Type	Weighting
Cyanide	0.9993	0.0191	0.0779	Lin. Req	None

Cyanide
Raw Data

Analyst [redacted] Instrument ID: AA2 Method: ISM02.4 Batch: 73195 73197 Date : 5/25/2018

Original Run Filename: OM_5-25-2018_22-21-42.OMN created 5/25/2018 22:21:42
Original Run Author's Signature: [Omnion User]
Current Run Filename: OM_5-25-2018_22-21-42.OMN last modified 5/25/2018 22:54:47
Current Run Author's Signature: [Omnion User]
Description: Default New Run

Sample	Cup No.	Channel 2 Cyanide Conc.	Channel 2 Cyanide Area (V.s)	Detection Time	MDF	Description	
S06 200ug/L TQ73197-004	1	200	3.85	5/25/2018@22:22:33			
S05 100ug/L TQ73197-104	2	100	2.07	5/25/2018@22:23:44			
S04 80ug/L TQ73197-204	3	80.0	1.65	5/25/2018@22:24:55			
S03 50ug/L TQ73197-304	4	50.0	1.02	5/25/2018@22:26:06			
S02 10ug/L TQ73197-404	5	10.0	0.247	5/25/2018@22:27:17			
S01 0ug/L TQ73197-504	6	0.00	0.0409	5/25/2018@22:28:27			
ICV007 99ug/L TQ73197-604	7	97.6	1.94	5/25/2018@22:29:37			ICV 99%
Known Conc:		99.0					
Calibration:		Table/Fig. 1					
ICB007 TQ73197-804	8	-1.49	0.0476	5/25/2018@22:30:47			
Known Conc:		0.00					
CCV017 80ug/L	89	84.3	1.69	5/25/2018@22:31:57			
Known Conc:		80.0					
CCB017	90	-2.08	0.0362	5/25/2018@22:33:07			
Known Conc:		0.00					
TQ73195-001 PBW005	11	-0.798	0.0608	5/25/2018@22:34:17			
TE18019-001 MC0AA3	12	-0.519	0.0661	5/25/2018@22:35:27			
TE18019-002 MC0AA4	13	-0.252	0.0712	5/25/2018@22:36:36			
TE18019-003 MC0AA7	14	8.40e-3	0.0762	5/25/2018@22:37:45			
TE18019-004 MC0AA8	15	-0.396	0.0685	5/25/2018@22:38:55			
TE18019-005 MC0AB2	16	0.0342	0.0767	5/25/2018@22:40:07			
TE18019-006 MC0AB3	17	-0.120	0.0738	5/25/2018@22:41:17			
TE18019-006MS MC0AB3S	18	104	2.06	5/25/2018@22:42:29			MS 104%
TE18019-006DU MC0AB3D	19	-0.0354	0.0754	5/25/2018@22:43:39			RPD 0%
TE18019-007 MC0AA0	20	0.494	0.0855	5/25/2018@22:44:50			
TE18019-008 MC0AA1	21	-0.339	0.0696	5/25/2018@22:46:01			
TE18019-009 MC0AA2	22	0.512	0.0859	5/25/2018@22:47:11			
TE18019-010 MC0AA5	23	-0.511	0.0663	5/25/2018@22:48:21			
TE18019-011 MC0AA6	24	-0.0238	0.0756	5/25/2018@22:49:32			
TE18019-012 MC0AB4	25	-0.203	0.0722	5/25/2018@22:50:41			
CCV018 80ug/L	89	80.7	1.62	5/25/2018@22:51:52			

Known Conc:		80.0				
CCB018	90	-1.96	0.0385	5/25/2018@22:53:02		
Known Conc:		0.00				

Analyte Properties Table for OM_5-25-2018_22-21-42.OMN

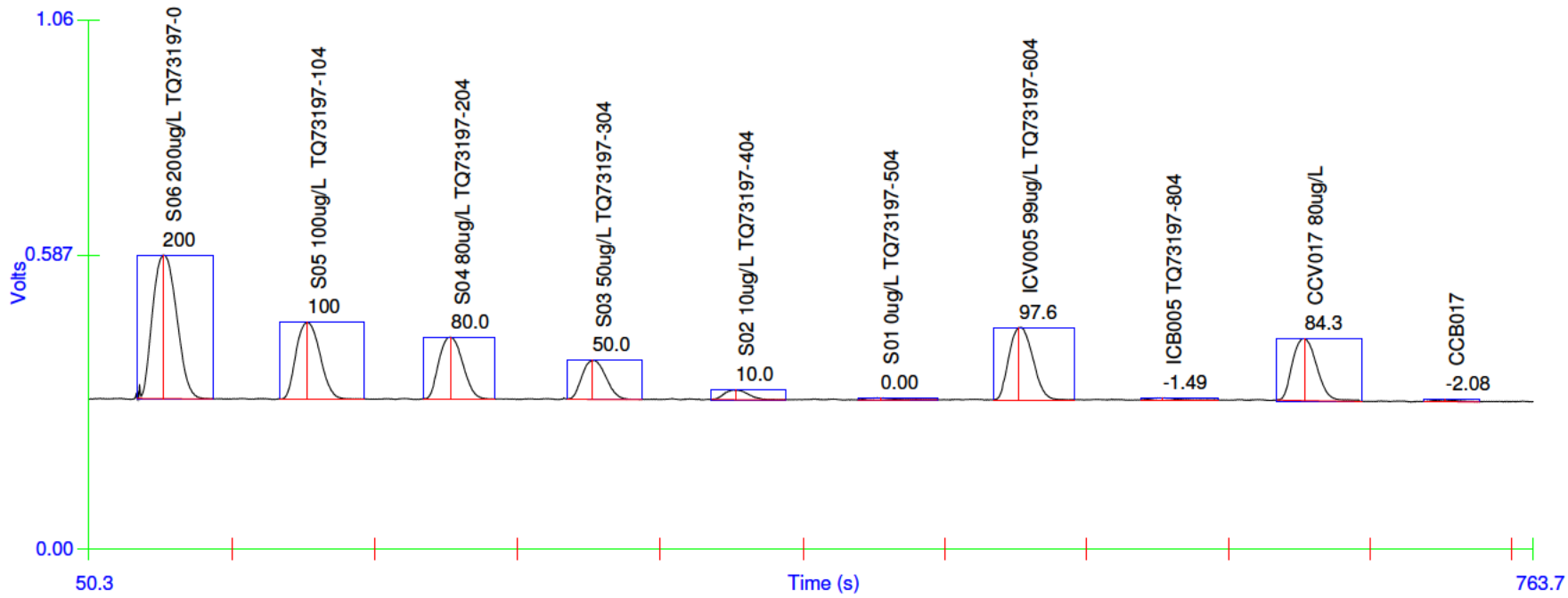
Property	Channel 2
	Cyanide
Concentration Units	
Callibration Fit Type	First Order
Clear Calibration	True
Force Through Zero	False
Calibration Weighting	None
Auto Dilution Trigger	False
% of High Standard	110
Quik Chem Method	
Chemistry	Direct/Bipolar
Calibration by Height	False
Inject to Peak Start	23
Peak Base Width	45

Analyst [redacted]

Instrument ID: AA2 Method: ISM02.4 Batch: 73195 73197

Date : 5/25/2018

Channel 2: Set 1 of 3

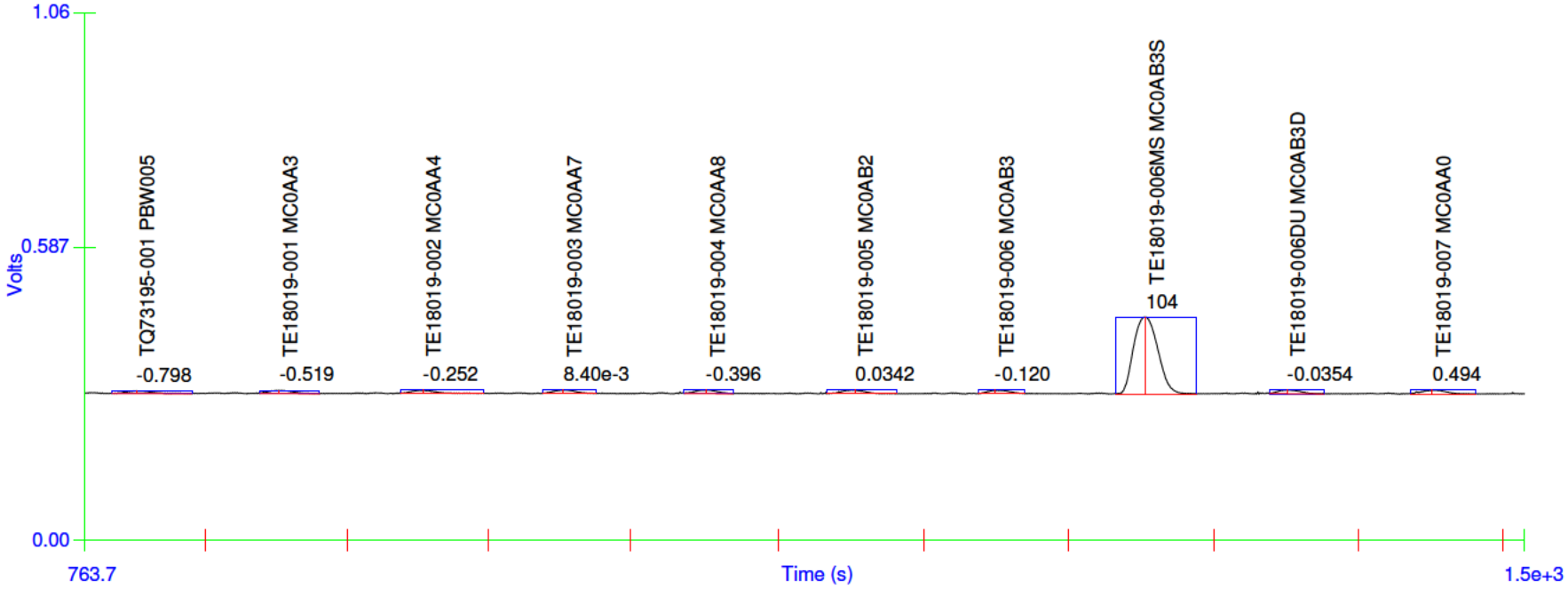


Analyst: [redacted]

Instrument ID: AA2 Method: ISM02.4 Batch: 73195 73197

Date : 5/25/2018

Channel 2: Set 2 of 3



Analyst: [redacted]

Instrument ID: AA2 Method: ISM02.4 Batch: 73195 73197

Date : 5/25/2018

Channel 2: Set 3 of 3

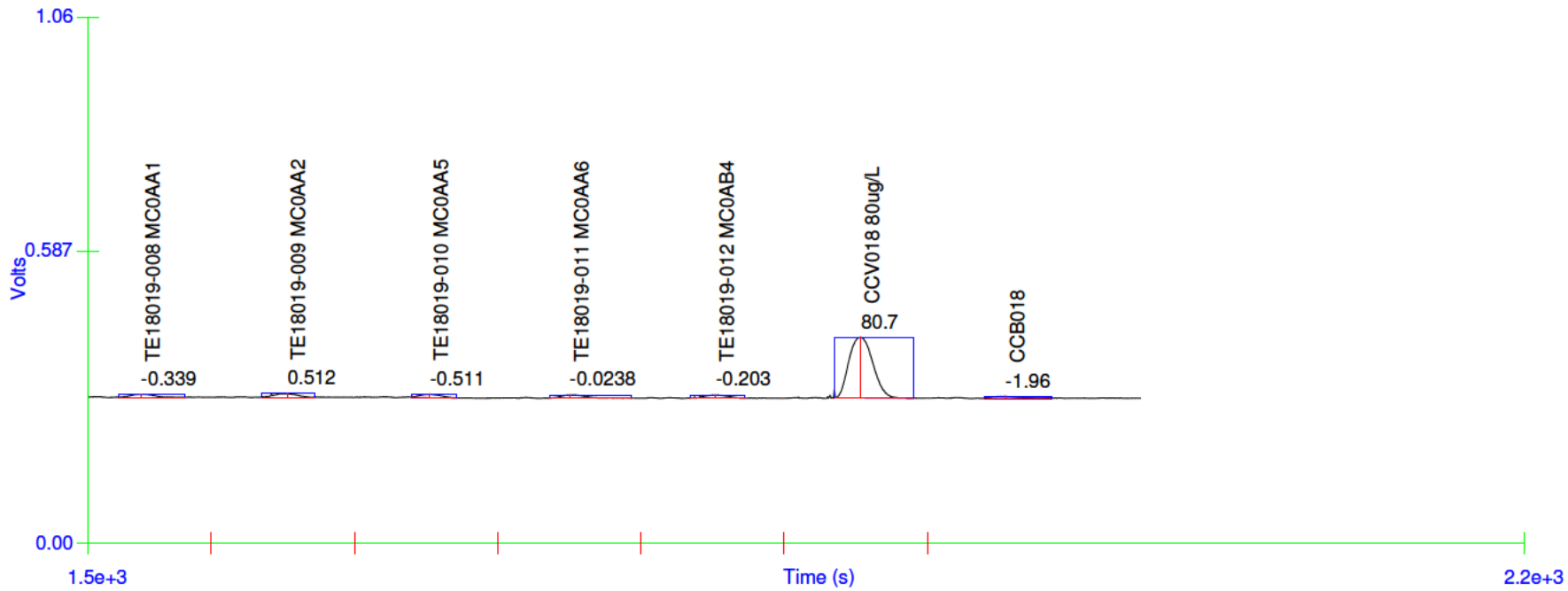
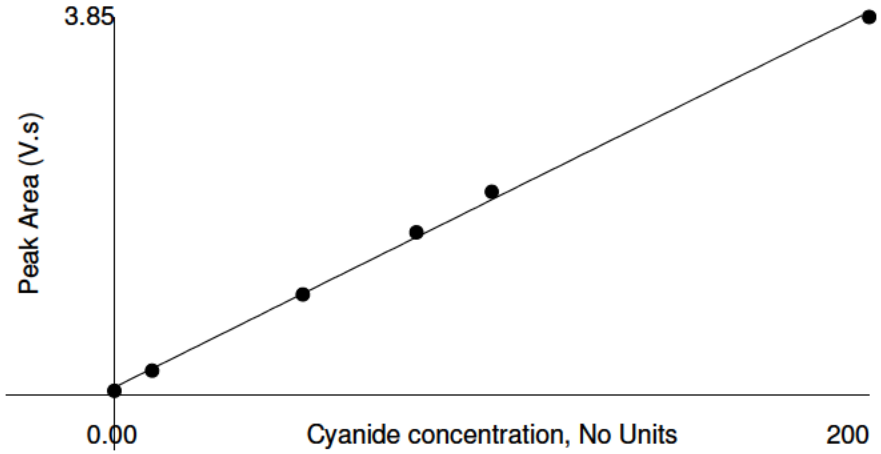


Table 1: Cyanide

	Known Conc. ()	Rep	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc. ()	Detection Date	Detection Time	
1	200	1	3.85	0.286	0.0	1.4	197	5/25/2018	22:22:33	99%
2	100	1	2.07	0.153	0.0	-3.9	104	5/25/2018	22:23:44	104%
3	80.0	1	1.65	0.124	0.0	-2.8	82.4	5/25/2018	22:24:55	103%
4	50.0	1	1.02	0.0775	0.0	1.1	49.4	5/25/2018	22:26:06	99%
5	10.0	1	0.247	0.0196	0.0	8.1	8.94	5/25/2018	22:27:17	89%
6	0.00	1	0.0409	4.21e-3			-1.84	5/25/2018	22:28:27	

Analyst: [redacted] Instrument ID: AA2 Method: ISM02.4 Batch: 73195 73197 Date : 5/25/2018

Figure 1: Cyanide



Area = 0.0191 * Conc + 0.0779
Conc = 52.3 * Area - 3.97
Correlation Coefficient (r) = 0.99933

No Weighting

Cyanide Preparation Log Books and Records, Analysis Records

Analytical Review Report

Data File: ***OM 5-25-2018 22-21-42***

Analyst: non responsive based on revised scope [redacted]

AA2

Parameter	Review Message				Result	LDR	TV	Rec/RPD	RSD	IDL/MDL	PQL
1·	Sample ID:	S06	EPA Sample ID:	S06			Date:	5/25/2018	22:22:33	Dilution:	1
2·	Sample ID:	S05	EPA Sample ID:	S05			Date:	5/25/2018	22:23:44	Dilution:	1
3	Sample ID:	S04	EPA Sample ID:	S04			Date:	5/25/2018	22:24:55	Dilution:	1
4·	Sample ID:	S03	EPA Sample ID:	S03			Date:	5/25/2018	22:26:06	Dilution:	1
5·	Sample ID:	S02	EPA Sample ID:	S02			Date:	5/25/2018	22:27:17	Dilution:	1
6·	Sample ID:	S01	EPA Sample ID:	S01			Date:	5/25/2018	22:28:27	Dilution:	1
7·	Sample ID:	ICV007	EPA Sample ID:	ICV007			Date:	5/25/2018	22:29:37	Dilution:	1
8·	Sample ID:	ICB007	EPA Sample ID	ICB007			Date	5/25/2018	22 30 47	Dilution	1
9·	Sample ID:	CCV017	EPA Sample ID:	CCV017			Date:	5/25/2018	22:31:57	Dilution:	1
10·	Sample ID:	CCB017	EPA Sample ID:	CCB017			Date:	5/25/2018	22:33:07	Dilution:	1
11·	Sample ID:	TQ73195-001	EPA Sample ID:	PBW005			Date:	5/25/2018	22:34:17	Dilution:	1
12·	Sample ID:	TE18019-001	EPA Sample ID:	MC0AA3			Date:	5/25/2018	22:35:27	Dilution:	1
13	Sample ID:	TE18019-002	EPA Sample ID:	MC0AA4			Date:	5/25/2018	22:36:36	Dilution:	1
14·	Sample ID:	TE18019-003	EPA Sample ID:	MC0AA7			Date:	5/25/2018	22:37:45	Dilution:	1
15·	Sample ID:	TE18019-004	EPA Sample ID:	MC0AA8			Date:	5/25/2018	22:38:55	Dilution:	1
16·	Sample ID:	TE18019-005	EPA Sample ID:	MC0AB2			Date:	5/25/2018	22:40:07	Dilution:	1
17·	Sample ID:	TE18019-006	EPA Sample ID:	MC0AB3			Date:	5/25/2018	22:41:17	Dilution:	1
18·	Sample ID	TE18019 006S	EPA Sample ID	MC0AB3S			Date	5/25/2018	22 42 29	Dilution	1
19·	Sample ID:	TE18019-006D	EPA Sample ID:	MC0AB3D			Date:	5/25/2018	22:43:39	Dilution:	1
20·	Sample ID:	TE18019-007	EPA Sample ID:	MC0AA0			Date:	5/25/2018	22:44:50	Dilution:	1
21·	Sample ID:	TE18019-008	EPA Sample ID:	MC0AA1			Date:	5/25/2018	22:46:01	Dilution:	1
22·	Sample ID:	TE18019-009	EPA Sample ID:	MC0AA2			Date:	5/25/2018	22:47:11	Dilution:	1
23	Sample ID:	TE18019-010	EPA Sample ID:	MC0AA5			Date:	5/25/2018	22:48:21	Dilution:	1
24·	Sample ID:	TE18019-011	EPA Sample ID:	MC0AA6			Date:	5/25/2018	22:49:32	Dilution:	1
25·	Sample ID:	TE18019-012	EPA Sample ID:	MC0AB4			Date:	5/25/2018	22:50:41	Dilution:	1
26·	Sample ID:	CCV018	EPA Sample ID:	CCV018			Date:	5/25/2018	22:51:52	Dilution:	1
27·	Sample ID:	CCB018	EPA Sample ID:	CCB018			Date:	5/25/2018	22:53:02	Dilution:	1

Analyst [redacted]

Status: Level 2 review released

Matrix: Aqueous

Printed: 06/01/18 1327

Prep Batch: 73195

ISM02.4 A PREP Micro-distillation: CN - Cyanide distillation for waters

Start Date: 05/25/2018 1549

End Date: 05/25/2018 1619

Level 2 Analyst: [redacted]

Thermometer ID: 11010000294

Temperature: 121

Ext Solvent: NaOH/H2SO4&MgCl2.6H20 Soln

Reagents Vol. (mL): 2mL / 0.75mL

Chem ID: CNR18-156 / CNR18-152

Hot Block ID: Micro Dist Hot Block

Sample ID	QC Code	Client Sample ID	Run	Analysis Descript	Initial Vol. (mL)	Spike ID	Spike Vol. (mL)	Final Vol. (mL)	Holding Time Expires	Analytical Due Date	Comments
TQ73195-001	MB	PBW005	1	ISM02.4 CN	6		0.000	6.0			pip 281
TE18019-001	Sample	MC0AA3	1	ISM02.4 CN	6		0.000	6.0	05/30/2018 0940	05/31/2018	
TE18019-002	Sample	MC0AA4	1	ISM02.4 CN	6		0.000	6.0	05/30/2018 0940	05/31/2018	
TE18019-003	Sample	MC0AA7	1	ISM02.4 CN	6		0.000	6.0	05/30/2018 0940	05/31/2018	
TE18019-004	Sample	MC0AA8	1	ISM02.4 CN	6		0.000	6.0	05/30/2018 0940	05/31/2018	
TE18019-005	Sample	MC0AB2	1	ISM02.4 CN	6		0.000	6.0	05/30/2018 0940	05/31/2018	
TE18019-006	Sample	MC0AB3	1	ISM02.4 CN	6		0.000	6.0	05/30/2018 0940	05/31/2018	
TE18019-006MS	MS	MC0AB3S	1	ISM02.4 CN	6	CN18-671	0.600	6.0			
TE18019-006DU	Duplicate	MC0AB3D	1	ISM02.4 CN	6		0.000	6.0			
TE18019-007	Sample	MC0AA0	1	ISM02.4 CN	6		0.000	6.0	05/30/2018 0940	05/31/2018	
TE18019-008	Sample	MC0AA1	1	ISM02.4 CN	6		0.000	6.0	05/30/2018 0940	05/31/2018	
TE18019-009	Sample	MC0AA2	1	ISM02.4 CN	6		0.000	6.0	05/30/2018 0940	05/31/2018	
TE18019-010	Sample	MC0AA5	1	ISM02.4 CN	6		0.000	6.0	05/30/2018 0940	05/31/2018	
TE18019-011	Sample	MC0AA6	1	ISM02.4 CN	6		0.000	6.0	05/30/2018 0940	05/31/2018	
TE18019-012	Sample	MC0AB4	1	ISM02.4 CN	6		0.000	6.0	05/31/2018 0915	05/31/2018	

(end of report)

Total Samples: 12

All samples have a pH >= 12

Analyst: [redacted]
Status: Level 2 review released
Matrix: ERROR

Printed: 06/01/18 1332

Prep Batch: 73197

ISM02.4 A PREP Micro-distillation: CN - Cyanide distillation for waters

Start Date: 05/25/2018 1549
End Date: 05/25/2018 1619

Level 2 Analyst [redacted]

Thermometer ID: 141200002241
Temperature: 121

Ext Solvent: NaOH/H2SO4&MgCl2.6H20 Soln
Reagents Vol. (mL): 2mL / 0.75mL
Chem ID: CNR18-156 / CNR18-152

Hot Block ID: Micro Dist Hot Block

Sample ID	QC Code	Client Sample ID	Run	Analysis Descript	Initial Vol. (mL)	Spike ID	Spike Vol. (mL)	Final Vol. (mL)	Holding Time Expires	Analytical Due Date	Comments
TQ73197-004	Standard	Conc = 0.20 mg/L	1		6	CN18-672	0.000	6.0			
TQ73197-104	Standard	Conc = 0.10 mg/L	1		6	CN18-673	0.000	6.0			
TQ73197-204	Standard	Conc = 0.080 mg/L	1		6	CN18-674	0.000	6.0			
TQ73197-304	Standard	Conc = 0.050 mg/L	1		6	CN18-675	0.000	6.0			
TQ73197-404	Standard	Conc = 0.010 mg/L	1		6	CN18-677	0.000	6.0			
TQ73197-504	Standard	Conc = 0.0 mg/L	1		6		0.000	6.0			
TQ73197-604	Standard	Conc = 0.099 mg/L	1		6	CNR18-157	0.000	6.0			
TQ73197-704	Standard	Conc = 0.080 mg/L	1		6	CN18-674	0.000	6.0			
TQ73197-804	Standard	Conc = 0.0 mg/L	1		6		0.000	6.0			
TQ73197-904	Standard	Conc = 0.0 mg/L	1		6		0.000	6.0			

(end of report) **Total Samples: 0**

Cyanide Analysis Cover Sheet
Prep Method: ISM02.4 A/S Prep Micro-Distillation: CN
Analysis Method: ISM02.4 CN
Lachat Quickchem Automated Flow-Injection Ion Analyzer
Serial Number A83000-1090 (AA2)

Prep Information		Analysis Information	
Prep Analyst:	[redacted]	Analyst:	[redacted]
Prep Batch:	73195, 73197	Analytical Batch:	73232
Prep Date:	05/25/18	Analyst Date:	05/25/18
Start Time:	1549	Start Time:	2222
End Time:	1619	End Time:	2253
Pipette ID's:	281 241 242 244		

Filter Wavelength: 580 nm
Sample Loop Length: 150 cm
Pump Speed: 35

Cycle Period: 45 s
Inject to Peak Start: 24.0 s

Reagents:

Chloramine T:	CNR18-158	Expires:	05/26/18
Sodium Phosphate Buffer:	CNR18-137	Expires:	11/04/18
Pyridine-Barbituric Acid:	CNR18-141	Expires:	11/08/18
0.25 N Sodium hydroxide:	CNR18-156	Expires:	11/23/18

Standard IDs:	Concentration:	Reference ID:		
ICAL	200 µg/L	CN18-672	Standards Expires:	05/26/18
ICAL	100 µg/L	CN18-673		
ICAL	80.0 µg/L	CN18-674		
ICAL	50.0 µg/L	CN18-675		
ICAL	10.0 µg/L	CN18-677		
ICAL				
ICV	99ug/L	CNR18-157	ICV Expires:	05/26/18
CCV	80 µg/L	CN18-674	CCV Expires:	05/26/18

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*All other variables are the same as those listed in the Lachat Quikchem technical bulletin.

Cyanide Curve

ICAL / CCV working Stock (10.0mg/L) – Use the calculated concentration of the CN stock (7.15) and the formula in Section 12.11 to calculate the mass of stock required to make 100mL of 10mg/L working stock. In a tared 100mL volumetric flask, aliquot the appropriate mass of stock. Dilute to the mark, cap and invert to mix. This reagent expires after 24 hours.
Distilled standard working Stock (5.0mg/L) – Volumetrically dilute 10mL of ICAL / CCV working stock (7.16) to 20mL and mix; This reagent expires after 24 hours.
ICAL / CCV standard cyanide solution, intermediate (1.0mgL CN) – Dilute 5.0mL of working stock cyanide solution (7.16) to 50mL volumetrically with 0.25 N NaOH (7.2). Cap and invert to mix. This reagent expires after 24 hours.
ICV working stock (10.0mg/L CN) – Use the calculated concentration of CN stock (7.20) and the formula in Section 12.11 to calculate the mass of stock require to make 100mL of 10mg/L working stock. In tared 100mL volumetric flask, aliquot the appropriate mass of stock. Dilute to the mark, cap and invert to mix. This reagent expires after 24 hours.
ICV standard cyanide solution, intermediate (1.0mg/L CN) – Dilute 5.0mL of stock cyanide solution (7.21) to 50mL volumetrically with 0.25 N NaOH (7.2). Dilute to the mark, cap and invert to mix. This reagent expires after 24 hours.

Solution ID	Analyst	Date	Stock Conc. mg/L	CN Stock ID	Volume/ Mass Aliquoted (mL/mg)	0.25 N NaOH ID	Final Volume (mL)	Concentration (mg/L)	Expiration Date (24 hours)	Pipet ID or Balance ID	Snap Cup ID
CN 18-667	[redacted] non responsive based	5/25/18	1000	17-2143	0.5	NA	50	10	5/26/18	244	18-908
CN - 668			↓	18-683A	↓	↓	↓	↓		↓	
CN - 669			10	CN 18-667	5	CNR 18-156	10	5		262	
CN - 670			↓	↓	↓	↓	50	1		↓	
CN - 671			↓	CN 18-668	↓	↓	↓	↓		↓	
CN - 672			1	CN 18-670	10	↓	↓	0.2		↓	
CN - 673			↓	↓	5	↓	↓	0.1		↓	
CN - 674			↓	↓	4	↓	↓	0.08		217	
CN - 675			↓	↓	2.5	↓	↓	0.05		217, 244	
CN - 676			↓	↓	1	↓	↓	0.02		242	
CN - 677			↓	↓	0.5	↓	↓	0.01		244	↓
CN - 678			↓	↓	↓	↓	100	0.005		↓	17-2233
CN - 679	↓	↓	↓	CN 18-671	4	↓	50	0.08	↓	217	18-908

Cyanide Reagent Preparation

ME0014R 7.2 / ME001G1 7.3 Sodium hydroxide solution (0.25 N) – In a 2 L volumetric flask dissolve 20 g of NaOH in approximately 500 mL of reagent water. Dilute to the mark, cap, and invert to mix. This reagent expires after 6 months.

ME0014R 7.3 Sulfuric acid solution (18 N) – Slowly add 500 mL of concentrated sulfuric acid to 500 mL of reagent water. This reaction is highly exothermic. Allow ample time for the reagent to cool before use. Make reagent in approved glassware only and take care not to place the reagent on or in anything that could be damaged by high heat. This reagent expires after 6 months.

ME0014R 7.6 Phosphate Buffer, 0.71 N – Dissolve 97 g potassium phosphate, monobasic, anhydrous (KH_2PO4) in approximately 800 ml reagent water in a 1000 ml volumetric flask. Dilute to the mark with reagent water, cap, and invert to mix. This reagent expires after 1 month.

ME0014R 7.7 / ME001G1 7.8 Acetate buffer, pH 4 – Dissolve 146 g anhydrous sodium acetate ($NaC_2H_3O_2$) or 243 g sodium acetate trihydrate ($NaC_2H_3O_2*3H_2O$) in 400 mL of reagent water in a 1000 mL volumetric flask. Add 458 mL concentrated acetic acid. Dilute to the mark with reagent water, cap, and invert to mix. This reagent expires after 6 months.

ME0014R 7.8 Chloramine-T solution – Dissolve 2.0 g of white, water soluble chloramine-T in 500 mL of reagent water and refrigerate until ready to use. This reagent expires after 24 hours.

ME0014R 7.9 Pyridine-Barbituric acid reagent – Place 15 g of barbituric acid in a 1000 mL volumetric flask and add 100 ml of reagent water to wash the sides of the flask and wet the barbituric acid. Add 75 mL of pyridine and mix. Add 15 mL of concentrate HCl and mix. Dilute to the mark with reagent water, cap, and invert to mix. This reagent expires after 6 months.

ME0014R 7.14 Calcium hypochlorite [$Ca(OCl)_2$]solution – Dissolve 5.0 g of calcium hypochlorite in a 100 mL volumetric flask. Dilute to the mark with reagent water, cap, and invert to mix. This reagent expires after 6 hours. See note in section 7.14 for dissolution instructions.

Solution ID		Analyst	Date	Reagent	Reagent ID Used	Balance ID	Amount (g or mL)	Final Volume (mL)	Expiration Date
CNR 18	157	[redacted]	5/25/18	1SM ICV	17-1003	PIP 242 NA	1 mL	100	5/26/18
CNR ⊥	158	⊥	⊥	Chlor T	17-1441	12	2.0009 g	500	5/26/18
CNR 18	159	[redacted]	5/26/18	Calcium Hypo	17-1734	12	1.2993 g	25	5/26/18
CNR 18	160	[redacted]	5/30/18	0.25N NaOH	17-1989	NA	150 mL	6000	11/30/18
CNR ⊥	161	⊥	⊥	Calcium Hypo	17-1734	12	1.2919 g	25	5/30/18
CNR 18	162	[redacted]	5/30/18	1N NaOH	17-1989	NA	100 mL	1000	11/30/18
CNR ⊥	163	⊥	⊥	Chlor T	17-1441	12	2.0007 g	500	5/31/18
CNR 18	164	[redacted]	5/31/18	Pyridine-	18-154	12	45.0049 g	3000	12/1/18
CNR ⊥	⊥	⊥	⊥	Barbituric Acid	17-1066	NA	225 mL	⊥	⊥
CNR ⊥	⊥	⊥	⊥	⊥ Reagent	17-1729	⊥	45 mL	⊥	⊥
CNR___									
CNR___									

L2
HKL
06/01/2018

981335.25RI, Rev 1: Cyanide Std RI

Effective Date: 5/7/08

General Specifications

Certificate of Analysis or Compliance Required	Individual Material Label Information	Quantity/Due Date
Yes	Vendor/Manufacturer Part Number & Lot Number Description Quantity Storage Conditions, if applicable	Per Purchase Order
Storage Temperature and Special Conditions	**Shelf Life**	**Changes**
2-8°C	Vendor Label or C of A	N/A

Shipping Conditions

Shipping Container	Packing List Information	Shipping Storage Conditions
Condition upon arrival: Undamaged: not crushed or dented	Vendor/Manufacturer Name Purchase Order Number	Room temperature

Material Specifications

Specifications	Part Number Imprinted or Embossed	Artwork / Drawing Number
N/A	N/A	N/A
Composition Specifications	**Adhesive Specifications**	**Additional Information**
Appearance: N/A **Material:** N/A	**Appearance:** N/A **Material:** N/A	Vendor C of A must scan in "COA folder". (G:\Aquakem_COA)

Authorized Manufacturers

Manufacturer	Manufacturer Part Number	Manufacturer Status	Rec'd From
EST	K981335.25	Active	
O2SI	K981335.25	Active	X

Receiving / Inspection

Lot Number	Manufacturer Lot/Serial Number	PO Number	Testing Required
1102826	1102826	109290	N/A
Qty Received	**Number of Pieces**	**Container Type**	**Received By / Date**
2EA	2	BOX	[redacted] 03-02-2017
Sample Minimum Qty	**Spec Sheet Reference & Rev #**	**Expiration Date**	**Inspected By / Date**
N/A	N/A	08/12/2018	[redacted] 03-02-2017
Qty Sampled	**Qty Approved**	**Qty NCM**	**Qty Rejected**
N/A	2EA	0	0

Tested By / Date	Reviewed By/ Date
N/A	[redacted] 03/03/17

Comments / Test & Inspection Data
2 @ 1EA

ENTERED ON: 05/6/17
BY:

Certificate of Analysis

Rev 0

ThermoFisher SCIENTIFIC

Catalog No: K981335.25
Lot No: 1102826
Storage: Refrigerated
Matrix: 0.2% KOH

53902826120818

Container: 20 ml HPDE Bottle
Description: Cyanide Standard 1,000 mg/L ± 2% in H_2O

Light sensitive. Store vials in box.

Date Received 03/02/17

Expiration Date 12-Aug-2018

Volume Made (mL): 500

Comment: 5 x 20 mL EST Bottles

Element	Symbol	Starting Material	CAS No	Source Lot No	Purity %	Concentration mg/L	Actual Weight (g)
Cyanide	CN	Potassium Cyanide as CN	151-50-8	363.25.1P	98.1	1000	1.2756

Certified By: "non responsive based on revised scope" "non responsive based on revised scope"

This standard was prepared gravimetrically using balances calibrated with NIST traceable weights (NIST Test Number 822/264157-00). Only calibrated Class A volumetric glassware was used to prepare this standard. Sub-boiled distilled acid and 18 megaohm deionized water were used to stabilize the product. All raw materials were checked for stoichiometry and purity prior to use. This standard has been spectrometrically certified by an independent source, which is directly traceable to NIST.

ThermoFisher SCIENTIFIC
The world leader in serving science

Thermo Fisher Scientific- Microgenics
46360 Fremont Blvd Fremont CA 94538
1-800-232-3342

MISCELLANEOUS

Percent Solids Determination Log (if applicable)

Shipping Documents (Airbills –Original)

Sample Tags (if applicable)

Sample Log-in sheet (lab)

Internal Chain of Custody

Other Records

ORIGIN ID:BIGA (860) 912-9892
[redacted]
WESTON SOLUTIONS, INC.
1400 WESTON WAY
4-2
WEST CHESTER, PA 19380
UNITED STATES US

SHIP DATE: 16MAY18
ACTWGT: 40.00 LB
CAD: 107859278/INET3980
DIMS: 26x15x14 IN

BILL SENDER

TO [redacted] SAMPLE CUSTODIAN
SHEALY ENVIRONMENTAL SERVICES - EQI
106 VANTAGE POINT DRIVE

WEST COLUMBIA SC 29172
(803) 791-9700 REF: 30250.016.001.0206.00
INV:
PO: DEPT:

552.02/782B/DCA5

FedEx. Express

[redacted]

5/18/18 0940

THU - 17 MAY 10:30A
PRIORITY OVERNIGHT

TRK# 0201 7722 4430 8712

NL USCA

29172
SC-US CAE

T=3.8°C C.S. ✓ TB —

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: IMPORTANT: TRANSMIT YOUR SHIPPING DATA AND PRINT A MANIFEST:
At the end of each shipping day, you should perform the FedEx Ground End of Day Close procedure to transmit your shipping data to FedEx. To do so, click on the Ground End of Day Close Button. If required, print the pickup manifest that appears. A printed manifest is required to be tendered along with your packages if they are being picked up by FedEx Ground. If you are dropping your packages off at a FedEx drop off location, the manifest is not required.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide and applicable tariff, available upon request. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations, including limitations on our liability, can be found in the current FedEx Service Guide and applicable tariff apply. In no event shall FedEx Ground be liable for any special, incidental, or consequential damages, including, without limitation, loss of profit, loss to the intrinsic value of the package, loss of sale, interest income or attorney's fees. Recovery cannot exceed actual documented loss. Items of extraordinary value are subject to separate limitations of liability set forth in the Service Guide and tariff. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Matrix 5 + PN

ORIGIN ID:BIGA (860) 912-9892
[redacted]
WESTON SOLUTIONS, INC.
1400 WESTON WAY
4-2
WEST CHESTER, PA 19380
UNITED STATES US

SHIP DATE: 17MAY18
ACTWGT: 40.00 LB
CAD: 107859278/INET3980
DIMS: 26x15x14 IN

BILL SENDER

TO [redacted] SAMPLE CUSTODIAN
SHEALY ENVIRONMENTAL SERVICES - EQI
106 VANTAGE POINT DRIVE

WEST COLUMBIA SC 29172
(803) 791-9700 REF: 30250.016.001.0206.00
INV:
PO: DEPT:

552J07828/DCA5

FedEx Express

FRI - 18 MAY 10:30A
PRIORITY OVERNIGHT

TRK# 0201 7722 5520 4398

NL USCA

29172
SC-US CAE

T=4.5°C
CS TB
[redacted] 5/18/18 0940

After printing this label:
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3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide and applicable tariff, available upon request. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations, including limitations on our liability, can be found in the current FedEx Service Guide and applicable tariff apply. In no event shall FedEx Ground be liable for any special, incidental, or consequential damages, including, without limitation, loss of profit, loss to the intrinsic value of the package, loss of sale, interest income or attorney's fees. Recovery cannot exceed actual documented loss. Items of extraordinary value are subject to separate limitations of liability set forth in the Service Guide and tariff. Written claims must be filed within strict time limits, see current FedEx Service Guide.

ORIGIN ID:FIGA (860) 912-9892
[redacted]
WESTON SOLUTIONS, INC.
1400 WESTON WAY
4-2
WEST CHESTER, PA 19380
UNITED STATES US

SHIP DATE: 18MAY18
ACTWGT: 40.00 LB
CAD: 107859278/INET3980
DIMS: 26x15x14 IN

BILL SENDER

TO [redacted] SAMPLE CUSTODIAN
SHEALY ENVIRONMENTAL SERVICES - EQI
106 VANTAGE POINT DRIVE

WEST COLUMBIA SC 29172
(803) 791-9700 REF: 30250.016.001.0206.00
INV
PO: DEPT:

552.2/FE2B/DCA5

FedEx Express

J1111080/2841uv

T=5.4°C [redacted] 5/19/18 0915
TB CS

SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 0201 7722 6487 6516

X0 USCA

29172
SC-US CAE

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide and applicable tariff, available upon request. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations, including limitations on our liability, can be found in the current FedEx Service Guide and applicable tariff apply. In no event shall FedEx Ground be liable for any special, incidental, or consequential damages, including, without limitation, loss of profit, loss to the intrinsic value of the package, loss of sale, interest income or attorney's fees. Recovery cannot exceed actual documented loss. Items of extraordinary value are subject to separate limitations of liability set forth in the Service Guide and tariff. Written claims must be filed within strict time limits, see current FedEx Service Guide.

FORM DC-1
SAMPLE LOG-IN SHEET

Lab Name SESI/FQT [redacted]		Page 1 of 1
Received By (Print Name) [redacted]		Log-in Date 5/18/18
Received By (Signature) [redacted]		
Case Number 47639	SDG No. MC0AA3	MA No. NA

Remarks:	
1. Custody Seal(s)	Present/Absent* Intact/Broken
2. Custody Seal Nos.	NA
3. Traffic Reports/Chain of Custody Records or Packing Lists	Present/Absent*
4. Airbill	Airbill/Sticker Present/Absent*
5. Airbill No.	772255204398
6. Sample Tags Sample Tag Numbers	Present/Absent* Listed/Not Listed on Traffic Report/Chain of Custody Record
7. Sample Condition	Intact/Broken*/ Leaking
8. Shipping Container Temperature Indicator Bottle	Present/Absent*
9. Shipping Container Temperature	4.5°C
10. Does information on Traffic Reports/Chain of Custody Records and Sample Tags agree?	Yes/No*
11. Date Received at Lab	5/18/18
12. Time Received	0940

pH strip ID: 18-770

	EPA Sample #	Aqueous/ Water Sample pH CN	Aqueous/ Water Sample pH Met.	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample Shipment, etc.
1	MC0AA3	13.0	1.0	1029, 1030	TE18019-001	ok
2	MC0AA4			1038, 1039	-002	
3	MC0AA7			1065, 1066	-003	
4	MC0AA8			1074, 1075	-004	
5	MC0AB2			1104, 1105	-005	
6	MC0AB3			1113, 1114	-006	
7						
8						
9						
10						
11						
12				[redacted]		
13					5/18/18	
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21						
22						

* Contact SMO [redacted] olution

Reviewed By	[redacted]	Logbook No.	NA
Date	5/28/18	Logbook Page No.	NA

FORM DC-1
SAMPLE LOG-IN SHEET

Lab Name SESI/EQI [redacted]		Page 1 of 1
Received By (Print Name) [redacted]		Log-in Date 5/18/18
Received By (Signature) [redacted]		
Case Number 47639	[redacted] No. MC0AA3	MA No. NA

Remarks:	
1. Custody Seal(s)	Present/Absent* Intact/Broken
2. Custody Seal Nos.	NA
3. Traffic Reports/Chain of Custody Records or Packing Lists	Present/Absent*
4. Airbill	Airbill/Sticker Present/Absent*
5. Airbill No.	772244308712
6. Sample Tags Sample Tag Numbers	Present/Absent* Listed/Not Listed on Traffic Report/Chain of Custody Record
7. Sample Condition	Intact/Broken*/ Leaking
8. Shipping Container Temperature Indicator Bottle	Present/Absent*
9. Shipping Container Temperature	3.8°C
10. Does information on Traffic Reports/Chain of Custody Records and Sample Tags agree?	Yes/No*
11. Date Received at Lab	5/18/18
12. Time Received	0940

pH strip ID: 18770

	EPA Sample #	Aqueous/ Water Sample pH CN	Aqueous/ Water Sample pH Met.	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample Shipment, etc.
1	MC0AA0	13.0	1.0	1002, 1003	TE18019-007	ok
2	MC0AA1			1011, 1012	-008	
3	MC0AA2			1020, 1021	-009	
4	MC0AA5			1047, 1048	-010	
5	MC0AA6			1056, 1057	-011	
6						
7						
8						
9						
10						
11						
12					[redacted] 5/18/18	
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21						
22						

* Contact SMO [redacted] of resolution

Reviewed By [redacted]	Logbook No. NA
Date [redacted]	Logbook Page No. NA

FORM DC-1

SAMPLE LOG-IN SHEET

Lab Name SESI/EQI [redacted]		Page 1 of 1
Received By (Print Name) [redacted]		Log-in Date 5/19/18
Received By (Signature) [redacted]		
Case Number 47639	MC0AA3	MA No. NA

Remarks:	
1. Custody Seal(s)	Present/Absent* Intact/Broken
2. Custody Seal Nos.	NA
3. Traffic Reports/Chain of Custody Records or Packing Lists	Present/Absent*
4. Airbill	Airbill/Sticker Present/Absent*
5. Airbill No.	7722 6487 6516
6. Sample Tags Sample Tag Numbers	Present/Absent* Listed/Not Listed on Traffic Report/Chain of Custody Record
7. Sample Condition	Intact/Broken*/ Leaking
8. Shipping Container Temperature Indicator Bottle	Present/Absent*
9. Shipping Container Temperature	5.4°C
10. Does information on Traffic Reports/Chain of Custody Records and Sample Tags agree?	Yes/No*
11. Date Received at Lab	5/19/18
12. Time Received	0915

	EPA Sample #	Aqueous/ Water Sample pH	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample Shipment, etc.
1	MC0AB4	CN 13.0 / Met. 1.0	1130, 1131	TE180119-012	ok
2					
3					
4					
5					
6					
7					
8					
9				[redacted] 5/19/18	
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

* Contact SMO a[redacted]esolution

Reviewed By	[redacted]	Logbook No.	NA
Date	5/20/18	Logbook Page No.	NA

Internal Chain-of-Custody Report

Printed: 06/06/2018 1205

Sample ID	Container ID	Entry Date/Time	Source	Destination	Valid	Emp
TE18019-001	Client provided P-HNO3	05/29/2018 10:53	SR (WI # 1)	IM Prep	True	JCF
TE18019-001	Client provided P-HNO3	05/29/2018 14:25	IM Prep	SR (WI # 1)	True	JCF
TE18019-001	Client provided P-NaOH	05/25/2018 13:51	SR (WI # 1)	INM (WI # 2)	True	MSG
TE18019-001	Client provided P-NaOH	05/25/2018 23:07	INM (WI # 2)	SR (WI # 1)	True	MSG
TE18019-002	Client provided P-HNO3	05/29/2018 10:53	SR (WI # 1)	IM Prep	True	JCF
TE18019-002	Client provided P-HNO3	05/29/2018 14:26	IM Prep	SR (WI # 1)	True	JCF
TE18019-002	Client provided P-NaOH	05/25/2018 23:07	INM (WI # 2)	SR (WI # 1)	True	MSG
TE18019-003	Client provided P-HNO3	05/29/2018 10:53	SR (WI # 1)	IM Prep	True	JCF
TE18019-003	Client provided P-HNO3	05/29/2018 14:25	IM Prep	SR (WI # 1)	True	JCF
TE18019-003	Client provided P-NaOH	05/25/2018 13:52	SR (WI # 1)	INM (WI # 2)	True	MSG
TE18019-003	Client provided P-NaOH	05/25/2018 23:07	INM (WI # 2)	SR (WI # 1)	True	MSG
TE18019-004	Client provided P-HNO3	05/29/2018 10:53	SR (WI # 1)	IM Prep	True	JCF
TE18019-004	Client provided P-HNO3	05/29/2018 14:25	IM Prep	SR (WI # 1)	True	JCF
TE18019-004	Client provided P-NaOH	05/25/2018 13:52	SR (WI # 1)	INM (WI # 2)	True	MSG
TE18019-004	Client provided P-NaOH	05/25/2018 23:08	INM (WI # 2)	SR (WI # 1)	True	MSG
TE18019-005	Client provided P-HNO3	05/29/2018 10:53	SR (WI # 1)	IM Prep	True	JCF
TE18019-005	Client provided P-HNO3	05/29/2018 14:26	IM Prep	SR (WI # 1)	True	JCF
TE18019-005	Client provided P-NaOH	05/25/2018 13:52	SR (WI # 1)	INM (WI # 2)	True	MSG
TE18019-005	Client provided P-NaOH	05/25/2018 23:08	INM (WI # 2)	SR (WI # 1)	True	MSG
TE18019-006	Client provided P-HNO3	05/29/2018 10:53	SR (WI # 1)	IM Prep	True	JCF
TE18019-006	Client provided P-HNO3	05/29/2018 14:26	IM Prep	SR (WI # 1)	True	JCF
TE18019-006	Client provided P-NaOH	05/25/2018 13:51	SR (WI # 1)	INM (WI # 2)	True	MSG
TE18019-006	Client provided P-NaOH	05/25/2018 23:08	INM (WI # 2)	SR (WI # 1)	True	MSG
TE18019-007	Client provided P-HNO3	05/29/2018 10:53	SR (WI # 1)	IM Prep	True	JCF
TE18019-007	Client provided P-HNO3	05/29/2018 14:26	IM Prep	SR (WI # 1)	True	JCF
TE18019-007	Client provided P-NaOH	05/25/2018 13:51	SR (WI # 1)	INM (WI # 2)	True	MSG
TE18019-007	Client provided P-NaOH	05/25/2018 23:08	INM (WI # 2)	SR (WI # 1)	True	MSG
TE18019-008	Client provided P-HNO3	05/29/2018 10:53	SR (WI # 1)	IM Prep	True	JCF
TE18019-008	Client provided P-HNO3	05/29/2018 14:26	IM Prep	SR (WI # 1)	True	JCF
TE18019-008	Client provided P-NaOH	05/25/2018 13:51	SR (WI # 1)	INM (WI # 2)	True	MSG
TE18019-008	Client provided P-NaOH	05/25/2018 23:08	INM (WI # 2)	SR (WI # 1)	True	MSG
TE18019-009	Client provided P-HNO3	05/29/2018 10:53	SR (WI # 1)	IM Prep	True	JCF
TE18019-009	Client provided P-HNO3	05/29/2018 14:25	IM Prep	SR (WI # 1)	True	JCF
TE18019-009	Client provided P-NaOH	05/25/2018 13:51	SR (WI # 1)	INM (WI # 2)	True	MSG
TE18019-009	Client provided P-NaOH	05/25/2018 23:08	INM (WI # 2)	SR (WI # 1)	True	MSG
TE18019-010	Client provided P-HNO3	05/29/2018 10:53	SR (WI # 1)	IM Prep	True	JCF
TE18019-010	Client provided P-HNO3	05/29/2018 14:26	IM Prep	SR (WI # 1)	True	JCF
TE18019-010	Client provided P-NaOH	05/25/2018 13:52	SR (WI # 1)	INM (WI # 2)	True	MSG
TE18019-010	Client provided P-NaOH	05/25/2018 23:08	INM (WI # 2)	SR (WI # 1)	True	MSG
TE18019-011	Client provided P-HNO3	05/29/2018 10:53	SR (WI # 1)	IM Prep	True	JCF
TE18019-011	Client provided P-HNO3	05/29/2018 14:25	IM Prep	SR (WI # 1)	True	JCF
TE18019-011	Client provided P-NaOH	05/25/2018 13:52	SR (WI # 1)	INM (WI # 2)	True	MSG
TE18019-011	Client provided P-NaOH	05/25/2018 23:08	INM (WI # 2)	SR (WI # 1)	True	MSG
TE18019-012	Client provided P-HNO3	05/29/2018 10:53	SR (WI # 1)	IM Prep	True	JCF
TE18019-012	Client provided P-HNO3	05/29/2018 14:26	IM Prep	SR (WI # 1)	True	JCF
TE18019-012	Client provided P-NaOH	05/25/2018 14:26	SR (WI # 1)	INM (WI # 2)	True	MSG
TE18019-012	Client provided P-NaOH	05/25/2018 23:08	INM (WI # 2)	SR (WI # 1)	True	MSG

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealyenvironmental.com

Precautionary Measures Against Hidden Hazards in Laboratory Samples

Notice to Laboratory Personnel

Background

Under the authority of Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) of 1980, Section 311 of the Clean Water Act, and Subtitle I of the Resource Conservation and Recovery Act (RCRA), EPA has been delegated the responsibility to undertake response actions with respect to the release or potential release of oil, petroleum or hazardous substances that pose a substantial threat to human health or welfare, or the environment. In addition, EPA provides technical assistance to help mitigate endangerment of the public health, welfare or environment during other emergencies and natural disasters.

EPA's successful implementation of these emergency response action responsibilities requires that technical support capabilities be provided in the form of contracted Superfund Technical Assessment and Response Team (START) teams for each EPA Region. The Weston Solutions Inc. (WESTON) START Region III Eastern Area Contract provides support to EPA Region III.

Hazard Communication

The samples which accompany this notice have been shipped to your laboratory for analysis in accordance with applicable DOT or IATA Regulations and were collected by the WESTON START team and were tentatively designated by the field response team as either environmental or hazardous material samples.

In general, *Environmental Samples* are collected from streams, farm ponds, small lakes, wells and off-site soils that are not reasonably expected to be contaminated with hazardous materials. Samples of on-site soils or water and materials collected from drums, bulk storage tanks, obviously contaminated ponds, impoundments, lagoons, pools, and leachates from hazardous waste sites are considered *Hazardous Samples.* Samples which are obtained from a known radioactive material contamination site or which demonstrate beta or gamma activity greater than three times the average background as scanned with a Geiger-Mueller radiation survey meter are considered *Radioactive Samples.*

The samples which accompany this notice have been tentatively classified by the field response team as:

__X__ Environmental _____ Hazardous _____ Combination (Env. & Haz) _____ Radioactive

The field team which collected the samples used the following Level(s) of personal protection as designated by EPA and OSHA conventions to provided protection against possible radiological or chemical exposure:

_____ Level A _____ Level B _____ Level C __X__ Level D

This information is intended for use as a guide for the safe handling of these laboratory samples in accordance with EPA and OSHA regulations. The sample classification(s) and Levels of personal protection used by the WESTON START team are not represented to be, nor are they adequate or applicable in all situations, nor are they intended to serve as substitutes for professional/personal judgment.

This form was prepared by: Dane Kormos

Analytical Services TDD No. or Case No.: 47639

Weston Solutions, Inc. Office: West Chester, PA Phone: 610-701-3500 Fax: 610-701-3187

Laboratory Name: Shealy Environmental, West Columbia SC

Precautionary Measures Against Hidden Hazards in Laboratory Samples

Notice to Laboratory Personnel

Background

Under the authority of Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) of 1980, Section 311 of the Clean Water Act, and Subtitle I of the Resource Conservation and Recovery Act (RCRA), EPA has been delegated the responsibility to undertake response actions with respect to the release or potential release of oil, petroleum or hazardous substances that pose a substantial threat to human health or welfare, or the environment. In addition, EPA provides technical assistance to help mitigate endangerment of the public health, welfare or environment during other emergencies and natural disasters.

EPA's successful implementation of these emergency response action responsibilities requires that technical support capabilities be provided in the form of contracted Superfund Technical Assessment and Response Team (START) teams for each EPA Region. The Weston Solutions Inc. (WESTON) START Region III Eastern Area Contract provides support to EPA Region III.

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The samples which accompany this notice have been tentatively classified by the field response team as:

__X__ Environmental _____ Hazardous _____ Combination (Env. & Haz) _____ Radioactive

The field team which collected the samples used the following Level(s) of personal protection as designated by EPA and OSHA conventions to provided protection against possible radiological or chemical exposure:

_____ Level A _____ Level B _____ Level C __X__ Level D

This information is intended for use as a guide for the safe handling of these laboratory samples in accordance with EPA and OSHA regulations. The sample classification(s) and Levels of personal protection used by the WESTON START team are not represented to be, nor are they adequate or applicable in all situations, nor are they intended to serve as substitutes for professional/personal judgment.

This form was prepared by: [redacted]

Analytical Services TDD No. or Case No.: 47639

Weston Solutions, Inc. Office: West Chester, PA Phone: 610-701-3500 Fax: 610-701-3187

Laboratory Name: Shealy Environmental Services, West Columbia, SC

US EPA Region 3 Analytical Request (ARF) Report

CT Number: CT8450 | Date Receipt: 05/04/2018 | Sample(s) Shipping Dates Start: 05/14/2018 End: 05/18/2018 | ARF Status: IN PROGRESS

Site: SHILO CHURCH ROAD SITE | Site Activity: EMERGENCY RESPONSE | Program: SUPERFUND (RAS AND/OR DAS)

Street: 17060 L P BAILEY MEMORIAL HIGHWAY | City: NATHALIE | State: VA | Zip: 24577

Account No: 2018-T-03-N-303DC6-A38Q-RS-00 | SPILL ID: A38Q | OPERABLE UNIT: 00 | EPA ID (aka CERCLIS):

QA Title: | QA Date Approved:

EPA Project Lead:	CHRIS WAGNER	Phone:	804-698-4164	Cell Phone #:	804-337-3049	E-mail:	WAGNER.CHRISTINE@EPA.GOV
Site Leader:	[redacted] "non responsive based on revised scope"	Phone:	610-701-3171	Cell Phone #:	[redacted] "non responsive based on revised scope"	E-mail:	"non responsive based on revised scope"
Request Preparer:	[redacted] "non responsive based on revised scope"	Phone:	610-701-3036	Cell Phone #:	[redacted]	E-mail:	[redacted]
Contractor:	WESTON SOLUTIONS	EPA CO/PO:					

Special Instructions:

Comments:

DAS	RAS	Lab	QTY	Matrix	Parameter	Requested Method	Accepted Method	Validation Level	Unvalidated Data Due	Final Report Due	EDD Required
	47639	CHEM	33	DRINKING WATER	VOLATILE ORGANIC COMPOUNDS (VOC) TRACE	SOM02 4 (TRACE) OR EQUIVALENT	SOM02 4 (TRACE) OR EQUIVALENT	M3	21	35	Y
	47639	CHEM	30	DRINKING WATER	SEMIVOLATILES (SVOCS)	SOM02 4 OR EQUIVALENT	SOM02 4 OR EQUIVALENT	M3	21	35	Y
R35374		OASQA	30	DRINKING WATER	PCB AROCLORS	SOM02 4 OR EQUIVALENT	SOM02 4 OR EQUIVALENT	M3	21	35	Y
	47639	EQI	30	DRINKING WATER	METALS (TOTAL)	ISM02 4 ICP-MS OR EQUIVALENT	ISM02 4 ICP-MS OR EQUIVALENT	IM2	21	35	Y
	47639	EQI	30	DRINKING WATER	MERCURY (TOTAL)	ISM02 4 OR EQUIVALENT	ISM02 4 OR EQUIVALENT	IM2	21	35	Y
	47639	EQI	30	DRINKING WATER	CYANIDE (TOTAL)	ISM02 4 OR EQUIVALENT	ISM02 4 OR EQUIVALENT	IM2	21	35	Y

Data Validation Report

Data Review Results

Thu, 7 Jun 2018 01:38:33

Project Name: SHILO CHURCH ROAD SITE Project	**GroupID: 47639/EPW14035/MC0AA3**	**Lab Name: Shealy Environmental Services, Inc.**
Submission Group Id: 30375937	**Organization: EPA Region 3**	**SOW: ISM02.4**

HoldingTimes_Preservation

NONE FOUND

Accurate

Data Validation Report

Data Review Results

Thu, 7 Jun 2018 01:38:33

Project Name: SHILO CHURCH ROAD SITE Project	**GroupID: 47639/EPW14035/MC0AA3**	**Lab Name: Shealy Environmental Services, Inc.**
Submission Group Id: 30375937	**Organization: EPA Region 3**	**SOW: ISM02.4**

TUNE

NONE FOUND

Accurate

Data Validation Report

Data Review Results

Thu, 7 Jun 2018 01:38:33

Project Name: SHILO CHURCH ROAD SITE Project	**GroupID: 47639/EPW14035/MC0AA3**	**Lab Name: Shealy Environmental Services, Inc.**
Submission Group Id: 30375937	**Organization: EPA Region 3**	**SOW: ISM02.4**

InitialCalibration

NONE FOUND

Accurate

Data Validation Report

Data Review Results

Thu, 7 Jun 2018 01:38:33

Project Name: SHILO CHURCH ROAD SITE Project	**GroupID: 47639/EPW14035/MC0AA3**	**Lab Name: Shealy Environmental Services, Inc.**
Submission Group Id: 30375937	**Organization: EPA Region 3**	**SOW: ISM02.4**

ContinuingCalibrationVerification

NONE FOUND

Accurate

Data Validation Report

Data Review Results

Thu, 7 Jun 2018 01:38:33

Project Name: SHILO CHURCH ROAD SITE Project	**GroupID: 47639/EPW14035/MC0AA3**	**Lab Name: Shealy Environmental Services, Inc.**
Submission Group Id: 30375937	**Organization: EPA Region 3**	**SOW: ISM02.4**

InitialCalibrationVerification

NONE FOUND

Accurate

Data Validation Report

Data Review Results

Thu, 7 Jun 2018 01:38:33

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Submission Group Id: 30375937 | **Organization: EPA Region 3** | **SOW: ISM02.4**

Blanks

Method - Metals by ICP-MS

Test Name: EXES-1342
Defect Message: The following samples have analyte results less than or equal to CRQLs. The associated CCB analyte results are less than or equal to CRQLs. Detects are qualified as U. Sample results are reported at CRQLs.
Associated Samples: MC0AA0, MC0AA1, MC0AA2, MC0AA4, MC0AA5, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB4

Defective Analyte	Defective Samples/Analyses
Aluminum	MC0AA0, MC0AA1, MC0AA2, MC0AA4, MC0AA5, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB4
Lead	MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB4
Magnesium	MC0AB3

Test Name: EXES-476
Defect Message: The following samples have analyte results less than or equal to CRQLs. The associated ICB analyte results are less than or equal to CRQLs. Detects are qualified as U. Sample results are reported at CRQLs. Data not qualified due to ICBs
Associated Samples: MC0AA0, MC0AA1, MC0AA2, MC0AA4, MC0AA5, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB4

Defective Analyte	Defective Samples/Analyses
Aluminum	MC0AA0, MC0AA1, MC0AA2, MC0AA4, MC0AA5, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB4
Antimony	MC0AA0
Lead	MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB4

Test Name: EXES-478
Defect Message: The following samples have analyte results greater than CRQLs. The associated ICB analyte results are less than or equal to CRQLs. Use Professional Judgement to qualify detects. Data not qualified due to ICBs
Associated Samples: LCS001, MC0AA0, MC0AA1, MC0AA2, MC0AA3, MC0AA4, MC0AA5, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB3D, MC0AB3L, MC0AB3S, MC0AB4

Defective Analyte	Defective Samples/Analyses
Aluminum	LCS001, MC0AA3
Antimony	LCS001, MC0AB3S
Lead	LCS001, MC0AA0, MC0AA1, MC0AA2, MC0AA3, MC0AA4, MC0AA5, MC0AA6, MC0AB3S
Sodium	LCS001, MC0AA0, MC0AA1, MC0AA2, MC0AA3, MC0AA4, MC0AA5, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB3D, MC0AB3L,

Data Validation Report

Data Review Results

Thu, 7 Jun 2018 01:38:33

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Submission Group Id: 30375937 | **Organization: EPA Region 3** | **SOW: ISM02.4**

Test Name: EXES-478
Defect Message: The following samples have analyte results greater than CRQLs. The associated ICB analyte results are less than or equal to CRQLs. Use Professional Judgement to qualify detects. Data not qualified due to ICBs
Associated Samples: LCS001, MC0AA0, MC0AA1, MC0AA2, MC0AA3, MC0AA4, MC0AA5, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB3D, MC0AB3L, MC0AB3S, MC0AB4

Defective Analyte	Defective Samples/Analyses
	MC0AB4

Test Name: EXES-479
Defect Message: The following samples have analyte results greater than CRQLs. The associated CCB analyte results are less than or equal to CRQLs. Use Professional Judgement to qualify detects. No Impact, Lab QC not qualified by validator
Associated Samples: LCS001, MC0AA0, MC0AA1, MC0AA2, MC0AA3, MC0AA4, MC0AA5, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB3D, MC0AB3L, MC0AB3S, MC0AB4

Defective Analyte	Defective Samples/Analyses
Aluminum	LCS001, MC0AA3
Antimony	LCS001, MC0AB3S
Barium	LCS001, MC0AA3, MC0AA4, MC0AA7, MC0AA8, MC0AB2, MC0AB3S
Cobalt	LCS001, MC0AB3S
Lead	LCS001, MC0AA0, MC0AA1, MC0AA2, MC0AA3, MC0AA4, MC0AA5, MC0AA6, MC0AB3S
Magnesium	LCS001, MC0AA3, MC0AA4, MC0AA7, MC0AA8, MC0AB2
Potassium	LCS001, MC0AA3, MC0AA4, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB3D
Sodium	LCS001, MC0AA0, MC0AA1, MC0AA2, MC0AA3, MC0AA4, MC0AA5, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB3D, MC0AB3L, MC0AB4

Test Name: EXES-506
Defect Message: The following samples have analyte results less than or equal to CRQLs. The associated PB analyte results are less than or equal to CRQLs. Detects are qualified as U. Sample results are reported at CRQLs.
Associated Samples: MC0AA0, MC0AA1, MC0AA2, MC0AA3, MC0AA4, MC0AA5, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB4

Defective Analyte	Defective Samples/Analyses
Aluminum	**MC0AA0, MC0AA1, MC0AA2, MC0AA4, MC0AA5, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB4**
Chromium	**MC0AA0, MC0AA1, MC0AA2, MC0AA3, MC0AA4, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB4**
Magnesium	**MC0AB3**

Data Validation Report

Data Review Results

Thu, 7 Jun 2018 01:38:33

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Submission Group Id: 30375937 | **Organization: EPA Region 3** | **SOW: ISM02.4**

Test Name: EXES-508
Defect Message: The following samples have analyte results greater than CRQLs. The associated PB analyte results are less than or equal to CRQLs. Use Professional Judgement to qualify detects. No Impact
Associated Samples: MC0AA0, MC0AA1, MC0AA2, MC0AA3, MC0AA4, MC0AA5, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB4

Defective Analyte	Defective Samples/Analyses
Aluminum	MC0AA3
Chromium	MC0AA5
Magnesium	MC0AA0, MC0AA1, MC0AA2, MC0AA3, MC0AA4, MC0AA5, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB4
Potassium	MC0AA0, MC0AA1, MC0AA2, MC0AA3, MC0AA4, MC0AA5, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB4
Sodium	MC0AA0, MC0AA1, MC0AA2, MC0AA3, MC0AA4, MC0AA5, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB4

Test Name: EXES-549
Defect Message: The following samples are associated with PB that has analyte results less than or equal to (-MDL) but greater than or equal to (-CRQL). Use Professional Judgement to qualify detects and nondetects.
Associated Samples: MC0AA0, MC0AA1, MC0AA2, MC0AA3, MC0AA4, MC0AA5, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB4

Defective Analyte	Defective Samples/Analyses
Thallium	**MC0AA0, MC0AA1, MC0AA2, MC0AA3, MC0AA4, MC0AA5, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB4 - UJ**
Vanadium	**MC0AA0, MC0AA1, MC0AA2, MC0AA3, MC0AA4, MC0AA5, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB4 - <CRQL reported at CRQL and UJ, nondetects UJ**

Method - Mercury by Cold Vapor

Test Name: EXES-480
Defect Message: The following samples are associated with CCB that has analyte results less than or equal to (-MDLs) but greater than or equal to (-CRQLs). Use Professional Judgement to qualify detects and nondetects.
Associated Samples: MC0AA0, MC0AA1, MC0AA2, MC0AA3, MC0AA4, MC0AA5, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB4

Defective Analyte	Defective Samples/Analyses
Mercury	**MC0AA0, MC0AA1, MC0AA2, MC0AA3, MC0AA4, MC0AA5, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB4 - UJ**

Data Validation Report

Data Review Results

Thu, 7 Jun 2018 01:38:33

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Submission Group Id: 30375937 | **Organization: EPA Region 3** | **SOW: ISM02.4**

Test Name: EXES-481
Defect Message: The following samples are associated with ICB that has analyte results less than or equal to (-MDLs) but greater than or equal to (-CRQLs). Use Professional Judgement to qualify detects and nondetects. Data not qualified due to ICBs
Associated Samples: MC0AA0, MC0AA1, MC0AA2, MC0AA3, MC0AA4, MC0AA5, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB4

Defective Analyte	Defective Samples/Analyses
Mercury	MC0AA0, MC0AA1, MC0AA2, MC0AA3, MC0AA4, MC0AA5, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB4

Test Name: EXES-549
Defect Message: The following samples are associated with PB that has analyte results less than or equal to (-MDL) but greater than or equal to (-CRQL). Use Professional Judgement to qualify detects and nondetects.
Associated Samples: MC0AA0, MC0AA1, MC0AA2, MC0AA3, MC0AA4, MC0AA5, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB4

Defective Analyte	Defective Samples/Analyses
Mercury	**MC0AA0, MC0AA1, MC0AA2, MC0AA3, MC0AA4, MC0AA5, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB4 - UJ**

Data Validation Report

Data Review Results

Thu, 7 Jun 2018 01:38:33

Project Name: SHILO CHURCH ROAD SITE Project	**GroupID: 47639/EPW14035/MC0AA3**	**Lab Name: Shealy Environmental Services, Inc.**
Submission Group Id: 30375937	**Organization: EPA Region 3**	**SOW: ISM02.4**

InterferenceCheckSample

NONE FOUND

Accurate

Data Validation Report

Data Review Results

Thu, 7 Jun 2018 01:38:33

Project Name: SHILO CHURCH ROAD SITE Project	**GroupID: 47639/EPW14035/MC0AA3**	**Lab Name: Shealy Environmental Services, Inc.**
Submission Group Id: 30375937	**Organization: EPA Region 3**	**SOW: ISM02.4**

LaboratoryControlSample

NONE FOUND

Accurate

Data Validation Report

Data Review Results

Thu, 7 Jun 2018 01:38:33

Project Name: SHILO CHURCH ROAD SITE Project	**GroupID: 47639/EPW14035/MC0AA3**	**Lab Name: Shealy Environmental Services, Inc.**
Submission Group Id: 30375937	**Organization: EPA Region 3**	**SOW: ISM02.4**

MatrixSpikes

NONE FOUND

Accurate

Data Validation Report

Data Review Results

Thu, 7 Jun 2018 01:38:33

Project Name: SHILO CHURCH ROAD SITE Project	**GroupID: 47639/EPW14035/MC0AA3**	**Lab Name: Shealy Environmental Services, Inc.**
Submission Group Id: 30375937	**Organization: EPA Region 3**	**SOW: ISM02.4**

SerialDilution

Method - Metals by ICP-MS

Test Name: EXES-1334
Defect Message: The following samples are associated to the Serial Dilution sample with analyte %D >10% and the original sample result is > 50xMDL. Detects are qualified as estimated J. Non-detects are qualified estimated UJ.
Associated Samples: MC0AA0, MC0AA1, MC0AA2, MC0AA3, MC0AA4, MC0AA5, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB4

Defective Analyte	Defective Samples/Analyses
Sodium	MC0AB3L

Data Validation Report

Data Review Results

Thu, 7 Jun 2018 01:38:33

Project Name: SHILO CHURCH ROAD SITE Project	**GroupID: 47639/EPW14035/MC0AA3**	**Lab Name: Shealy Environmental Services, Inc.**
Submission Group Id: 30375937	**Organization: EPA Region 3**	**SOW: ISM02.4**

InternalStandard

NONE FOUND

Accurate

Data Validation Report

Data Review Results

Thu, 7 Jun 2018 01:38:33

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Submission Group Id: 30375937 | **Organization: EPA Region 3** | **SOW: ISM02.4**

TargetAnalyteQuantitation

Method - Metals by ICP-MS

Test Name: EXES-790
Defect Message: The following samples have analyte results greater than or equal to detection limit (MDL) and below quantitation limit (CRQL). Detects are qualified as estimated J.
Associated Samples: MC0AA0, MC0AA1, MC0AA2, MC0AA3, MC0AA4, MC0AA5, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB3D, MC0AB3L, MC0AB4, PBW001

Defective Analyte	Defective Samples/Analyses
Aluminum	MC0AA0, MC0AA1, MC0AA2, MC0AA4, MC0AA5, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB3D, MC0AB3L, MC0AB4, PBW001
Antimony	MC0AA0
Beryllium	MC0AA3, MC0AB4
Cadmium	MC0AA6
Calcium	MC0AB3, MC0AB3D, MC0AB3L
Chromium	MC0AA0, MC0AA1, MC0AA2, MC0AA3, MC0AA4, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB3D, MC0AB4, PBW001
Copper	MC0AA8, MC0AB3L
Iron	MC0AA2, MC0AA3, MC0AA4, MC0AA5, MC0AA6, MC0AA8, MC0AB2, MC0AB3, MC0AB3D, MC0AB4
Lead	MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB3D, MC0AB4
Magnesium	MC0AB3, MC0AB3D, PBW001
Manganese	MC0AB3, MC0AB3D
Nickel	MC0AA0, MC0AA1, MC0AA2, MC0AA3, MC0AA4, MC0AA6, MC0AA7, MC0AA8, MC0AB2, MC0AB3, MC0AB3D, MC0AB4
Potassium	MC0AB3L, PBW001
Sodium	PBW001
Thallium	PBW001
Vanadium	MC0AA5, PBW001
Zinc	MC0AB3L

Accurate

Data Validation Report

Data Review Results

Thu, 7 Jun 2018 01:38:33

Project Name: SHILO CHURCH ROAD SITE Project | **GroupID: 47639/EPW14035/MC0AA3** | **Lab Name: Shealy Environmental Services, Inc.**

Submission Group Id: 30375937 | **Organization: EPA Region 3** | **SOW: ISM02.4**

Method - Mercury by Cold Vapor

Test Name: EXES-790
Defect Message: The following samples have analyte results greater than or equal to detection limit (MDL) and below quantitation limit (CRQL). Detects are qualified as estimated J.
Associated Samples: PBW001

Defective Analyte	Defective Samples/Analyses
Mercury	PBW001

Accurate

Data Validation Report

Data Review Results

Thu, 7 Jun 2018 01:38:33

Project Name: SHILO CHURCH ROAD SITE Project	**GroupID: 47639/EPW14035/MC0AA3**	**Lab Name: Shealy Environmental Services, Inc.**
Submission Group Id: 30375937	**Organization: EPA Region 3**	**SOW: ISM02.4**

Duplicates

NONE FOUND

Accurate

Data Validation Report

Data Review Results

Thu, 7 Jun 2018 01:38:33

Project Name: SHILO CHURCH ROAD SITE Project	**GroupID: 47639/EPW14035/MC0AA3**	**Lab Name: Shealy Environmental Services, Inc.**
Submission Group Id: 30375937	**Organization: EPA Region 3**	**SOW: ISM02.4**

SampleAnalysis

NONE FOUND

Accurate