ENVIRONMENTAL STANDARDS

Setting the Standards for Innovative Environmental Solutions

QUALITY ASSURANCE REVIEW

OF THE OU-4B AND OU-5 SOIL SAMPLES

COLLECTED ON JANUARY 8, 2020

AT THE ANACONDA COPPER MINE SITE

IN YERINGTON, NEVADA

February 25, 2020

Prepared for:

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1.0 Introduction

This quality assurance (QA) review is based upon a rigorous examination of all data generated from the analyses of the OU-4b and OU-5 soil samples that were collected by Wood Environment & Infrastructure Solutions, Inc., on January 8, 2020, at the Anaconda Copper Mine Site in Yerington, Nevada. These samples were analyzed by Eurofins Calscience, Irvine in California. The samples and analyses included in this QA review are specified on Table 1.

This review has been performed with guidance from the "National Functional Guidelines for Inorganic Data Review" (US EPA, February 1994). This document has been used to aid the data reviewer in the interpretation of the quality control (QC) analysis results and in the overall evaluation of the sample data deliverables. It should be noted, however, that results affected by blank contamination will be designated with a "UJ" qualifier (not the "U" qualifier typically used when following the National Functional Guidelines) in order to be consistent with historical project validation protocols.

The reported analytical results are presented as a summary of the data in Section 2. Data were examined to determine the usability of the analytical results and the compliance relative to the requirements specified in the published analytical method and the Site-Wide Quality Assurance Project Plan Anaconda Copper Mine Site Yerington, Nevada, Update Version 5.1 (September 5, 2018). Qualifier codes have been placed next to results to enable the data user to quickly assess the qualitative and/or quantitative reliability of any result. This critical QA review identifies data quality issues for specific samples and specific evaluation criteria. The data qualifications allow the data's end-user to best understand the usability of the analytical results. Data not qualified in this report should be considered valid based on the QC criteria that have been reviewed. Details of this QA review are presented in Section 1 of this report. This report was prepared to provide a critical review of the laboratory analyses and reported analytical results. Rigorous QA reviews of laboratory-generated data routinely identify various problems associated with analytical measurements, even from the most experienced and capable laboratories.

TABLE 1

SAMPLES INCLUDED IN THIS QUALITY ASSURANCE REVIEW

Field Sample Identification	Laboratory Sample Identification	SDG	Matrix	Date Sample Collected	Parameter(s) Examined
STSB07_0-0.5	440-258906-1	440-258906-1	Soil	1/8/20	M^1, M^2, Hg
STSB07_0.5-3	440-258906-2	440-258906-1	Soil	1/8/20	M^1, M^2, Hg
STSB07-FD_0.5-3 (Field Duplicate of STSB07_0.5-3)	440-258906-3	440-258906-1	Soil	1/8/20	M^1, M^2, Hg
STSB07-FD_0.5-3MS (Matrix Spike)	440-258906-3MS	440-258906-1	Soil	1/8/20	Hg
STSB07-FD_0.5-3MSD (Matrix Spike Duplicate)	440-258906-3MSD	440-258906-1	Soil	1/8/20	Hg
STSB07_3-6	440-258906-4	440-258906-1	Soil	1/8/20	M^1, M^2, Hg
STSB07_6-15	440-258906-5	440-258906-1	Soil	1/8/20	M^1, M^2, Hg

NOTES:

M^1 - ICP Metals (specifically, aluminum, boron, calcium, iron, lithium, magnesium, phosphorus, potassium, sodium, strontium, tin, and titanium) by SW-846 Method 6010B.

M^2 - ICP/MS Metals (specifically, antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc) by SW-846 Method 6020.

Hg - Mercury by SW-846 Method 7471A.

2.0 Findings

Complete support documentation for this inorganic QA review is presented in Section 8.0 of this report.

A. ICP Metals Analysis

Five samples were analyzed for inductively coupled plasma (ICP) metals (specifically, aluminum, boron, calcium, iron, lithium, magnesium, phosphorus, potassium, sodium, strontium, tin, and titanium) by SW-846 Method 6010B. The findings offered in this report for this fraction are based on the items on the following table:

Item Reviewed	Acceptable	Acceptable with Qualification	Not Acceptable
Holding Times	√		
Blank Analysis Results	√		
LCS Results	√		
MS/MSD Results		√	
Post-Digestion Spike Results	√		
Serial Dilution Analysis	√		
Detection Limits/Sensitivity	√		
Calibrations	√		
RL Standard Recoveries	√		
ICP Interference Check Samples	√		
Field Duplicate Precision	√		
Analytical Sequence	√		
Sample Preparation	√		
Quantitation of Positive Results		√	
Evaluation of Raw Data	√		

MS/MSD Results: High recoveries (> 125%) were observed for potassium in the associated matrix spike/matrix spike duplicate (MS/MSD) analyses, indicating a high bias. The reported positive results for potassium in all samples should be considered estimated and have been flagged “J” on the data tables.

Quantitation of Positive Results: All positive results reported at concentrations greater than the method detection limit (MDL), but less than the reporting limit (RL), were qualified as estimated and have been flagged “J” on the data tables.

B. ICP/MS Metals Analysis

Five samples were analyzed for inductively coupled plasma/mass spectrometry (ICP/MS) metals (specifically, antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc) by SW-846 Method 6020. The findings offered in this report for this fraction are based on the items on the following table:

Item Reviewed	Acceptable	Acceptable with Qualification	Not Acceptable
Holding Times	√		
Blank Analysis Results	√		
LCS Results	√		
MS/MSD Results		√	
Post-Digestion Spike Results	√		
Detection Limits/Sensitivity	√		
Calibrations	√		
RL Standard Recoveries	√		
Internal Standard Recoveries	√		
Serial Dilution Analysis	√		
Field Duplicate Precision	√		
Analytical Sequence	√		
Sample Preparation	√		
Quantitation of Positive Results		√	
Evaluation of Raw Data	√		

MS/MSD Results: Low recoveries (< 75%) were observed for antimony in the associated MS/MSD analyses, indicating a low bias. The reported positive results for antimony in all samples should be considered estimated and have been flagged “J” on the data tables.

Quantitation of Positive Results: All positive results reported at concentrations greater than the MDL, but less than the RL, were qualified as estimated and have been flagged “J” on the data tables.

C. Mercury Analysis

Seven samples (including QC samples) were analyzed for mercury by SW-846 Method 7471A. The findings offered in this report for this fraction are based on the items on the following table.

Item Reviewed	Acceptable	Acceptable with Qualification	Not Acceptable
Holding Times	√		

Item Reviewed	Acceptable	Acceptable with Qualification	Not Acceptable
Blank Analysis Results	√		
LCS Results	√		
MS/MSD Results	√		
Post-Digestion Spike Results	√		
Detection Limits/Sensitivity	√		
Calibrations	√		
RL Standard Recoveries	√		
Field Duplicate Precision	√		
Analytical Sequence	√		
Sample Preparation	√		
Quantitation of Positive Results	√		
Evaluation of Raw Data	√		

No findings were observed in this fraction.

3.0 Qualifier Summary

A. ICP Metals Analysis

Analyte(s)	SDG(s)	Sample(s)	Validation Qualifier(s)	Reason(s) for Qualification
potassium	440-258906-1	All samples	J	4H – High MS/MSD recoveries

All positive results reported between the MDL and RL have been flagged “J.” (Valid Reason Code: T)

B. ICP/MS Metals Analysis

Analyte(s)	SDG(s)	Sample(s)	Validation Qualifier(s)	Reason(s) for Qualification
antimony	440-258906-1	All samples	J/UJ	4L – Low MS/MSD recoveries

All positive results reported between the MDL and RL have been flagged “J.” (Valid Reason Code: T)

C. Mercury Analysis

Qualification of data was not warranted.

4.0 Overall Assessment

Based on this QA review, the results for potassium and antimony in all samples were qualified as estimated due to out-of-criteria MS/MSD recoveries. In addition, several metals results were qualified as estimated because the reported results were between the MDL and the RL.

5.0 Inorganic Data Qualifiers and Valid Reason Codes

Inorganic Data Qualifiers

U Analyte not detected at the detection limit concentration.

J Reported value is an estimated concentration.

UJ Analyte not detected at an estimated detection limit concentration.

R These data were rejected and were not used for any purposes.

UR The analyte was not detected. The detection limit is unreliable and may be representative of a false negative. These data were rejected and are not usable for any purpose.

Valid Reason Codes

1 Holding time violation
2 Method blank contamination
3 Surrogate recovery
4 Matrix spike/matrix spike duplicate recovery
5 Matrix spike/matrix spike duplicate precision outside limits
6 Laboratory control sample recovery
7 Field blank contamination
8 Field duplicate precision outside limits
9 Other deficiencies (including cooler temperature)
A Absence of supporting QC
S ICV, CCV, or column performance check problem
Y Initial and continuing calibration blank problem
M Interference check samples problem
O Post-digestion spike outside of QC criteria
F MSA correlation coefficient < 0.995, or MSA not done
G Serial dilution problem
K DFTPP or BFB tuning problem
Q Initial calibration problem
X Internal standard recovery problem
V Second-source standard calibration verification problem
L Low bias
Z Retention time problem
N Counting time error (radionuclide chemistry)
W Detector instability (radionuclide chemistry)
C Co-elution of compounds
E Value exceeds linear calibration range
I Interferences present during analysis

T	Trace-level compound, poor quantitation
P	Dual-column precision outside of limits
B	LCS/LCSD precision outside limits
D	Lab Dup/Rep precision outside limits
H	High bias

6.0 Signatures

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7.0 ANALYTICAL RESULTS

Yerington
SDG: 440-258906-1

					Lab Sample	440-258906-1						440-258906-2					
					Field Sample	STSB07_0-0.5						STSB07_0.5-3					
					Collect Date	1/8/2020 2:50:00 PM						1/8/2020 2:56:00 PM					
					Type	N						N					
					Parent												
Method	**CAS Number**	**Chemical Name**	**TD**	**Test Type**	**Units**	**Result**	**Qual/ Reason**	**MDL**	**RDL**	**Uncert**	**Detect Flag**	**Result**	**Qual/ Reason**	**MDL**	**RDL**	**Uncert**	**Detect Flag**
SW-846 6010B	7429-90-5	Aluminum	T	INITIAL	MG/KG	10000		8.2	11		Y	6900		8.1	11		Y
	7439-89-6	Iron	T	INITIAL	MG/KG	26000		7.3	11		Y	17000		7.3	11		Y
	7439-93-2	Lithium	T	INITIAL	MG/KG	7.5		3.0	5.3		Y	3.6	J/T	3.0	5.3		Y
	7439-95-4	Magnesium	T	INITIAL	MG/KG	6500		5.3	11		Y	5900		5.3	11		Y
	7440-09-7	Potassium	T	INITIAL	MG/KG	1500	J/4H	35	67		Y	1600	J/4H	34	66		Y
	7440-23-5	Sodium	T	INITIAL	MG/KG	300		34	67		Y	120		34	66		Y
	7440-24-6	Strontium	T	INITIAL	MG/KG	110		2.7	5.3		Y	51		2.6	5.3		Y
	7440-31-5	Tin	T	INITIAL	MG/KG	200		5.3	11		Y	25		5.3	11		Y
	7440-32-6	Titanium	T	INITIAL	MG/KG	630		1.1	2.1		Y	530		1.1	2.1		Y
	7440-42-8	Boron	T	INITIAL	MG/KG		U	2.7	5.3		N		U	2.6	5.3		N
	7440-70-2	Calcium	T	INITIAL	MG/KG	4700		14	27		Y	4300		14	26		Y
	7723-14-0	Phosphorus	T	INITIAL	MG/KG	3800		5.3	11		Y	1200		2.6	5.3		Y
SW-846 6020	7439-92-1	Lead	T	INITIAL	MG/KG	12		0.27	0.53		Y	3.3		0.26	0.53		Y
	7439-96-5	Manganese	T	INITIAL	MG/KG	42		0.27	0.53		Y	39		0.26	0.53		Y
	7439-98-7	Molybdenum	T	INITIAL	MG/KG	20		0.53	1.1		Y	5.6		0.53	1.1		Y
	7440-02-0	Nickel	T	INITIAL	MG/KG	5.7		0.53	1.1		Y	6.1		0.53	1.1		Y
	7440-22-4	Silver	T	INITIAL	MG/KG	0.34	J/T	0.11	0.53		Y	0.11	J/T	0.11	0.53		Y
	7440-28-0	Thallium	T	INITIAL	MG/KG		U	0.27	0.53		N		U	0.26	0.53		N
	7440-36-0	Antimony	T	INITIAL	MG/KG	1.2	J/4L	0.29	1.1		Y	0.39	J/T,4L	0.29	1.1		Y
	7440-38-2	Arsenic	T	INITIAL	MG/KG	23		0.27	0.53		Y	6.0		0.26	0.53		Y
	7440-39-3	Barium	T	INITIAL	MG/KG	42		0.27	0.53		Y	40		0.26	0.53		Y
	7440-41-7	Beryllium	T	INITIAL	MG/KG	0.43		0.16	0.32		Y	0.20	J/T	0.16	0.32		Y
	7440-43-9	Cadmium	T	INITIAL	MG/KG		U	0.27	0.53		N		U	0.26	0.53		N
	7440-47-3	Chromium	T	INITIAL	MG/KG	33		0.53	1.1		Y	9.5		0.53	1.1		Y
	7440-48-4	Cobalt	T	INITIAL	MG/KG	2.4		0.22	0.53		Y	2.6		0.22	0.53		Y
	7440-50-8	Copper	T	INITIAL	MG/KG	670		0.53	1.1		Y	360		0.53	1.1		Y
	7440-62-2	Vanadium	T	INITIAL	MG/KG	24		0.53	1.1		Y	22		0.53	1.1		Y
	7440-66-6	Zinc	T	INITIAL	MG/KG	9.5	J/T	5.3	11		Y	10	J/T	5.3	11		Y
	7782-49-2	Selenium	T	INITIAL	MG/KG	4.8		0.21	1.1		Y	2.6		0.21	1.1		Y
SW-846 7471A	7439-97-6	Mercury	T	INITIAL	MG/KG	0.26		0.013	0.022		Y	0.19		0.013	0.022		Y

					Lab Sample	440-258906-3						440-258906-4					
					Field Sample	STSB07-FD_0.5-3						STSB07_3-6					
					Collect Date	1/8/2020 3:00:00 PM						1/8/2020 3:11:00 PM					
					Type	N						N					
					Parent												
Method	**CAS Number**	**Chemical Name**	**TD**	**Test Type**	**Units**	**Result**	**Qual/ Reason**	**MDL**	**RDL**	**Uncert**	**Detect Flag**	**Result**	**Qual/ Reason**	**MDL**	**RDL**	**Uncert**	**Detect Flag**
SW-846 6010B	7429-90-5	Aluminum	T	INITIAL	MG/KG	7300		8.1	11		Y	4700		8.2	11		Y
	7439-89-6	Iron	T	INITIAL	MG/KG	18000		7.3	11		Y	14000		7.4	11		Y
	7439-93-2	Lithium	T	INITIAL	MG/KG	3.8	J/T	3.0	5.3		Y		U	3.0	5.3		N
	7439-95-4	Magnesium	T	INITIAL	MG/KG	6300		5.3	11		Y	4500		5.3	11		Y
	7440-09-7	Potassium	T	INITIAL	MG/KG	1600	J/4H	34	66		Y	1200	J/4H	35	67		Y
	7440-23-5	Sodium	T	INITIAL	MG/KG	100		34	66		Y		U	34	67		N
	7440-24-6	Strontium	T	INITIAL	MG/KG	51		2.6	5.3		Y	20		2.7	5.3		Y
	7440-31-5	Tin	T	INITIAL	MG/KG	25		5.3	11		Y		U	5.3	11		N
	7440-32-6	Titanium	T	INITIAL	MG/KG	570		1.1	2.1		Y	270		1.1	2.1		Y
	7440-42-8	Boron	T	INITIAL	MG/KG		U	2.6	5.3		N		U	2.7	5.3		N
	7440-70-2	Calcium	T	INITIAL	MG/KG	4900		14	26		Y	3900		14	27		Y
	7723-14-0	Phosphorus	T	INITIAL	MG/KG	1300		2.6	5.3		Y	1400		2.7	5.3		Y
SW-846 6020	7439-92-1	Lead	T	INITIAL	MG/KG	3.0		0.26	0.53		Y	1.0		0.27	0.53		Y
	7439-96-5	Manganese	T	INITIAL	MG/KG	43		0.26	0.53		Y	38		0.27	0.53		Y
	7439-98-7	Molybdenum	T	INITIAL	MG/KG	5.4		0.53	1.1		Y	2.7		0.53	1.1		Y
	7440-02-0	Nickel	T	INITIAL	MG/KG	6.7		0.53	1.1		Y	5.4		0.53	1.1		Y
	7440-22-4	Silver	T	INITIAL	MG/KG	0.12	J/T	0.11	0.53		Y	0.15	J/T	0.11	0.53		Y
	7440-28-0	Thallium	T	INITIAL	MG/KG		U	0.26	0.53		N		U	0.27	0.53		N
	7440-36-0	Antimony	T	INITIAL	MG/KG	0.40	J/T,4L	0.29	1.1		Y		UJ/4L	0.29	1.1		N
	7440-38-2	Arsenic	T	INITIAL	MG/KG	5.6		0.26	0.53		Y	3.3		0.27	0.53		Y
	7440-39-3	Barium	T	INITIAL	MG/KG	44		0.26	0.53		Y	30		0.27	0.53		Y
	7440-41-7	Beryllium	T	INITIAL	MG/KG		U	0.16	0.32		N		U	0.16	0.32		N
	7440-43-9	Cadmium	T	INITIAL	MG/KG		U	0.26	0.53		N		U	0.27	0.53		N
	7440-47-3	Chromium	T	INITIAL	MG/KG	10		0.53	1.1		Y	11		0.53	1.1		Y
	7440-48-4	Cobalt	T	INITIAL	MG/KG	2.7		0.22	0.53		Y	2.1		0.22	0.53		Y
	7440-50-8	Copper	T	INITIAL	MG/KG	350		0.53	1.1		Y	350		0.53	1.1		Y
	7440-62-2	Vanadium	T	INITIAL	MG/KG	23		0.53	1.1		Y	15		0.53	1.1		Y
	7440-66-6	Zinc	T	INITIAL	MG/KG	11		5.3	11		Y	11		5.3	11		Y
	7782-49-2	Selenium	T	INITIAL	MG/KG	2.5		0.21	1.1		Y	2.1		0.21	1.1		Y
SW-846 7471A	7439-97-6	Mercury	T	INITIAL	MG/KG	0.16		0.013	0.021		Y	0.082		0.013	0.021		Y

Lab Sample	440-258906-5
Field Sample	STSB07_6-15
Collect Date	1/8/2020 3:17:00 PM
Type	N
Parent	

Method	CAS Number	Chemical Name	TD	Test Type	Units	Result	Qual/ Reason	MDL	RDL	Uncert	Detect Flag
SW-846 6010B	7429-90-5	Aluminum	T	INITIAL	MG/KG	6500		8.3	11		Y
	7439-89-6	Iron	T	INITIAL	MG/KG	17000		7.5	11		Y
	7439-93-2	Lithium	T	INITIAL	MG/KG	4.9	J/T	3.0	5.4		Y
	7439-95-4	Magnesium	T	INITIAL	MG/KG	5500		5.4	11		Y
	7440-09-7	Potassium	T	INITIAL	MG/KG	1400	J/4H	35	68		Y
	7440-23-5	Sodium	T	INITIAL	MG/KG		U	35	68		N
	7440-24-6	Strontium	T	INITIAL	MG/KG	24		2.7	5.4		Y
	7440-31-5	Tin	T	INITIAL	MG/KG	5.5	J/T	5.4	11		Y
	7440-32-6	Titanium	T	INITIAL	MG/KG	330		1.1	2.2		Y
	7440-42-8	Boron	T	INITIAL	MG/KG		U	2.7	5.4		N
	7440-70-2	Calcium	T	INITIAL	MG/KG	4400		15	27		Y
	7723-14-0	Phosphorus	T	INITIAL	MG/KG	1100		2.7	5.4		Y
SW-846 6020	7439-92-1	Lead	T	INITIAL	MG/KG	1.6		0.27	0.54		Y
	7439-96-5	Manganese	T	INITIAL	MG/KG	44		0.27	0.54		Y
	7439-98-7	Molybdenum	T	INITIAL	MG/KG	1.8		0.54	1.1		Y
	7440-02-0	Nickel	T	INITIAL	MG/KG	6.2		0.54	1.1		Y
	7440-22-4	Silver	T	INITIAL	MG/KG	0.16	J/T	0.11	0.54		Y
	7440-28-0	Thallium	T	INITIAL	MG/KG		U	0.27	0.54		N
	7440-36-0	Antimony	T	INITIAL	MG/KG	0.41	J/T,4L	0.29	1.1		Y
	7440-38-2	Arsenic	T	INITIAL	MG/KG	2.1		0.27	0.54		Y
	7440-39-3	Barium	T	INITIAL	MG/KG	33		0.27	0.54		Y
	7440-41-7	Beryllium	T	INITIAL	MG/KG	0.18	J/T	0.16	0.32		Y
	7440-43-9	Cadmium	T	INITIAL	MG/KG		U	0.27	0.54		N
	7440-47-3	Chromium	T	INITIAL	MG/KG	8.4		0.54	1.1		Y
	7440-48-4	Cobalt	T	INITIAL	MG/KG	2.9		0.23	0.54		Y
	7440-50-8	Copper	T	INITIAL	MG/KG	1300		0.54	1.1		Y
	7440-62-2	Vanadium	T	INITIAL	MG/KG	25		0.54	1.1		Y
	7440-66-6	Zinc	T	INITIAL	MG/KG	13		5.4	11		Y
	7782-49-2	Selenium	T	INITIAL	MG/KG	2.2		0.22	1.1		Y
SW-846 7471A	7439-97-6	Mercury	T	INITIAL	MG/KG	0.19		0.013	0.022		Y

8.0 SUPPORTING DOCUMENTATION

eurofins

Calscie

ANALYTICAL REPORT

Job Number: 440-258906-1

Job Description: ACMS - BP Yerington OU-4b_OU-5 Soil

For:
Wood E&I Solutions Inc
10940 White Rock Road Suite 190
Rancho Cordova, CA 95670

Attention: Lynda Lombardi

Approved for release.
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01/22/2020

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Eurofins Calscience Irvine
17461 Derian Ave, Suite 100, Irvine, CA 92614-5817
Tel (949) 261-1022 Fax (949) 260-3297 www.EurofinsUS.com

Sample Summary

Client: Wood E&I Solutions Inc
Project/Site: ACMS - BP Yerington OU-4b_OU-5 Soil

Job ID: 440-258906-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-258906-1	STSB07_0-0.5	Solid	01/08/20 14:50	01/10/20 10:00	
440-258906-2	STSB07_0.5-3	Solid	01/08/20 14:56	01/10/20 10:00	
440-258906-3	STSB07-FD_0.5-3	Solid	01/08/20 15:00	01/10/20 10:00	
440-258906-4	STSB07_3-6	Solid	01/08/20 15:11	01/10/20 10:00	
440-258906-5	STSB07_6-15	Solid	01/08/20 15:17	01/10/20 10:00	

Comments
No additional comments.

Receipt
The samples were received on 1/10/2020 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.6° C.

Metals
Method 6010B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries of Potassium for preparation batch 440-590387 and analytical batch 440-590755 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected. The associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 6010B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision of Titanium for preparation batch 440-590387 and analytical batch 440-590755 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected. The associated laboratory control sample (LCS) was within acceptance limits.

Method 6020: The method blank for preparation batch 440-590387 and analytical batch 440-590547 contained Manganese above the reporting limit (RL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

Method 6020: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 440-590387 and analytical batch 440-590547 were outside control limits for Antimony. Sample matrix interference is suspected. The associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the BPLAMP Technical Specifications, applicable federal, state, local regulations and certification requirements as well as the methodologies as described in laboratory SOPs reviewed by the BPLAMP. This Laboratory Report is confidential and is intended for the sole use of Eurofins TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The signature on the cover page extends to the case narrative and all the data and forms in the package. The Chain of Custody is included and is an integral part of this report.

Christian Bondoc
Project Manager I
1/22/2020 11:55:39 AM

Atlantic Richfield Company
A BP affiliated company

Laboratory Management Program LaMP Chain of Custody Record

Page 1 of 1

BP/ARC Site Node Path: NV_YERINGTON **Req Due Date (mm/dd/yy):** STD TAT **Rush TAT:** Yes ___ No X

BP/ARC Facility Name: Anaconda Copper Mine Site **Lab Work Order Number:**

Lab Name:	TestAmerica, Inc.	BP/ARC Facility Address:	1 Austin Circle	Consultant/Contractor	Wood - E&I Solutions, Inc.
Lab Address:	17461 Denan Ave, Suite #100 Irvine, CA 92614	City, State, ZIP Code:	Yerington, Nevada 89447	Consultant/Contractor Project No:	SA18170340.005.055B
Lab PM:	Christian Bondoc	Lead Regulatory Agency:	NDEP Abandoned Mine Lands Program	Address:	10940 White Rock Rd, Ste 190 Rancho Cordova, CA 95670
Lab Phone:	949-261-1022	California Global ID No.:		Consultant/Contractor PM:	Kent Parrish
Lab Shipping Acct:	1103-6633-7 (TAL Acct #)	Enfos Proposal No: D019Q-0047	Work Release No: WR331232	Phone: 916-636-3200	Email: Kent.Parrish@woodplc.com
Lab Bottle Order No:	NA	Accounting Mode:	Provision X OOC-BU ___ OOC-RM ___	Email Report/EDD To:	lynda.lombardi@woodplc.com
Other Info:	OU-4b_OU-5_Soil	Stage: Appraise	Activity: Field Work/Remedial Investigation	Invoice To:	BP/ARC X Contractor ___
BP/ARC EBM:	Chuck Stilwell				
EBM Phone:	713-998-2443				
EBM Email:	Chuck.Stilwell@bp.com				

Report Type & QC Level: Standard ___ Full Data Package X

Lab No.	Sample Description	Date	Time	Soil / Solid	Water / Liquid	Air / Vapor	Total Number of Containers	Unpreserved	H_2SO_4	HNO_3	HCl	Metals[1] (SW 6010B/6020)	Mercury (SW7471B/7470A)	Thorium, Uranium (SW6020)	MS/MSD	Comments
	STSB07_0-0.5	01/08/20	1450	X			1	1				X	X			[1]Metals are: Al, B, Ca, Fe, K, Li, Mg,
	STSB07_0.5-3	01/08/20	1456	X			1	1				X	X			Na, P, Sr, Sn, Ti, by 6010B;
	STSB07-FD_0.5-3	01/08/20	1500	X			1	1				X	X			As, Ba, Be, Cd, Cr, Co, Cu, Pb, Mn,
	STSB07_3-6	01/08/20	1511	X			1	1				X	X			Mo, Ni, Sb, Se, Ag, Tl, V, Zn by 6020
	STSB07_6-15	01/08/20	1517	X			1	1				X	X			
																Report soil on dry weight basis.

440-258906 Chain of Custody

LB 1/10/20

	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Name: Bryce Johnson						
Sampler's Company: Wood	/ Wood	1/9/20	1200			
Shipment Method: Fed Ex Ship Date: 1/9/20						
Shipment Tracking No: 7774 1268 1050				EC-112V	1/10/20	1000

Special Instructions:

LB 1/10/20

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: 3.6/3.6 °C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

1293

BP/ARC LaMP COC Rev. 7, Jul 29, 2010

Login Sample Receipt Checklist

Client: Wood E&I Solutions Inc

Job Number: 440-258906-1

Login Number: 258906
List Number: 1
Creator: Bonta, Lucia F

List Source: Eurofins Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Internal Chain of Custody Tracking

Login	Smp	Customer Sample ID	Matrix	Container ID	Lab Sample ID	Container Type	Location	Custody User	I/O	ICOC ID	ICOC Date
440-258906	1	STSB07_0-0.5	Solid	440-6041342	440-258906-A-1	Soil jar 4oz	_General Chemistry	Le, Ha Thanh T	I	440-151140	01/13/20 21:16
440-258906	1	STSB07_0-0.5	Solid	440-6041342	440-258906-A-1	Soil jar 4oz	ICOC23R-G	Bonta, Lucia F	I	440-151050	01/10/20 14:50
440-258906	1	STSB07_0-0.5	Solid	440-6041343	440-258906-B-1	Soil jar 8oz	ICOC23R-G	Mercado, Michael E	I	440-151193	01/15/20 11:56
440-258906	1	STSB07_0-0.5	Solid	440-6041343	440-258906-B-1	Soil jar 8oz	_Metals Prep	Mercado, Michael E	I	440-151175	01/14/20 13:31
440-258906	1	STSB07_0-0.5	Solid	440-6041343	440-258906-B-1	Soil jar 8oz	_General Chemistry	Le, Ha Thanh T	I	440-151140	01/13/20 21:16
440-258906	1	STSB07_0-0.5	Solid	440-6041343	440-258906-B-1	Soil jar 8oz	ICOC23R-G	Bonta, Lucia F	I	440-151050	01/10/20 14:50
440-258906	2	STSB07_0.5-3	Solid	440-6041344	440-258906-A-2	Soil jar 4oz	_General Chemistry	Le, Ha Thanh T	I	440-151140	01/13/20 21:16
440-258906	2	STSB07_0.5-3	Solid	440-6041344	440-258906-A-2	Soil jar 4oz	ICOC23R-G	Bonta, Lucia F	I	440-151050	01/10/20 14:50
440-258906	2	STSB07_0.5-3	Solid	440-6041345	440-258906-B-2	Soil jar 8oz	ICOC23R-G	Mercado, Michael E	I	440-151193	01/15/20 11:56
440-258906	2	STSB07_0.5-3	Solid	440-6041345	440-258906-B-2	Soil jar 8oz	_Metals Prep	Mercado, Michael E	I	440-151175	01/14/20 13:31
440-258906	2	STSB07_0.5-3	Solid	440-6041345	440-258906-B-2	Soil jar 8oz	_General Chemistry	Le, Ha Thanh T	I	440-151140	01/13/20 21:16
440-258906	2	STSB07_0.5-3	Solid	440-6041345	440-258906-B-2	Soil jar 8oz	ICOC23R-G	Bonta, Lucia F	I	440-151050	01/10/20 14:50
440-258906	3	STSB07-FD_0.5-3	Solid	440-6041346	440-258906-A-3	Soil jar 4oz	_General Chemistry	Le, Ha Thanh T	I	440-151140	01/13/20 21:16
440-258906	3	STSB07-FD_0.5-3	Solid	440-6041346	440-258906-A-3	Soil jar 4oz	ICOC23R-G	Bonta, Lucia F	I	440-151050	01/10/20 14:50
440-258906	3	STSB07-FD_0.5-3	Solid	440-6041347	440-258906-B-3	Soil jar 8oz	ICOC23R-G	Mercado, Michael E	I	440-151193	01/15/20 11:56
440-258906	3	STSB07-FD_0.5-3	Solid	440-6041347	440-258906-B-3	Soil jar 8oz	_Metals Prep	Mercado, Michael E	I	440-151175	01/14/20 13:31
440-258906	3	STSB07-FD_0.5-3	Solid	440-6041347	440-258906-B-3	Soil jar 8oz	_General Chemistry	Le, Ha Thanh T	I	440-151140	01/13/20 21:16
440-258906	3	STSB07-FD_0.5-3	Solid	440-6041347	440-258906-B-3	Soil jar 8oz	ICOC23R-G	Bonta, Lucia F	I	440-151050	01/10/20 14:50
440-258906	4	STSB07_3-6	Solid	440-6041348	440-258906-A-4	Soil jar 4oz	_General Chemistry	Le, Ha Thanh T	I	440-151140	01/13/20 21:16
440-258906	4	STSB07_3-6	Solid	440-6041348	440-258906-A-4	Soil jar 4oz	ICOC23R-G	Bonta, Lucia F	I	440-151050	01/10/20 14:50
440-258906	4	STSB07_3-6	Solid	440-6041349	440-258906-B-4	Soil jar 8oz	ICOC23R-G	Mercado, Michael E	I	440-151193	01/15/20 11:56
440-258906	4	STSB07_3-6	Solid	440-6041349	440-258906-B-4	Soil jar 8oz	_Metals Prep	Mercado, Michael E	I	440-151175	01/14/20 13:31
440-258906	4	STSB07_3-6	Solid	440-6041349	440-258906-B-4	Soil jar 8oz	_General Chemistry	Le, Ha Thanh T	I	440-151140	01/13/20 21:16
440-258906	4	STSB07_3-6	Solid	440-6041349	440-258906-B-4	Soil jar 8oz	ICOC23R-G	Bonta, Lucia F	I	440-151050	01/10/20 14:50
440-258906	5	STSB07_6-15	Solid	440-6041350	440-258906-A-5	Soil jar 4oz	_General Chemistry	Le, Ha Thanh T	I	440-151140	01/13/20 21:16
440-258906	5	STSB07_6-15	Solid	440-6041350	440-258906-A-5	Soil jar 4oz	ICOC23R-G	Bonta, Lucia F	I	440-151050	01/10/20 14:50
440-258906	5	STSB07_6-15	Solid	440-6041351	440-258906-B-5	Soil jar 8oz	ICOC23R-G	Mercado, Michael E	I	440-151193	01/15/20 11:56
440-258906	5	STSB07_6-15	Solid	440-6041351	440-258906-B-5	Soil jar 8oz	_Metals Prep	Mercado, Michael E	I	440-151175	01/14/20 13:31
440-258906	5	STSB07_6-15	Solid	440-6041351	440-258906-B-5	Soil jar 8oz	_General Chemistry	Le, Ha Thanh T	I	440-151140	01/13/20 21:16
440-258906	5	STSB07_6-15	Solid	440-6041351	440-258906-B-5	Soil jar 8oz	ICOC23R-G	Bonta, Lucia F	I	440-151050	01/10/20 14:50

Method Summary

Client: Wood E&I Solutions Inc
Project/Site: ACMS - BP Yerington OU-4b_OU-5 Soil

Job ID: 440-258906-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL IRV
6020	Metals (ICP/MS)	SW846	TAL IRV
7471A	Mercury (CVAA)	SW846	TAL IRV
Homogenization	Homogenization	None	TAL IRV
Moisture	Percent Moisture	EPA	TAL IRV
3050B	Preparation, Metals	SW846	TAL IRV
7471A	Preparation, Mercury	SW846	TAL IRV

Protocol References:

EPA = US Environmental Protection Agency

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

ENVIRONMENTAL STANDARDS

INORGANIC ANALYSIS SUPPORT DOCUMENTATION

ESI project name: ARCO Yerington 2020 DV
Sample Collection Dates: 1/8/20
Job Number: 20115675.GW20
Project Manager: Dina
Laboratory: TA Irvine

Reviewed by: JKA 2/12/20
Approved by: Dina V
Completion Date: 2/24/2020

Applicable Sample No's (X) — Refer to Table 1 in the Quality Assurance Review

Deliverable:			Sample No.	Lab Control No.
	CLP (Full)	( )	440-258906-1	
	Level IV (Full)	(X)		
	Limited	( )		
	Other:			

The following table indicates criteria that were examined, the identified problems, and support documentation attachments

	Criteria Examined in Detail Check (√) if Yes or Footnote Letter for Comments Below					Problems Identified Check (√) if Yes or Footnote Letter for Comments Below					Support Documentation Attachments Check (√) if Yes or Footnote Letter for Comments Below				
	6010B	6020	7471A			6010B	6020	7471A			6010B	6020	7471A		
Holding Times	X	X	X								X	X	X		
Blank Analysis Results	X	X	X								X	X	X		
Matrix Spike (Predigestion) Results	X	X	X			X	X				X	X	X		
Duplicate Analysis: (X) Field ( ) Lab	X	X	X								X	X	X		
Quantitation of Results	X	X	X								X	X	X		
Detection Limit/Sensitivity															
Initial Calibrations	X	X	X								X	X	X		
Continuing Calibrations	X	X	X								X	X	X		
Laboratory Control Standard (LCS)	X	X	X								X	X	X		
ICP Linear Range Analysis	X	X									X	X			
ICP Interference Checks	X	X									X	X			
ICP Serial Dilutions	X	X									X	X			
ICP Post-Digestion Spike	X	X									X	X			
GFAA Post Digestion Spikes															
GFAA Duplicate Injections															
ICP Multiple Exposures															
GFAA Standard Additions															
CRDL Standards	X	X	X								X	X	X		
Condition on Receipt	X	X	X								X	X	X		
Percent Solids	X	X	X								X	X	X		
Others:															

Comments:

ENVIRONMENTAL STANDARDS

BLANK ANALYSIS RESULTS FOR INORGANIC PARAMETERS

	Blank Type									
	Method									
Matrix (Aq., S.)	ICB	CCB	Prep.	Trip	Equip	Field	Blank Sample Number	Contaminant	Concentration (mg/kg)	Qualification limit (5×)
S			X				MB 440-590387/1-A ^20	manganese	0.297	1.49
										0
										0
										0
										0
										0
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										0

Aq = Aqueous; S = Solid

Notes:

** Column K contains a formula

EVALUATION OF DUPLICATE ANALYSIS PRECISION

Units mg/kg	PRECISION OBJECTIVES[1]		
	Analyte > or = 5 X RL	RPD < or =	40
	Analyte < 5 X RL	Difference < or = RL Times	2

ANALYTE	STSB07_0.5-3 Analyte Concentration[2]	Qual	RL	STSB07-FD_0.5-3 Analyte Concentration[2]	Qual	RL	Difference	RPD	Notes
Aluminum	6900		11	7300		11	NA	5.6%	IN
Calcium	4300		26	4900		26	NA	13%	IN
Iron	17000		11	18000		11	NA	5.7%	IN
Lithium	3.6	J	5.3	3.8	J	5.3	0.20	NA	IN
Magnesium	5900		11	6300		11	NA	6.6%	IN
Phosphorus	1200		5.3	1300		5.3	NA	8.0%	IN
Potassium	1600		66	1600		66	NA	0.0%	IN
Sodium	120		66	100		66	20	NA	IN
Strontium	51		5.3	51		5.3	NA	0.0%	IN
Tin	25		11	25		11	0.0	NA	IN
Titanium	530		2.1	570		2.1	NA	7.3%	IN
Antimony	0.39	J	1.1	0.40	J	1.1	0.010	NA	IN
Arsenic	6.0		0.53	5.6		0.53	NA	6.9%	IN
Barium	40		0.53	44		0.53	NA	9.5%	IN
Beryllium	0.20	J	0.32	0.16	U	0.32	0.040	NA	IN
Chromium	9.5		1.1	10		1.1	NA	5.1%	IN
Cobalt	2.6		0.53	2.7		0.53	0.10	NA	IN
Copper	360		1.1	350		1.1	NA	2.8%	IN
Lead	3.3		0.53	3.0		0.53	NA	9.5%	IN
Manganese	39		0.53	43		0.53	NA	9.8%	IN
Molybdenum	5.6		1.1	5.4		1.1	0.20	NA	IN
Nickel	6.1		1.1	6.7		1.1	NA	9.4%	IN
Selenium	2.6		1.1	2.5		1.1	0.10	NA	IN
Silver	0.11	J	0.53	0.12	J	0.53	0.010	NA	IN
Vanadium	22		1.1	23		1.1	NA	4.4%	IN
Zinc	10	J	11	11		11	1.0	NA	IN
Mercury	0.19		0.022	0.16		0.021	NA	17%	IN

Client Sample Results

Client: Wood E&I Solutions Inc
Project/Site: ACMS - BP Yerington OU-4b_OU-5 Soil

Job ID: 440-257335-2

Client Sample ID: EB04

Lab Sample ID: 440-257335-9

Date Collected: 12/10/19 08:18
Date Received: 12/13/19 10:00

Matrix: Water

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**0.057**	**J**	0.10	0.050	mg/L		12/17/19 09:43	12/18/19 13:49	1
Boron	ND		50	25	ug/L		12/17/19 09:43	12/18/19 13:49	1
Calcium	**0.070**	**J**	0.10	0.050	mg/L		12/30/19 12:32	12/31/19 15:18	1
Iron	**0.094**	**J**	0.10	0.050	mg/L		12/30/19 12:32	12/31/19 15:18	1
Lithium	ND		500	25	ug/L		12/17/19 09:43	12/18/19 13:49	1
Magnesium	**0.070**		0.020	0.010	mg/L		12/17/19 09:43	12/18/19 13:49	1
Phosphorus	ND		0.20	0.10	mg/L		12/17/19 09:43	12/18/19 13:49	1
Potassium	ND		0.50	0.25	mg/L		12/17/19 09:43	12/18/19 13:49	1
Sodium	ND		0.50	0.26	mg/L		12/17/19 09:43	12/18/19 13:49	1
Strontium	ND		0.020	0.010	mg/L		12/17/19 09:43	12/18/19 13:49	1
Tin	ND		0.10	0.050	mg/L		12/17/19 09:43	12/18/19 13:49	1
Titanium	**0.0071**		0.0050	0.0025	mg/L		12/17/19 09:43	12/18/19 13:49	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thorium	ND		2.0	0.90	ug/L		01/24/20 14:18	01/28/20 18:51	2

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.50	ug/L		12/17/19 09:48	12/17/19 19:07	1
Arsenic	ND		1.0	0.50	ug/L		12/17/19 09:48	12/17/19 19:07	1
Barium	**0.79**	**J**	1.0	0.50	ug/L		12/17/19 09:48	12/17/19 19:07	1
Beryllium	ND		0.50	0.25	ug/L		12/17/19 09:48	12/17/19 19:07	1
Cadmium	ND		1.0	0.25	ug/L		12/17/19 09:48	12/17/19 19:07	1
Chromium	**2.7**	**B**	2.0	0.50	ug/L		12/17/19 09:48	12/17/19 19:07	1
Cobalt	ND		1.0	0.50	ug/L		12/17/19 09:48	12/17/19 19:07	1
Copper	**5.8**		2.0	0.50	ug/L		12/17/19 09:48	12/17/19 19:07	1
Lead	ND		1.0	0.50	ug/L		12/17/19 09:48	12/17/19 19:07	1
Manganese	**3.1**		1.0	0.50	ug/L		12/17/19 09:48	12/17/19 19:07	1
Molybdenum	ND		2.0	0.50	ug/L		12/17/19 09:48	12/17/19 19:07	1
Nickel	**1.1**	**J**	2.0	0.50	ug/L		12/17/19 09:48	12/17/19 19:07	1
Selenium	ND		2.0	0.50	ug/L		12/17/19 09:48	12/17/19 19:07	1
Silver	ND		1.0	0.50	ug/L		12/17/19 09:48	12/17/19 19:07	1
Thallium	ND		1.0	0.20	ug/L		12/17/19 09:48	12/17/19 19:07	1
Uranium	ND		1.0	0.50	ug/L		12/17/19 09:48	12/17/19 19:07	1
Vanadium	ND		2.0	1.0	ug/L		12/17/19 09:48	12/17/19 19:07	1
Zinc	**4.9**	**J**	20	2.5	ug/L		12/17/19 09:48	12/17/19 19:07	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		12/16/19 14:11	12/17/19 09:37	1

Client Sample ID: FB04

Lab Sample ID: 440-257335-23

Date Collected: 12/10/19 12:10
Date Received: 12/13/19 10:00

Matrix: Water

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.10	0.050	mg/L		12/17/19 09:43	12/18/19 13:51	1
Boron	ND		50	25	ug/L		12/17/19 09:43	12/18/19 13:51	1
Calcium	ND		0.10	0.050	mg/L		12/30/19 12:32	12/31/19 15:20	1

Client Sample Results

Client: Wood E&I Solutions Inc
Project/Site: ACMS - BP Yerington OU-4b_OU-5 Soil

Job ID: 440-257335-2

Client Sample ID: FB04
Date Collected: 12/10/19 12:10
Date Received: 12/13/19 10:00

Lab Sample ID: 440-257335-23
Matrix: Water

Method: 6010B - Metals (ICP) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	0.050	mg/L		12/30/19 12:32	12/31/19 15:20	1
Lithium	ND		500	25	ug/L		12/17/19 09:43	12/18/19 13:51	1
Magnesium	**0.014**	**J**	0.020	0.010	mg/L		12/17/19 09:43	12/18/19 13:51	1
Phosphorus	ND		0.20	0.10	mg/L		12/17/19 09:43	12/18/19 13:51	1
Potassium	ND		0.50	0.25	mg/L		12/17/19 09:43	12/18/19 13:51	1
Sodium	ND		0.50	0.26	mg/L		12/17/19 09:43	12/18/19 13:51	1
Strontium	ND		0.020	0.010	mg/L		12/17/19 09:43	12/18/19 13:51	1
Tin	ND		0.10	0.050	mg/L		12/17/19 09:43	12/18/19 13:51	1
Titanium	ND		0.0050	0.0025	mg/L		12/17/19 09:43	12/18/19 13:51	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thorium	ND		2.0	0.90	ug/L		01/24/20 14:18	01/28/20 18:57	2

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0	0.50	ug/L		12/17/19 09:48	12/17/19 19:09	1
Arsenic	ND		1.0	0.50	ug/L		12/17/19 09:48	12/17/19 19:09	1
Barium	ND		1.0	0.50	ug/L		12/17/19 09:48	12/17/19 19:09	1
Beryllium	ND		0.50	0.25	ug/L		12/17/19 09:48	12/17/19 19:09	1
Cadmium	ND		1.0	0.25	ug/L		12/17/19 09:48	12/17/19 19:09	1
Chromium	**1.5**	**J B**	2.0	0.50	ug/L		12/17/19 09:48	12/17/19 19:09	1
Cobalt	ND		1.0	0.50	ug/L		12/17/19 09:48	12/17/19 19:09	1
Copper	ND		2.0	0.50	ug/L		12/17/19 09:48	12/17/19 19:09	1
Lead	ND		1.0	0.50	ug/L		12/17/19 09:48	12/17/19 19:09	1
Manganese	ND		1.0	0.50	ug/L		12/17/19 09:48	12/17/19 19:09	1
Molybdenum	ND		2.0	0.50	ug/L		12/17/19 09:48	12/17/19 19:09	1
Nickel	**0.95**	**J**	2.0	0.50	ug/L		12/17/19 09:48	12/17/19 19:09	1
Selenium	ND		2.0	0.50	ug/L		12/17/19 09:48	12/17/19 19:09	1
Silver	ND		1.0	0.50	ug/L		12/17/19 09:48	12/17/19 19:09	1
Thallium	ND		1.0	0.20	ug/L		12/17/19 09:48	12/17/19 19:09	1
Uranium	ND		1.0	0.50	ug/L		12/17/19 09:48	12/17/19 19:09	1
Vanadium	ND		2.0	1.0	ug/L		12/17/19 09:48	12/17/19 19:09	1
Zinc	**9.5**	**J**	20	2.5	ug/L		12/17/19 09:48	12/17/19 19:09	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		12/16/19 14:11	12/17/19 09:39	1

Definitions/Glossary

Client: Wood E&I Solutions Inc
Project/Site: ACMS - BP Yerington OU-4b_OU-5 Soil

Job ID: 440-258906-1

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Detection Summary

Client: Wood E&I Solutions Inc
Project/Site: ACMS - BP Yerington OU-4b_OU-5 Soil

Job ID: 440-258906-1

Client Sample ID: STSB07_0-0.5 — Lab Sample ID: 440-258906-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	10000		11	8.2	mg/Kg	5	☼	6010B	Total/NA
Calcium	4700		27	14	mg/Kg	5	☼	6010B	Total/NA
Iron	26000		11	7.3	mg/Kg	5	☼	6010B	Total/NA
Lithium	7.5		5.3	3.0	mg/Kg	5	☼	6010B	Total/NA
Magnesium	6500		11	5.3	mg/Kg	5	☼	6010B	Total/NA
Phosphorus	3800		11	5.3	mg/Kg	10	☼	6010B	Total/NA
Potassium	1500		67	35	mg/Kg	5	☼	6010B	Total/NA
Sodium	300		67	34	mg/Kg	5	☼	6010B	Total/NA
Strontium	110		5.3	2.7	mg/Kg	5	☼	6010B	Total/NA
Tin	200		11	5.3	mg/Kg	5	☼	6010B	Total/NA
Titanium	630		2.1	1.1	mg/Kg	5	☼	6010B	Total/NA
Antimony	1.2		1.1	0.29	mg/Kg	20	☼	6020	Total/NA
Arsenic	23		0.53	0.27	mg/Kg	20	☼	6020	Total/NA
Barium	42		0.53	0.27	mg/Kg	20	☼	6020	Total/NA
Beryllium	0.43		0.32	0.16	mg/Kg	20	☼	6020	Total/NA
Chromium	33		1.1	0.53	mg/Kg	20	☼	6020	Total/NA
Cobalt	2.4		0.53	0.22	mg/Kg	20	☼	6020	Total/NA
Copper	670		1.1	0.53	mg/Kg	20	☼	6020	Total/NA
Lead	12		0.53	0.27	mg/Kg	20	☼	6020	Total/NA
Manganese	42	B	0.53	0.27	mg/Kg	20	☼	6020	Total/NA
Molybdenum	20		1.1	0.53	mg/Kg	20	☼	6020	Total/NA
Nickel	5.7		1.1	0.53	mg/Kg	20	☼	6020	Total/NA
Selenium	4.8		1.1	0.21	mg/Kg	20	☼	6020	Total/NA
Silver	0.34	J	0.53	0.11	mg/Kg	20	☼	6020	Total/NA
Vanadium	24		1.1	0.53	mg/Kg	20	☼	6020	Total/NA
Zinc	9.5	J	11	5.3	mg/Kg	20	☼	6020	Total/NA
Mercury	0.26		0.022	0.013	mg/Kg	1	☼	7471A	Total/NA
Sample Homogenized	yes				NONE	1		Homogenization	Total/NA

Client Sample ID: STSB07_0.5-3 — Lab Sample ID: 440-258906-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	6900		11	8.1	mg/Kg	5	☼	6010B	Total/NA
Calcium	4300		26	14	mg/Kg	5	☼	6010B	Total/NA
Iron	17000		11	7.3	mg/Kg	5	☼	6010B	Total/NA
Lithium	3.6	J	5.3	3.0	mg/Kg	5	☼	6010B	Total/NA
Magnesium	5900		11	5.3	mg/Kg	5	☼	6010B	Total/NA
Phosphorus	1200		5.3	2.6	mg/Kg	5	☼	6010B	Total/NA
Potassium	1600		66	34	mg/Kg	5	☼	6010B	Total/NA
Sodium	120		66	34	mg/Kg	5	☼	6010B	Total/NA
Strontium	51		5.3	2.6	mg/Kg	5	☼	6010B	Total/NA
Tin	25		11	5.3	mg/Kg	5	☼	6010B	Total/NA
Titanium	530		2.1	1.1	mg/Kg	5	☼	6010B	Total/NA
Antimony	0.39	J	1.1	0.29	mg/Kg	20	☼	6020	Total/NA
Arsenic	6.0		0.53	0.26	mg/Kg	20	☼	6020	Total/NA
Barium	40		0.53	0.26	mg/Kg	20	☼	6020	Total/NA
Beryllium	0.20	J	0.32	0.16	mg/Kg	20	☼	6020	Total/NA
Chromium	9.5		1.1	0.53	mg/Kg	20	☼	6020	Total/NA
Cobalt	2.6		0.53	0.22	mg/Kg	20	☼	6020	Total/NA
Copper	360		1.1	0.53	mg/Kg	20	☼	6020	Total/NA
Lead	3.3		0.53	0.26	mg/Kg	20	☼	6020	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Wood E&I Solutions Inc
Project/Site: ACMS - BP Yerington OU-4b_OU-5 Soil

Job ID: 440-258906-1

Client Sample ID: STSB07_0.5-3 (Continued) — Lab Sample ID: 440-258906-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	39	B	0.53	0.26	mg/Kg	20	☼	6020	Total/NA
Molybdenum	5.6		1.1	0.53	mg/Kg	20	☼	6020	Total/NA
Nickel	6.1		1.1	0.53	mg/Kg	20	☼	6020	Total/NA
Selenium	2.6		1.1	0.21	mg/Kg	20	☼	6020	Total/NA
Silver	0.11	J	0.53	0.11	mg/Kg	20	☼	6020	Total/NA
Vanadium	22		1.1	0.53	mg/Kg	20	☼	6020	Total/NA
Zinc	10	J	11	5.3	mg/Kg	20	☼	6020	Total/NA
Mercury	0.19		0.022	0.013	mg/Kg	1	☼	7471A	Total/NA
Sample Homogenized	yes				NONE	1		Homogenization	Total/NA

Client Sample ID: STSB07-FD_0.5-3 — Lab Sample ID: 440-258906-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	7300		11	8.1	mg/Kg	5	☼	6010B	Total/NA
Calcium	4900		26	14	mg/Kg	5	☼	6010B	Total/NA
Iron	18000		11	7.3	mg/Kg	5	☼	6010B	Total/NA
Lithium	3.8	J	5.3	3.0	mg/Kg	5	☼	6010B	Total/NA
Magnesium	6300		11	5.3	mg/Kg	5	☼	6010B	Total/NA
Phosphorus	1300		5.3	2.6	mg/Kg	5	☼	6010B	Total/NA
Potassium	1600		66	34	mg/Kg	5	☼	6010B	Total/NA
Sodium	100		66	34	mg/Kg	5	☼	6010B	Total/NA
Strontium	51		5.3	2.6	mg/Kg	5	☼	6010B	Total/NA
Tin	25		11	5.3	mg/Kg	5	☼	6010B	Total/NA
Titanium	570		2.1	1.1	mg/Kg	5	☼	6010B	Total/NA
Antimony	0.40	J	1.1	0.29	mg/Kg	20	☼	6020	Total/NA
Arsenic	5.6		0.53	0.26	mg/Kg	20	☼	6020	Total/NA
Barium	44		0.53	0.26	mg/Kg	20	☼	6020	Total/NA
Chromium	10		1.1	0.53	mg/Kg	20	☼	6020	Total/NA
Cobalt	2.7		0.53	0.22	mg/Kg	20	☼	6020	Total/NA
Copper	350		1.1	0.53	mg/Kg	20	☼	6020	Total/NA
Lead	3.0		0.53	0.26	mg/Kg	20	☼	6020	Total/NA
Manganese	43	B	0.53	0.26	mg/Kg	20	☼	6020	Total/NA
Molybdenum	5.4		1.1	0.53	mg/Kg	20	☼	6020	Total/NA
Nickel	6.7		1.1	0.53	mg/Kg	20	☼	6020	Total/NA
Selenium	2.5		1.1	0.21	mg/Kg	20	☼	6020	Total/NA
Silver	0.12	J	0.53	0.11	mg/Kg	20	☼	6020	Total/NA
Vanadium	23		1.1	0.53	mg/Kg	20	☼	6020	Total/NA
Zinc	11		11	5.3	mg/Kg	20	☼	6020	Total/NA
Mercury	0.16		0.021	0.013	mg/Kg	1	☼	7471A	Total/NA
Sample Homogenized	yes				NONE	1		Homogenization	Total/NA

Client Sample ID: STSB07_3-6 — Lab Sample ID: 440-258906-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	4700		11	8.2	mg/Kg	5	☼	6010B	Total/NA
Calcium	3900		27	14	mg/Kg	5	☼	6010B	Total/NA
Iron	14000		11	7.4	mg/Kg	5	☼	6010B	Total/NA
Magnesium	4500		11	5.3	mg/Kg	5	☼	6010B	Total/NA
Phosphorus	1400		5.3	2.7	mg/Kg	5	☼	6010B	Total/NA
Potassium	1200		67	35	mg/Kg	5	☼	6010B	Total/NA
Strontium	20		5.3	2.7	mg/Kg	5	☼	6010B	Total/NA
Titanium	270		2.1	1.1	mg/Kg	5	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Wood E&I Solutions Inc
Project/Site: ACMS - BP Yerington OU-4b_OU-5 Soil

Job ID: 440-258906-1

Client Sample ID: STSB07_3-6 (Continued) — Lab Sample ID: 440-258906-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.3		0.53	0.27	mg/Kg	20	☼	6020	Total/NA
Barium	30		0.53	0.27	mg/Kg	20	☼	6020	Total/NA
Chromium	11		1.1	0.53	mg/Kg	20	☼	6020	Total/NA
Cobalt	2.1		0.53	0.22	mg/Kg	20	☼	6020	Total/NA
Copper	350		1.1	0.53	mg/Kg	20	☼	6020	Total/NA
Lead	1.0		0.53	0.27	mg/Kg	20	☼	6020	Total/NA
Manganese	38	B	0.53	0.27	mg/Kg	20	☼	6020	Total/NA
Molybdenum	2.7		1.1	0.53	mg/Kg	20	☼	6020	Total/NA
Nickel	5.4		1.1	0.53	mg/Kg	20	☼	6020	Total/NA
Selenium	2.1		1.1	0.21	mg/Kg	20	☼	6020	Total/NA
Silver	0.15	J	0.53	0.11	mg/Kg	20	☼	6020	Total/NA
Vanadium	15		1.1	0.53	mg/Kg	20	☼	6020	Total/NA
Zinc	11		11	5.3	mg/Kg	20	☼	6020	Total/NA
Mercury	0.082		0.021	0.013	mg/Kg	1	☼	7471A	Total/NA
Sample Homogenized	yes				NONE	1		Homogenization	Total/NA

Client Sample ID: STSB07_6-15 — Lab Sample ID: 440-258906-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	6500		11	8.3	mg/Kg	5	☼	6010B	Total/NA
Calcium	4400		27	15	mg/Kg	5	☼	6010B	Total/NA
Iron	17000		11	7.5	mg/Kg	5	☼	6010B	Total/NA
Lithium	4.9	J	5.4	3.0	mg/Kg	5	☼	6010B	Total/NA
Magnesium	5500		11	5.4	mg/Kg	5	☼	6010B	Total/NA
Phosphorus	1100		5.4	2.7	mg/Kg	5	☼	6010B	Total/NA
Potassium	1400		68	35	mg/Kg	5	☼	6010B	Total/NA
Strontium	24		5.4	2.7	mg/Kg	5	☼	6010B	Total/NA
Tin	5.5	J	11	5.4	mg/Kg	5	☼	6010B	Total/NA
Titanium	330		2.2	1.1	mg/Kg	5	☼	6010B	Total/NA
Antimony	0.41	J	1.1	0.29	mg/Kg	20	☼	6020	Total/NA
Arsenic	2.1		0.54	0.27	mg/Kg	20	☼	6020	Total/NA
Barium	33		0.54	0.27	mg/Kg	20	☼	6020	Total/NA
Beryllium	0.18	J	0.32	0.16	mg/Kg	20	☼	6020	Total/NA
Chromium	8.4		1.1	0.54	mg/Kg	20	☼	6020	Total/NA
Cobalt	2.9		0.54	0.23	mg/Kg	20	☼	6020	Total/NA
Copper	1300		1.1	0.54	mg/Kg	20	☼	6020	Total/NA
Lead	1.6		0.54	0.27	mg/Kg	20	☼	6020	Total/NA
Manganese	44	B	0.54	0.27	mg/Kg	20	☼	6020	Total/NA
Molybdenum	1.8		1.1	0.54	mg/Kg	20	☼	6020	Total/NA
Nickel	6.2		1.1	0.54	mg/Kg	20	☼	6020	Total/NA
Selenium	2.2		1.1	0.22	mg/Kg	20	☼	6020	Total/NA
Silver	0.16	J	0.54	0.11	mg/Kg	20	☼	6020	Total/NA
Vanadium	25		1.1	0.54	mg/Kg	20	☼	6020	Total/NA
Zinc	13		11	5.4	mg/Kg	20	☼	6020	Total/NA
Mercury	0.19		0.022	0.013	mg/Kg	1	☼	7471A	Total/NA
Sample Homogenized	yes				NONE	1		Homogenization	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Wood E&I Solutions Inc
Project/Site: ACMS - BP Yerington OU-4b_OU-5 Soil

Job ID: 440-258906-1

Client Sample ID: STSB07_0-0.5

Lab Sample ID: 440-258906-1
Date Collected: 01/08/20 14:50
Matrix: Solid
Date Received: 01/10/20 10:00
Percent Solids: 93.4

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	10000		11	8.2	mg/Kg	☼	01/14/20 09:02	01/15/20 15:06	5
Boron	ND		5.3	2.7	mg/Kg	☼	01/14/20 09:02	01/15/20 15:06	5
Calcium	4700		27	14	mg/Kg	☼	01/14/20 09:02	01/15/20 15:06	5
Iron	26000		11	7.3	mg/Kg	☼	01/14/20 09:02	01/15/20 15:06	5
Lithium	7.5		5.3	3.0	mg/Kg	☼	01/14/20 09:02	01/15/20 15:06	5
Magnesium	6500		11	5.3	mg/Kg	☼	01/14/20 09:02	01/15/20 15:06	5
Phosphorus	3800		11	5.3	mg/Kg	☼	01/14/20 09:02	01/16/20 11:38	10
Potassium	1500		67	35	mg/Kg	☼	01/14/20 09:02	01/15/20 15:06	5
Sodium	300		67	34	mg/Kg	☼	01/14/20 09:02	01/15/20 15:06	5
Strontium	110		5.3	2.7	mg/Kg	☼	01/14/20 09:02	01/15/20 15:06	5
Tin	200		11	5.3	mg/Kg	☼	01/14/20 09:02	01/15/20 15:06	5
Titanium	630		2.1	1.1	mg/Kg	☼	01/14/20 09:02	01/15/20 15:06	5

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.2		1.1	0.29	mg/Kg	☼	01/14/20 09:02	01/14/20 21:05	20
Arsenic	23		0.53	0.27	mg/Kg	☼	01/14/20 09:02	01/14/20 21:05	20
Barium	42		0.53	0.27	mg/Kg	☼	01/14/20 09:02	01/14/20 21:05	20
Beryllium	0.43		0.32	0.16	mg/Kg	☼	01/14/20 09:02	01/14/20 21:05	20
Cadmium	ND		0.53	0.27	mg/Kg	☼	01/14/20 09:02	01/14/20 21:05	20
Chromium	33		1.1	0.53	mg/Kg	☼	01/14/20 09:02	01/14/20 21:05	20
Cobalt	2.4		0.53	0.22	mg/Kg	☼	01/14/20 09:02	01/14/20 21:05	20
Copper	670		1.1	0.53	mg/Kg	☼	01/14/20 09:02	01/14/20 21:05	20
Lead	12		0.53	0.27	mg/Kg	☼	01/14/20 09:02	01/14/20 21:05	20
Manganese	42	B	0.53	0.27	mg/Kg	☼	01/14/20 09:02	01/14/20 21:05	20
Molybdenum	20		1.1	0.53	mg/Kg	☼	01/14/20 09:02	01/14/20 21:05	20
Nickel	5.7		1.1	0.53	mg/Kg	☼	01/14/20 09:02	01/14/20 21:05	20
Selenium	4.8		1.1	0.21	mg/Kg	☼	01/14/20 09:02	01/14/20 21:05	20
Silver	0.34	J	0.53	0.11	mg/Kg	☼	01/14/20 09:02	01/14/20 21:05	20
Thallium	ND		0.53	0.27	mg/Kg	☼	01/14/20 09:02	01/14/20 21:05	20
Vanadium	24		1.1	0.53	mg/Kg	☼	01/14/20 09:02	01/14/20 21:05	20
Zinc	9.5	J	11	5.3	mg/Kg	☼	01/14/20 09:02	01/14/20 21:05	20

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.26		0.022	0.013	mg/Kg	☼	01/17/20 08:41	01/20/20 13:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sample Homogenized	yes				NONE			01/13/20 20:39	1

Client Sample ID: STSB07_0.5-3

Lab Sample ID: 440-258906-2
Date Collected: 01/08/20 14:56
Matrix: Solid
Date Received: 01/10/20 10:00
Percent Solids: 92.8

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	6900		11	8.1	mg/Kg	☼	01/14/20 09:02	01/15/20 15:19	5
Boron	ND		5.3	2.6	mg/Kg	☼	01/14/20 09:02	01/15/20 15:19	5
Calcium	4300		26	14	mg/Kg	☼	01/14/20 09:02	01/15/20 15:19	5
Iron	17000		11	7.3	mg/Kg	☼	01/14/20 09:02	01/15/20 15:19	5

Client Sample Results

Client: Wood E&I Solutions Inc
Project/Site: ACMS - BP Yerington OU-4b_OU-5 Soil

Job ID: 440-258906-1

Client Sample ID: STSB07_0.5-3

Lab Sample ID: 440-258906-2
Date Collected: 01/08/20 14:56
Matrix: Solid
Date Received: 01/10/20 10:00
Percent Solids: 92.8

Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	3.6	J	5.3	3.0	mg/Kg	☼	01/14/20 09:02	01/15/20 15:19	5
Magnesium	5900		11	5.3	mg/Kg	☼	01/14/20 09:02	01/15/20 15:19	5
Phosphorus	1200		5.3	2.6	mg/Kg	☼	01/14/20 09:02	01/15/20 15:19	5
Potassium	1600		66	34	mg/Kg	☼	01/14/20 09:02	01/15/20 15:19	5
Sodium	120		66	34	mg/Kg	☼	01/14/20 09:02	01/15/20 15:19	5
Strontium	51		5.3	2.6	mg/Kg	☼	01/14/20 09:02	01/15/20 15:19	5
Tin	25		11	5.3	mg/Kg	☼	01/14/20 09:02	01/15/20 15:19	5
Titanium	530		2.1	1.1	mg/Kg	☼	01/14/20 09:02	01/15/20 15:19	5

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.39	J	1.1	0.29	mg/Kg	☼	01/14/20 09:02	01/14/20 21:07	20
Arsenic	6.0		0.53	0.26	mg/Kg	☼	01/14/20 09:02	01/14/20 21:07	20
Barium	40		0.53	0.26	mg/Kg	☼	01/14/20 09:02	01/14/20 21:07	20
Beryllium	0.20	J	0.32	0.16	mg/Kg	☼	01/14/20 09:02	01/14/20 21:07	20
Cadmium	ND		0.53	0.26	mg/Kg	☼	01/14/20 09:02	01/14/20 21:07	20
Chromium	9.5		1.1	0.53	mg/Kg	☼	01/14/20 09:02	01/14/20 21:07	20
Cobalt	2.6		0.53	0.22	mg/Kg	☼	01/14/20 09:02	01/14/20 21:07	20
Copper	360		1.1	0.53	mg/Kg	☼	01/14/20 09:02	01/14/20 21:07	20
Lead	3.3		0.53	0.26	mg/Kg	☼	01/14/20 09:02	01/14/20 21:07	20
Manganese	39	B	0.53	0.26	mg/Kg	☼	01/14/20 09:02	01/14/20 21:07	20
Molybdenum	5.6		1.1	0.53	mg/Kg	☼	01/14/20 09:02	01/14/20 21:07	20
Nickel	6.1		1.1	0.53	mg/Kg	☼	01/14/20 09:02	01/14/20 21:07	20
Selenium	2.6		1.1	0.21	mg/Kg	☼	01/14/20 09:02	01/14/20 21:07	20
Silver	0.11	J	0.53	0.11	mg/Kg	☼	01/14/20 09:02	01/14/20 21:07	20
Thallium	ND		0.53	0.26	mg/Kg	☼	01/14/20 09:02	01/14/20 21:07	20
Vanadium	22		1.1	0.53	mg/Kg	☼	01/14/20 09:02	01/14/20 21:07	20
Zinc	10	J	11	5.3	mg/Kg	☼	01/14/20 09:02	01/14/20 21:07	20

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.19		0.022	0.013	mg/Kg	☼	01/17/20 08:41	01/20/20 13:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sample Homogenized	yes				NONE			01/13/20 20:39	1

Client Sample ID: STSB07-FD_0.5-3

Lab Sample ID: 440-258906-3
Date Collected: 01/08/20 15:00
Matrix: Solid
Date Received: 01/10/20 10:00
Percent Solids: 93.3

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	7300		11	8.1	mg/Kg	☼	01/14/20 09:02	01/15/20 15:21	5
Boron	ND		5.3	2.6	mg/Kg	☼	01/14/20 09:02	01/15/20 15:21	5
Calcium	4900		26	14	mg/Kg	☼	01/14/20 09:02	01/15/20 15:21	5
Iron	18000		11	7.3	mg/Kg	☼	01/14/20 09:02	01/15/20 15:21	5
Lithium	3.8	J	5.3	3.0	mg/Kg	☼	01/14/20 09:02	01/15/20 15:21	5
Magnesium	6300		11	5.3	mg/Kg	☼	01/14/20 09:02	01/15/20 15:21	5
Phosphorus	1300		5.3	2.6	mg/Kg	☼	01/14/20 09:02	01/15/20 15:21	5
Potassium	1600		66	34	mg/Kg	☼	01/14/20 09:02	01/15/20 15:21	5

Client Sample ID: STSB07-FD_0.5-3

Lab Sample ID: 440-258906-3

Date Collected: 01/08/20 15:00
Date Received: 01/10/20 10:00

Matrix: Solid
Percent Solids: 93.3

Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	100		66	34	mg/Kg	☼	01/14/20 09:02	01/15/20 15:21	5
Strontium	51		5.3	2.6	mg/Kg	☼	01/14/20 09:02	01/15/20 15:21	5
Tin	25		11	5.3	mg/Kg	☼	01/14/20 09:02	01/15/20 15:21	5
Titanium	570		2.1	1.1	mg/Kg	☼	01/14/20 09:02	01/15/20 15:21	5

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.40	J	1.1	0.29	mg/Kg	☼	01/14/20 09:02	01/14/20 21:09	20
Arsenic	5.6		0.53	0.26	mg/Kg	☼	01/14/20 09:02	01/14/20 21:09	20
Barium	44		0.53	0.26	mg/Kg	☼	01/14/20 09:02	01/14/20 21:09	20
Beryllium	ND		0.32	0.16	mg/Kg	☼	01/14/20 09:02	01/14/20 21:09	20
Cadmium	ND		0.53	0.26	mg/Kg	☼	01/14/20 09:02	01/14/20 21:09	20
Chromium	10		1.1	0.53	mg/Kg	☼	01/14/20 09:02	01/14/20 21:09	20
Cobalt	2.7		0.53	0.22	mg/Kg	☼	01/14/20 09:02	01/14/20 21:09	20
Copper	350		1.1	0.53	mg/Kg	☼	01/14/20 09:02	01/14/20 21:09	20
Lead	3.0		0.53	0.26	mg/Kg	☼	01/14/20 09:02	01/14/20 21:09	20
Manganese	43	B	0.53	0.26	mg/Kg	☼	01/14/20 09:02	01/14/20 21:09	20
Molybdenum	5.4		1.1	0.53	mg/Kg	☼	01/14/20 09:02	01/14/20 21:09	20
Nickel	6.7		1.1	0.53	mg/Kg	☼	01/14/20 09:02	01/14/20 21:09	20
Selenium	2.5		1.1	0.21	mg/Kg	☼	01/14/20 09:02	01/14/20 21:09	20
Silver	0.12	J	0.53	0.11	mg/Kg	☼	01/14/20 09:02	01/14/20 21:09	20
Thallium	ND		0.53	0.26	mg/Kg	☼	01/14/20 09:02	01/14/20 21:09	20
Vanadium	23		1.1	0.53	mg/Kg	☼	01/14/20 09:02	01/14/20 21:09	20
Zinc	11		11	5.3	mg/Kg	☼	01/14/20 09:02	01/14/20 21:09	20

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.16		0.021	0.013	mg/Kg	☼	01/17/20 08:43	01/20/20 14:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sample Homogenized	yes				NONE			01/13/20 20:39	1

Client Sample ID: STSB07_3-6

Lab Sample ID: 440-258906-4

Date Collected: 01/08/20 15:11
Date Received: 01/10/20 10:00

Matrix: Solid
Percent Solids: 95.1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	4700		11	8.2	mg/Kg	☼	01/14/20 09:02	01/15/20 15:23	5
Boron	ND		5.3	2.7	mg/Kg	☼	01/14/20 09:02	01/15/20 15:23	5
Calcium	3900		27	14	mg/Kg	☼	01/14/20 09:02	01/15/20 15:23	5
Iron	14000		11	7.4	mg/Kg	☼	01/14/20 09:02	01/15/20 15:23	5
Lithium	ND		5.3	3.0	mg/Kg	☼	01/14/20 09:02	01/15/20 15:23	5
Magnesium	4500		11	5.3	mg/Kg	☼	01/14/20 09:02	01/15/20 15:23	5
Phosphorus	1400		5.3	2.7	mg/Kg	☼	01/14/20 09:02	01/15/20 15:23	5
Potassium	1200		67	35	mg/Kg	☼	01/14/20 09:02	01/15/20 15:23	5
Sodium	ND		67	34	mg/Kg	☼	01/14/20 09:02	01/15/20 15:23	5
Strontium	20		5.3	2.7	mg/Kg	☼	01/14/20 09:02	01/15/20 15:23	5
Tin	ND		11	5.3	mg/Kg	☼	01/14/20 09:02	01/15/20 15:23	5
Titanium	270		2.1	1.1	mg/Kg	☼	01/14/20 09:02	01/15/20 15:23	5

Client Sample Results

Client: Wood E&I Solutions Inc
Project/Site: ACMS - BP Yerington OU-4b_OU-5 Soil

Job ID: 440-258906-1

Client Sample ID: STSB07_3-6

Lab Sample ID: 440-258906-4
Date Collected: 01/08/20 15:11
Matrix: Solid
Date Received: 01/10/20 10:00
Percent Solids: 95.1

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.1	0.29	mg/Kg	☼	01/14/20 09:02	01/14/20 21:11	20
Arsenic	3.3		0.53	0.27	mg/Kg	☼	01/14/20 09:02	01/14/20 21:11	20
Barium	30		0.53	0.27	mg/Kg	☼	01/14/20 09:02	01/14/20 21:11	20
Beryllium	ND		0.32	0.16	mg/Kg	☼	01/14/20 09:02	01/14/20 21:11	20
Cadmium	ND		0.53	0.27	mg/Kg	☼	01/14/20 09:02	01/14/20 21:11	20
Chromium	11		1.1	0.53	mg/Kg	☼	01/14/20 09:02	01/14/20 21:11	20
Cobalt	2.1		0.53	0.22	mg/Kg	☼	01/14/20 09:02	01/14/20 21:11	20
Copper	350		1.1	0.53	mg/Kg	☼	01/14/20 09:02	01/14/20 21:11	20
Lead	1.0		0.53	0.27	mg/Kg	☼	01/14/20 09:02	01/14/20 21:11	20
Manganese	38	B	0.53	0.27	mg/Kg	☼	01/14/20 09:02	01/14/20 21:11	20
Molybdenum	2.7		1.1	0.53	mg/Kg	☼	01/14/20 09:02	01/14/20 21:11	20
Nickel	5.4		1.1	0.53	mg/Kg	☼	01/14/20 09:02	01/14/20 21:11	20
Selenium	2.1		1.1	0.21	mg/Kg	☼	01/14/20 09:02	01/14/20 21:11	20
Silver	0.15	J	0.53	0.11	mg/Kg	☼	01/14/20 09:02	01/14/20 21:11	20
Thallium	ND		0.53	0.27	mg/Kg	☼	01/14/20 09:02	01/14/20 21:11	20
Vanadium	15		1.1	0.53	mg/Kg	☼	01/14/20 09:02	01/14/20 21:11	20
Zinc	11		11	5.3	mg/Kg	☼	01/14/20 09:02	01/14/20 21:11	20

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.082		0.021	0.013	mg/Kg	☼	01/17/20 08:43	01/20/20 14:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sample Homogenized	yes				NONE			01/13/20 20:39	1

Client Sample ID: STSB07_6-15

Lab Sample ID: 440-258906-5
Date Collected: 01/08/20 15:17
Matrix: Solid
Date Received: 01/10/20 10:00
Percent Solids: 91.9

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	6500		11	8.3	mg/Kg	☼	01/14/20 09:02	01/15/20 15:25	5
Boron	ND		5.4	2.7	mg/Kg	☼	01/14/20 09:02	01/15/20 15:25	5
Calcium	4400		27	15	mg/Kg	☼	01/14/20 09:02	01/15/20 15:25	5
Iron	17000		11	7.5	mg/Kg	☼	01/14/20 09:02	01/15/20 15:25	5
Lithium	4.9	J	5.4	3.0	mg/Kg	☼	01/14/20 09:02	01/15/20 15:25	5
Magnesium	5500		11	5.4	mg/Kg	☼	01/14/20 09:02	01/15/20 15:25	5
Phosphorus	1100		5.4	2.7	mg/Kg	☼	01/14/20 09:02	01/15/20 15:25	5
Potassium	1400		68	35	mg/Kg	☼	01/14/20 09:02	01/15/20 15:25	5
Sodium	ND		68	35	mg/Kg	☼	01/14/20 09:02	01/15/20 15:25	5
Strontium	24		5.4	2.7	mg/Kg	☼	01/14/20 09:02	01/15/20 15:25	5
Tin	5.5	J	11	5.4	mg/Kg	☼	01/14/20 09:02	01/15/20 15:25	5
Titanium	330		2.2	1.1	mg/Kg	☼	01/14/20 09:02	01/15/20 15:25	5

Method: 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.41	J	1.1	0.29	mg/Kg	☼	01/14/20 09:02	01/14/20 21:13	20
Arsenic	2.1		0.54	0.27	mg/Kg	☼	01/14/20 09:02	01/14/20 21:13	20
Barium	33		0.54	0.27	mg/Kg	☼	01/14/20 09:02	01/14/20 21:13	20
Beryllium	0.18	J	0.32	0.16	mg/Kg	☼	01/14/20 09:02	01/14/20 21:13	20

Client Sample Results

Client: Wood E&I Solutions Inc
Project/Site: ACMS - BP Yerington OU-4b_OU-5 Soil

Job ID: 440-258906-1

Client Sample ID: STSB07_6-15
Date Collected: 01/08/20 15:17
Date Received: 01/10/20 10:00

Lab Sample ID: 440-258906-5
Matrix: Solid
Percent Solids: 91.9

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		0.54	0.27	mg/Kg	☼	01/14/20 09:02	01/14/20 21:13	20
Chromium	8.4		1.1	0.54	mg/Kg	☼	01/14/20 09:02	01/14/20 21:13	20
Cobalt	2.9		0.54	0.23	mg/Kg	☼	01/14/20 09:02	01/14/20 21:13	20
Copper	1300		1.1	0.54	mg/Kg	☼	01/14/20 09:02	01/14/20 21:13	20
Lead	1.6		0.54	0.27	mg/Kg	☼	01/14/20 09:02	01/14/20 21:13	20
Manganese	44	B	0.54	0.27	mg/Kg	☼	01/14/20 09:02	01/14/20 21:13	20
Molybdenum	1.8		1.1	0.54	mg/Kg	☼	01/14/20 09:02	01/14/20 21:13	20
Nickel	6.2		1.1	0.54	mg/Kg	☼	01/14/20 09:02	01/14/20 21:13	20
Selenium	2.2		1.1	0.22	mg/Kg	☼	01/14/20 09:02	01/14/20 21:13	20
Silver	0.16	J	0.54	0.11	mg/Kg	☼	01/14/20 09:02	01/14/20 21:13	20
Thallium	ND		0.54	0.27	mg/Kg	☼	01/14/20 09:02	01/14/20 21:13	20
Vanadium	25		1.1	0.54	mg/Kg	☼	01/14/20 09:02	01/14/20 21:13	20
Zinc	13		11	5.4	mg/Kg	☼	01/14/20 09:02	01/14/20 21:13	20

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.19		0.022	0.013	mg/Kg	☼	01/17/20 08:43	01/20/20 14:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sample Homogenized	yes				NONE			01/13/20 20:39	1

QC Sample Results

Client: Wood E&I Solutions Inc
Project/Site: ACMS - BP Yerington OU-4b_OU-5 Soil

Job ID: 440-258906-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-590387/1-A ^5
Matrix: Solid
Analysis Batch: 590755

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 590387

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		10	7.9	mg/Kg		01/14/20 09:02	01/15/20 14:11	5
Boron	ND		5.1	2.6	mg/Kg		01/14/20 09:02	01/15/20 14:11	5
Calcium	ND		26	14	mg/Kg		01/14/20 09:02	01/15/20 14:11	5
Iron	ND		10	7.0	mg/Kg		01/14/20 09:02	01/15/20 14:11	5
Lithium	ND		5.1	2.9	mg/Kg		01/14/20 09:02	01/15/20 14:11	5
Magnesium	ND		10	5.1	mg/Kg		01/14/20 09:02	01/15/20 14:11	5
Phosphorus	ND		5.1	2.6	mg/Kg		01/14/20 09:02	01/15/20 14:11	5
Potassium	ND		64	33	mg/Kg		01/14/20 09:02	01/15/20 14:11	5
Sodium	ND		64	33	mg/Kg		01/14/20 09:02	01/15/20 14:11	5
Strontium	ND		5.1	2.6	mg/Kg		01/14/20 09:02	01/15/20 14:11	5
Tin	ND		10	5.1	mg/Kg		01/14/20 09:02	01/15/20 14:11	5
Titanium	ND		2.0	1.0	mg/Kg		01/14/20 09:02	01/15/20 14:11	5

Lab Sample ID: LCS 440-590387/2-A ^5
Matrix: Solid
Analysis Batch: 590755

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 590387

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	49.8	45.6		mg/Kg		92	80 - 120
Boron	49.8	45.3		mg/Kg		91	80 - 120
Calcium	249	234		mg/Kg		94	80 - 120
Iron	49.8	49.7		mg/Kg		100	80 - 120
Lithium	49.8	46.3		mg/Kg		93	80 - 120
Magnesium	249	232		mg/Kg		93	80 - 120
Phosphorus	49.8	45.8		mg/Kg		92	80 - 120
Potassium	498	467		mg/Kg		94	80 - 120
Sodium	498	457		mg/Kg		92	80 - 120
Strontium	49.8	46.0		mg/Kg		93	80 - 120
Tin	49.8	46.9		mg/Kg		94	80 - 120
Titanium	49.8	46.9		mg/Kg		94	80 - 120

Lab Sample ID: 440-258909-B-43-B MS ^5
Matrix: Solid
Analysis Batch: 590755

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 590387

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	6200		53.2	7230	4	mg/Kg	☼	1961	75 - 125
Boron	ND		53.2	49.6		mg/Kg	☼	93	75 - 125
Calcium	4500		266	4700	4	mg/Kg	☼	68	75 - 125
Iron	16000		53.2	18100	4	mg/Kg	☼	3489	75 - 125
Lithium	5.1	J	53.2	57.2		mg/Kg	☼	98	75 - 125
Magnesium	5300		266	5830	4	mg/Kg	☼	210	75 - 125
Phosphorus	750		53.2	721	4	mg/Kg	☼	-49	75 - 125
Potassium RL = 68	1200	F1	532	2080	F1	mg/Kg	☼	159	75 - 125
Sodium	55	J	532	579		mg/Kg	☼	98	75 - 125
Strontium	23		53.2	73.9		mg/Kg	☼	95	75 - 125
Tin	ND		53.2	51.3		mg/Kg	☼	96	75 - 125
Titanium	380	F2	53.2	490	4	mg/Kg	☼	200	75 - 125

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 440-258909-B-43-C MSD ^5
Matrix: Solid
Analysis Batch: 590755

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 590387

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	6200		54.0	8040	4	mg/Kg	☼	3429	75 - 125	11	20
Boron	ND		54.0	51.2		mg/Kg	☼	95	75 - 125	3	20
Calcium	4500		270	4930	4	mg/Kg	☼	154	75 - 125	5	20
Iron	16000		54.0	18300	4	mg/Kg	☼	3850	75 - 125	1	20
Lithium	5.1	J	54.0	58.1		mg/Kg	☼	98	75 - 125	2	20
Magnesium	5300		270	6010	4	mg/Kg	☼	274	75 - 125	3	20
Phosphorus	750		54.0	776	4	mg/Kg	☼	54	75 - 125	7	20
Potassium	1200	F1	540	2370	F1	mg/Kg	☼	210	75 - 125	13	20
Sodium	55	J	540	599		mg/Kg	☼	101	75 - 125	3	20
Strontium	23		54.0	80.6		mg/Kg	☼	106	75 - 125	9	20
Tin	ND		54.0	52.1		mg/Kg	☼	97	75 - 125	2	20
Titanium	380	F2	54.0	606	4 F2	mg/Kg	☼	413	75 - 125	21	20

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 440-590387/1-A ^20
Matrix: Solid
Analysis Batch: 590547

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 590387

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.0	0.28	mg/Kg		01/14/20 09:02	01/14/20 20:28	20
Arsenic	ND		0.51	0.26	mg/Kg		01/14/20 09:02	01/14/20 20:28	20
Barium	ND		0.51	0.26	mg/Kg		01/14/20 09:02	01/14/20 20:28	20
Beryllium	ND		0.31	0.15	mg/Kg		01/14/20 09:02	01/14/20 20:28	20
Cadmium	ND		0.51	0.26	mg/Kg		01/14/20 09:02	01/14/20 20:28	20
Chromium	ND		1.0	0.51	mg/Kg		01/14/20 09:02	01/14/20 20:28	20
Cobalt	ND		0.51	0.21	mg/Kg		01/14/20 09:02	01/14/20 20:28	20
Copper	ND		1.0	0.51	mg/Kg		01/14/20 09:02	01/14/20 20:28	20
Lead	ND		0.51	0.26	mg/Kg		01/14/20 09:02	01/14/20 20:28	20
Manganese	0.297	J	0.51	0.26	mg/Kg		01/14/20 09:02	01/14/20 20:28	20
Molybdenum	ND		1.0	0.51	mg/Kg		01/14/20 09:02	01/14/20 20:28	20
Nickel	ND		1.0	0.51	mg/Kg		01/14/20 09:02	01/14/20 20:28	20
Selenium	ND		1.0	0.20	mg/Kg		01/14/20 09:02	01/14/20 20:28	20
Silver	ND		0.51	0.10	mg/Kg		01/14/20 09:02	01/14/20 20:28	20
Thallium	ND		0.51	0.26	mg/Kg		01/14/20 09:02	01/14/20 20:28	20
Vanadium	ND		1.0	0.51	mg/Kg		01/14/20 09:02	01/14/20 20:28	20
Zinc	ND		10	5.1	mg/Kg		01/14/20 09:02	01/14/20 20:28	20

Lab Sample ID: LCS 440-590387/2-A ^20
Matrix: Solid
Analysis Batch: 590547

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 590387

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	49.8	46.5		mg/Kg		93	80 - 120
Arsenic	49.8	44.5		mg/Kg		90	80 - 120
Barium	49.8	46.2		mg/Kg		93	80 - 120
Beryllium	49.8	41.9		mg/Kg		84	80 - 120
Cadmium	49.8	44.8		mg/Kg		90	80 - 120
Chromium	49.8	44.2		mg/Kg		89	80 - 120

QC Sample Results

Client: Wood E&I Solutions Inc
Project/Site: ACMS - BP Yerington OU-4b_OU-5 Soil

Job ID: 440-258906-1

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

Lab Sample ID: LCS 440-590387/2-A ^20
Matrix: Solid
Analysis Batch: 590547

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 590387

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	49.8	44.3		mg/Kg		89	80 - 120
Copper	49.8	44.6		mg/Kg		90	80 - 120
Lead	49.8	43.8		mg/Kg		88	80 - 120
Manganese	49.8	44.2		mg/Kg		89	80 - 120
Molybdenum	49.8	44.8		mg/Kg		90	80 - 120
Nickel	49.8	44.2		mg/Kg		89	80 - 120
Selenium	49.8	43.9		mg/Kg		88	80 - 120
Silver	24.9	23.6		mg/Kg		95	80 - 120
Thallium	49.8	44.2		mg/Kg		89	80 - 120
Vanadium	49.8	44.4		mg/Kg		89	80 - 120
Zinc	49.8	43.6		mg/Kg		88	80 - 120

Lab Sample ID: 440-258909-B-43-B MS ^20
Matrix: Solid
Analysis Batch: 590547

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 590387

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND	F1	53.2	37.4	F1	mg/Kg	☼	70	75 - 125
Arsenic	1.2		53.2	48.6		mg/Kg	☼	89	75 - 125
Barium	37		53.2	94.2		mg/Kg	☼	107	75 - 125
Beryllium	0.28	J	53.2	43.4		mg/Kg	☼	81	75 - 125
Cadmium	ND		53.2	48.0		mg/Kg	☼	90	75 - 125
Chromium	7.0		53.2	52.4		mg/Kg	☼	85	75 - 125
Cobalt	5.5		53.2	51.5		mg/Kg	☼	86	75 - 125
Copper	1200		53.2	1400	4	mg/Kg	☼	403	75 - 125
Lead	1.2		53.2	48.1		mg/Kg	☼	88	75 - 125
Manganese	110	B	53.2	157		mg/Kg	☼	90	75 - 125
Molybdenum	1.5		53.2	49.6		mg/Kg	☼	90	75 - 125
Nickel	7.8		53.2	53.1		mg/Kg	☼	85	75 - 125
Selenium	2.1		53.2	48.7		mg/Kg	☼	88	75 - 125
Silver	0.16	J	26.6	25.1		mg/Kg	☼	94	75 - 125
Thallium	ND		53.2	46.4		mg/Kg	☼	87	75 - 125
Vanadium	21		53.2	65.2		mg/Kg	☼	84	75 - 125
Zinc	18		53.2	63.1		mg/Kg	☼	85	75 - 125

Lab Sample ID: 440-258909-B-43-C MSD ^20
Matrix: Solid
Analysis Batch: 590547

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 590387

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND	F1	54.0	38.0	F1	mg/Kg	☼	70	75 - 125	2	20
Arsenic	1.2		54.0	49.4		mg/Kg	☼	89	75 - 125	2	20
Barium	37		54.0	103		mg/Kg	☼	121	75 - 125	9	20
Beryllium	0.28	J	54.0	43.9		mg/Kg	☼	81	75 - 125	1	20
Cadmium	ND		54.0	49.0		mg/Kg	☼	91	75 - 125	2	20
Chromium	7.0		54.0	53.6		mg/Kg	☼	86	75 - 125	2	20
Cobalt	5.5		54.0	52.3		mg/Kg	☼	87	75 - 125	2	20
Copper	1200		54.0	1300	4	mg/Kg	☼	209	75 - 125	8	20
Lead	1.2		54.0	48.9		mg/Kg	☼	88	75 - 125	2	20

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

Lab Sample ID: 440-258909-B-43-C MSD ^20 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 590547 — **Prep Batch: 590387**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese	110	B	54.0	162		mg/Kg	☼	97	75 - 125	3	20
Molybdenum	1.5		54.0	50.8		mg/Kg	☼	91	75 - 125	2	20
Nickel	7.8		54.0	54.0		mg/Kg	☼	85	75 - 125	2	20
Selenium	2.1		54.0	48.6		mg/Kg	☼	86	75 - 125	0	20
Silver	0.16	J	27.0	25.7		mg/Kg	☼	94	75 - 125	2	20
Thallium	ND		54.0	47.1		mg/Kg	☼	87	75 - 125	2	20
Vanadium	21		54.0	68.5		mg/Kg	☼	89	75 - 125	5	20
Zinc	18		54.0	64.8		mg/Kg	☼	86	75 - 125	3	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 440-590447/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 591651 — **Prep Batch: 590447**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020	0.012	mg/Kg		01/17/20 08:41	01/20/20 12:39	1

Lab Sample ID: LCS 440-590447/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 591651 — **Prep Batch: 590447**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.400	0.373		mg/Kg		93	80 - 120

Lab Sample ID: 440-258875-B-1-E MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 591651 — **Prep Batch: 590447**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.062		0.420	0.399		mg/Kg	☼	80	75 - 125

Lab Sample ID: 440-258875-B-1-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 591651 — **Prep Batch: 590447**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.062		0.420	0.409		mg/Kg	☼	83	75 - 125	3	20

Lab Sample ID: MB 440-590448/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 591651 — **Prep Batch: 590448**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020	0.012	mg/Kg		01/17/20 08:43	01/20/20 14:04	1

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 440-590448/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 591651 — **Prep Batch: 590448**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.400	0.398		mg/Kg		100	80 - 120

Lab Sample ID: 440-258906-3 MS — **Client Sample ID: STSB07-FD_0.5-3**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 591651 — **Prep Batch: 590448**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.16		0.421	0.552		mg/Kg	☼	93	75 - 125

Lab Sample ID: 440-258906-3 MSD — **Client Sample ID: STSB07-FD_0.5-3**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 591651 — **Prep Batch: 590448**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.16		0.429	0.569		mg/Kg	☼	95	75 - 125	3	20

Method: Homogenization - Homogenization

Lab Sample ID: 440-258909-B-43 DU — **Client Sample ID: Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 590322

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sample Homogenized	yes		yes		NONE			

QC Association Summary

Client: Wood E&I Solutions Inc
Project/Site: ACMS - BP Yerington OU-4b_OU-5 Soil

Job ID: 440-258906-1

Metals

Prep Batch: 590387

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-258906-1	STSB07_0-0.5	Total/NA	Solid	3050B	
440-258906-2	STSB07_0.5-3	Total/NA	Solid	3050B	
440-258906-3	STSB07-FD_0.5-3	Total/NA	Solid	3050B	
440-258906-4	STSB07_3-6	Total/NA	Solid	3050B	
440-258906-5	STSB07_6-15	Total/NA	Solid	3050B	
MB 440-590387/1-A ^20	Method Blank	Total/NA	Solid	3050B	
MB 440-590387/1-A ^5	Method Blank	Total/NA	Solid	3050B	
LCS 440-590387/2-A ^20	Lab Control Sample	Total/NA	Solid	3050B	
LCS 440-590387/2-A ^5	Lab Control Sample	Total/NA	Solid	3050B	
440-258909-B-43-B MS ^20	Matrix Spike	Total/NA	Solid	3050B	
440-258909-B-43-B MS ^5	Matrix Spike	Total/NA	Solid	3050B	
440-258909-B-43-C MSD ^2	Matrix Spike Duplicate	Total/NA	Solid	3050B	
440-258909-B-43-C MSD ^5	Matrix Spike Duplicate	Total/NA	Solid	3050B	

Prep Batch: 590447

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-258906-1	STSB07_0-0.5	Total/NA	Solid	7471A	
440-258906-2	STSB07_0.5-3	Total/NA	Solid	7471A	
MB 440-590447/1-A	Method Blank	Total/NA	Solid	7471A	
LCS 440-590447/2-A	Lab Control Sample	Total/NA	Solid	7471A	
440-258875-B-1-E MS	Matrix Spike	Total/NA	Solid	7471A	
440-258875-B-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	

Prep Batch: 590448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-258906-3	STSB07-FD_0.5-3	Total/NA	Solid	7471A	
440-258906-4	STSB07_3-6	Total/NA	Solid	7471A	
440-258906-5	STSB07_6-15	Total/NA	Solid	7471A	
MB 440-590448/1-A	Method Blank	Total/NA	Solid	7471A	
LCS 440-590448/2-A	Lab Control Sample	Total/NA	Solid	7471A	
440-258906-3 MS	STSB07-FD_0.5-3	Total/NA	Solid	7471A	
440-258906-3 MSD	STSB07-FD_0.5-3	Total/NA	Solid	7471A	

Analysis Batch: 590547

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-258906-1	STSB07_0-0.5	Total/NA	Solid	6020	590387
440-258906-2	STSB07_0.5-3	Total/NA	Solid	6020	590387
440-258906-3	STSB07-FD_0.5-3	Total/NA	Solid	6020	590387
440-258906-4	STSB07_3-6	Total/NA	Solid	6020	590387
440-258906-5	STSB07_6-15	Total/NA	Solid	6020	590387
MB 440-590387/1-A ^20	Method Blank	Total/NA	Solid	6020	590387
LCS 440-590387/2-A ^20	Lab Control Sample	Total/NA	Solid	6020	590387
440-258909-B-43-B MS ^20	Matrix Spike	Total/NA	Solid	6020	590387
440-258909-B-43-C MSD ^2	Matrix Spike Duplicate	Total/NA	Solid	6020	590387

Analysis Batch: 590755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-258906-1	STSB07_0-0.5	Total/NA	Solid	6010B	590387
440-258906-2	STSB07_0.5-3	Total/NA	Solid	6010B	590387
440-258906-3	STSB07-FD_0.5-3	Total/NA	Solid	6010B	590387
440-258906-4	STSB07_3-6	Total/NA	Solid	6010B	590387

Metals (Continued)

Analysis Batch: 590755 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-258906-5	STSB07_6-15	Total/NA	Solid	6010B	590387
MB 440-590387/1-A ^5	Method Blank	Total/NA	Solid	6010B	590387
LCS 440-590387/2-A ^5	Lab Control Sample	Total/NA	Solid	6010B	590387
440-258909-B-43-B MS ^5	Matrix Spike	Total/NA	Solid	6010B	590387
440-258909-B-43-C MSD ^5	Matrix Spike Duplicate	Total/NA	Solid	6010B	590387

Analysis Batch: 590938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-258906-1	STSB07_0-0.5	Total/NA	Solid	6010B	590387

Analysis Batch: 591651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-258906-1	STSB07_0-0.5	Total/NA	Solid	7471A	590447
440-258906-2	STSB07_0.5-3	Total/NA	Solid	7471A	590447
440-258906-3	STSB07-FD_0.5-3	Total/NA	Solid	7471A	590448
440-258906-4	STSB07_3-6	Total/NA	Solid	7471A	590448
440-258906-5	STSB07_6-15	Total/NA	Solid	7471A	590448
MB 440-590447/1-A	Method Blank	Total/NA	Solid	7471A	590447
MB 440-590448/1-A	Method Blank	Total/NA	Solid	7471A	590448
LCS 440-590447/2-A	Lab Control Sample	Total/NA	Solid	7471A	590447
LCS 440-590448/2-A	Lab Control Sample	Total/NA	Solid	7471A	590448
440-258875-B-1-E MS	Matrix Spike	Total/NA	Solid	7471A	590447
440-258875-B-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	590447
440-258906-3 MS	STSB07-FD_0.5-3	Total/NA	Solid	7471A	590448
440-258906-3 MSD	STSB07-FD_0.5-3	Total/NA	Solid	7471A	590448

General Chemistry

Analysis Batch: 590322

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-258906-1	STSB07_0-0.5	Total/NA	Solid	Homogenization	
440-258906-2	STSB07_0.5-3	Total/NA	Solid	Homogenization	
440-258906-3	STSB07-FD_0.5-3	Total/NA	Solid	Homogenization	
440-258906-4	STSB07_3-6	Total/NA	Solid	Homogenization	
440-258906-5	STSB07_6-15	Total/NA	Solid	Homogenization	
440-258909-B-43 MS	Matrix Spike	Total/NA	Solid	Homogenization	
440-258909-B-43 MSD	Matrix Spike Duplicate	Total/NA	Solid	Homogenization	
440-258909-B-43 DU	Duplicate	Total/NA	Solid	Homogenization	

Analysis Batch: 590323

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-258906-1	STSB07_0-0.5	Total/NA	Solid	Moisture	
440-258906-2	STSB07_0.5-3	Total/NA	Solid	Moisture	
440-258906-3	STSB07-FD_0.5-3	Total/NA	Solid	Moisture	
440-258906-4	STSB07_3-6	Total/NA	Solid	Moisture	
440-258906-5	STSB07_6-15	Total/NA	Solid	Moisture	
440-258909-B-43 MS	Matrix Spike	Total/NA	Solid	Moisture	
440-258909-B-43 MSD	Matrix Spike Duplicate	Total/NA	Solid	Moisture	
440-258909-B-43 DU	Duplicate	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: ACMS - BP Yerington OU-4b_OU-5 Soil

Job ID: 440-258906-1

Client Sample ID: STSB07_0-0.5

Lab Sample ID: 440-258906-1
Date Collected: 01/08/20 14:50
Matrix: Solid
Date Received: 01/10/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Homogenization		1	590322	01/13/20 20:39	HTL	TAL IRV
Total/NA	Analysis	Moisture		1	590323	01/13/20 20:43	HTL	TAL IRV

Client Sample ID: STSB07_0-0.5

Lab Sample ID: 440-258906-1
Date Collected: 01/08/20 14:50
Matrix: Solid
Date Received: 01/10/20 10:00
Percent Solids: 93.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			590387	01/14/20 09:02	NE1	TAL IRV
Total/NA	Analysis	6010B		5	590755	01/15/20 15:06	TQN	TAL IRV
Total/NA	Prep	3050B			590387	01/14/20 09:02	NE1	TAL IRV
Total/NA	Analysis	6010B		10	590938	01/16/20 11:38	TQN	TAL IRV
Total/NA	Prep	3050B			590387	01/14/20 09:02	NE1	TAL IRV
Total/NA	Analysis	6020		20	590547	01/14/20 21:05	B1H	TAL IRV
Total/NA	Prep	7471A			590447	01/17/20 08:41	MEM	TAL IRV
Total/NA	Analysis	7471A		1	591651	01/20/20 13:40	MEM	TAL IRV

Client Sample ID: STSB07_0.5-3

Lab Sample ID: 440-258906-2
Date Collected: 01/08/20 14:56
Matrix: Solid
Date Received: 01/10/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Homogenization		1	590322	01/13/20 20:39	HTL	TAL IRV
Total/NA	Analysis	Moisture		1	590323	01/13/20 20:43	HTL	TAL IRV

Client Sample ID: STSB07_0.5-3

Lab Sample ID: 440-258906-2
Date Collected: 01/08/20 14:56
Matrix: Solid
Date Received: 01/10/20 10:00
Percent Solids: 92.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			590387	01/14/20 09:02	NE1	TAL IRV
Total/NA	Analysis	6010B		5	590755	01/15/20 15:19	TQN	TAL IRV
Total/NA	Prep	3050B			590387	01/14/20 09:02	NE1	TAL IRV
Total/NA	Analysis	6020		20	590547	01/14/20 21:07	B1H	TAL IRV
Total/NA	Prep	7471A			590447	01/17/20 08:41	MEM	TAL IRV
Total/NA	Analysis	7471A		1	591651	01/20/20 13:42	MEM	TAL IRV

Client Sample ID: STSB07-FD_0.5-3

Lab Sample ID: 440-258906-3
Date Collected: 01/08/20 15:00
Matrix: Solid
Date Received: 01/10/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Homogenization		1	590322	01/13/20 20:39	HTL	TAL IRV
Total/NA	Analysis	Moisture		1	590323	01/13/20 20:43	HTL	TAL IRV

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: ACMS - BP Yerington OU-4b_OU-5 Soil

Job ID: 440-258906-1

Client Sample ID: STSB07-FD_0.5-3

Lab Sample ID: 440-258906-3
Date Collected: 01/08/20 15:00
Matrix: Solid
Date Received: 01/10/20 10:00
Percent Solids: 93.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			590387	01/14/20 09:02	NE1	TAL IRV
Total/NA	Analysis	6010B		5	590755	01/15/20 15:21	TQN	TAL IRV
Total/NA	Prep	3050B			590387	01/14/20 09:02	NE1	TAL IRV
Total/NA	Analysis	6020		20	590547	01/14/20 21:09	B1H	TAL IRV
Total/NA	Prep	7471A			590448	01/17/20 08:43	MEM	TAL IRV
Total/NA	Analysis	7471A		1	591651	01/20/20 14:08	MEM	TAL IRV

Client Sample ID: STSB07_3-6

Lab Sample ID: 440-258906-4
Date Collected: 01/08/20 15:11
Matrix: Solid
Date Received: 01/10/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Homogenization		1	590322	01/13/20 20:39	HTL	TAL IRV
Total/NA	Analysis	Moisture		1	590323	01/13/20 20:43	HTL	TAL IRV

Client Sample ID: STSB07_3-6

Lab Sample ID: 440-258906-4
Date Collected: 01/08/20 15:11
Matrix: Solid
Date Received: 01/10/20 10:00
Percent Solids: 95.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			590387	01/14/20 09:02	NE1	TAL IRV
Total/NA	Analysis	6010B		5	590755	01/15/20 15:23	TQN	TAL IRV
Total/NA	Prep	3050B			590387	01/14/20 09:02	NE1	TAL IRV
Total/NA	Analysis	6020		20	590547	01/14/20 21:11	B1H	TAL IRV
Total/NA	Prep	7471A			590448	01/17/20 08:43	MEM	TAL IRV
Total/NA	Analysis	7471A		1	591651	01/20/20 14:17	MEM	TAL IRV

Client Sample ID: STSB07_6-15

Lab Sample ID: 440-258906-5
Date Collected: 01/08/20 15:17
Matrix: Solid
Date Received: 01/10/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Homogenization		1	590322	01/13/20 20:39	HTL	TAL IRV
Total/NA	Analysis	Moisture		1	590323	01/13/20 20:43	HTL	TAL IRV

Client Sample ID: STSB07_6-15

Lab Sample ID: 440-258906-5
Date Collected: 01/08/20 15:17
Matrix: Solid
Date Received: 01/10/20 10:00
Percent Solids: 91.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			590387	01/14/20 09:02	NE1	TAL IRV
Total/NA	Analysis	6010B		5	590755	01/15/20 15:25	TQN	TAL IRV
Total/NA	Prep	3050B			590387	01/14/20 09:02	NE1	TAL IRV
Total/NA	Analysis	6020		20	590547	01/14/20 21:13	B1H	TAL IRV

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: ACMS - BP Yerington OU-4b_OU-5 Soil

Job ID: 440-258906-1

Client Sample ID: STSB07_6-15
Date Collected: 01/08/20 15:17
Date Received: 01/10/20 10:00

Lab Sample ID: 440-258906-5
Matrix: Solid
Percent Solids: 91.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			590448	01/17/20 08:43	MEM	TAL IRV
Total/NA	Analysis	7471A		1	591651	01/20/20 14:20	MEM	TAL IRV

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Accreditation/Certification Summary

Client: Wood E&I Solutions Inc
Project/Site: ACMS - BP Yerington OU-4b_OU-5 Soil

Job ID: 440-258906-1

Laboratory: Eurofins Calscience Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Nevada	State Program	CA015312020-5	07-31-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
Moisture		Solid	Percent Moisture

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: STSB07_0-0.5

Lab Sample ID: 440-258906-1

Lab Name: Eurofins Irvine

Job No.: 440-258906-1

SDG ID.:

Matrix: Solid

Date Sampled: 01/08/2020 14:50

Reporting Basis: DRY

Date Received: 01/10/2020 10:00

% Solids: 93.4

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	10000	11	8.2	mg/Kg			5	6010B
7440-42-8	Boron	ND	5.3	2.7	mg/Kg			5	6010B
7440-70-2	Calcium	4700	27	14	mg/Kg			5	6010B
7439-89-6	Iron	26000	11	7.3	mg/Kg			5	6010B
7439-93-2	Lithium	7.5	5.3	3.0	mg/Kg			5	6010B
7439-95-4	Magnesium	6500	11	5.3	mg/Kg			5	6010B
7723-14-0	Phosphorus	3800	11	5.3	mg/Kg			10	6010B
7440-09-7	Potassium	1500	67	35	mg/Kg			5	6010B
7440-23-5	Sodium	300	67	34	mg/Kg			5	6010B
7440-24-6	Strontium	110	5.3	2.7	mg/Kg			5	6010B
7440-31-5	Tin	200	11	5.3	mg/Kg			5	6010B
7440-32-6	Titanium	630	2.1	1.1	mg/Kg			5	6010B
7440-36-0	Antimony	1.2	1.1	0.29	mg/Kg			20	6020
7440-38-2	Arsenic	23	0.53	0.27	mg/Kg			20	6020
7440-39-3	Barium	42	0.53	0.27	mg/Kg			20	6020
7440-41-7	Beryllium	0.43	0.32	0.16	mg/Kg			20	6020
7440-43-9	Cadmium	ND	0.53	0.27	mg/Kg			20	6020
7440-47-3	Chromium	33	1.1	0.53	mg/Kg			20	6020
7440-48-4	Cobalt	2.4	0.53	0.22	mg/Kg			20	6020
7440-50-8	Copper	670	1.1	0.53	mg/Kg			20	6020
7439-92-1	Lead	12	0.53	0.27	mg/Kg			20	6020
7439-96-5	Manganese	42	0.53	0.27	mg/Kg		B	20	6020
7439-98-7	Molybdenum	20	1.1	0.53	mg/Kg			20	6020
7440-02-0	Nickel	5.7	1.1	0.53	mg/Kg			20	6020
7782-49-2	Selenium	4.8	1.1	0.21	mg/Kg			20	6020
7440-22-4	Silver	0.34	0.53	0.11	mg/Kg	J		20	6020
7440-28-0	Thallium	ND	0.53	0.27	mg/Kg			20	6020
7440-62-2	Vanadium	24	1.1	0.53	mg/Kg			20	6020
7440-66-6	Zinc	9.5	11	5.3	mg/Kg	J		20	6020
7439-97-6	Mercury	0.26	0.022	0.013	mg/Kg			1	7471A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: STSB07_0.5-3

Lab Sample ID: 440-258906-2

Lab Name: Eurofins Irvine

Job No.: 440-258906-1

SDG ID.:

Matrix: Solid

Date Sampled: 01/08/2020 14:56

Reporting Basis: DRY

Date Received: 01/10/2020 10:00

% Solids: 92.8

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	6900	11	8.1	mg/Kg			5	6010B
7440-42-8	Boron	ND	5.3	2.6	mg/Kg			5	6010B
7440-70-2	Calcium	4300	26	14	mg/Kg			5	6010B
7439-89-6	Iron	17000	11	7.3	mg/Kg			5	6010B
7439-93-2	Lithium	3.6	5.3	3.0	mg/Kg	J		5	6010B
7439-95-4	Magnesium	5900	11	5.3	mg/Kg			5	6010B
7723-14-0	Phosphorus	1200	5.3	2.6	mg/Kg			5	6010B
7440-09-7	Potassium	1600	66	34	mg/Kg			5	6010B
7440-23-5	Sodium	120	66	34	mg/Kg			5	6010B
7440-24-6	Strontium	51	5.3	2.6	mg/Kg			5	6010B
7440-31-5	Tin	25	11	5.3	mg/Kg			5	6010B
7440-32-6	Titanium	530	2.1	1.1	mg/Kg			5	6010B
7440-36-0	Antimony	0.39	1.1	0.29	mg/Kg	J		20	6020
7440-38-2	Arsenic	6.0	0.53	0.26	mg/Kg			20	6020
7440-39-3	Barium	40	0.53	0.26	mg/Kg			20	6020
7440-41-7	Beryllium	0.20	0.32	0.16	mg/Kg	J		20	6020
7440-43-9	Cadmium	ND	0.53	0.26	mg/Kg			20	6020
7440-47-3	Chromium	9.5	1.1	0.53	mg/Kg			20	6020
7440-48-4	Cobalt	2.6	0.53	0.22	mg/Kg			20	6020
7440-50-8	Copper	360	1.1	0.53	mg/Kg			20	6020
7439-92-1	Lead	3.3	0.53	0.26	mg/Kg			20	6020
7439-96-5	Manganese	39	0.53	0.26	mg/Kg		B	20	6020
7439-98-7	Molybdenum	5.6	1.1	0.53	mg/Kg			20	6020
7440-02-0	Nickel	6.1	1.1	0.53	mg/Kg			20	6020
7782-49-2	Selenium	2.6	1.1	0.21	mg/Kg			20	6020
7440-22-4	Silver	0.11	0.53	0.11	mg/Kg	J		20	6020
7440-28-0	Thallium	ND	0.53	0.26	mg/Kg			20	6020
7440-62-2	Vanadium	22	1.1	0.53	mg/Kg			20	6020
7440-66-6	Zinc	10	11	5.3	mg/Kg	J		20	6020
7439-97-6	Mercury	0.19	0.022	0.013	mg/Kg			1	7471A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: STSB07-FD_0.5-3

Lab Sample ID: 440-258906-3

Lab Name: Eurofins Irvine

Job No.: 440-258906-1

SDG ID.:

Matrix: Solid

Date Sampled: 01/08/2020 15:00

Reporting Basis: DRY

Date Received: 01/10/2020 10:00

% Solids: 93.3

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	7300	11	8.1	mg/Kg			5	6010B
7440-42-8	Boron	ND	5.3	2.6	mg/Kg			5	6010B
7440-70-2	Calcium	4900	26	14	mg/Kg			5	6010B
7439-89-6	Iron	18000	11	7.3	mg/Kg			5	6010B
7439-93-2	Lithium	3.8	5.3	3.0	mg/Kg	J		5	6010B
7439-95-4	Magnesium	6300	11	5.3	mg/Kg			5	6010B
7723-14-0	Phosphorus	1300	5.3	2.6	mg/Kg			5	6010B
7440-09-7	Potassium	1600	66	34	mg/Kg			5	6010B
7440-23-5	Sodium	100	66	34	mg/Kg			5	6010B
7440-24-6	Strontium	51	5.3	2.6	mg/Kg			5	6010B
7440-31-5	Tin	25	11	5.3	mg/Kg			5	6010B
7440-32-6	Titanium	570	2.1	1.1	mg/Kg			5	6010B
7440-36-0	Antimony	0.40	1.1	0.29	mg/Kg	J		20	6020
7440-38-2	Arsenic	5.6	0.53	0.26	mg/Kg			20	6020
7440-39-3	Barium	44	0.53	0.26	mg/Kg			20	6020
7440-41-7	Beryllium	ND	0.32	0.16	mg/Kg			20	6020
7440-43-9	Cadmium	ND	0.53	0.26	mg/Kg			20	6020
7440-47-3	Chromium	10	1.1	0.53	mg/Kg			20	6020
7440-48-4	Cobalt	2.7	0.53	0.22	mg/Kg			20	6020
7440-50-8	Copper	350	1.1	0.53	mg/Kg			20	6020
7439-92-1	Lead	3.0	0.53	0.26	mg/Kg			20	6020
7439-96-5	Manganese	43	0.53	0.26	mg/Kg		B	20	6020
7439-98-7	Molybdenum	5.4	1.1	0.53	mg/Kg			20	6020
7440-02-0	Nickel	6.7	1.1	0.53	mg/Kg			20	6020
7782-49-2	Selenium	2.5	1.1	0.21	mg/Kg			20	6020
7440-22-4	Silver	0.12	0.53	0.11	mg/Kg	J		20	6020
7440-28-0	Thallium	ND	0.53	0.26	mg/Kg			20	6020
7440-62-2	Vanadium	23	1.1	0.53	mg/Kg			20	6020
7440-66-6	Zinc	11	11	5.3	mg/Kg			20	6020
7439-97-6	Mercury	0.16	0.021	0.013	mg/Kg			1	7471A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: STSB07_3-6

Lab Sample ID: 440-258906-4

Lab Name: Eurofins Irvine

Job No.: 440-258906-1

SDG ID.:

Matrix: Solid

Date Sampled: 01/08/2020 15:11

Reporting Basis: DRY

Date Received: 01/10/2020 10:00

% Solids: 95.1

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	4700	11	8.2	mg/Kg			5	6010B
7440-42-8	Boron	ND	5.3	2.7	mg/Kg			5	6010B
7440-70-2	Calcium	3900	27	14	mg/Kg			5	6010B
7439-89-6	Iron	14000	11	7.4	mg/Kg			5	6010B
7439-93-2	Lithium	ND	5.3	3.0	mg/Kg			5	6010B
7439-95-4	Magnesium	4500	11	5.3	mg/Kg			5	6010B
7723-14-0	Phosphorus	1400	5.3	2.7	mg/Kg			5	6010B
7440-09-7	Potassium	1200	67	35	mg/Kg			5	6010B
7440-23-5	Sodium	ND	67	34	mg/Kg			5	6010B
7440-24-6	Strontium	20	5.3	2.7	mg/Kg			5	6010B
7440-31-5	Tin	ND	11	5.3	mg/Kg			5	6010B
7440-32-6	Titanium	270	2.1	1.1	mg/Kg			5	6010B
7440-36-0	Antimony	ND	1.1	0.29	mg/Kg			20	6020
7440-38-2	Arsenic	3.3	0.53	0.27	mg/Kg			20	6020
7440-39-3	Barium	30	0.53	0.27	mg/Kg			20	6020
7440-41-7	Beryllium	ND	0.32	0.16	mg/Kg			20	6020
7440-43-9	Cadmium	ND	0.53	0.27	mg/Kg			20	6020
7440-47-3	Chromium	11	1.1	0.53	mg/Kg			20	6020
7440-48-4	Cobalt	2.1	0.53	0.22	mg/Kg			20	6020
7440-50-8	Copper	350	1.1	0.53	mg/Kg			20	6020
7439-92-1	Lead	1.0	0.53	0.27	mg/Kg			20	6020
7439-96-5	Manganese	38	0.53	0.27	mg/Kg		B	20	6020
7439-98-7	Molybdenum	2.7	1.1	0.53	mg/Kg			20	6020
7440-02-0	Nickel	5.4	1.1	0.53	mg/Kg			20	6020
7782-49-2	Selenium	2.1	1.1	0.21	mg/Kg			20	6020
7440-22-4	Silver	0.15	0.53	0.11	mg/Kg	J		20	6020
7440-28-0	Thallium	ND	0.53	0.27	mg/Kg			20	6020
7440-62-2	Vanadium	15	1.1	0.53	mg/Kg			20	6020
7440-66-6	Zinc	11	11	5.3	mg/Kg			20	6020
7439-97-6	Mercury	0.082	0.021	0.013	mg/Kg			1	7471A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: STSB07_6-15

Lab Sample ID: 440-258906-5

Lab Name: Eurofins Irvine

Job No.: 440-258906-1

SDG ID.:

Matrix: Solid

Date Sampled: 01/08/2020 15:17

Reporting Basis: DRY

Date Received: 01/10/2020 10:00

% Solids: 91.9

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum	6500	11	8.3	mg/Kg			5	6010B
7440-42-8	Boron	ND	5.4	2.7	mg/Kg			5	6010B
7440-70-2	Calcium	4400	27	15	mg/Kg			5	6010B
7439-89-6	Iron	17000	11	7.5	mg/Kg			5	6010B
7439-93-2	Lithium	4.9	5.4	3.0	mg/Kg	J		5	6010B
7439-95-4	Magnesium	5500	11	5.4	mg/Kg			5	6010B
7723-14-0	Phosphorus	1100	5.4	2.7	mg/Kg			5	6010B
7440-09-7	Potassium	1400	68	35	mg/Kg			5	6010B
7440-23-5	Sodium	ND	68	35	mg/Kg			5	6010B
7440-24-6	Strontium	24	5.4	2.7	mg/Kg			5	6010B
7440-31-5	Tin	5.5	11	5.4	mg/Kg	J		5	6010B
7440-32-6	Titanium	330	2.2	1.1	mg/Kg			5	6010B
7440-36-0	Antimony	0.41	1.1	0.29	mg/Kg	J		20	6020
7440-38-2	Arsenic	2.1	0.54	0.27	mg/Kg			20	6020
7440-39-3	Barium	33	0.54	0.27	mg/Kg			20	6020
7440-41-7	Beryllium	0.18	0.32	0.16	mg/Kg	J		20	6020
7440-43-9	Cadmium	ND	0.54	0.27	mg/Kg			20	6020
7440-47-3	Chromium	8.4	1.1	0.54	mg/Kg			20	6020
7440-48-4	Cobalt	2.9	0.54	0.23	mg/Kg			20	6020
7440-50-8	Copper	1300	1.1	0.54	mg/Kg			20	6020
7439-92-1	Lead	1.6	0.54	0.27	mg/Kg			20	6020
7439-96-5	Manganese	44	0.54	0.27	mg/Kg		B	20	6020
7439-98-7	Molybdenum	1.8	1.1	0.54	mg/Kg			20	6020
7440-02-0	Nickel	6.2	1.1	0.54	mg/Kg			20	6020
7782-49-2	Selenium	2.2	1.1	0.22	mg/Kg			20	6020
7440-22-4	Silver	0.16	0.54	0.11	mg/Kg	J		20	6020
7440-28-0	Thallium	ND	0.54	0.27	mg/Kg			20	6020
7440-62-2	Vanadium	25	1.1	0.54	mg/Kg			20	6020
7440-66-6	Zinc	13	11	5.4	mg/Kg			20	6020
7439-97-6	Mercury	0.19	0.022	0.013	mg/Kg			1	7471A

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

ICV Source: ME ICP ICV2_02382 Concentration Units: mg/L

CCV Source: ME ICP STD3_03095

Analyte	ICV 440-590755/6 01/15/2020 12:15				CCV 440-590755/41 01/15/2020 14:03				CCV 440-590755/45 01/15/2020 14:38			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	0.985		1.00	98	1.02		1.00	102	1.02		1.00	102
Boron	0.997		1.00	100	1.02		1.00	102	1.03		1.00	103
Calcium	5.01		5.00	100	5.02		5.00	100	5.09		5.00	102
Iron	1.01		1.00	101	1.03		1.00	103	1.02		1.00	102
Lithium	0.995		1.00	99	1.00		1.00	100	1.01		1.00	101
Magnesium	5.01		5.00	100	5.05		5.00	101	5.15		5.00	103
Phosphorus	2.06		2.00	103	1.01		1.00	101	1.02		1.00	102
Potassium	5.03		5.00	101	10.1		10.0	101	10.2		10.0	102
Strontium	0.991		1.00	99	1.00		1.00	100	1.01		1.00	101
Tin	1.96		2.00	98	1.02		1.00	102	1.02		1.00	102
Titanium	0.992		1.00	99	1.03		1.00	103	1.03		1.00	103

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

ICV Source: ME ICP ICV2_02382 Concentration Units: mg/L

CCV Source: ME ICP STD3_03095

	CCV 440-590755/58 01/15/2020 15:11				CCV 440-590755/69 01/15/2020 16:00							
Analyte	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	1.03		1.00	103	1.00		1.00	100				
Boron	1.01		1.00	101	1.01		1.00	101				
Calcium	5.01		5.00	100	5.03		5.00	101				
Iron	1.06		1.00	106	1.02		1.00	102				
Lithium	1.00		1.00	100	1.00		1.00	100				
Magnesium	5.07		5.00	101	5.09		5.00	102				
Phosphorus	1.02		1.00	102	1.01		1.00	101				
Potassium	10.0		10.0	100	10.0		10.0	100				
Strontium	1.00		1.00	100	1.01		1.00	101				
Tin	1.01		1.00	101	1.00		1.00	100				
Titanium	1.03		1.00	103	1.01		1.00	101				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

ICV Source: ICV SODIUM_00099 Concentration Units: mg/L

CCV Source: ME ICP STD3_03095

	ICV 440-590755/8 01/15/2020 12:19				CCV 440-590755/41 01/15/2020 14:03				CCV 440-590755/45 01/15/2020 14:38			
Analyte	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Sodium	4.94		5.00	99	9.91		10.0	99	10.3		10.0	103

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

ICV Source: ICV SODIUM_00099 Concentration Units: mg/L

CCV Source: ME ICP STD3_03095

	CCV 440-590755/58 01/15/2020 15:11				CCV 440-590755/69 01/15/2020 16:00							
Analyte	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Sodium	9.96		10.0	100	10.0		10.0	100				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

ICV Source: ME ICP ICV2_02383 Concentration Units: mg/L

CCV Source: ME ICP STD3_03097

	ICV 440-590938/6 01/16/2020 11:01				CCV 440-590938/19 01/16/2020 11:54							
Analyte	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Phosphorus	2.08		2.00	104	1.02		1.00	102				
Aluminum	0.984		1.00	98	1.01		1.00	101				
Boron	1.00		1.00	100	1.01		1.00	101				
Calcium	4.99		5.00	100	5.01		5.00	100				
Iron	1.01		1.00	101	1.02		1.00	102				
Lithium	0.999		1.00	100	0.998		1.00	100				
Magnesium	5.00		5.00	100	5.03		5.00	101				
Potassium	4.97		5.00	99	10.0		10.0	100				
Strontium	1.00		1.00	100	1.00		1.00	100				
Tin	1.98		2.00	99	1.02		1.00	102				
Titanium	1.00		1.00	100	1.02		1.00	102				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

ICV Source: MEICPMS ICV_00323 Concentration Units: ug/L

CCV Source: MEICPMS CCV_00321

	ICV 440-590547/6 01/14/2020 14:58				CCV 440-590547/14 01/14/2020 20:09				CCV 440-590547/23 01/14/2020 20:46			
Analyte	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	25.2		25.0	101	49.4		50.0	99	50.5		50.0	101
Arsenic	25.0		25.0	100	48.2		50.0	96	48.7		50.0	97
Barium	25.1		25.0	101	48.1		50.0	96	49.5		50.0	99
Beryllium	24.3		25.0	97	47.5		50.0	95	46.2		50.0	92
Cadmium	25.1		25.0	100	48.7		50.0	97	49.4		50.0	99
Chromium	24.9		25.0	100	49.0		50.0	98	48.8		50.0	98
Cobalt	25.1		25.0	100	48.6		50.0	97	48.6		50.0	97
Copper	24.7		25.0	99	48.5		50.0	97	49.0		50.0	98
Lead	24.4		25.0	98	47.1		50.0	94	47.8		50.0	96
Manganese	25.1		25.0	100	48.8		50.0	98	49.1		50.0	98
Molybdenum	25.1		25.0	101	48.7		50.0	97	49.6		50.0	99
Nickel	25.1		25.0	100	48.5		50.0	97	48.3		50.0	97
Selenium	24.7		25.0	99	48.7		50.0	97	49.0		50.0	98
Silver	25.4		25.0	102	49.0		50.0	98	49.7		50.0	99
Thallium	23.4		25.0	94	44.8		50.0	90	45.6		50.0	91
Vanadium	24.9		25.0	100	49.0		50.0	98	48.7		50.0	97
Zinc	24.8		25.0	99	47.8		50.0	96	48.0		50.0	96

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

ICV Source: MEICPMS ICV_00323 Concentration Units: ug/L

CCV Source: MEICPMS CCV_00321

	CCV 440-590547/36 01/14/2020 21:23											
Analyte	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	50.5		50.0	101								
Arsenic	48.8		50.0	98								
Barium	48.8		50.0	98								
Beryllium	46.0		50.0	92								
Cadmium	49.3		50.0	99								
Chromium	48.7		50.0	97								
Cobalt	48.6		50.0	97								
Copper	48.0		50.0	96								
Lead	47.9		50.0	96								
Manganese	48.4		50.0	97								
Molybdenum	50.0		50.0	100								
Nickel	48.3		50.0	97								
Selenium	48.8		50.0	98								
Silver	49.7		50.0	99								
Thallium	45.9		50.0	92								
Vanadium	48.5		50.0	97								
Zinc	48.0		50.0	96								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

ICV Source: ME 1 PPM HG1_00419 Concentration Units: mg/Kg

CCV Source: ME 1 PPM HG1_00418

	ICV 440-591352/1-A 01/20/2020 12:26				CCV 440-591352/3-A 01/20/2020 12:34				CCV 440-591352/3-A 01/20/2020 13:03			
Analyte	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	0.380		0.400	95	0.393		0.400	98	0.382		0.400	95

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

ICV Source: ME 1 PPM HG1_00419 Concentration Units: mg/Kg

CCV Source: ME 1 PPM HG1_00418

Analyte	CCV 440-591352/3-A 01/20/2020 13:30				CCV 440-591352/3-A 01/20/2020 13:50				CCV 440-591352/3-A 01/20/2020 13:59			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	0.385		0.400	96	0.392		0.400	98	0.404		0.400	101

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

ICV Source: ME 1 PPM HG1_00419 | Concentration Units: mg/Kg

CCV Source: ME 1 PPM HG1_00418

CCV 440-591352/3-A
01/20/2020 14:30

Analyte	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	0.388	✓	0.400	97	✓							

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

Method: 6010B | Instrument ID: ICP8

Lab Sample ID: CRI 440-590755/16 | Concentration Units: mg/L

CRQL Check Standard Source: ME ICP RL_01153

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Aluminum	0.200	0.200		100	50-150
Boron	0.100	0.0994		99	50-150
Calcium	0.200	0.212		106	50-150
Iron	0.200	0.215		107	50-150
Lithium	0.100	0.0995	J	100	50-150
Magnesium	0.0400	0.0475		119	50-150
Phosphorus	0.400	0.423		106	50-150
Potassium	1.00	0.997		100	50-150
Sodium	1.00	0.994		99	50-150
Strontium	0.0400	0.0408		102	50-150
Tin	0.200	0.199		99	50-150
Titanium	0.0100	0.0102		102	50-150

Lab Sample ID: CRI 440-590755/95 | Concentration Units: mg/L

CRQL Check Standard Source: ME ICP RL_01153

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Aluminum	0.200	0.196		98	50-150
Boron	0.100	0.100		100	50-150
Calcium	0.200	0.205		103	50-150
Iron	0.200	0.206		103	50-150
Lithium	0.100	0.103	J	103	50-150
Magnesium	0.0400	0.0430		108	50-150
Phosphorus	0.400	0.420		105	50-150
Potassium	1.00	1.03		103	50-150
Sodium	1.00	0.925		93	50-150
Strontium	0.0400	0.0409		102	50-150
Tin	0.200	0.194		97	50-150
Titanium	0.0100	0.0112		112	50-150

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

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

Method: 6010B | Instrument ID: ICP8

Lab Sample ID: CRI 440-590938/15 | Concentration Units: mg/L

CRQL Check Standard Source: ME ICP RL_01155

Analyte	CRQL Check Standard True	Found	Qualifiers	%R(1)	Limits
Aluminum	0.200	0.202		101	50-150
Boron	0.100	0.102		102	50-150
Calcium	0.200	0.213		106	50-150
Iron	0.200	0.220		110	50-150
Lithium	0.100	0.101	J	101	50-150
Magnesium	0.0400	0.0460		115	50-150
Phosphorus	0.400	0.424		106	50-150
Potassium	1.00	1.06		106	50-150
Sodium	1.00	1.02		102	50-150
Strontium	0.0400	0.0412		103	50-150
Tin	0.200	0.208		104	50-150
Titanium	0.0100	0.0106		106	50-150

Lab Sample ID: CRI 440-590938/39 | Concentration Units: mg/L

CRQL Check Standard Source: ME ICP RL 01155

Analyte	CRQL Check Standard True	Found	Qualifiers	%R(1)	Limits
Aluminum	0.200	0.199		99	50-150
Boron	0.100	0.103		103	50-150
Calcium	0.200	0.214		107	50-150
Iron	0.200	0.218		109	50-150
Lithium	0.100	0.106	J	106	50-150
Magnesium	0.0400	0.0444		111	50-150
Phosphorus	0.400	0.432		108	50-150
Potassium	1.00	1.19		119	50-150
Sodium	1.00	1.25		125	50-150
Strontium	0.0400	0.0414		104	50-150
Tin	0.200	0.207		104	50-150
Titanium	0.0100	0.0108		108	50-150

P only

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

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

Method: 6020 | Instrument ID: ICPMS6

Lab Sample ID: CRI 440-590547/10 | Concentration Units: ug/L

CRQL Check Standard Source: MEICPMS CRI1_00326

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Antimony	1.00	1.02	J	102	50-150
Arsenic	1.00	0.995	J	100	50-150
Barium	1.00	0.965	J	97	50-150
Beryllium	0.500	0.508		102	50-150
Cadmium	1.00	1.01		101	50-150
Chromium	1.00	1.01	J	101	50-150
Cobalt	1.00	0.971	J	97	50-150
Copper	1.00	1.05	J	105	50-150
Lead	1.00	0.917	J	92	50-150
Manganese	1.00	0.972	J	97	50-150
Molybdenum	1.00	0.958	J	96	50-150
Nickel	1.00	1.01	J	101	50-150
Selenium	1.00	0.997	J	100	50-150
Silver	1.00	1.03		103	50-150
Thallium	1.00	0.889	J	89	50-150
Vanadium	1.00	ND		99	50-150
Zinc	10.0	9.77	J	98	50-150

Lab Sample ID: CRI 440-590547/11 | Concentration Units: ug/L

CRQL Check Standard Source: MEICPMS CRI2_00324

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Antimony	2.00	2.03		102	50-150
Arsenic	2.00	1.99		100	50-150
Barium	2.00	1.98		99	50-150
Beryllium	1.00	0.890		89	50-150
Cadmium	2.00	1.94		97	50-150
Chromium	2.00	1.95	J	97	50-150
Cobalt	2.00	1.88		94	50-150
Copper	2.00	2.00		100	50-150
Lead	2.00	1.84		92	50-150
Manganese	2.00	1.97		98	50-150
Molybdenum	2.00	1.92	J	96	50-150
Nickel	2.00	2.01		101	50-150
Selenium	2.00	1.99	J	100	50-150

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

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

Method: 6020 | Instrument ID: ICPMS6

Lab Sample ID: CRI 440-590547/11 | Concentration Units: ug/L

CRQL Check Standard Source: MEICPMS CRI2_00324

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Silver	2.00	2.01		101	50-150
Thallium	2.00	1.76		88	50-150
Vanadium	2.00	1.93	J	96	50-150
Zinc	20.0	19.2	J	96	50-150

Lab Sample ID: CRI 440-590547/38 | Concentration Units: ug/L

CRQL Check Standard Source: MEICPMS CRI2_00324

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Antimony	2.00	2.00		100	50-150
Arsenic	2.00	1.91		96	50-150
Barium	2.00	1.99		100	50-150
Beryllium	1.00	0.805		81	50-150
Cadmium	2.00	1.94		97	50-150
Chromium	2.00	1.93	J	97	50-150
Cobalt	2.00	1.86		93	50-150
Copper	2.00	1.96	J	98	50-150
Lead	2.00	1.81		90	50-150
Manganese	2.00	1.89		95	50-150
Molybdenum	2.00	1.99	J	100	50-150
Nickel	2.00	1.97	J	99	50-150
Selenium	2.00	1.96	J	98	50-150
Silver	2.00	2.00		100	50-150
Thallium	2.00	1.71		86	50-150
Vanadium	2.00	1.92	J	96	50-150
Zinc	20.0	18.5	J	92	50-150

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

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

Method: 7471A | Instrument ID: CV-HG4

Lab Sample ID: CRA 440-591352/5-A | Concentration Units: mg/Kg

CRQL Check Standard Source: ME 1 PPM HG1_00418

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Mercury	0.0200	0.0222		111	70-130

Lab Sample ID: CRA 440-591352/5-A | Concentration Units: mg/Kg

CRQL Check Standard Source: ME 1 PPM HG1_00418

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Mercury	0.0200	0.0235		117	70-130

Lab Sample ID: CRA 440-591352/5-A | Concentration Units: mg/Kg

CRQL Check Standard Source: ME 1 PPM HG1_00418

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Mercury	0.0200	0.0245		123	70-130

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

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

Concentration Units: mg/L

		ICB 440-590755/10 01/15/2020 12:24		CCB 440-590755/42 01/15/2020 14:07		CCB 440-590755/47 01/15/2020 14:44		CCB 440-590755/59 01/15/2020 15:16	
Analyte	RL	Found	C	Found	C	Found	C	Found	C
Aluminum	0.10	ND		ND		ND		ND	
Boron	0.050	ND		ND		ND		ND	
Calcium	0.10	ND		ND		ND		ND	
Iron	0.10	ND		ND		ND		ND	
Lithium	0.50	ND		ND		ND		ND	
Magnesium	0.020	ND		ND		ND		ND	
Phosphorus	0.20	ND		ND		ND		ND	
Potassium	0.50	ND		ND		ND		ND	
Sodium	0.50	ND		ND		ND		ND	
Strontium	0.020	ND		ND		ND		ND	
Tin	0.10	ND		ND		ND		ND	
Titanium	0.0050	ND		ND		ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

Concentration Units: mg/L

CCB 440-590755/70
01/15/2020 16:06

Analyte	RL	Found	C	Found	C	Found	C	Found	C
Aluminum	0.10	ND							
Boron	0.050	ND							
Calcium	0.10	ND							
Iron	0.10	ND							
Lithium	0.50	ND							
Magnesium	0.020	ND							
Phosphorus	0.20	ND							
Potassium	0.50	ND							
Sodium	0.50	ND							
Strontium	0.020	ND							
Tin	0.10	ND							
Titanium	0.0050	ND							

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

Concentration Units: mg/L

		ICB 440-590938/10 01/16/2020 11:12		CCB 440-590938/20 01/16/2020 11:56					
Analyte	RL	Found	C	Found	C	Found	C	Found	C
Phosphorus	0.20	ND	✓	ND	✓				
Aluminum	0.10	ND		ND					
Boron	0.050	ND		ND					
Calcium	0.10	ND		ND					
Iron	0.10	ND		ND					
Lithium	0.50	ND		ND					
Magnesium	0.020	ND		ND					
Potassium	0.50	ND		ND					
Sodium	0.50	ND		ND					
Strontium	0.020	ND		ND					
Tin	0.10	ND		ND					
Titanium	0.0050	ND							

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

Concentration Units: ug/L

		ICB 440-590547/8 01/14/2020 15:02		CCB 440-590547/15 01/14/2020 20:11		CCB 440-590547/24 01/14/2020 20:48		CCB 440-590547/37 01/14/2020 21:36	
Analyte	RL	Found	C	Found	C	Found	C	Found	C
Antimony	2.0	ND		ND		ND		ND	
Arsenic	1.0	ND		ND		ND		ND	
Barium	1.0	ND		ND		ND		ND	
Beryllium	0.50	ND		ND		ND		ND	
Cadmium	1.0	ND		ND		ND		ND	
Chromium	2.0	ND		ND		ND		ND	
Cobalt	1.0	ND		ND		ND		ND	
Copper	2.0	ND		ND		ND		ND	
Lead	1.0	ND		ND		ND		ND	
Manganese	1.0	ND		ND		ND		ND	
Molybdenum	2.0	ND		ND		ND		ND	
Nickel	2.0	ND		ND		ND		ND	
Selenium	2.0	ND		ND		ND		ND	
Silver	1.0	ND		ND		ND		ND	
Thallium	1.0	ND		ND		ND		ND	
Vanadium	2.0	ND		ND		ND		ND	
Zinc	20	ND		ND		ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

Concentration Units: mg/Kg

		ICB 440-591352/2-A 01/20/2020 12:29		CCB 440-591352/4-A 01/20/2020 12:36		CCB 440-591352/4-A 01/20/2020 13:05		CCB 440-591352/4-A 01/20/2020 13:33	
Analyte	RL	Found	C	Found	C	Found	C	Found	C
Mercury	0.020	ND	✓	ND	✓	ND	✓	ND	✓

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

Concentration Units: mg/Kg

Analyte	RL	CCB 440-591352/4-A 01/20/2020 13:52 Found	C	CCB 440-591352/4-A 01/20/2020 14:01 Found	C	CCB 440-591352/4-A 01/20/2020 14:33 Found	C	Found	C
Mercury	0.020	ND	✓	ND	✓	ND	✓		

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

Concentration Units: mg/Kg | Lab Sample ID: MB 440-590387/1-A ^5

Instrument Code: ICP8 | Batch No.: 590755

CAS No.	Analyte	Concentration	C	Q	Method
7429-90-5	Aluminum	ND			6010B
7440-42-8	Boron	ND			6010B
7440-70-2	Calcium	ND			6010B
7439-89-6	Iron	ND			6010B
7439-93-2	Lithium	ND			6010B
7439-95-4	Magnesium	ND			6010B
7723-14-0	Phosphorus	ND			6010B
7440-09-7	Potassium	ND			6010B
7440-23-5	Sodium	ND			6010B
7440-24-6	Strontium	ND			6010B
7440-31-5	Tin	ND			6010B
7440-32-6	Titanium	ND			6010B

FORM III-IN

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

Concentration Units: mg/Kg | Lab Sample ID: MB 440-590387/1-A ^20

Instrument Code: ICPMS6 | Batch No.: 590547

CAS No.	Analyte	Concentration	C	Q	Method
7440-36-0	Antimony	ND			6020
7440-38-2	Arsenic	ND			6020
7440-39-3	Barium	ND			6020
7440-41-7	Beryllium	ND			6020
7440-43-9	Cadmium	ND			6020
7440-47-3	Chromium	ND			6020
7440-48-4	Cobalt	ND			6020
7440-50-8	Copper	ND			6020
7439-92-1	Lead	ND			6020
7439-96-5	Manganese	0.297	J		6020
7439-98-7	Molybdenum	ND			6020
7440-02-0	Nickel	ND			6020
7782-49-2	Selenium	ND			6020
7440-22-4	Silver	ND			6020
7440-28-0	Thallium	ND			6020
7440-62-2	Vanadium	ND			6020
7440-66-6	Zinc	ND			6020

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FORM III-IN

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

Concentration Units: mg/Kg | Lab Sample ID: MB 440-590447/1-A

Instrument Code: CV-HG4 | Batch No.: 591651

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury	ND			7471A

FORM III-IN

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

Concentration Units: mg/Kg | Lab Sample ID: MB 440-590448/1-A

Instrument Code: CV-HG4 | Batch No.: 591651

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury	ND			7471A

FORM III-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

Lab Sample ID: ICSA 440-590755/11 | Instrument ID: ICP8

Lab File ID: 200115-3b.csv | ICS Source: ME ICP IFA_02380

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum	600	615	103
Boron		-0.0024	
Calcium	600	608	101
Iron	600	597	100
Lithium		-0.0105	
Magnesium	600	576	96
Phosphorus		-0.0466	
Potassium		-0.597	
Sodium		-0.624	
Strontium		0.0034	
Tin		-0.0282	
Titanium		-0.0001	
Antimony		*-0.0122*	
Arsenic		*0.0089*	
Barium		*0.0040*	
Beryllium		*0.0005*	
Cadmium		*0.0003*	
Chromium		*-0.0036*	
Cobalt		*0.0002*	
Copper		*-0.0027*	
Lead		*0.0066*	
Manganese		*0.0280*	
Molybdenum		*-0.0013*	
Nickel		*0.0018*	
Selenium		*-0.0025*	
Silicon		*-0.0572*	
Silver		*-0.0001*	
Thallium		*-0.0084*	
Tungsten		*-0.0074*	
Vanadium		*0.0003*	
Zinc		*-0.0063*	
Zirconium		*0.165*	

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Interferents < 1/2 ICSA values at instrument level.

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

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

Lab Sample ID: ICSAB 440-590755/12 | Instrument ID: ICP8

Lab File ID: 200115-3b.csv | ICS Source: ME ICP IFB_02401

Concentration Units: mg/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Aluminum	**601**	**613**	**102**
Boron	**0.500**	**0.526**	**105**
Calcium	**603**	**607**	**101**
Iron	**601**	**592**	**99**
Lithium	**0.500**	**0.541**	**108**
Magnesium	**603**	**582**	**97**
Phosphorus	**0.500**	**0.475**	**95**
Potassium	**5.00**	**5.10**	**102**
Sodium	**5.00**	**4.85**	**97**
Strontium	**0.500**	**0.517**	**103**
Tin	**0.500**	**0.458**	**92**
Titanium	**0.500**	**0.535**	**107**
Antimony	*0.500*	*0.521*	*104*
Arsenic	*0.500*	*0.507*	*101*
Barium	*0.500*	*0.477*	*95*
Beryllium	*0.500*	*0.528*	*106*
Cadmium	*0.500*	*0.464*	*93*
Chromium	*0.500*	*0.496*	*99*
Cobalt	*0.500*	*0.458*	*92*
Copper	*0.500*	*0.546*	*109*
Lead	*0.500*	*0.468*	*94*
Manganese	*0.500*	*0.522*	*104*
Molybdenum	*0.500*	*0.507*	*101*
Nickel	*0.500*	*0.457*	*91*
Selenium	*0.500*	*0.475*	*95*
Silicon	*2.50*	*2.60*	*104*
Silver	*0.250*	*0.276*	*110*
Thallium	*0.500*	*0.463*	*93*
Tungsten	*0.500*	*0.441*	*88*
Vanadium	*0.500*	*0.518*	*104*
Zinc	*0.500*	*0.441*	*88*
Zirconium	*0.500*	*0.418*	*84*

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

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

Lab Sample ID: ICSA 440-590755/96 | Instrument ID: ICP8

Lab File ID: 200115-3b.csv | ICS Source: ME ICP IFA_02380

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum	600	613	102
Boron		-0.0048	
Calcium	600	611	102
Iron	600	591	99
Lithium		-0.0081	
Magnesium	600	578	96
Phosphorus		-0.0256	
Potassium		-0.504	
Sodium		-0.707	
Strontium		0.0030	
Tin		-0.0291	
Titanium		0.0000	
Antimony		*-0.0115*	
Arsenic		*0.0000*	
Barium		*0.0042*	
Beryllium		*0.0007*	
Cadmium		*0.0004*	
Chromium		*-0.0002*	
Cobalt		*-0.0004*	
Copper		*-0.0019*	
Lead		*0.0047*	
Manganese		*0.0272*	
Molybdenum		*0.0010*	
Nickel		*0.0030*	
Selenium		*0.0013*	
Silicon		*-0.0588*	
Silver		*0.0005*	
Thallium		*-0.0063*	
Tungsten		*0.0030*	
Vanadium		*0.0001*	
Zinc		*0.0062*	
Zirconium		*0.167*	

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

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

Lab Sample ID: ICSAB 440-590755/97 | Instrument ID: ICP8

Lab File ID: 200115-3b.csv | ICS Source: ME ICP IFB_02401

Concentration Units: mg/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Aluminum	**601**	**610**	**102**
Boron	**0.500**	**0.529**	**106**
Calcium	**603**	**613**	**102**
Iron	**601**	**591**	**98**
Lithium	**0.500**	**0.538**	**108**
Magnesium	**603**	**588**	**98**
Phosphorus	**0.500**	**0.474**	**95**
Potassium	**5.00**	**4.91**	**98**
Sodium	**5.00**	**4.74**	**95**
Strontium	**0.500**	**0.511**	**102**
Tin	**0.500**	**0.458**	**92**
Titanium	**0.500**	**0.533**	**107**
Antimony	*0.500*	*0.552*	*110*
Arsenic	*0.500*	*0.512*	*102*
Barium	*0.500*	*0.479*	*96*
Beryllium	*0.500*	*0.524*	*105*
Cadmium	*0.500*	*0.461*	*92*
Chromium	*0.500*	*0.493*	*99*
Cobalt	*0.500*	*0.452*	*90*
Copper	*0.500*	*0.547*	*109*
Lead	*0.500*	*0.464*	*93*
Manganese	*0.500*	*0.512*	*102*
Molybdenum	*0.500*	*0.502*	*100*
Nickel	*0.500*	*0.451*	*90*
Selenium	*0.500*	*0.468*	*94*
Silicon	*2.50*	*2.58*	*103*
Silver	*0.250*	*0.275*	*110*
Thallium	*0.500*	*0.443*	*89*
Tungsten	*0.500*	*0.434*	*87*
Vanadium	*0.500*	*0.515*	*103*
Zinc	*0.500*	*0.438*	*88*
Zirconium	*0.500*	*0.431*	*86*

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

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

Lab Sample ID: ICSA 440-590938/11 | Instrument ID: ICP8

Lab File ID: 200116-1b.csv | ICS Source: ME ICP IFA_02381

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Phosphorus		**-0.0218**	
Aluminum	600	633	105
Antimony		0.0104	
Arsenic		-0.0033	
Barium		0.0046	
Beryllium		-0.0004	
Boron		-0.0066	
Cadmium		0.0015	
Calcium	600	633	106
Chromium		0.0010	
Cobalt		-0.0022	
Copper		-0.0020	
Iron	600	597	99
Lead		0.0019	
Lithium		-0.0114	
Magnesium	600	588	98
Manganese		0.0297	
Molybdenum		-0.0027	
Nickel		0.0042	
Potassium		-0.485	
Selenium		0.0005	
Silicon		-0.0588	
Silver		0.0018	
Sodium		-0.667	
Strontium		0.0029	
Thallium		-0.0074	
Tin		-0.0181	
Titanium		-0.0002	
Tungsten		-0.0033	
Vanadium		-0.0016	
Zinc		0.0038	
Zirconium		0.167	

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

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

Lab Sample ID: ICSAB 440-590938/12 | Instrument ID: ICP8

Lab File ID: 200116-1b.csv | ICS Source: ME ICP IFB_02402

Concentration Units: mg/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Phosphorus	**0.500**	**0.485**	**97**
Aluminum	601	627	104
Antimony	0.500	0.520	104
Arsenic	0.500	0.513	103
Barium	0.500	0.481	96
Beryllium	0.500	0.535	107
Boron	0.500	0.529	106
Cadmium	0.500	0.466	93
Calcium	603	626	104
Chromium	0.500	0.501	100
Cobalt	0.500	0.462	92
Copper	0.500	0.555	111
Iron	601	594	99
Lead	0.500	0.481	96
Lithium	0.500	0.540	108
Magnesium	603	591	98
Manganese	0.500	0.523	105
Molybdenum	0.500	0.513	103
Nickel	0.500	0.458	92
Potassium	5.00	5.04	101
Selenium	0.500	0.475	95
Silicon	2.50	2.64	106
Silver	0.250	0.283	113
Sodium	5.00	4.80	96
Strontium	0.500	0.520	104
Thallium	0.500	0.442	88
Tin	0.500	0.468	94
Titanium	0.500	0.542	108
Tungsten	0.500	0.438	88
Vanadium	0.500	0.522	104
Zinc	0.500	0.438	88
Zirconium	0.500	0.437	87

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

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

Lab Sample ID: ICSA 440-590938/40 | Instrument ID: ICP8

Lab File ID: 200116-1b.csv | ICS Source: ME ICP IFA_02381

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Phosphorus		**-0.0609**	
Aluminum	600	637	106
Antimony		0.0088	
Arsenic		-0.0038	
Barium		0.0046	
Beryllium		-0.0009	
Boron		0.0144	
Cadmium		0.0011	
Calcium	600	632	105
Chromium		0.0002	
Cobalt		0.0007	
Copper		-0.0030	
Iron	600	601	100
Lead		0.0036	
Lithium		-0.0045	
Magnesium	600	589	98
Manganese		0.0295	
Molybdenum		-0.0013	
Nickel		0.0040	
Potassium		-0.490	
Silicon		-0.0576	
Silver		0.0016	
Sodium		-0.383	
Strontium		0.0031	
Thallium		-0.0064	
Tin		-0.0223	
Titanium		-0.0005	
Tungsten		-0.0030	
Vanadium		-0.0014	
Zinc		0.0026	
Zirconium		0.170	

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

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

Lab Sample ID: ICSAB 440-590938/41 | Instrument ID: ICP8

Lab File ID: 200116-1b.csv | ICS Source: ME ICP IFB_02402

Concentration Units: mg/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Phosphorus	**0.500**	**0.510**	**102**
Aluminum	*601*	*631*	*105*
Antimony	*0.500*	*0.545*	*109*
Arsenic	*0.500*	*0.523*	*105*
Barium	*0.500*	*0.480*	*96*
Beryllium	*0.500*	*0.536*	*107*
Boron	*0.500*	*0.530*	*106*
Cadmium	*0.500*	*0.471*	*94*
Calcium	*603*	*629*	*104*
Chromium	*0.500*	*0.504*	*101*
Cobalt	*0.500*	*0.462*	*92*
Copper	*0.500*	*0.561*	*112*
Iron	*601*	*597*	*99*
Lead	*0.500*	*0.478*	*96*
Lithium	*0.500*	*0.546*	*109*
Magnesium	*603*	*593*	*98*
Manganese	*0.500*	*0.526*	*105*
Molybdenum	*0.500*	*0.509*	*102*
Nickel	*0.500*	*0.463*	*93*
Potassium	*5.00*	*5.12*	*102*
Selenium	*0.500*	*0.477*	*95*
Silicon	*2.50*	*2.66*	*106*
Silver	*0.250*	*0.284*	*114*
Sodium	*5.00*	*5.10*	*102*
Strontium	*0.500*	*0.523*	*105*
Thallium	*0.500*	*0.437*	*87*
Tin	*0.500*	*0.465*	*93*
Titanium	*0.500*	*0.545*	*109*
Tungsten	*0.500*	*0.437*	*87*
Vanadium	*0.500*	*0.526*	*105*
Zinc	*0.500*	*0.443*	*89*
Zirconium	*0.500*	*0.434*	*87*

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

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

Lab Sample ID: ICSA 440-590547/12 | Instrument ID: ICPMS6

Lab File ID: 014ICSA.d | ICS Source: MEICPMS ICSA_00349

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Antimony		0.209	
Arsenic		0.0660	
Barium		0.152	
Beryllium		0.0110	
Cadmium		0.168	
Chromium		0.276	
Cobalt		0.277	
Copper		0.331	
Lead		0.0430	
Manganese		0.416	
Molybdenum	2000	2037	102
Nickel		0.284	
Selenium		0.234	
Silver		0.0210	
Thallium		0.0070	
Vanadium		0.0240	
Zinc		0.341	
Aluminum	*100000*	*95724*	*96*
Cerium		*0.0120*	
Cesium		*0.0180*	
Iron	*100000*	*90379*	*90*
Strontium		*0.822*	
Thorium		*0.103*	
Tin		*0.306*	
Total Heavy Metals		*0.0000*	
Uranium		*0.0070*	

Interference not evaluated in ICP-MS

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

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

Lab Sample ID: ICSAB 440-590547/13 | Instrument ID: ICPMS6

Lab File ID: 015ICSB.d | ICS Source: MEICPMS ICSAB_00276

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Antimony	20.0	19.9	99
Arsenic	20.0	19.2	96
Barium	20.0	19.0	95
Beryllium	20.0	17.5	87
Cadmium	20.0	18.3	92
Chromium	20.0	18.4	92
Cobalt	20.0	18.0	90
Copper	20.0	17.3	86
Lead	20.0	17.0	85
Manganese	20.0	18.8	94
Molybdenum	2020	2080	103
Nickel	20.0	17.6	88
Selenium	20.0	19.4	97
Silver	20.0	17.9	90
Thallium	20.0	16.3	81
Vanadium	20.0	18.6	93
Zinc	20.0	17.8	89
Aluminum	*100000*	*96301*	*96*
Cerium	*20.0*	*17.4*	*87*
Cesium	*20.0*	*19.1*	*96*
Iron	*100000*	*89464*	*89*
Rubidium	*20.0*	*21.8*	*109*
Strontium	*20.0*	*21.1*	*105*
Tin	*20.0*	*19.2*	*96*
Total Heavy Metals	*120*	*106*	*89*
Uranium	*20.0*	*17.1*	*85*

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

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

Lab Sample ID: ICSA 440-590547/39 | Instrument ID: ICPMS6

Lab File ID: 125ICSA.d | ICS Source: MEICPMS ICSA_00349

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Antimony		**0.183**	
Arsenic		**0.0490**	
Barium		**0.179**	
Beryllium		**0.0040**	
Cadmium		**0.152**	
Chromium		**0.267**	
Cobalt		**0.273**	
Copper		**0.402**	
Lead		**0.0390**	
Manganese		**0.387**	
Molybdenum	**2000**	**2064**	**103**
Nickel		**0.284**	
Selenium		**0.176**	
Silver		**0.0230**	
Thallium		**0.0070**	
Vanadium		**0.0360**	
Zinc		**0.345**	
Aluminum	*100000*	*92865*	*93*
Cerium		*0.0150*	
Cesium		*0.0220*	
Iron	*100000*	*87996*	*88*
Strontium		*0.887*	
Thorium		*0.0660*	
Tin		*0.320*	
Total Heavy Metals		*0.0000*	
Uranium		*0.0050*	

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

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

Lab Sample ID: ICSAB 440-590547/40 | Instrument ID: ICPMS6

Lab File ID: 126ICSB.d | ICS Source: MEICPMS ICSAB_00276

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Antimony	**20.0**	**20.1**	**100**
Arsenic	**20.0**	**18.8**	**94**
Barium	**20.0**	**19.2**	**96**
Beryllium	**20.0**	**16.0**	**80**
Cadmium	**20.0**	**18.2**	**91**
Chromium	**20.0**	**18.0**	**90**
Cobalt	**20.0**	**17.5**	**87**
Copper	**20.0**	**16.8**	**84**
Lead	**20.0**	**17.0**	**85**
Manganese	**20.0**	**18.2**	**91**
Molybdenum	**2020**	**2084**	**103**
Nickel	**20.0**	**16.8**	**84**
Selenium	**20.0**	**18.8**	**94**
Silver	**20.0**	**18.1**	**90**
Thallium	**20.0**	**16.3**	**81**
Vanadium	**20.0**	**18.3**	**92**
Zinc	**20.0**	**17.3**	**86**
Aluminum	*100000*	*92706*	*93*
Cerium	*20.0*	*17.5*	*87*
Cesium	*20.0*	*19.3*	*97*
Iron	*100000*	*86359*	*86*
Rubidium	*20.0*	*22.4*	*112*
Strontium	*20.0*	*21.8*	*109*
Tin	*20.0*	*19.4*	*97*
Total Heavy Metals	*120*	*104*	*87*
Uranium	*20.0*	*17.1*	*86*

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

FORM IVA-IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS

Client ID: STSB07-FD_0.5-3 MS

Lab ID: 440-258906-3 MS

Lab Name: Eurofins Irvine

Job No.: 440-258906-1

SDG No.:

Matrix: Solid

Concentration Units: mg/Kg

% Solids: 93.3

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Mercury	0.552	✓	0.16	✓	0.421	93	✓ 75-125		7471A

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.
Note - Results and Reporting Limits have been adjusted for dry weight.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS

Client ID: STSB07-FD_0.5-3 MSD

Lab ID: 440-258906-3 MSD

Lab Name: Eurofins Irvine

Job No.: 440-258906-1

SDG No.:

Matrix: Solid

Concentration Units: mg/Kg

% Solids: 93.3

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Mercury	0.569	✓	0.429	95	✓ 75-125	3	✓ 20		7471A

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.
Note - Results and Reporting Limits have been adjusted for dry weight.

FORM VD - IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS

Site Sample

Client ID:

Lab ID: 440-258875-B-1-E MS

Lab Name: Eurofins Irvine

Job No.: 440-258906-1

SDG No.:

Matrix: Solid

Concentration Units: mg/Kg

% Solids: 95.3

Analyte	SSR C	Sample Result (SR) C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Mercury	0.399	0.062	0.420	80	75-125		7471A

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.
Note - Results and Reporting Limits have been adjusted for dry weight.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS

Client ID:

Lab ID: 440-258875-B-1-F MSD

Lab Name: Eurofins Irvine

Job No.: 440-258906-1

SDG No.:

Matrix: Solid

Concentration Units: mg/Kg

% Solids: 95.3

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Mercury	0.409		0.420	83	75-125	3	20		7471A

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.
Note - Results and Reporting Limits have been adjusted for dry weight.

FORM VD - IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS

Site Sample

Client ID:

Lab ID: 440-258909-B-43-B MS ^5

Lab Name: Eurofins Irvine

Job No.: 440-258906-1

SDG No.:

Matrix: Solid

Concentration Units: mg/Kg

% Solids: 94.5

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Aluminum	7230		6200		53.2	1961	75-125	4	6010B
Boron	49.6		ND		53.2	93	75-125		6010B
Calcium	4700		4500		266	68	75-125	4	6010B
Iron	18100		16000		53.2	3489	75-125	4	6010B
Lithium	57.2		5.1	J	53.2	98	75-125		6010B
Magnesium	5830		5300		266	210	75-125	4	6010B
Phosphorus	721		750		53.2	-49	75-125	4	6010B
Potassium ↑	2080		1200		532	159	75-125	F1	6010B
Sodium	579		55	J	532	98	75-125		6010B
Strontium	73.9		23		53.2	95	75-125		6010B
Tin	51.3		ND		53.2	96	75-125		6010B
Titanium	490		380		53.2	200	75-125	4	6010B
Antimony ↓	37.4		ND		53.2	70	75-125	F1	6020
Arsenic	48.6		1.2		53.2	89	75-125		6020
Barium	94.2		37		53.2	107	75-125		6020
Beryllium	43.4		0.28	J	53.2	81	75-125		6020
Cadmium	48.0		ND		53.2	90	75-125		6020
Chromium	52.4		7.0		53.2	85	75-125		6020
Cobalt	51.5		5.5		53.2	86	75-125		6020
Copper	1400		1200		53.2	403	75-125	4	6020
Lead	48.1		1.2		53.2	88	75-125		6020
Manganese	157		110		53.2	90	75-125		6020
Molybdenum	49.6		1.5		53.2	90	75-125		6020
Nickel	53.1		7.8		53.2	85	75-125		6020
Selenium	48.7		2.1		53.2	88	75-125		6020
Silver	25.1		0.16	J	26.6	94	75-125		6020
Thallium	46.4		ND		53.2	87	75-125		6020
Vanadium	65.2		21		53.2	84	75-125		6020
Zinc	63.1		18		53.2	85	75-125		6020

SSR = Spiked Sample Result

K ↑ Pb ↓

J⊗ U/J

Calculations are performed before rounding to avoid round-off errors in calculated results.
Note - Results and Reporting Limits have been adjusted for dry weight.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS

Client ID:

Lab ID: 440-258909-B-43-C MSD ^5

Lab Name: Eurofins Irvine

Job No.: 440-258906-1

SDG No.:

Matrix: Solid

Concentration Units: mg/Kg

% Solids: 94.5

Analyte	(SDR) C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit 35	Q	Method
Aluminum	8040	54.0	3429	75-125	11	20	4	6010B
Boron	51.2	54.0	95	75-125	3	20		6010B
Calcium	4930	270	154	75-125	5	20	4	6010B
Iron	18300	54.0	3850	75-125	1	20	4	6010B
Lithium	58.1	54.0	98	75-125	2	20		6010B
Magnesium	6010	270	274	75-125	3	20	4	6010B
Phosphorus	776	54.0	54	75-125	7	20	4	6010B
Potassium	2370	540	210	75-125	13	20	F1	6010B
Sodium	599	540	101	75-125	3	20		6010B
Strontium	80.6	54.0	106	75-125	9	20		6010B
Tin	52.1	54.0	97	75-125	2	20		6010B
Titanium	606	54.0	413	75-125	21	20	4 F2	6010B
Antimony	38.0	54.0	70	75-125	2	20	F1	6020
Arsenic	49.4	54.0	89	75-125	2	20		6020
Barium	103	54.0	121	75-125	9	20		6020
Beryllium	43.9	54.0	81	75-125	1	20		6020
Cadmium	49.0	54.0	91	75-125	2	20		6020
Chromium	53.6	54.0	86	75-125	2	20		6020
Cobalt	52.3	54.0	87	75-125	2	20		6020
Copper	1300	54.0	209	75-125	8	20	4	6020
Lead	48.9	54.0	88	75-125	2	20		6020
Manganese	162	54.0	97	75-125	3	20		6020
Molybdenum	50.8	54.0	91	75-125	2	20		6020
Nickel	54.0	54.0	85	75-125	2	20		6020
Selenium	48.6	54.0	86	75-125	0	20		6020
Silver	25.7	27.0	94	75-125	2	20		6020
Thallium	47.1	54.0	87	75-125	2	20		6020
Vanadium	68.5	54.0	89	75-125	5	20		6020
Zinc	64.8	54.0	86	75-125	3	20		6020

SDR = Sample Duplicate Result

K ↑ Sb ↓

Calculations are performed before rounding to avoid round-off errors in calculated results.
Note - Results and Reporting Limits have been adjusted for dry weight.

FORM VD - IN

5B-IN
POST DIGESTION SPIKE SAMPLE RECOVERY
METALS

Client ID:

Lab ID: 440-258909-B-43-A PDS ^5

Lab Name: Eurofins Irvine

Job No.: 440-258906-1

SDG No.:

Matrix: Solid

Concentration Units: mg/Kg

Analyte	SSR C	Sample Result (SR) C		Spike Added (SA)	%R	Control Limit %R	Q	Method
Aluminum	6320	6200		54.1	NC	80-120		6010B
Boron	53.9	ND		54.1	99	80-120		6010B
Calcium	4820	4500		271	NC	80-120		6010B
Iron	16400	16000		54.1	NC	80-120		6010B
Lithium	59.6	5.1	J	54.1	101	80-120		6010B
Magnesium	5670	5300		271	NC	80-120		6010B
Phosphorus	810	750		54.1	NC	80-120		6010B
Potassium	1770	1200		541	100	80-120		6010B
Sodium	599	55	J	541	100	80-120		6010B
Strontium	76.7	23		54.1	99	80-120		6010B
Tin	53.9	ND		54.1	100	80-120		6010B
Titanium	443	380		54.1	110	80-120		6010B
Antimony	54.2	ND		54.1	100	75-125		6020
Arsenic	51.9	1.2		54.1	94	75-125		6020
Barium	90.7	37		54.1	99	75-125		6020
Beryllium	46.7	0.28	J	54.1	86	75-125		6020
Cadmium	51.6	ND		54.1	95	75-125		6020
Chromium	57.2	7.0		54.1	93	75-125		6020
Cobalt	55.3	5.5		54.1	92	75-125		6020
Copper	1240	1200		54.1	NC	75-125		6020
Lead	51.9	1.2		54.1	94	75-125		6020
Manganese	161	110		54.1	96	75-125		6020
Molybdenum	54.7	1.5		54.1	98	75-125		6020
Nickel	57.0	7.8		54.1	91	75-125		6020
Selenium	51.1	2.1		54.1	91	75-125		6020
Silver	52.6	0.16	J	54.1	97	75-125		6020
Thallium	50.5	ND		54.1	93	75-125		6020
Vanadium	71.3	21		54.1	94	75-125		6020
Zinc	66.5	18		54.1	89	75-125		6020

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.
Note - Results and Reporting Limits have been adjusted for dry weight.

FORM VB - IN

8-IN
ICP-AES AND ICP-MS SERIAL DILUTIONS
METALS

Lab ID: 440-258909-B-43-A SD ^25

SDG No:

Lab Name: Eurofins Irvine | Job No: 440-258906-1

Matrix: Solid | Concentration Units: mg/Kg

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Aluminum	6200		5870		5.2		6010B
Boron	ND		ND		NC		6010B
Calcium	4500		4400		2.7		6010B
Iron	16000		15900		2.1		6010B
Lithium	5.1	J	ND		NC		6010B
Magnesium	5300		5270		0.19		6010B
Phosphorus	750		728		2.6		6010B
Potassium	1200		1230		NC		6010B
Sodium	55	J	ND		NC		6010B
Strontium	23		22.8	J	NC		6010B
Tin	ND		ND		NC		6010B
Titanium	380		364		5.0		6010B

<10%

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

FORM VIII-IN

8-IN
ICP-AES AND ICP-MS SERIAL DILUTIONS
METALS

Lab ID: 440-258909-B-43-A SD ^100

SDG No:

Lab Name: Eurofins Irvine

Job No: 440-258906-1

Matrix: Solid

Concentration Units: mg/Kg

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Antimony	ND		ND		NC		6020
Arsenic	1.2		ND		NC		6020
Barium	37		37.5		1.2		6020
Beryllium	0.28	J	ND		NC		6020
Cadmium	ND		ND		NC		6020
Chromium	7.0		6.98		NC		6020
Cobalt	5.5		5.62		NC		6020
Copper	1200		1210		2.4		6020
Lead	1.2		ND		NC		6020
Manganese	110		111		1.4		6020
Molybdenum	1.5		ND		NC		6020
Nickel	7.8		8.16		NC		6020
Selenium	2.1		2.06	J	NC		6020
Silver	0.16	J	ND		NC		6020
Thallium	ND		ND		NC		6020
Vanadium	21		20.6		NC		6020
Zinc	18		ND		NC		6020

✓

<10%

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

FORM VIII-IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 440-590387/2-A ^5

Lab Name: Eurofins Irvine

Job No.: 440-258906-1

Sample Matrix: Solid

LCS Source: ICP STD A_00003

Solid(mg/Kg)

Analyte	True	Found	C	%R	Limits		Q	Method
Aluminum	49.8	45.6		92	80	120		6010B
Boron	49.8	45.3		91	80	120		6010B
Calcium	249	234		94	80	120		6010B
Iron	49.8	49.7		100	80	120		6010B
Lithium	49.8	46.3		93	80	120		6010B
Magnesium	249	232		93	80	120		6010B
Phosphorus	49.8	45.8		92	80	120		6010B
Potassium	498	467		94	80	120		6010B
Sodium	498	457		92	80	120		6010B
Strontium	49.8	46.0		93	80	120		6010B
Tin	49.8	46.9		94	80	120		6010B
Titanium	49.8	46.9		94	80	120		6010B

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

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 440-590387/2-A ^20

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

Sample Matrix: Solid | LCS Source: ICP STD B_00003

Solid(mg/Kg)

Analyte	True	Found	C	%R	Limits		Q	Method
Antimony	49.8	46.5		93	80	120		6020
Arsenic	49.8	44.5		90	80	120		6020
Barium	49.8	46.2		93	80	120		6020
Beryllium	49.8	41.9		84	80	120		6020
Cadmium	49.8	44.8		90	80	120		6020
Chromium	49.8	44.2		89	80	120		6020
Cobalt	49.8	44.3		89	80	120		6020
Copper	49.8	44.6		90	80	120		6020
Lead	49.8	43.8		88	80	120		6020
Manganese	49.8	44.2		89	80	120		6020
Molybdenum	49.8	44.8		90	80	120		6020
Nickel	49.8	44.2		89	80	120		6020
Selenium	49.8	43.9		88	80	120		6020
Silver	24.9	23.6		95	80	120		6020
Thallium	49.8	44.2		89	80	120		6020
Vanadium	49.8	44.4		89	80	120		6020
Zinc	49.8	43.6		88	80	120		6020

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

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 440-590447/2-A

Lab Name: Eurofins Irvine

Job No.: 440-258906-1

Sample Matrix: Solid

LCS Source: ME 1 PPM HG1_00416

Solid(mg/Kg)

Analyte	True	Found	C	%R	Limits		Q	Method
Mercury	0.400	0.373		93	80	120		7471A

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

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 440-590448/2-A

Lab Name: Eurofins Irvine

Job No.: 440-258906-1

Sample Matrix: Solid

LCS Source: ME 1 PPM HG1_00416

Solid(mg/Kg)

Analyte	True	Found	C	%R	Limits		Q	Method
Mercury	0.400	0.398		100	80	120		7471A

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

FORM VIIA - IN

9-IN
DETECTION LIMITS
METALS

Lab Name: Eurofins Irvine

Job Number: 440-258906-1

SDG Number:

Matrix: Solid

Instrument ID: ICP8

Method: 6010B

MDL Date: 08/11/2017 12:45

Prep Method: 3050B

Analyte	Wavelength/ Mass	RL (mg/Kg)	MDL (mg/Kg)
Aluminum	308.215	10	7.7
Boron	249.773	5	2.5
Calcium	315.887	25	13.5
Iron	238.204	10	6.9
Lithium	610.362	5	2.8
Magnesium	279.079	10	5
Phosphorus	214.914	5	2.5
Potassium		62.5	32.5
Sodium	589.592	62.5	32
Strontium	421.552	5	2.5
Tin	189.933	10	5
Titanium	334.941	2	1

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: Eurofins Irvine | Job Number: 440-258906-1

SDG Number:

Matrix: Solid | Instrument ID: ICP8

Method: 6010B | XMDL Date: 06/15/2017 17:46

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Aluminum	308.215	0.1	0.05
Boron	249.773	0.05	0.025
Calcium	315.887	0.1	0.05
Iron	238.204	0.1	0.05
Lithium	610.362	0.5	0.025
Magnesium	279.079	0.02	0.01
Phosphorus	214.914	0.2	0.1
Potassium	766.49	0.5	0.25
Sodium	589.592	0.5	0.26
Strontium	421.552	0.02	0.01
Tin	189.933	0.1	0.05
Titanium	334.941	0.005	0.0025

FORM IX - IN

9-IN
DETECTION LIMITS
METALS

Lab Name: Eurofins Irvine

Job Number: 440-258906-1

SDG Number:

Matrix: Solid

Instrument ID: ICPMS6

Method: 6020

MDL Date: 08/07/2015 16:43

Prep Method: 3050B

Analyte	Wavelength/ Mass	RL (mg/Kg)	MDL (mg/Kg)
Antimony	121	1	0.27
Arsenic	75	0.5	0.25
Barium	135	0.5	0.25
Beryllium	9	0.3	0.15
Cadmium	114	0.5	0.25
Chromium	52	1	0.5
Cobalt	59	0.5	0.21
Copper		1	0.5
Lead	208	0.5	0.25
Manganese	55	0.5	0.25
Molybdenum	98	1	0.5
Nickel	60	1	0.5
Selenium		1	0.2
Silver	107	0.5	0.1
Thallium	205	0.5	0.25
Vanadium	51	1	0.5
Zinc	66	10	5

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: Eurofins Irvine | Job Number: 440-258906-1

SDG Number:

Matrix: Solid | Instrument ID: ICPMS6

Method: 6020 | XMDL Date: 05/13/2019 10:08

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Antimony	121	2	0.5
Arsenic	75	1	0.5
Barium	135	1	0.5
Beryllium	9	0.5	0.25
Cadmium	114	1	0.25
Chromium	52	2	0.5
Cobalt	59	1	0.5
Copper		2	0.5
Lead	208	1	0.5
Manganese	55	1	0.5
Molybdenum	98	2	0.5
Nickel	60	2	0.5
Selenium		2	0.5
Silver	107	1	0.5
Thallium	205	1	0.2
Vanadium	51	2	1
Zinc	66	20	2.5

FORM IX - IN

9-IN
DETECTION LIMITS
METALS

Lab Name: Eurofins Irvine | Job Number: 440-258906-1

SDG Number:

Matrix: Solid | Instrument ID: CV-HG4

Method: 7471A | MDL Date: 07/05/2011 10:19

Prep Method: 7471A

Analyte	Wavelength/ Mass	RL (mg/Kg)	MDL (mg/Kg)
Mercury		0.02	0.012

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: Eurofins Irvine

Job Number: 440-258906-1

SDG Number:

Matrix: Solid

Instrument ID: CV-HG4

Method: 7471A

XMDL Date: 01/01/2016 16:44

Analyte	Wavelength/ Mass	XRL (mg/Kg)	XMDL (mg/Kg)
Mercury		0.02	0.012

FORM IX - IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins Irvine Job Number: 440-258906-1

SDG No.:

ICP-AES Instrument ID: ICP8 Date: 01/15/2020

Analyte	Wave Length	Al	Ca	Co	Cr	Cu	Fe	Mg	Mn	Mo	Ni	Sn	Ti	V	W
Aluminum	396.152		0.000013	-0.000018	0.000025	0.000008	-0.000036	0.000046	0	0.02689	-0.000079	-0.000019	-0.000203	0.000009	0.001073
Antimony	206.834	0.000009	0.000003	0.000006	0.010395	-0.000001	0.000022	0.00005	-0.000075	-0.01878	-0.000037	0.000237	0.000208	0.00005	-0.000369
Arsenic	188.980	0.000011	-0.000005	-0.000018	-0.012816	0.00004	-0.00009	0.000008	-0.000015	0.000025	0.000095	-0.000094	-0.000062	-0.000062	0.000903
Barium	233.527	0	0	-0.000006	-0.000002	0.000001	0.000078	0.000001	0	-0.000191	-0.000007	-0.000001	0.000003	-0.000164	0.000137
Beryllium	234.861	0	0	0.000004	0	0	0.000098	0	-0.000003	-0.000013	-0.000018	0.000001	0.000003	0.000001	0.000004
Boron	249.678	0	0.000001	0.00088	0.000452	-0.00002	-0.00011	0	-0.00007	-0.000017	-0.000005	-0.000014	-0.00003	-0.000018	-0.010398
Cadmium	214.439	-0.000001	0	0.000002	-0.000009	-0.000003	0.00006	0	0.000001	-0.000006	0.000004	0.000001	0.000005	0.000002	-0.000056
Calcium	422.673	-0.000006		0.000876	0.000377	-0.000272	-0.000064	0.000039	-0.000053	-0.000524	-0.000396	-0.000114	-0.000132	0.000387	-0.000193
Chromium	205.560	0.000001	0.000003	-0.000007		0.000042	0.000004	0	0.000025	-0.000681	-0.000317	0.000014	0.000028	-0.000018	0.000386
Cobalt	228.615	0	0.000001		0.000085	0.000016	0.000008	0.000002	-0.000003	0.000019	0.000157	0.000002	0.001777	-0.000007	0.000113
Copper	324.754	0.000001	-0.000019	0.000014	0.000019		0.00001	0.000002	0.000013	0.000217	0.000018	0.000014	0.000206	-0.000092	0.00002
Iron	238.204	-0.000007	0.000002	-0.000338	-0.000187	-0.00013		0.000024	0.000002	-0.000162	-0.000109	-0.000119	-0.000132	-0.000188	-0.000132
Lead	220.353	-0.000039	0.000003	-0.000498	0	-0.00009	-0.000204	-0.0005	0.00009	-0.000819	-0.000019	0.000021	-0.000428	-0.000038	-0.000096
Lithium	670.783	0.000054	0.000021	-0.000148	-0.00023	-0.001097	-0.0001	0.000057	-0.000518	-0.000367	-0.000358	-0.001101	0.000381	-0.001377	-0.000136
Magnesium	279.078	-0.00001	0.000007	-0.000382	-0.000435	-0.0001	-0.000217		0.000627	-0.000188	-0.000014	-0.000068	-0.000188	0.000112	-0.00038
Manganese	259.372	0	0.000001	0.00001	-0.000007	-0.000001	0.0012	0.001474		0.004715	0.000013	0.000005	0.000019	0.00001	0.000005
Molybdenum	204.598	0.000025	0	0.000039	0.000067	0.000001	0.000004	0	0.000022		0.000085	-0.000008	0.00005	-0.000031	0.000033
Nickel	231.604	0.000001	-0.000003	-0.000756	0.000004	-0.000028	-0.000011	-0.000002	-0.000049	-0.000042		0.00006	0.000011	-0.000001	-0.000013
Phosphorus	213.618	0.000001	-0.000013	0.000141	0.000127	-0.03762	0.00005	0.000004	-0.000139	-0.020778	0.000094	-0.000098	0.000151	0.00024	-0.000573
Potassium	744.491	0.000095	0.000087	0.002408	0.001429	-0.000339	0.000196	0.000277	-0.000372	-0.001987	0.001312	0.001861	0.001852	0.001103	0.001579
Selenium	196.026	-0.000006	-0.000007	-0.00066	-0.000051	-0.000370	-0.00037	-0.00032	0.000565	-0.000003	-0.000241	0	-0.000066	-0.000483	0.009364
Silicon	251.611	0.000013	0.00002	0.000136	0.000095	0.000162	-0.000038	0.000048	0.000255	0.010982	0.000192	0.000679	0.004127	0.000213	0.053502
Silver	328.068	0	-0.000003	-0.000013	-0.000026	-0.000003	-0.000041	-0.000002	0.000075	0.000029	0.000003	-0.000009	-0.000107	0.000009	0.000009
Sodium	589.592	0.00003	0.000041	0.000558	0.000239	0.000428	0	0.000018	0.000127	0.002128	0.000479	0.000076	0.000228	-0.00004	0.006467
Strontium	421.552	0	0.00003	0.000002	0.000003	-0.000001	0.000001	0	0	0.000001	0.000002	0.000002	0.000001	0	0.000017
Thallium	190.794	-0.000001	-0.000005	0.003078	0.000156	-0.000039	0.000078	0	0.001388	0.000096	-0.000005	-0.000043	-0.010982	-0.02142	0.000265
Tin	189.925	0.000001	0	0.000083	0.000021	0.000021	0	0.000003	0.000047	0.000038	0.000039		-0.000119	0.000028	0.000028
Titanium	336.122	0	-0.000008	-0.000017	-0.000029	0.000002	0	0	0.000005	-0.00012	-0.000039	0.000005		-0.000364	0.000399
Tungsten	207.912	-0.000006	-0.000009	-0.000082	-0.000001	-0.000042	-0.00005	-0.000001	-0.000021	0.000144	-0.000024	-0.000005	-0.000009	-0.000019	
Vanadium	292.401	0.000004	0.000038	0.000001	0.000214	0.000012	-0.000004	0.000002	0.000014	-0.008504	0.000003	0.000009	0.000907		0.000183

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins Irvine Job Number: 440-258906-1

SDG No.:

ICP-AES Instrument ID: ICP8 Date: 01/15/2020

Analyte	Wave Length	Al	Ca	Co	Cr	Cu	Fe	Mg	Mn	Mo	Ni	Sn	Ti	V	W
Yttrium	371.029	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zinc	202.548	0.000003	0.000003	0.000013	-0.001604	0.0078	0	-0.00003	0.000044	0.00007	-0.000062	0.000012	0.000048	0.000036	0.000339
Zirconium	343.823	0	0.000002	-0.000097	0.000005	0.000002	-0.00025	-0.0003	-0.000025	-0.000012	-0.000009	0.000007	-0.000025	0.000005	0.000085

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins Irvine Job Number: 440-258906-1

SDG No.:

ICP-AES Instrument ID: ICP8 Date: 01/15/2020

Analyte	Wave Length	Zn	Zr
Aluminum	396.152	-0.00005	0.008541
Antimony	206.834	0.000096	-0.000086
Arsenic	188.980	-0.000075	0.000125
Barium	233.527	0.000001	-0.000001
Beryllium	234.861	0.000001	0.000006
Boron	249.678	0.00002	0.000445
Cadmium	214.439	0.000005	0.000001
Calcium	422.673	-0.000066	-0.000488
Chromium	205.560	0.000037	0.000101
Cobalt	228.615	-0.000013	-0.000003
Copper	324.754	0.000016	0.00004
Iron	238.204	0.00011	0.000622
Lead	220.353	-0.000028	-0.000005
Lithium	670.783	-0.00073	-0.000634
Magnesium	279.078	-0.000119	-0.000067
Manganese	259.372	0.000005	0.000048
Molybdenum	204.598	0.000052	0.000002
Nickel	231.604	0.000023	0.000028
Phosphorus	213.618	-0.00009	0.000028
Potassium	744.491	-0.001412	0.000491
Selenium	196.026	-0.000101	-0.000166
Silicon	251.611	0.001039	0.006759
Silver	328.068	0.000001	0.003947
Sodium	589.592	-0.000112	0.000318
Strontium	421.552	0	-0.00002
Thallium	190.794	-0.000027	0.000028
Tin	189.925	0.000048	0.000557
Titanium	336.122	0.000006	0.000122
Tungsten	207.912	0.008281	0.000004
Vanadium	292.401	0.000024	-0.000008

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins Irvine

Job Number: 440-258906-1

SDG No.:

ICP-AES Instrument ID: ICP8

Date: 01/15/2020

Analyte	Wave Length	Zn	Zr
Yttrium	371.029	0	0
Zinc	202.548		0.000117
Zirconium	343.823	0.000003	

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins Irvine Job Number: 440-258906-1

SDG No.:

ICP-AES Instrument ID: ICP8 Date: 01/16/2020

Analyte	Wave Length	Al	Ca	Co	Cr	Cu	Fe	Mg	Mn	Mo	Ni	Sn	Ti	V	W
Aluminum	396.152		0.000013	-0.000018	0.000025	0.000008	-0.000036	0.000046	0	0.02689	-0.000079	-0.000019	-0.000203	0.000009	0.001073
Antimony	206.834	0.000009	0.000003	0.000006	0.010395	-0.000001	0.000022	0.00005	-0.000075	-0.01878	-0.000037	0.000237	0.000208	0.00005	-0.000369
Arsenic	188.980	0.000011	-0.000005	-0.000018	-0.012816	0.00004	-0.00009	0.000008	-0.000015	0.000025	0.000095	-0.000094	-0.000062	-0.000062	0.000903
Barium	233.527	0	0	-0.000006	-0.000002	0.000001	0.000078	0.000001	0	-0.000191	-0.000007	-0.000001	0.000003	-0.000164	0.000137
Beryllium	234.861	0	0	0.000004	0	0	0.000098	0	-0.000003	-0.000013	-0.000018	0.000001	0.000003	0.000001	0.000004
Boron	249.678	0	0.000001	0.00088	0.000452	-0.00002	-0.00011	0	-0.00007	-0.000017	-0.000005	-0.000014	-0.00003	-0.000018	-0.010398
Cadmium	214.439	-0.000001	0	0.000002	-0.000009	-0.000003	0.00006	0	0.000001	-0.000006	0.000004	0.000001	0.000005	0.000002	-0.000056
Calcium	422.673	-0.000006		0.000876	0.000377	-0.000272	-0.000064	0.000039	-0.000053	-0.000524	-0.000396	-0.000114	-0.000132	0.000387	-0.000193
Chromium	205.560	0.000001	0.000003	-0.000007		0.000042	0.000004	0	0.000025	-0.000681	-0.000317	0.000014	0.000028	-0.000018	0.000386
Cobalt	228.615	0	0.000001		0.000085	0.000016	0.000008	0.000002	-0.000003	0.000019	0.000157	0.000002	0.001777	-0.000007	0.000113
Copper	324.754	0.000001	-0.000019	0.000014	0.000019		0.00001	0.000002	0.000013	0.000217	0.000018	0.000014	0.000206	-0.000092	0.00002
Iron	238.204	-0.000007	0.000002	-0.000338	-0.000187	-0.00013		0.000024	0.000002	-0.000162	-0.000109	-0.000119	-0.000132	-0.000188	-0.000132
Lead	220.353	-0.000039	0.000003	-0.000498	0	-0.00009	-0.000204	-0.0005	0.00009	-0.000819	-0.000019	0.000021	-0.000428	-0.000038	-0.000096
Lithium	670.783	0.000054	0.000021	-0.000148	-0.00023	-0.001097	-0.0001	0.000057	-0.000518	-0.000367	-0.000358	-0.001101	0.000381	-0.001377	-0.000136
Magnesium	279.078	-0.00001	0.000007	-0.000382	-0.000435	-0.0001	-0.000217		0.000627	-0.000188	-0.000014	-0.000068	-0.000188	0.000112	-0.00038
Manganese	259.372	0	0.000001	0.00001	-0.000007	-0.000001	0.0012	0.001474		0.004715	0.000013	0.000005	0.000019	0.00001	0.000005
Molybdenum	204.598	0.000025	0	0.000039	0.000067	0.000001	0.000004	0	0.000022		0.000085	-0.000008	0.00005	-0.000031	0.000033
Nickel	231.604	0.000001	-0.000003	-0.000756	0.000004	-0.000028	-0.000011	-0.000002	-0.000049	-0.000042		0.00006	0.000011	-0.000001	-0.000013
Phosphorus	213.618	0.000001	-0.000013	0.000141	0.000127	-0.03762	0.00005	0.000004	-0.000139	-0.020778	0.000094	-0.000098	0.000151	0.00024	-0.000573
Potassium	744.491	0.000095	0.000087	0.002408	0.001429	-0.000339	0.000196	0.000277	-0.000372	-0.001987	0.001312	0.001861	0.001852	0.001103	0.001579
Selenium	196.026	-0.000006	-0.000007	-0.00066	-0.000051	-0.000370	-0.000411	-0.00032	0.000565	-0.000003	-0.000241	0	-0.000066	-0.000483	0.009364
Silicon	251.611	0.000013	0.00002	0.000136	0.000095	0.000162	-0.000038	0.000048	0.000255	0.010982	0.000192	0.000679	0.004127	0.000213	0.053502
Silver	328.068	0	-0.000003	-0.000013	-0.000026	-0.000003	-0.000041	-0.000002	0.000075	0.000029	0.000003	-0.000009	-0.000107	0.000009	0.000009
Sodium	589.592	0.00003	0.000041	0.000558	0.000239	0.000428	0	0.000018	0.000127	0.002128	0.000479	0.000076	0.000228	-0.00004	0.006467
Strontium	421.552	0	0.00003	0.000002	0.000003	-0.000001	0.000001	0	0	0.000001	0.000002	0.000002	0.000001	0	0.000017
Thallium	190.794	-0.000001	-0.000005	0.003078	0.000156	-0.000039	0.000078	0	0.001388	0.000096	-0.000005	-0.000043	-0.010982	-0.02142	0.000265
Tin	189.925	0.000001	0	0.000083	0.000021	0.000021	0	0.000003	0.000047	0.000038	0.000039		-0.000119	0.000028	0.000028
Titanium	336.122	0	-0.000008	-0.000017	-0.000029	0.000002	0	0	0.000005	-0.00012	-0.000039	0.000005		-0.000364	0.000399
Tungsten	207.912	-0.000006	-0.000009	-0.000082	-0.000001	-0.000042	-0.00005	-0.000001	-0.000021	0.000144	-0.000024	-0.000005	-0.000009	-0.000019	
Vanadium	292.401	0.000004	0.000038	0.000001	0.000214	0.000012	-0.000004	0.000002	0.000014	-0.008504	0.000003	0.000009	0.000907		0.000183

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins Irvine Job Number: 440-258906-1

SDG No.:

ICP-AES Instrument ID: ICP8 Date: 01/16/2020

Analyte	Wave Length	Al	Ca	Co	Cr	Cu	Fe	Mg	Mn	Mo	Ni	Sn	Ti	V	W
Yttrium	371.029	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zinc	202.548	0.000003	0.000003	0.000013	-0.001604	0.0078	0	-0.00003	0.000044	0.00007	-0.000062	0.000012	0.000048	0.000036	0.000339
Zirconium	343.823	0	0.000002	-0.000097	0.000005	0.000002	-0.00025	-0.0003	-0.000025	-0.000012	-0.000009	0.000007	-0.000025	0.000005	0.000085

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins Irvine Job Number: 440-258906-1

SDG No.:

ICP-AES Instrument ID: ICP8 Date: 01/16/2020

Analyte	Wave Length	Zn	Zr
Aluminum	396.152	-0.00005	0.008541
Antimony	206.834	0.000096	-0.000086
Arsenic	188.980	-0.000075	0.000125
Barium	233.527	0.000001	-0.000001
Beryllium	234.861	0.000001	0.000006
Boron	249.678	0.00002	0.000445
Cadmium	214.439	0.000005	0.000001
Calcium	422.673	-0.000066	-0.000488
Chromium	205.560	0.000037	0.000101
Cobalt	228.615	-0.000013	-0.000003
Copper	324.754	0.000016	0.00004
Iron	238.204	0.00011	0.000622
Lead	220.353	-0.000028	-0.000005
Lithium	670.783	-0.00073	-0.000634
Magnesium	279.078	-0.000119	-0.000067
Manganese	259.372	0.000005	0.000048
Molybdenum	204.598	0.000052	0.000002
Nickel	231.604	0.000023	0.000028
Phosphorus	213.618	-0.00009	0.000028
Potassium	744.491	-0.001412	0.000491
Selenium	196.026	-0.000101	-0.000166
Silicon	251.611	0.001039	0.006759
Silver	328.068	0.000001	0.003947
Sodium	589.592	-0.000112	0.000318
Strontium	421.552	0	-0.00002
Thallium	190.794	-0.000027	0.000028
Tin	189.925	0.000048	0.000557
Titanium	336.122	0.000006	0.000122
Tungsten	207.912	0.008281	0.000004
Vanadium	292.401	0.000024	-0.000008

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins Irvine Job Number: 440-258906-1

SDG No.:

ICP-AES Instrument ID: ICP8 Date: 01/16/2020

Analyte	Wave Length	Zn	Zr
Yttrium	371.029	0	0
Zinc	202.548		0.000117
Zirconium	343.823	0.000003	

X-IN

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins Irvine Job No: 440-258906-1

SDG No.:

Instrument ID: ICP8 Date: 06/15/2017 18:16

Analyte	Integ. Time (Sec.)	Concentration (mg/L)	Method
Aluminum		600	6010B
Boron		30	6010B
Calcium		600	6010B
Iron		600	6010B
Lithium		30	6010B
Magnesium		600	6010B
Phosphorus		30	6010B
Potassium		1000	6010B
Sodium		1000	6010B
Strontium		30	6010B
Tin		30	6010B
Titanium		30	6010B

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins Irvine Job No: 440-258906-1

SDG No.:

Instrument ID: ICPMS6 Date: 07/03/2018 18:32

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Antimony		5000	6020
Arsenic		5000	6020
Barium		5000	6020
Beryllium		1000	6020
Cadmium		5000	6020
Chromium		5000	6020
Cobalt		5000	6020
Copper		5000	6020
Lead		5000	6020
Manganese		4000	6020
Molybdenum		2000	6020
Nickel		5000	6020
Selenium		5000	6020
Silver		100	6020
Thallium		5000	6020
Vanadium		5000	6020
Zinc		5000	6020

FORM XI - IN

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins Irvine Job No: 440-258906-1

SDG No.:

Instrument ID: CV-HG4 Date: 01/01/2019 13:06

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Mercury		10	7471A

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

Prep Method: 3050B

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight (g)	Initial Volume	Final Volume (mL)
MB 440-590387/1-A ^5	01/14/2020 09:02	590387	1.96		50
LCS 440-590387/2-A ^5	01/14/2020 09:02	590387	2.01		50
440-258909-B-43-B MS ^5	01/14/2020 09:02	590387	1.99		50
440-258909-B-43-C MSD ^5	01/14/2020 09:02	590387	1.96		50
440-258906-1	01/14/2020 09:02	590387	2.01		50
440-258906-2	01/14/2020 09:02	590387	2.04		50
440-258906-3	01/14/2020 09:02	590387	2.03		50
440-258906-4	01/14/2020 09:02	590387	1.97		50
440-258906-5	01/14/2020 09:02	590387	2.01		50

L 6 mo.

FORM XII-IN

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

Prep Method: 3050B

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight (g)	Initial Volume	Final Volume (mL)
MB 440-590387/1-A ^20	01/14/2020 09:02	590387	1.96		50
LCS 440-590387/2-A ^20	01/14/2020 09:02	590387	2.01		50
440-258909-B-43-B MS ^20	01/14/2020 09:02	590387	1.99		50
440-258909-B-43-C MSD ^20	01/14/2020 09:02	590387	1.96		50
440-258906-1	01/14/2020 09:02	590387	2.01		50
440-258906-2	01/14/2020 09:02	590387	2.04		50
440-258906-3	01/14/2020 09:02	590387	2.03		50
440-258906-4	01/14/2020 09:02	590387	1.97		50
440-258906-5	01/14/2020 09:02	590387	2.01		50

6 mo.

FORM XII-IN

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

Prep Method: 7471A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight (g)	Initial Volume	Final Volume (mL)
MB 440-590447/1-A	01/17/2020 08:41	590447	0.50		50
LCS 440-590447/2-A	01/17/2020 08:41	590447	0.50		50
440-258875-B-1-E MS	01/17/2020 08:41	590447	0.50		50
440-258875-B-1-F MSD	01/17/2020 08:41	590447	0.50		50
440-258906-1	01/17/2020 08:41	590447	0.49		50
440-258906-2	01/17/2020 08:41	590447	0.49		50

< 28 days

FORM XII-IN

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

Prep Method: 7471A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight (g)	Initial Volume	Final Volume (mL)
MB 440-590448/1-A	01/17/2020 08:43	590448	0.50		50
LCS 440-590448/2-A	01/17/2020 08:43	590448	0.50		50
440-258906-3	01/17/2020 08:43	590448	0.51		50
440-258906-3 MS	01/17/2020 08:43	590448	0.51		50
440-258906-3 MSD	01/17/2020 08:43	590448	0.50		50
440-258906-4	01/17/2020 08:43	590448	0.50		50
440-258906-5	01/17/2020 08:43	590448	0.50		50

L28 days

FORM XII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

Instrument ID: ICP8 | Analysis Method: 6010B

Start Date: 01/15/2020 11:50 | End Date: 01/15/2020 17:29

Lab Sample Id	D/F	Type	Time	Al	B	Ca	Fe	K	Li	Mg	Na	P	Sn	Sr	Ti
ICIS 440-590755/1	1		11:50	X	X	X	X	X	X	X	X	X	X	X	X
STD1 440-590755/2 IC			11:53	X	X	X	X	X	X	X	X	X	X	X	X
STD2 440-590755/3 IC			11:58	X	X	X	X	X	X	X	X	X	X	X	X
STD3 440-590755/4 IC			12:00	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			12:10												
ICV 440-590755/6	1		12:15	X	X	X	X	X	X	X		X	X	X	X
ZZZZZZ			12:17												
ICV 440-590755/8	1		12:19								X				
ZZZZZZ			12:21												
ICB 440-590755/10	1		12:24	X	X	X	X	X	X	X	X	X	X	X	X
ICSA 440-590755/11	1		12:32	X	X	X	X	X	X	X	X	X	X	X	X
ICSAB 440-590755/12	1		12:35	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			12:37												
ZZZZZZ			12:39												
ZZZZZZ			12:41												
CRI 440-590755/16	1		12:43	X	X	X	X	X	X	X	X	X	X	X	X
CCV 440-590755/17			12:57												
ZZZZZZ			12:59												
CCB 440-590755/19			13:03												
ZZZZZZ			13:05												
ZZZZZZ			13:07												
ZZZZZZ			13:09												
ZZZZZZ			13:11												
ZZZZZZ			13:14												
ZZZZZZ			13:16												
ZZZZZZ			13:18												
ZZZZZZ			13:20												
ZZZZZZ			13:22												
ZZZZZZ			13:25												
CCV 440-590755/30			13:31												
CCB 440-590755/31			13:36												
ZZZZZZ			13:38												
ZZZZZZ			13:40												
ZZZZZZ			13:43												
ZZZZZZ			13:45												
ZZZZZZ			13:47												
ZZZZZZ			13:49												
ZZZZZZ			13:51												
ZZZZZZ			13:54												
ZZZZZZ			13:56												
CCV 440-590755/41	1		14:03	X	X	X	X	X	X	X	X	X	X	X	X
CCB 440-590755/42	1		14:07	X	X	X	X	X	X	X	X	X	X	X	X

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

Instrument ID: ICP8 | Analysis Method: 6010B

Start Date: 01/15/2020 11:50 | End Date: 01/15/2020 17:29

Lab Sample Id	D/F	Type	Time	Al	B	Ca	Fe	K	Li	Mg	Na	P	Sn	Sr	Ti
				Analytes											
MB 440-590387/1-A ^5	5	T	14:11	X	X	X	X	X	X	X	X	X	X	X	X
LCS 440-590387/2-A ^5	5	T	14:13	X	X	X	X	X	X	X	X	X	X	X	X
CCV 440-590755/45	1		14:38	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			14:40												
CCB 440-590755/47	1		14:44	X	X	X	X	X	X	X	X	X	X	X	X
440-258909-B-43-A SD ^25	25	T	14:46	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			14:48												
440-258909-B-43-B MS ^5	5	T	14:50	X	X	X	X	X	X	X	X	X	X	X	X
440-258909-B-43-C MSD ^5	5	T	14:53	X	X	X	X	X	X	X	X	X	X	X	X
440-258909-B-43-A PDS ^5	5	T	14:55	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			14:57												
ZZZZZZ			14:59												
ZZZZZZ			15:01												
ZZZZZZ			15:04												
440-258906-1	5	T	15:06	X	X	X	X	X	X	X	X	X	X	X	X
CCV 440-590755/58	1		15:11	X	X	X	X	X	X	X	X	X	X	X	X
CCB 440-590755/59	1		15:16	X	X	X	X	X	X	X	X	X	X	X	X
440-258906-2	5	T	15:19	X	X	X	X	X	X	X	X	X	X	X	X
440-258906-3	5	T	15:21	X	X	X	X	X	X	X	X	X	X	X	X
440-258906-4	5	T	15:23	X	X	X	X	X	X	X	X	X	X	X	X
440-258906-5	5	T	15:25	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			15:27												
ZZZZZZ			15:30												
ZZZZZZ			15:33												
ZZZZZZ			15:35												
ZZZZZZ			15:37												
CCV 440-590755/69	1		16:00	X	X	X	X	X	X	X	X	X	X	X	X
CCB 440-590755/70	1		16:06	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			16:08												
ZZZZZZ			16:10												
ZZZZZZ			16:12												
ZZZZZZ			16:14												
ZZZZZZ			16:17												
ZZZZZZ			16:19												
ZZZZZZ			16:21												
ZZZZZZ			16:23												
ZZZZZZ			16:25												
ZZZZZZ			16:28												
CCV 440-590755/81			16:34												
CCB 440-590755/82			16:38												
ZZZZZZ			16:47												
ZZZZZZ			16:49												

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

Instrument ID: ICP8 Analysis Method: 6010B

Start Date: 01/15/2020 11:50 End Date: 01/15/2020 17:29

Lab Sample Id	D/F	Type	Time	Analytes											
				Al	Ba	Fe	K	Li	Mg	Na	P	Sn	Sr	Ti	
ZZZZZZ			16:52												
ZZZZZZ			16:54												
ZZZZZZ			16:56												
ZZZZZZ			16:58												
ZZZZZZ			17:00												
ZZZZZZ			17:03												
ZZZZZZ			17:05												
ZZZZZZ			17:07												
CCV 440-590755/93			17:19												
CCB 440-590755/94			17:23												
CRI 440-590755/95	1		17:25	X	X	X	X	X	X	X	X	X	X	X	
ICSA 440-590755/96	1		17:27	X	X	X	X	X	X	X	X	X	X	X	
ICSAB 440-590755/97	1		17:29	X	X	X	X	X	X	X	X	X	X	X	

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

Instrument ID: ICP8 | Analysis Method: 6010B

Start Date: 01/16/2020 10:35 | End Date: 01/16/2020 15:10

Lab Sample Id	D/F	Type	Time	P	Analytes
ICIS 440-590938/1	1		10:35	X	
STD1 440-590938/2 IC			10:38	X	
STD2 440-590938/3 IC			10:43	X	
STD3 440-590938/4 IC			10:47	X	
ICV 440-590938/5			10:49		
ICV 440-590938/6	1		11:01	X	
ZZZZZZ			11:03		
ICV 440-590938/8	1		11:07		
ZZZZZZ			11:10		
ICB 440-590938/10	1		11:12	X	
ICSA 440-590938/11	1		11:16	X	
ICSAB 440-590938/12	1		11:20	X	
ZZZZZZ			11:22		
ZZZZZZ			11:24		
CRI 440-590938/15	1		11:31	X	
ZZZZZZ			11:34		
ZZZZZZ			11:36		
440-258906-1	10	T	11:38	X	
CCV 440-590938/19	1		11:54	X	
CCB 440-590938/20	1		11:56	X	
CCV 440-590938/21			13:03		
CCB 440-590938/22			13:07		
ZZZZZZ			13:32		
CCV 440-590938/24			13:35		
CCB 440-590938/25			13:40		
ZZZZZZ			13:42		
CCV 440-590938/27			13:56		
CCB 440-590938/28			14:03		
CCV 440-590938/29			14:28		
CCB 440-590938/30			14:31		
ZZZZZZ			14:33		
ZZZZZZ			14:36		
ZZZZZZ			14:38		
ZZZZZZ			14:40		
ZZZZZZ			14:42		
CCV 440-590938/36			14:44		
ZZZZZZ			14:48		
CCB 440-590938/38			14:57		
CRI 440-590938/39	1		14:59	X	
ICSA 440-590938/40	1		15:02	X	
ICSAB 440-590938/41	1		15:10	X	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

Instrument ID: ICPMS6 | Analysis Method: 6020

Start Date: 01/14/2020 14:48 | End Date: 01/14/2020 21:42

Lab Sample Id	D/F	Type	Time	Ag	As	Ba	Be	Cd	Co	Cr	Cu	Mn	Mo	Ni	Pb	Sb	Se	Tl	V	Zn
STD0 440-590547/1 IC	1		14:48	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
STD1 440-590547/2 IC	1		14:50	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
STD2 440-590547/3 IC	1		14:52	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
STD3 440-590547/4 IC	1		14:54	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
STD4 440-590547/5 IC	1		14:56	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ICV 440-590547/6	1		14:58	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			15:00																	
ICB 440-590547/8	1		15:02	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			15:04																	
CRI 440-590547/10	1		15:07	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CRI 440-590547/11	1		15:09	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ICSA 440-590547/12	1		15:11	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ICSAB 440-590547/13	1		15:14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCV 440-590547/14	1		20:09	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCB 440-590547/15	1		20:11	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
MB 440-590387/1-A ^20	20	T	20:28	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
LCS 440-590387/2-A ^20	20	T	20:30	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			20:32																	
440-258909-B-43-B MS ^20	20	T	20:34	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
440-258909-B-43-C MSD ^20	20	T	20:36	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
440-258909-B-43-A PDS ^20	20	T	20:38	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
440-258909-B-43-A SD ^100	100	T	20:44	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCV 440-590547/23	1		20:46	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCB 440-590547/24	1		20:48	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			20:56																	
ZZZZZZ			20:58																	
ZZZZZZ			21:00																	
ZZZZZZ			21:03																	
440-258906-1	20	T	21:05	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
440-258906-2	20	T	21:07	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
440-258906-3	20	T	21:09	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
440-258906-4	20	T	21:11	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
440-258906-5	20	T	21:13	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ZZZZZZ			21:15																	
ZZZZZZ			21:17																	
CCV 440-590547/36	1		21:23	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CCB 440-590547/37	1		21:36	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CRI 440-590547/38	1		21:38	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ICSA 440-590547/39	1		21:40	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ICSAB 440-590547/40	1		21:42	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

Instrument ID: CV-HG4 | Analysis Method: 7471A

Start Date: 01/20/2020 12:12 | End Date: 01/20/2020 17:44

Lab Sample Id	D/F	Type	Time	Analytes Hg
IC 440-591352/6-A			12:12	X
IC 440-591352/7-A			12:14	X
IC 440-591352/8-A			12:16	X
IC 440-591352/9-A			12:19	X
IC 440-591352/10-A			12:21	X
IC 440-591352/11-A			12:23	X
ICV 440-591352/1-A	1		12:26	X
ICB 440-591352/2-A	1		12:29	X
CRA 440-591352/5-A	1		12:32	X
CCV 440-591352/3-A	1		12:34	X
CCB 440-591352/4-A	1		12:36	X
MB 440-590447/1-A	1	T	12:39	X
LCS 440-590447/2-A	1	T	12:41	X
ZZZZZZ			12:43	
440-258875-B-1-E MS	1	T	12:46	X
440-258875-B-1-F MSD	1	T	12:48	X
ZZZZZZ			12:51	
ZZZZZZ			12:54	
ZZZZZZ			12:57	
ZZZZZZ			12:59	
ZZZZZZ			13:01	
CCV 440-591352/3-A	1		13:03	X
CCB 440-591352/4-A	1		13:05	X
ZZZZZZ			13:08	
ZZZZZZ			13:11	
ZZZZZZ			13:13	
ZZZZZZ			13:15	
ZZZZZZ			13:17	
ZZZZZZ			13:19	
ZZZZZZ			13:22	
ZZZZZZ			13:24	
ZZZZZZ			13:26	
ZZZZZZ			13:28	
CCV 440-591352/3-A	1		13:30	X
CCB 440-591352/4-A	1		13:33	X
ZZZZZZ			13:35	
ZZZZZZ			13:37	
440-258906-1	1	T	13:40	X
440-258906-2	1	T	13:42	X
ZZZZZZ			13:45	
CRA 440-591352/5-A	1		13:47	X
CCV 440-591352/3-A	1		13:50	X

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Irvine | Job No.: 440-258906-1

SDG No.:

Instrument ID: CV-HG4 | Analysis Method: 7471A

Start Date: 01/20/2020 12:12 | End Date: 01/20/2020 17:44

Lab Sample Id	D/F	Type	Time	Hg
CCB 440-591352/4-A	1		13:52	X
CCV 440-591352/3-A	1		13:59	X
CCB 440-591352/4-A	1		14:01	X
MB 440-590448/1-A	1	T	14:04	X
LCS 440-590448/2-A	1	T	14:06	X
440-258906-3	1	T	14:08	X
440-258906-3 MS	1	T	14:11	X
440-258906-3 MSD	1	T	14:13	X
440-258906-4	1	T	14:17	X
440-258906-5	1	T	14:20	X
ZZZZZZ			14:22	
ZZZZZZ			14:25	
ZZZZZZ			14:28	
CCV 440-591352/3-A	1		14:30	X
CCB 440-591352/4-A	1		14:33	X
ZZZZZZ			14:35	
ZZZZZZ			14:38	
ZZZZZZ			14:40	
ZZZZZZ			14:43	
ZZZZZZ			14:46	
ZZZZZZ			14:48	
ZZZZZZ			14:51	
ZZZZZZ			14:53	
ZZZZZZ			14:56	
ZZZZZZ			14:58	
CCV 440-591352/3-A			15:00	
CCB 440-591352/4-A			15:02	
ZZZZZZ			15:05	
ZZZZZZ			15:08	
ZZZZZZ			15:10	
ZZZZZZ			15:13	
ZZZZZZ			15:15	
CRA 440-591352/5-A	1		15:17	X
CCV 440-591352/3-A			15:19	
CCB 440-591352/4-A			15:22	
CCV 440-591352/3-A			15:36	
CCB 440-591352/4-A			15:38	
ZZZZZZ			15:41	
ZZZZZZ			15:43	
ZZZZZZ			15:45	
ZZZZZZ			15:48	
ZZZZZZ			15:51	

Analytes

FORM XIII-IN

15-IN
ICP INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

ICP Instrument ID: ICP8 Start Date: 01/15/2020 End Date: 01/15/2020

Internal Standards %RI For:

Lab Sample ID	Time	Element Y 371.029	Q	Element	Q	Element	Q	Element	Q	Element	Q
ICIS 440-590755/1	11:50										
ICV 440-590755/6	12:15	100									
ICV 440-590755/8	12:19	100									
ICB 440-590755/10	12:24	100									
ICSA 440-590755/11	12:32	84									
ICSAB 440-590755/12	12:35	84									
CRI 440-590755/16	12:43	100									
CCV 440-590755/41	14:03	98									
CCB 440-590755/42	14:07	99									
MB 440-590387/1-A ^5	14:11	99									
LCS 440-590387/2-A ^5	14:13	98									
CCV 440-590755/45	14:38	95									
CCB 440-590755/47	14:44	97									
440-258909-B-43-A SD ^25	14:46	96									
440-258909-B-43-B MS ^5	14:50	93									
440-258909-B-43-C MSD ^5	14:53	93									
440-258909-B-43-A PDS ^5	14:55	94									
440-258906-1	15:06	93									
CCV 440-590755/58	15:11	97									
CCB 440-590755/59	15:16	97									
440-258906-2	15:19	93									
440-258906-3	15:21	93									
440-258906-4	15:23	94									
440-258906-5	15:25	94									
CCV 440-590755/69	16:00	97									
CCB 440-590755/70	16:06	97									
CRI 440-590755/95	17:25	98									
ICSA 440-590755/96	17:27	83									
ICSAB 440-590755/97	17:29	83									

FORM XV - IN

15-IN
ICP INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

ICP Instrument ID: ICP8 Start Date: 01/16/2020 End Date: 01/16/2020

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Y 371.029	Q	Element	Q	Element	Q	Element	Q	Element	Q
ICIS 440-590938/1	10:35										
ICV 440-590938/6	11:01	99									
ICV 440-590938/8	11:07	100									
ICB 440-590938/10	11:12	100									
ICSA 440-590938/11	11:16	85									
ICSAB 440-590938/12	11:20	84									
CRI 440-590938/15	11:31	100									
440-258906-1	11:38	97									
CCV 440-590938/19	11:54	99									
CCB 440-590938/20	11:56	100									
CRI 440-590938/39	14:59	98									
ICSA 440-590938/40	15:02	83									
ICSAB 440-590938/41	15:10	84									

FORM XV - IN

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

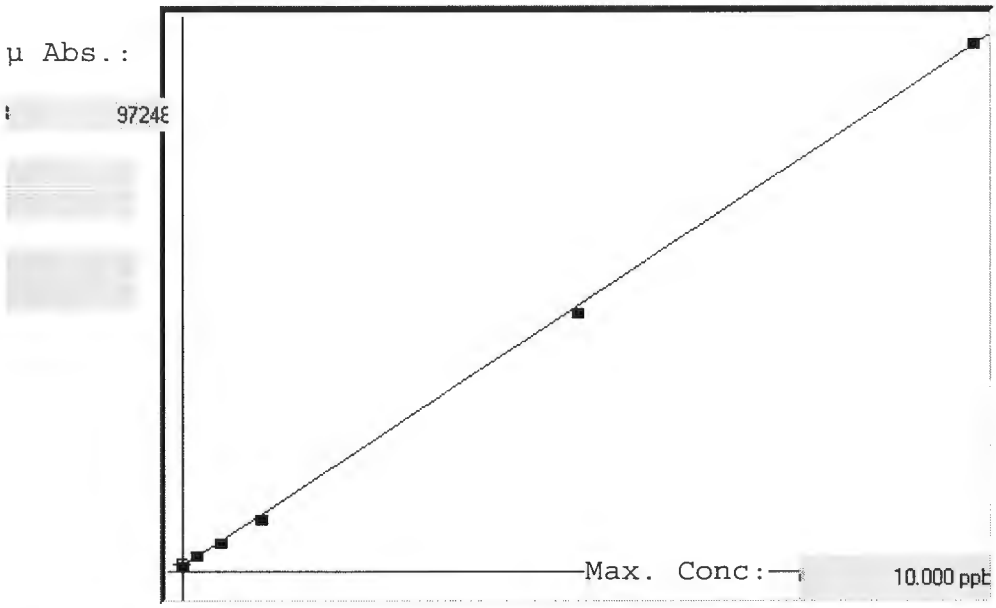
ICP-MS Instrument ID: ICPMS6 Start Date: 01/14/2020 End Date: 01/14/2020

Lab Sample ID	Time	Internal Standards %RI For: Element Sc-45	Q	Element Ge	Q	Element In-115	Q	Element Tb-159	Q	Element	Q
STD0 440-590547/1 IC	14:48	100		100		100		100			
STD1 440-590547/2 IC	14:50	100		100		100		100			
STD2 440-590547/3 IC	14:52	99		100		100		100			
STD3 440-590547/4 IC	14:54	101		101		102		102			
STD4 440-590547/5 IC	14:56	99		100		100		102			
ICV 440-590547/6	14:58	100		101		100		101			
ICB 440-590547/8	15:02	98		98		99		101			
CRI 440-590547/10	15:07	98		98		99		101			
CRI 440-590547/11	15:09	98		98		100		101			
ICSA 440-590547/12	15:11	102		99		96		100			
ICSAB 440-590547/13	15:14	112		106		100		101			
CCV 440-590547/14	20:09	103		105		102		102			
CCB 440-590547/15	20:11	103		104		100		100			
MB 440-590387/1-A ^20	20:28	106		105		102		100			
LCS 440-590387/2-A ^20	20:30	107		107		102		101			
440-258909-B-43-B MS ^20	20:34	109		108		101		101			
440-258909-B-43-C MSD ^20	20:36	109		107		101		100			
440-258909-B-43-A PDS ^20	20:38	107		107		100		100			
440-258909-B-43-A SD ^100	20:44	109		108		103		101			
CCV 440-590547/23	20:46	108		109		104		102			
CCB 440-590547/24	20:48	107		108		102		101			
440-258906-1	21:05	118		108		102		102			
440-258906-2	21:07	111		109		102		102			
440-258906-3	21:09	113		110		103		102			
440-258906-4	21:11	113		111		104		103			
440-258906-5	21:13	112		111		104		103			
CCV 440-590547/36	21:23	110		110		105		103			
CCB 440-590547/37	21:36	108		109		103		101			
CRI 440-590547/38	21:38	110		110		106		103			
ICSA 440-590547/39	21:40	112		108		100		101			
ICSAB 440-590547/40	21:42	119		112		101		98			

FORM XV - IN

SOIL

Linear



A= 0.0000e+000

B= 1.0425e-004

C= -9.0088e-002

Rho= 0.9998680

Accept= Accepted

Accepted Date=

01/20/20 12:26

Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
IC 440-591352/6-A	0.000	0.067	0.067	1504	32.500	1472	1537			
IC 440-591352/7-A	0.200	0.243	0.043	3192	1.6 %	3140	3244			
IC 440-591352/8-A	0.500	0.499	-0.001	5646	2.0 %	5534	5758			
IC 440-591352/9-A	1.000	0.933	-0.067	9810	2.0 %	9615	10005			
IC 440-591352/10-A	5.000	4.911	-0.089	47971	2.2 %	46926	49016			
IC 440-591352/11-A	10.000	10.048	0.048	97247	2.1 %	95199	99296			

US EPA Tune Check Sample Report

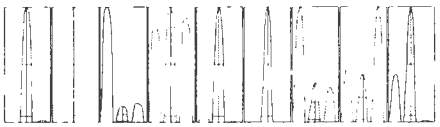
Batch Folder D: Agilent ICPMS 1 DATA b 60.0 template_170302 rev1C_3.b
Report Comment
Instrument Name G8403A JP16211410

[No Gas]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
9	3231	0.71	5.00	
24	18780	0.19	5.00	
25	2574	0.87	5.00	
26	3070	0.66	5.00	
59	38399	0.29	5.00	
115	64623	0.25	5.00	
206	13275	0.22	5.00	
207	11624	0.71	5.00	
208	28316	0.51	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	3260	3208	3245	3208	3236
24	18815	18743	18753	18766	18823
25	2588	2571	2563	2604	2546
26	3096	3076	3040	3074	3066
59	38367	38300	38381	38593	38352
115	64879	64599	64661	64507	64469
206	13291	13297	13275	13225	13287
207	11737	11677	11556	11542	11607
208	28482	28457	28170	28203	28267

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
9	5456	8.95	8.9 - 9.1		0.778	0.900	
24	30879	23.90	23.9 - 24.1		0.784	0.900	
25	4212	24.95	24.9 - 25.1		0.770	0.900	
26	5008	25.95	25.9 - 26.1		0.811	0.900	
59	67116	58.95	58.9 - 59.1		0.775	0.900	
115	122983	115.05	114.9 - 115.1		0.723	0.900	
206	25356	206.00	205.9 - 206.1		0.775	0.900	
207	22332	207.00	206.9 - 207.1		0.750	0.900	
208	53637	208.00	207.9 - 208.1		0.804	0.900	

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 212.5 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1500	W	Carrier Gas	0.80	L/min	S/C Temp	2	°C
RF Matching	1.80	V	Option Gas	0.0	%	Gas Switch	Dilution Gas	
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Makeup/Dilution Gas	0.25	L/min

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	1.3	V	Omega Lens	9.8	V	Deflect	17.2	V
Extract 2	-250.0	V	Cell Entrance	-40	V	Plate Bias	-50	V
Omega Bias	-110	V	Cell Exit	-60	V			

Cell Parameters

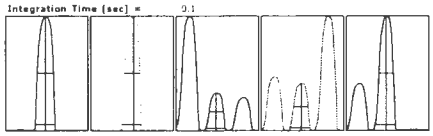
ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Use Gas	No		OctP Bias	-8.0	V	Energy Discrimination	5.0	V
He Flow	0.0	mL/min	OctP RF	200	V			

[He]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)
59	7488	0.73	5.00
115	7593	0.17	5.00
206	5052	0.94	5.00
207	4462	1.22	5.00
208	10824	0.74	5.00

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
59	7575	7509	7458	7456	7443
115	7609	7599	7594	7575	7588
206	5101	5080	5076	5008	4994
207	4495	4541	4419	4444	4414
208	10892	10906	10838	10764	10719

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	W-X% (Flag)
59	13247	59.000	58.9 - 59.1		0.737	0.900	
115	14454	115.050	114.9 - 115.1		0.688	0.900	
206	10034	206.000	205.9 - 206.1		0.724	0.900	
207	8818	207.000	206.9 - 207.1		0.730	0.900	
208	21456	208.000	207.9 - 208.1		0.744	0.900	

X% = 5 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 123.4 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1500	W	Carrier Gas	0.80	L/min	S/C Temp	2	°C
RF Matching	1.80	V	Option Gas	0.0	%	Gas Switch	Dilution Gas	
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps	Makeup/Dilution Gas	0.25	L/min

Lenses Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	1.3	V	Omega Lens	9.8	V	Deflect	5.4	V
Extract 2	-250.0	V	Cell Entrance	-40	V	Plate Bias	-60	V
Omega Bias	-110	V	Cell Exit	-70	V			

Cell Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Use Gas	Yes		OctP Bias	-18.0	V	Energy Discrimination	5.0	V
He Flow	4.5	mL/min	OctP RF	200	V			

METALS BATCH WORKSHEET

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

Batch Number: 590387 Batch Start Date: 01/14/20 09:02 Batch Analyst: Eidinejad, Naheed

Batch Method: 3050B Batch End Date: 01/14/20 14:25

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ICP STD A 00003	ICP STD B 00003	ME 1:1 HNO3 00292	ME 30% H2O2 00110
MB 440-590387/1		3050B, 6010B		1.96 g	50 mL			5 mL	3 mL
LCS 440-590387/2		3050B, 6010B		2.01 g	50 mL	0.5 mL	0.5 mL	5 mL	3 mL
440-258909-B-43 MS		3050B, 6010B	T	1.99 g	50 mL	0.5 mL	0.5 mL	5 mL	3 mL
440-258909-B-43 MSD		3050B, 6010B	T	1.96 g	50 mL	0.5 mL	0.5 mL	5 mL	3 mL
440-258906-B-1	STSB07_0-0.5	3050B, 6010B	T	2.01 g	50 mL			5 mL	3 mL
440-258906-B-2	STSB07_0.5-3	3050B, 6010B	T	2.04 g	50 mL			5 mL	3 mL
440-258906-B-3	STSB07-FD_0.5-3	3050B, 6010B	T	2.03 g	50 mL			5 mL	3 mL
440-258906-B-4	STSB07_3-6	3050B, 6010B	T	1.97 g	50 mL			5 mL	3 mL
440-258906-B-5	STSB07_6-15	3050B, 6010B	T	2.01 g	50 mL			5 mL	3 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	ME HCl 00551	ME HNO3 00548
MB 440-590387/1		3050B, 6010B		5 mL	5 mL
LCS 440-590387/2		3050B, 6010B		5 mL	5 mL
440-258909-B-43 MS		3050B, 6010B	T	5 mL	5 mL
440-258909-B-43 MSD		3050B, 6010B	T	5 mL	5 mL
440-258906-B-1	STSB07_0-0.5	3050B, 6010B	T	5 mL	5 mL
440-258906-B-2	STSB07_0.5-3	3050B, 6010B	T	5 mL	5 mL
440-258906-B-3	STSB07-FD_0.5-3	3050B, 6010B	T	5 mL	5 mL
440-258906-B-4	STSB07_3-6	3050B, 6010B	T	5 mL	5 mL
440-258906-B-5	STSB07_6-15	3050B, 6010B	T	5 mL	5 mL

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

Batch Number: 590387 Batch Start Date: 01/14/20 09:02 Batch Analyst: Eidinejad, Naheed

Batch Method: 3050B Batch End Date: 01/14/20 14:25

	Batch Notes
Balance ID	57
Batch Comment	Spike A&B= 500 ul
Blank Soil Lot Number	25438819
Temperature - Corrected - End	94 Degrees C
Temperature - Corrected - Start	92 Degrees C
Digestion End Time	01/14/2020 13:05
Digestion Start Time	01/14/2020 09:52
Digestion Unit ID	12
Digestion Tube/Cup ID	1906257
Filter ID	19-107 Gr. 389
Hydrogen Peroxide ID	6019234
Hydrochloric Acid ID	5999212
Nitric Acid ID	5997059
Pipette/Syringe/Dispenser ID	#902
Analyst ID - Spike Analyst	NE
Thermometer ID	P-128 (Loc.#B14) CF=+1
Temperature - Uncorrected - End	95 Degrees C
Temperature - Uncorrected - Start	93 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

Batch Number: 590387 Batch Start Date: 01/14/20 09:02 Batch Analyst: Eidinejad, Naheed

Batch Method: 3050B Batch End Date: 01/14/20 14:25

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ICP STD A 00003	ICP STD B 00003	ME 1:1 HNO3 00292	ME 30% H2O2 00110
MB 440-590387/1		3050B, 6020		1.96 g	50 mL			5 mL	3 mL
LCS 440-590387/2		3050B, 6020		2.01 g	50 mL	0.5 mL	0.5 mL	5 mL	3 mL
440-258909-B-43 MS		3050B, 6020	T	1.99 g	50 mL	0.5 mL	0.5 mL	5 mL	3 mL
440-258909-B-43 MSD		3050B, 6020	T	1.96 g	50 mL	0.5 mL	0.5 mL	5 mL	3 mL
440-258906-B-1	STSB07_0-0.5	3050B, 6020	T	2.01 g	50 mL			5 mL	3 mL
440-258906-B-2	STSB07_0.5-3	3050B, 6020	T	2.04 g	50 mL			5 mL	3 mL
440-258906-B-3	STSB07-FD_0.5-3	3050B, 6020	T	2.03 g	50 mL			5 mL	3 mL
440-258906-B-4	STSB07_3-6	3050B, 6020	T	1.97 g	50 mL			5 mL	3 mL
440-258906-B-5	STSB07_6-15	3050B, 6020	T	2.01 g	50 mL			5 mL	3 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	ME HCl 00551	ME HNO3 00548
MB 440-590387/1		3050B, 6020		5 mL	5 mL
LCS 440-590387/2		3050B, 6020		5 mL	5 mL
440-258909-B-43 MS		3050B, 6020	T	5 mL	5 mL
440-258909-B-43 MSD		3050B, 6020	T	5 mL	5 mL
440-258906-B-1	STSB07_0-0.5	3050B, 6020	T	5 mL	5 mL
440-258906-B-2	STSB07_0.5-3	3050B, 6020	T	5 mL	5 mL
440-258906-B-3	STSB07-FD_0.5-3	3050B, 6020	T	5 mL	5 mL
440-258906-B-4	STSB07_3-6	3050B, 6020	T	5 mL	5 mL
440-258906-B-5	STSB07_6-15	3050B, 6020	T	5 mL	5 mL

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

Batch Number: 590387 Batch Start Date: 01/14/20 09:02 Batch Analyst: Eidinejad, Naheed

Batch Method: 3050B Batch End Date: 01/14/20 14:25

Batch Notes	
Balance ID	57
Batch Comment	Spike A&B= 500 ul
Blank Soil Lot Number	25438819
Temperature - Corrected - End	94 Degrees C
Temperature - Corrected - Start	92 Degrees C
Digestion End Time	01/14/2020 13:05
Digestion Start Time	01/14/2020 09:52
Digestion Unit ID	12
Digestion Tube/Cup ID	1906257
Filter ID	19-107 Gr. 389
Hydrogen Peroxide ID	6019234
Hydrochloric Acid ID	5999212
Nitric Acid ID	5997059
Pipette/Syringe/Dispenser ID	#902
Analyst ID - Spike Analyst	NE
Thermometer ID	P-128 (Loc.#B14) CF=+1
Temperature - Uncorrected - End	95 Degrees C
Temperature - Uncorrected - Start	93 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

Batch Number: 590447 Batch Start Date: 01/17/20 08:41 Batch Analyst: Mercado, Michael E

Batch Method: 7471A Batch End Date: 01/20/20 11:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ME 1 PPM HG1 00416	ME Aqua Regia 00791	ME HYDROX SOL 00117	ME KMN04 00189
MB 440-590447/1		7471A, 7471A		0.50 g	50 mL		4.2 mL	5 mL	12.4 mL
LCS 440-590447/2		7471A, 7471A		0.50 g	50 mL	200 uL	4.2 mL	5 mL	12.4 mL
440-258875-B-1 MS		7471A, 7471A	T	0.50 g	50 mL	200 uL	4.2 mL	5 mL	12.4 mL
440-258875-B-1 MSD		7471A, 7471A	T	0.50 g	50 mL	200 uL	4.2 mL	5 mL	12.4 mL
440-258906-B-1	STSB07_0-0.5	7471A, 7471A	T	0.49 g	50 mL		4.2 mL	5 mL	12.4 mL
440-258906-B-2	STSB07_0.5-3	7471A, 7471A	T	0.49 g	50 mL		4.2 mL	5 mL	12.4 mL

Batch Notes

Balance ID	57
Batch Comment	MB Loc: B12, Weighed by AM, Filtered by ES
Blank Matrix ID	25438819
Temperature - Corrected - End	92 Degrees C
Temperature - Corrected - Start	92 Degrees C
Digestion End Time	01/17/2020 10:32
Digestion Start Time	01/17/2020 10:02
Digestion Unit ID	8
Hydrochloric Acid ID	Lot: 0000243992
Nitric Acid ID	Lot: 0000221803
Hydroxylamine ID	6040574 @1/20/20 @10:30
Potassium Permanganate ID	6040428
Pipette/Syringe/Dispenser ID	800
Analyst ID - Spike Analyst	MM
Thermometer ID	P-120 CF -1 Loc: C1
Digestion Tube/Cup ID	1906257
Temperature - Uncorrected - End	93 Degrees C
Temperature - Uncorrected - Start	93 Degrees C

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

Batch Number: 590447 Batch Start Date: 01/17/20 08:41 Batch Analyst: Mercado, Michael E

Batch Method: 7471A Batch End Date: 01/20/20 11:00

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Irvine

Job No.: 440-258906-1

SDG No.:

Batch Number: 590448

Batch Start Date: 01/17/20 08:43

Batch Analyst: Mercado, Michael E

Batch Method: 7471A

Batch End Date: 01/20/20 11:20

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ME 1 PPM HG1 00416	ME Aqua Regia 00791	ME HYDROX SOL 00117	ME KMN04 00189
MB 440-590448/1		7471A, 7471A		0.50 g	50 mL		4.2 mL	5 mL	12.4 mL
LCS 440-590448/2		7471A, 7471A		0.50 g	50 mL	200 uL	4.2 mL	5 mL	12.4 mL
440-258906-B-3	STSB07-FD_0.5-3	7471A, 7471A	T	0.51 g	50 mL		4.2 mL	5 mL	12.4 mL
440-258906-B-3 MS	STSB07-FD_0.5-3	7471A, 7471A	T	0.51 g	50 mL	200 uL	4.2 mL	5 mL	12.4 mL
440-258906-B-3 MSD	STSB07-FD_0.5-3	7471A, 7471A	T	0.50 g	50 mL	200 uL	4.2 mL	5 mL	12.4 mL
440-258906-B-4	STSB07_3-6	7471A, 7471A	T	0.50 g	50 mL		4.2 mL	5 mL	12.4 mL
440-258906-B-5	STSB07_6-15	7471A, 7471A	T	0.50 g	50 mL		4.2 mL	5 mL	12.4 mL

	Batch Notes
Balance ID	57
Batch Comment	MB Loc: A6, Weighed by AM, Filtered by ES
Blank Matrix ID	25438819
Temperature - Corrected - End	91 Degrees C
Temperature - Corrected - Start	91 Degrees C
Digestion End Time	01/17/2020 10:32
Digestion Start Time	01/17/2020 10:02
Digestion Unit ID	2
Hydrochloric Acid ID	Lot: 0000243992
Nitric Acid ID	Lot: 0000221803
Hydroxylamine ID	6040574 @1/20/20 @11:10
Potassium Permanganate ID	6040428
Pipette/Syringe/Dispenser ID	800
Analyst ID - Spike Analyst	MM
Thermometer ID	P-144 CF 0 Loc: C1
Digestion Tube/Cup ID	1906257
Temperature - Uncorrected - End	91 Degrees C
Temperature - Uncorrected - Start	91 Degrees C

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Irvine

Job No.: 440-258906-1

SDG No.:

Batch Number: 590448

Batch Start Date: 01/17/20 08:43

Batch Analyst: Mercado, Michael E

Batch Method: 7471A

Batch End Date: 01/20/20 11:20

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

Batch Number: 591352 Batch Start Date: 01/20/20 09:41 Batch Analyst: Mercado, Michael E

Batch Method: 7471A Batch End Date: 01/20/20 11:24

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ME 1 PPM HG1 00418	ME 1 PPM HG1 00419	ME Aqua Regia 00792	ME HYDROX SOL 00117
ICV 440-591352/1		7471A, 7471A		0.50 g	50 mL		200 uL	4.2 mL	5 mL
ICB 440-591352/2		7471A, 7471A		0.50 g	50 mL			4.2 mL	5 mL
CCV 440-591352/3		7471A, 7471A		0.50 g	50 mL	200 uL		4.2 mL	5 mL
CCB 440-591352/4		7471A, 7471A		0.50 g	50 mL			4.2 mL	5 mL
CRA 440-591352/5		7471A, 7471A		0.50 g	50 mL	10 uL		4.2 mL	5 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	ME KMN04 00189
ICV 440-591352/1		7471A, 7471A		12.4 mL
ICB 440-591352/2		7471A, 7471A		12.4 mL
CCV 440-591352/3		7471A, 7471A		12.4 mL
CCB 440-591352/4		7471A, 7471A		12.4 mL
CRA 440-591352/5		7471A, 7471A		12.4 mL

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Irvine

Job No.: 440-258906-1

SDG No.:

Batch Number: 591352

Batch Start Date: 01/20/20 09:41

Batch Analyst: Mercado, Michael E

Batch Method: 7471A

Batch End Date: 01/20/20 11:24

	Batch Notes
Balance ID	57
Batch Comment	ICB Loc: A6
Blank Matrix ID	25438819
Temperature - Corrected - End	95 Degrees C
Temperature - Corrected - Start	95 Degrees C
Digestion End Time	01/20/2020 10:40
Digestion Start Time	01/20/2020 10:10
Digestion Unit ID	12
Hydrochloric Acid ID	Lot: 0000243992
Nitric Acid ID	Lot: 0000221803
Hydroxylamine ID	6040574 @ 01/20/2020 11:14
Potassium Permanganate ID	6040428
Pipette/Syringe/Dispenser ID	800
Analyst ID - Spike Analyst	MM
Thermometer ID	P-128 CF +1 Loc: C2
Digestion Tube/Cup ID	1906257
Temperature - Uncorrected - End	94 Degrees C
Temperature - Uncorrected - Start	94 Degrees C

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins Irvine Job No.: 440-258906-1

SDG No.:

Batch Number: 590323 Batch Start Date: 01/13/20 20:43 Batch Analyst: Le, Ha Thanh T

Batch Method: Moisture Batch End Date: 01/14/20 17:03

Lab Sample ID	Client Sample ID	Method Chain	Basis	DishWeight	SampleMassWet	SampleMassDry	AnalysisComment
440-258909-B-43 DU		Moisture	T	2.0620 g	12.1597 g	11.6002 g	11.6000
440-258909-B-43 MS		Moisture	T	2.0620 g	12.1597 g	11.6002 g	11.6000
440-258909-B-43 MSD		Moisture	T	2.0620 g	12.1597 g	11.6002 g	11.6000
440-258906-B-1	STSB07_0-0.5	Moisture	T	2.0491 g	12.6498 g	11.9541 g	11.9540
440-258906-B-2	STSB07_0.5-3	Moisture	T	2.0374 g	12.2170 g	11.4859 g	11.4858
440-258906-B-3	STSB07-FD_0.5-3	Moisture	T	2.0498 g	12.2432 g	11.5553 g	11.5554
440-258906-B-4	STSB07_3-6	Moisture	T	2.0638 g	12.4972 g	11.9852 g	11.9850
440-258906-B-5	STSB07_6-15	Moisture	T	2.0516 g	12.2786 g	11.4529 g	11.4528

Batch Notes	
Balance ID	65
Batch Comment	put the samples back in the oven another 30 mins@ temp 105 c
Date and Time Samples in Desiccator	01/14/2020 08:36
Date and Time Samples out of Desiccator	01/14/2020 15:30
Date samples were placed in the oven	01/13/2020
Oven Temp In	105 Degrees C
Time samples were place in the oven	21:10
Date samples were removed from oven	01/14/2020
Oven Temp Out	105 Degrees C
Time Samples were removed from oven	08:35
Oven ID	6
Thermometer ID	p139, cf 0
Temperature - Start - Uncorrected	105 Degrees C
Temperature - End - Uncorrected	105 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.