284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

DATA PACKAGE

METALS

PROJECT NAME : NWIRP BETHPAGE 112G08005-WE13

TETRA TECH NUS, INC.

661 Andersen Drive

Suite 200

Pittsburgh, PA - 15220-2745

Phone No: 412-921-7090

ORDER ID : Q2064

ATTENTION : Ernie Wu

Laboratory Certification ID # 20012

Table Of Contents for Q2064

1) METALS DATA 2
2) Signature Page 4
3) Case Narrative 5
4) Qualifier Page 7
5) Conformance/Non Conformance 8
6) QA Checklist 10
7) Chronicle 11
8) Hit Summary 12
9) Sample Data 14
9.1) RW8-SP100-70-20250514 15
9.2) RW8-SP303-70-20250514 16
9.3) RW8-SP100-90-20250514 17
9.4) RW8-SP303-90-20250514 18
10) METALS CALIBRATION DATA 19
10.1) Initial and Continuing Calibration Verification 20
10.2) CRDL Standard For AA & ICP 31
10.3) Initial and Continuing Calibration Blank Summary 32
10.4) Preparation Blank Summary 41
10.5) Interference Check Sample 43
11) METALS QC DATA 45
11.1) Matrix Spike Summary 46
11.2) Post Digest Spike Summary 50
11.3) Duplicate Sample Summary 52
11.4) Laboratory Control Sample Summary 56
11.5) ICP Serial Dilutions 58
12) METALS PREPARATION & INSTRUMENT DATA 60
12.1) ICP Interelement Correction Factors 61
13) PREPARATION & ANALYTICAL SUMMARY 66
13.1) Sample Preparation Summary 67
13.2) Analysis Run Log 69
14) METALS RAW DATA 72
14.1) METALS RAW DATA - ANALYTICAL 73
14.2) LB135823 73
14.3) LB135832 323
14.4) METALS RAW DATA - PREP 325

14.4.1) PB168036 325
14.4.2) PB168071 328
15) Analytical Runlogs 331
16) Standard Prep Logs 341
17) Shipping Document 500
17.1) Chain Of Custody 501
17.2) Lab Certificate 502

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Cover Page

Order ID : Q2064

Project ID : NWIRP Bethpage 112G08005-WE13

Client : Tetra Tech NUS, Inc.

Lab Sample Number	Client Sample Number
Q2064-01	RW8-SP100-70-20250514
Q2064-02	RW8-SP201-70-20250514
Q2064-03	RW8-SP301-70-20250514
Q2064-04	RW8-SP303-70-20250514
Q2064-05	RW8-SP100-90-20250514
Q2064-06	RW8-SP201-90-20250514
Q2064-07	RW8-SP301-90-20250514
Q2064-08	RW8-SP303-90-20250514

I certify that the data package is in compliance with the terms and conditions of the contract,both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature : APPROVED
By Nimisha Pandya, QA/QC Supervisor at 1:45 pm, May 27, 2025

Date: 5/22/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

CASE NARRATIVE

Tetra Tech NUS, Inc.
Project Name: NWIRP Bethpage 112G08005-WE13
Project Manager : Ernie Wu
Order ID # Q2064
Test Name: Mercury,Metals ICP-TAL

A. Number of Samples and Date of Receipt:
8 Water samples were received on 05/16/2025.

B. Parameters:
According to the Chain of Custody document, the following analyses were requested: Mercury, Metals ICP-TAL, METALS-TAL, SVOC-SIMGroup1 and SVOC-TCL BNA - 20. This data package contains results for Mercury,Metals ICP-TAL.

C. Analytical Techniques:
The analysis of Metals ICP-TAL was based on method 6010D, digestion based on method 3010 (waters). The analysis and digestion of Mercury was based on method 7470A.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Blank Spike met requirements for all samples.
The Duplicate analysis met criteria for all samples.
The Matrix Spike (RW8-SP100-70-20250514MS) analysis met criteria for all samples except for Mercury due to sample Matrix interference. The Matrix Spike (TW-WTS-08MS) analysis met criteria for all samples except for Iron and Silver due to Chemical Interference during Digestion Process.
The Matrix Spike Duplicate (TW-WTS-08MSD) analysis met criteria for all samples except for Silver due to Chemical Interference during Digestion Process.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.
The Serial Dilution met the acceptable requirements.

E. Additional Comments:
The laboratory certifies that the all-electronic diskette deliverable exactly match the data summary forms (i.e. Form Is).

The Post Digest Spike (TW-WTS-08A) analysis met criteria for all samples except for Iron due to unknown chemical interferences of matrix with the addition of spike amount after digestion and before analysis, matrix has suppression effect during addition of spike.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature APPROVED
By Nimisha Pandya, QA/QC Supervisor at 1:45 pm, May 27, 2025

284 Sheffield Street, Mountainside NJ 07092
Tel. 908-789-8900 Fax: 908-789-8922

DATA REPORTING QUALIFIERS- INORGANIC

For reporting results, the following " Results Qualifiers" are used:

J	Indicates the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).
U	Indicates the analyte was analyzed for, but not detected.
ND	Indicates the analyte was analyzed for, but not detected
E	Indicates the reported value is estimated because of the presence of interference
M	Indicates Duplicate injection precision not met.
N	Indicates the spiked sample recovery is not within control limits.
S	Indicates the reported value was determined by the Method of Standard Addition (MSA).
*	Indicates that the duplicate analysis is not within control limits.
+	Indicates the correlation coefficient for the MSA is less than 0.995.
D	Indicates the reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
M	Method qualifiers **"P"** for ICP instrument **"PM"** for ICP when Microwave Digestion is used **"CV"** for Manual Cold Vapor AA **"AV"** for automated Cold Vapor AA **"CA"** for MIDI-Distillation Spectrophotometric **"AS"** for Semi –Automated Spectrophotometric **"C"** for Manual Spectrophotometric **"T"** for Titrimetric **"NR"** for analyte not required to be analyzed
OR	Indicates the analyte's concentration exceeds the calibrated range of the instrument for that specific analysis.
Q	Indicates the LCS did not meet the control limits requirements
H	Sample Analysis Out Of Hold Time

ALLIANCE 284 Sheffield Street, Mountainside New Jersey 07092

NEW JERSEY LAB ID#: 20012: NEW YORK LAB ID#: 11376

METALS CONFORMANCE/NON-CONFORMANCE SUMMARY

ORDER ID: Q2064 MATRIX: Water

METHOD: 6010D,7470A

		NA	NO	YES
1.	Calibration Summary met criteria.			✓
2.	ICP Interference Check Sample Results Summary Submitted.			✓
3.	Serial Dilution Summary (if applicable) Submitted.			✓
4.	Laboratory Control Sample Summary (if applicable) Submitted.			✓
5.	Blank Contamination - If yes, list compounds and concentrations in each blank:		✓	
6.	Matrix Spike/Matrix Spike Duplicate Recoveries Met Criteria		✓	
	If not met, list those compounds and their recoveries which fall outside the acceptable range.			
	The Matrix Spike (RW8-SP100-70-20250514MS) analysis met criteria for all samples except for Mercury due to sample Matrix interference. The Matrix Spike (TW-WTS-08MS) analysis met criteria for all samples except for Iron and Silver due to Chemical Interference during Digestion Process. The Matrix Spike Duplicate (TW-WTS-08MSD) analysis met criteria for all samples except for Silver due to Chemical Interference during Digestion Process.			
7.	Sample Duplicate Analysis Met QC Criteria			✓
	If not met, list those compounds and their recoveries which fall outside the acceptable range.			
8.	Digestion Holding Time Met			✓
	If not met, list number of days exceeded for each sample:			
9.	Analysis Holding Time Met			✓
	If not met, list those compounds and their recoveries which fall outside the acceptable range.			

ADDITIONAL COMMENTS:

The laboratory certifies that the all-electronic diskette deliverable exactly match the data summary forms (i.e. Form Is).

METALS CONFORMANCE/NON-CONFORMANCE SUMMARY (CONTINUED)

NA NO YES

The Post Digest Spike (TW-WTS-08A) analysis met criteria for all samples except for Iron due to unknown chemical interferences of matrix with the addition of spike amount after digestion and before analysis, matrix has suppression effect during addition of spike.

QA REVIEW

REVIEWED
By Sohil Jodhani, QA/QC Director at 9:28 am, May 27, 2025

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q2064

	Completed
For thorough review, the report must have the following:	
GENERAL:	
Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)	✓
Check chain-of-custody for proper relinquish/return of samples	✓
Is the chain of custody signed and complete	✓
Check internal chain-of-custody for proper relinquish/return of samples /sample extracts	✓
Collect information for each project id from server. Were all requirements followed	✓
COVER PAGE:	
Do numbers of samples correspond to the number of samples in the Chain of Custody on login page	✓
Do lab numbers and client Ids on cover page agree with the Chain of Custody	✓
CHAIN OF CUSTODY:	
Do requested analyses on Chain of Custody agree with form I results	✓
Do requested analyses on Chain of Custody agree with the log-in page	✓
Were the correct method log-in for analysis according to the Analytical Request and Chain of Castody	✓
Were the samples received within hold time	✓
Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle	✓
ANALYTICAL:	
Was method requirement followed?	✓
Was client requirement followed?	✓
Does the case narrative summarize all QC failure?	✓
All runlogs and manual integration are reviewed for requirements	✓
All manual calculations and /or hand notations verified	✓

QA Review Signature: SOHIL JODHANI **Date:** 05/22/2025

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900, Fax : 908 789 8922

LAB CHRONICLE

OrderID:	Q2064	**OrderDate:**	5/16/2025 10:39:00 AM
Client:	Tetra Tech NUS, Inc.	**Project:**	NWIRP Bethpage 112G08005-WE13
Contact:	Ernie Wu	**Location:**	L41

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q2064-01	**RW8-SP100-70-20250514**	**Water**			**05/14/25**			**05/16/25**
			Mercury	7470A		05/16/25	05/20/25	
			Metals ICP-TAL	6010D		05/16/25	05/19/25	
Q2064-04	**RW8-SP303-70-20250514**	**Water**			**05/14/25**			**05/16/25**
			Mercury	7470A		05/16/25	05/20/25	
			Metals ICP-TAL	6010D		05/16/25	05/19/25	
Q2064-05	**RW8-SP100-90-20250514**	**Water**			**05/14/25**			**05/16/25**
			Mercury	7470A		05/16/25	05/20/25	
			Metals ICP-TAL	6010D		05/16/25	05/19/25	
Q2064-08	**RW8-SP303-90-20250514**	**Water**			**05/14/25**			**05/16/25**
			Mercury	7470A		05/16/25	05/20/25	
			Metals ICP-TAL	6010D		05/16/25	05/19/25	

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Hit Summary Sheet
SW-846

SDG No.: Q2064 **Order ID:** Q2064

Client: Tetra Tech NUS, Inc. **Project ID:** NWIRP Bethpage 112G08005-WE13

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
Client ID : RW8-SP100-70-20250514									
Q2064-01	RW8-SP100-70-20250514	Water	Aluminum	87.2		5.67	40.0	50.0	ug/L
Q2064-01	RW8-SP100-70-20250514	Water	Calcium	2200		117	250	1000	ug/L
Q2064-01	RW8-SP100-70-20250514	Water	Cobalt	3.20	J	1.13	3.75	15.0	ug/L
Q2064-01	RW8-SP100-70-20250514	Water	Copper	2.73	J	2.30	8.00	10.0	ug/L
Q2064-01	RW8-SP100-70-20250514	Water	Iron	2720		11.7	40.0	50.0	ug/L
Q2064-01	RW8-SP100-70-20250514	Water	Lead	3.49	J	1.15	4.80	6.00	ug/L
Q2064-01	RW8-SP100-70-20250514	Water	Magnesium	869	J	122	250	1000	ug/L
Q2064-01	RW8-SP100-70-20250514	Water	Manganese	48.6		2.97	7.50	10.0	ug/L
Q2064-01	RW8-SP100-70-20250514	Water	Nickel	3.67	J	1.53	5.00	20.0	ug/L
Q2064-01	RW8-SP100-70-20250514	Water	Potassium	746	J	459	800	1000	ug/L
Q2064-01	RW8-SP100-70-20250514	Water	Sodium	7070		434	500	1000	ug/L
Q2064-01	RW8-SP100-70-20250514	Water	Zinc	10.1	J	8.33	7.50	20.0	ug/L
Client ID : RW8-SP303-70-20250514									
Q2064-04	RW8-SP303-70-20250514	Water	Aluminum	7.58	J	5.67	40.0	50.0	ug/L
Q2064-04	RW8-SP303-70-20250514	Water	Calcium	522	J	117	250	1000	ug/L
Q2064-04	RW8-SP303-70-20250514	Water	Copper	3.22	J	2.30	8.00	10.0	ug/L
Q2064-04	RW8-SP303-70-20250514	Water	Iron	247		11.7	40.0	50.0	ug/L
Q2064-04	RW8-SP303-70-20250514	Water	Lead	1.47	J	1.15	4.80	6.00	ug/L
Q2064-04	RW8-SP303-70-20250514	Water	Magnesium	275	J	122	250	1000	ug/L
Q2064-04	RW8-SP303-70-20250514	Water	Manganese	14.1		2.97	7.50	10.0	ug/L
Q2064-04	RW8-SP303-70-20250514	Water	Nickel	9.76	J	1.53	5.00	20.0	ug/L
Q2064-04	RW8-SP303-70-20250514	Water	Potassium	320000		459	800	1000	ug/L
Q2064-04	RW8-SP303-70-20250514	Water	Sodium	51100		434	500	1000	ug/L
Q2064-04	RW8-SP303-70-20250514	Water	Zinc	31.1		8.33	7.50	20.0	ug/L
Client ID : RW8-SP100-90-20250514									
Q2064-05	RW8-SP100-90-20250514	Water	Aluminum	32.9	J	5.67	40.0	50.0	ug/L
Q2064-05	RW8-SP100-90-20250514	Water	Calcium	2080		117	250	1000	ug/L
Q2064-05	RW8-SP100-90-20250514	Water	Cobalt	2.86	J	1.13	3.75	15.0	ug/L
Q2064-05	RW8-SP100-90-20250514	Water	Copper	23.6		2.30	8.00	10.0	ug/L
Q2064-05	RW8-SP100-90-20250514	Water	Iron	1440		11.7	40.0	50.0	ug/L
Q2064-05	RW8-SP100-90-20250514	Water	Lead	45.9		1.15	4.80	6.00	ug/L
Q2064-05	RW8-SP100-90-20250514	Water	Magnesium	796	J	122	250	1000	ug/L
Q2064-05	RW8-SP100-90-20250514	Water	Manganese	26.2		2.97	7.50	10.0	ug/L
Q2064-05	RW8-SP100-90-20250514	Water	Nickel	3.85	J	1.53	5.00	20.0	ug/L
Q2064-05	RW8-SP100-90-20250514	Water	Potassium	526	J	459	800	1000	ug/L
Q2064-05	RW8-SP100-90-20250514	Water	Sodium	5900		434	500	1000	ug/L

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Hit Summary Sheet
SW-846

SDG No.: Q2064 **Order ID:** Q2064

Client: Tetra Tech NUS, Inc. **Project ID:** NWIRP Bethpage 112G08005-WE13

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
Q2064-05	RW8-SP100-90-20250514	Water	Zinc	114		8.33	7.50	20.0	ug/L
Client ID :	**RW8-SP303-90-20250514**								
Q2064-08	RW8-SP303-90-20250514	Water	Aluminum	9.84	J	5.67	40.0	50.0	ug/L
Q2064-08	RW8-SP303-90-20250514	Water	Barium	15.2	J	7.28	12.5	50.0	ug/L
Q2064-08	RW8-SP303-90-20250514	Water	Calcium	572	J	117	250	1000	ug/L
Q2064-08	RW8-SP303-90-20250514	Water	Iron	281		11.7	40.0	50.0	ug/L
Q2064-08	RW8-SP303-90-20250514	Water	Magnesium	284	J	122	250	1000	ug/L
Q2064-08	RW8-SP303-90-20250514	Water	Manganese	23.9		2.97	7.50	10.0	ug/L
Q2064-08	RW8-SP303-90-20250514	Water	Nickel	18.7	J	1.53	5.00	20.0	ug/L
Q2064-08	RW8-SP303-90-20250514	Water	Potassium	320000		459	800	1000	ug/L
Q2064-08	RW8-SP303-90-20250514	Water	Sodium	51400		434	500	1000	ug/L
Q2064-08	RW8-SP303-90-20250514	Water	Zinc	26.4		8.33	7.50	20.0	ug/L

SAMPLE DATA

Alliance TECHNICAL GROUP
284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	05/14/25
Project:	NWIRP Bethpage 112G08005-WE13	Date Received:	05/16/25
Client Sample ID:	RW8-SP100-70-20250514	SDG No.:	Q2064
Lab Sample ID:	Q2064-01	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	87.2		1	5.67	40.0	50.0	ug/L	05/16/25 10:30	05/19/25 18:52	6010D	SW3010
7440-36-0	Antimony	6.25	U	1	3.38	6.25	25.0	ug/L	05/16/25 10:30	05/19/25 18:52	6010D	SW3010
7440-38-2	Arsenic	7.50	U	1	2.56	7.50	10.0	ug/L	05/16/25 10:30	05/19/25 18:52	6010D	SW3010
7440-39-3	Barium	12.5	U	1	7.28	12.5	50.0	ug/L	05/16/25 10:30	05/19/25 18:52	6010D	SW3010
7440-41-7	Beryllium	0.75	U	1	0.28	0.75	3.00	ug/L	05/16/25 10:30	05/19/25 18:52	6010D	SW3010
7440-43-9	Cadmium	0.75	U	1	0.25	0.75	3.00	ug/L	05/16/25 10:30	05/19/25 18:52	6010D	SW3010
7440-70-2	Calcium	2200		1	117	250	1000	ug/L	05/16/25 10:30	05/19/25 18:52	6010D	SW3010
7440-47-3	Chromium	2.50	U	1	1.06	2.50	5.00	ug/L	05/16/25 10:30	05/19/25 18:52	6010D	SW3010
7440-48-4	Cobalt	3.20	J	1	1.13	3.75	15.0	ug/L	05/16/25 10:30	05/19/25 18:52	6010D	SW3010
7440-50-8	Copper	2.73	J	1	2.30	8.00	10.0	ug/L	05/16/25 10:30	05/19/25 18:52	6010D	SW3010
7439-89-6	Iron	2720	N	1	11.7	40.0	50.0	ug/L	05/16/25 10:30	05/19/25 18:52	6010D	SW3010
7439-92-1	Lead	3.49	J	1	1.15	4.80	6.00	ug/L	05/16/25 10:30	05/19/25 18:52	6010D	SW3010
7439-95-4	Magnesium	869	J	1	122	250	1000	ug/L	05/16/25 10:30	05/19/25 18:52	6010D	SW3010
7439-96-5	Manganese	48.6		1	2.97	7.50	10.0	ug/L	05/16/25 10:30	05/19/25 18:52	6010D	SW3010
7439-97-6	Mercury	0.16	UN	1	0.076	0.16	0.20	ug/L	05/16/25 14:20	05/20/25 11:13	7470A	
7440-02-0	Nickel	3.67	J	1	1.53	5.00	20.0	ug/L	05/16/25 10:30	05/19/25 18:52	6010D	SW3010
7440-09-7	Potassium	746	J	1	459	800	1000	ug/L	05/16/25 10:30	05/19/25 18:52	6010D	SW3010
7782-49-2	Selenium	8.00	U	1	4.82	8.00	10.0	ug/L	05/16/25 10:30	05/19/25 18:52	6010D	SW3010
7440-22-4	Silver	2.50	UN	1	0.81	2.50	5.00	ug/L	05/16/25 10:30	05/19/25 18:52	6010D	SW3010
7440-23-5	Sodium	7070		1	434	500	1000	ug/L	05/16/25 10:30	05/19/25 18:52	6010D	SW3010
7440-28-0	Thallium	10.0	U	1	2.19	10.0	20.0	ug/L	05/16/25 10:30	05/19/25 18:52	6010D	SW3010
7440-62-2	Vanadium	10.0	U	1	3.13	10.0	20.0	ug/L	05/16/25 10:30	05/19/25 18:52	6010D	SW3010
7440-66-6	Zinc	10.1	J	1	8.33	7.50	20.0	ug/L	05/16/25 10:30	05/19/25 18:52	6010D	SW3010

Color Before:	Colorless	Clarity Before:	Clear	Texture:	
Color After:	Colorless	Clarity After:	Clear	Artifacts:	
Comments:	METALS-TAL				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

Alliance TECHNICAL GROUP
284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	05/14/25
Project:	NWIRP Bethpage 112G08005-WE13	Date Received:	05/16/25
Client Sample ID:	RW8-SP303-70-20250514	SDG No.:	Q2064
Lab Sample ID:	Q2064-04	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	7.58	J	1	5.67	40.0	50.0	ug/L	05/16/25 10:30	05/19/25 18:56	6010D	SW3010
7440-36-0	Antimony	6.25	U	1	3.38	6.25	25.0	ug/L	05/16/25 10:30	05/19/25 18:56	6010D	SW3010
7440-38-2	Arsenic	7.50	U	1	2.56	7.50	10.0	ug/L	05/16/25 10:30	05/19/25 18:56	6010D	SW3010
7440-39-3	Barium	12.5	U	1	7.28	12.5	50.0	ug/L	05/16/25 10:30	05/19/25 18:56	6010D	SW3010
7440-41-7	Beryllium	0.75	U	1	0.28	0.75	3.00	ug/L	05/16/25 10:30	05/19/25 18:56	6010D	SW3010
7440-43-9	Cadmium	0.75	U	1	0.25	0.75	3.00	ug/L	05/16/25 10:30	05/19/25 18:56	6010D	SW3010
7440-70-2	Calcium	522	J	1	117	250	1000	ug/L	05/16/25 10:30	05/19/25 18:56	6010D	SW3010
7440-47-3	Chromium	2.50	U	1	1.06	2.50	5.00	ug/L	05/16/25 10:30	05/19/25 18:56	6010D	SW3010
7440-48-4	Cobalt	3.75	U	1	1.13	3.75	15.0	ug/L	05/16/25 10:30	05/19/25 18:56	6010D	SW3010
7440-50-8	Copper	3.22	J	1	2.30	8.00	10.0	ug/L	05/16/25 10:30	05/19/25 18:56	6010D	SW3010
7439-89-6	Iron	247	N	1	11.7	40.0	50.0	ug/L	05/16/25 10:30	05/19/25 18:56	6010D	SW3010
7439-92-1	Lead	1.47	J	1	1.15	4.80	6.00	ug/L	05/16/25 10:30	05/19/25 18:56	6010D	SW3010
7439-95-4	Magnesium	275	J	1	122	250	1000	ug/L	05/16/25 10:30	05/19/25 18:56	6010D	SW3010
7439-96-5	Manganese	14.1		1	2.97	7.50	10.0	ug/L	05/16/25 10:30	05/19/25 18:56	6010D	SW3010
7439-97-6	Mercury	0.16	UN	1	0.076	0.16	0.20	ug/L	05/16/25 14:20	05/20/25 11:23	7470A	
7440-02-0	Nickel	9.76	J	1	1.53	5.00	20.0	ug/L	05/16/25 10:30	05/19/25 18:56	6010D	SW3010
7440-09-7	Potassium	320000		1	459	800	1000	ug/L	05/16/25 10:30	05/19/25 18:56	6010D	SW3010
7782-49-2	Selenium	8.00	U	1	4.82	8.00	10.0	ug/L	05/16/25 10:30	05/19/25 18:56	6010D	SW3010
7440-22-4	Silver	2.50	UN	1	0.81	2.50	5.00	ug/L	05/16/25 10:30	05/19/25 18:56	6010D	SW3010
7440-23-5	Sodium	51100		1	434	500	1000	ug/L	05/16/25 10:30	05/19/25 18:56	6010D	SW3010
7440-28-0	Thallium	10.0	U	1	2.19	10.0	20.0	ug/L	05/16/25 10:30	05/19/25 18:56	6010D	SW3010
7440-62-2	Vanadium	10.0	U	1	3.13	10.0	20.0	ug/L	05/16/25 10:30	05/19/25 18:56	6010D	SW3010
7440-66-6	Zinc	31.1		1	8.33	7.50	20.0	ug/L	05/16/25 10:30	05/19/25 18:56	6010D	SW3010

Color Before:	Colorless	Clarity Before:	Clear	Texture:	
Color After:	Colorless	Clarity After:	Clear	Artifacts:	
Comments:	METALS-TAL				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

Alliance TECHNICAL GROUP
284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	05/14/25
Project:	NWIRP Bethpage 112G08005-WE13	Date Received:	05/16/25
Client Sample ID:	RW8-SP100-90-20250514	SDG No.:	Q2064
Lab Sample ID:	Q2064-05	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	32.9	J	1	5.67	40.0	50.0	ug/L	05/16/25 10:30	05/19/25 19:01	6010D	SW3010
7440-36-0	Antimony	6.25	U	1	3.38	6.25	25.0	ug/L	05/16/25 10:30	05/19/25 19:01	6010D	SW3010
7440-38-2	Arsenic	7.50	U	1	2.56	7.50	10.0	ug/L	05/16/25 10:30	05/19/25 19:01	6010D	SW3010
7440-39-3	Barium	12.5	U	1	7.28	12.5	50.0	ug/L	05/16/25 10:30	05/19/25 19:01	6010D	SW3010
7440-41-7	Beryllium	0.75	U	1	0.28	0.75	3.00	ug/L	05/16/25 10:30	05/19/25 19:01	6010D	SW3010
7440-43-9	Cadmium	0.75	U	1	0.25	0.75	3.00	ug/L	05/16/25 10:30	05/19/25 19:01	6010D	SW3010
7440-70-2	Calcium	2080		1	117	250	1000	ug/L	05/16/25 10:30	05/19/25 19:01	6010D	SW3010
7440-47-3	Chromium	2.50	U	1	1.06	2.50	5.00	ug/L	05/16/25 10:30	05/19/25 19:01	6010D	SW3010
7440-48-4	Cobalt	2.86	J	1	1.13	3.75	15.0	ug/L	05/16/25 10:30	05/19/25 19:01	6010D	SW3010
7440-50-8	Copper	23.6		1	2.30	8.00	10.0	ug/L	05/16/25 10:30	05/19/25 19:01	6010D	SW3010
7439-89-6	Iron	1440	N	1	11.7	40.0	50.0	ug/L	05/16/25 10:30	05/19/25 19:01	6010D	SW3010
7439-92-1	Lead	45.9		1	1.15	4.80	6.00	ug/L	05/16/25 10:30	05/19/25 19:01	6010D	SW3010
7439-95-4	Magnesium	796	J	1	122	250	1000	ug/L	05/16/25 10:30	05/19/25 19:01	6010D	SW3010
7439-96-5	Manganese	26.2		1	2.97	7.50	10.0	ug/L	05/16/25 10:30	05/19/25 19:01	6010D	SW3010
7439-97-6	Mercury	0.16	UN	1	0.076	0.16	0.20	ug/L	05/16/25 14:20	05/20/25 11:25	7470A	
7440-02-0	Nickel	3.85	J	1	1.53	5.00	20.0	ug/L	05/16/25 10:30	05/19/25 19:01	6010D	SW3010
7440-09-7	Potassium	526	J	1	459	800	1000	ug/L	05/16/25 10:30	05/19/25 19:01	6010D	SW3010
7782-49-2	Selenium	8.00	U	1	4.82	8.00	10.0	ug/L	05/16/25 10:30	05/19/25 19:01	6010D	SW3010
7440-22-4	Silver	2.50	UN	1	0.81	2.50	5.00	ug/L	05/16/25 10:30	05/19/25 19:01	6010D	SW3010
7440-23-5	Sodium	5900		1	434	500	1000	ug/L	05/16/25 10:30	05/19/25 19:01	6010D	SW3010
7440-28-0	Thallium	10.0	U	1	2.19	10.0	20.0	ug/L	05/16/25 10:30	05/19/25 19:01	6010D	SW3010
7440-62-2	Vanadium	10.0	U	1	3.13	10.0	20.0	ug/L	05/16/25 10:30	05/19/25 19:01	6010D	SW3010
7440-66-6	Zinc	114		1	8.33	7.50	20.0	ug/L	05/16/25 10:30	05/19/25 19:01	6010D	SW3010

Color Before:	Colorless	Clarity Before:	Clear	Texture:	
Color After:	Colorless	Clarity After:	Clear	Artifacts:	
Comments:	METALS-TAL				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

Alliance TECHNICAL GROUP
284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	05/14/25
Project:	NWIRP Bethpage 112G08005-WE13	Date Received:	05/16/25
Client Sample ID:	RW8-SP303-90-20250514	SDG No.:	Q2064
Lab Sample ID:	Q2064-08	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	9.84	J	1	5.67	40.0	50.0	ug/L	05/16/25 10:30	05/19/25 19:05	6010D	SW3010
7440-36-0	Antimony	6.25	U	1	3.38	6.25	25.0	ug/L	05/16/25 10:30	05/19/25 19:05	6010D	SW3010
7440-38-2	Arsenic	7.50	U	1	2.56	7.50	10.0	ug/L	05/16/25 10:30	05/19/25 19:05	6010D	SW3010
7440-39-3	Barium	15.2	J	1	7.28	12.5	50.0	ug/L	05/16/25 10:30	05/19/25 19:05	6010D	SW3010
7440-41-7	Beryllium	0.75	U	1	0.28	0.75	3.00	ug/L	05/16/25 10:30	05/19/25 19:05	6010D	SW3010
7440-43-9	Cadmium	0.75	U	1	0.25	0.75	3.00	ug/L	05/16/25 10:30	05/19/25 19:05	6010D	SW3010
7440-70-2	Calcium	572	J	1	117	250	1000	ug/L	05/16/25 10:30	05/19/25 19:05	6010D	SW3010
7440-47-3	Chromium	2.50	U	1	1.06	2.50	5.00	ug/L	05/16/25 10:30	05/19/25 19:05	6010D	SW3010
7440-48-4	Cobalt	3.75	U	1	1.13	3.75	15.0	ug/L	05/16/25 10:30	05/19/25 19:05	6010D	SW3010
7440-50-8	Copper	8.00	U	1	2.30	8.00	10.0	ug/L	05/16/25 10:30	05/19/25 19:05	6010D	SW3010
7439-89-6	Iron	281	N	1	11.7	40.0	50.0	ug/L	05/16/25 10:30	05/19/25 19:05	6010D	SW3010
7439-92-1	Lead	4.80	U	1	1.15	4.80	6.00	ug/L	05/16/25 10:30	05/19/25 19:05	6010D	SW3010
7439-95-4	Magnesium	284	J	1	122	250	1000	ug/L	05/16/25 10:30	05/19/25 19:05	6010D	SW3010
7439-96-5	Manganese	23.9		1	2.97	7.50	10.0	ug/L	05/16/25 10:30	05/19/25 19:05	6010D	SW3010
7439-97-6	Mercury	0.16	UN	1	0.076	0.16	0.20	ug/L	05/16/25 14:20	05/20/25 11:27	7470A	
7440-02-0	Nickel	18.7	J	1	1.53	5.00	20.0	ug/L	05/16/25 10:30	05/19/25 19:05	6010D	SW3010
7440-09-7	Potassium	320000		1	459	800	1000	ug/L	05/16/25 10:30	05/19/25 19:05	6010D	SW3010
7782-49-2	Selenium	8.00	U	1	4.82	8.00	10.0	ug/L	05/16/25 10:30	05/19/25 19:05	6010D	SW3010
7440-22-4	Silver	2.50	UN	1	0.81	2.50	5.00	ug/L	05/16/25 10:30	05/19/25 19:05	6010D	SW3010
7440-23-5	Sodium	51400		1	434	500	1000	ug/L	05/16/25 10:30	05/19/25 19:05	6010D	SW3010
7440-28-0	Thallium	10.0	U	1	2.19	10.0	20.0	ug/L	05/16/25 10:30	05/19/25 19:05	6010D	SW3010
7440-62-2	Vanadium	10.0	U	1	3.13	10.0	20.0	ug/L	05/16/25 10:30	05/19/25 19:05	6010D	SW3010
7440-66-6	Zinc	26.4		1	8.33	7.50	20.0	ug/L	05/16/25 10:30	05/19/25 19:05	6010D	SW3010

Color Before:	Colorless	Clarity Before:	Clear	Texture:	
Color After:	Colorless	Clarity After:	Clear	Artifacts:	
Comments:	METALS-TAL				

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

METAL CALIBRATION DATA

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Initial Calibration Source: EPA

Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV11	Mercury	4.19	4.0	105	90 - 110	CV	05/20/2025	09:36	LB135832

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Initial Calibration Source: EPA

Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV40	Mercury	4.95	5.0	99	90 - 110	CV	05/20/2025	09:43	LB135832
CCV41	Mercury	4.68	5.0	94	90 - 110	CV	05/20/2025	10:13	LB135832
CCV42	Mercury	4.92	5.0	98	90 - 110	CV	05/20/2025	10:42	LB135832
CCV43	Mercury	5.34	5.0	107	90 - 110	CV	05/20/2025	11:09	LB135832
CCV44	Mercury	4.83	5.0	97	90 - 110	CV	05/20/2025	11:36	LB135832
CCV45	Mercury	4.84	5.0	97	90 - 110	CV	05/20/2025	11:55	LB135832

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV01	Aluminum	2510	2500	100	90 - 110	P	05/19/2025	12:28	LB135823
	Antimony	1030	1000	102	90 - 110	P	05/19/2025	12:28	LB135823
	Arsenic	992	1000	99	90 - 110	P	05/19/2025	12:28	LB135823
	Barium	493	520	95	90 - 110	P	05/19/2025	12:28	LB135823
	Beryllium	501	510	98	90 - 110	P	05/19/2025	12:28	LB135823
	Cadmium	508	510	100	90 - 110	P	05/19/2025	12:28	LB135823
	Calcium	9850	10000	98	90 - 110	P	05/19/2025	12:28	LB135823
	Chromium	519	520	100	90 - 110	P	05/19/2025	12:28	LB135823
	Cobalt	503	520	97	90 - 110	P	05/19/2025	12:28	LB135823
	Copper	515	510	101	90 - 110	P	05/19/2025	12:28	LB135823
	Iron	9600	10000	96	90 - 110	P	05/19/2025	12:28	LB135823
	Lead	998	1000	100	90 - 110	P	05/19/2025	12:28	LB135823
	Magnesium	5770	6000	96	90 - 110	P	05/19/2025	12:28	LB135823
	Manganese	511	520	98	90 - 110	P	05/19/2025	12:28	LB135823
	Nickel	504	530	95	90 - 110	P	05/19/2025	12:28	LB135823
	Potassium	9360	9900	95	90 - 110	P	05/19/2025	12:28	LB135823
	Selenium	1010	1000	101	90 - 110	P	05/19/2025	12:28	LB135823
	Silver	232	250	93	90 - 110	P	05/19/2025	12:28	LB135823
	Sodium	9970	10000	100	90 - 110	P	05/19/2025	12:28	LB135823
	Thallium	1030	1000	103	90 - 110	P	05/19/2025	12:28	LB135823
	Vanadium	497	500	100	90 - 110	P	05/19/2025	12:28	LB135823
	Zinc	1020	1000	102	90 - 110	P	05/19/2025	12:28	LB135823

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV01	Aluminum	106	100	106	80 - 120	P	05/19/2025	12:38	LB135823
	Antimony	54.4	50.0	109	80 - 120	P	05/19/2025	12:38	LB135823
	Arsenic	18.1	20.0	91	80 - 120	P	05/19/2025	12:38	LB135823
	Barium	95.7	100	96	80 - 120	P	05/19/2025	12:38	LB135823
	Beryllium	6.32	6.0	105	80 - 120	P	05/19/2025	12:38	LB135823
	Cadmium	6.31	6.0	105	80 - 120	P	05/19/2025	12:38	LB135823
	Calcium	2040	2000	102	80 - 120	P	05/19/2025	12:38	LB135823
	Chromium	9.85	10.0	98	80 - 120	P	05/19/2025	12:38	LB135823
	Cobalt	30.1	30.0	100	80 - 120	P	05/19/2025	12:38	LB135823
	Copper	22.6	20.0	113	80 - 120	P	05/19/2025	12:38	LB135823
	Iron	101	100	101	80 - 120	P	05/19/2025	12:38	LB135823
	Lead	11.2	12.0	93	80 - 120	P	05/19/2025	12:38	LB135823
	Magnesium	2130	2000	106	80 - 120	P	05/19/2025	12:38	LB135823
	Manganese	21.6	20.0	108	80 - 120	P	05/19/2025	12:38	LB135823
	Nickel	40.4	40.0	101	80 - 120	P	05/19/2025	12:38	LB135823
	Potassium	1880	2000	94	80 - 120	P	05/19/2025	12:38	LB135823
	Selenium	22.2	20.0	111	80 - 120	P	05/19/2025	12:38	LB135823
	Silver	10.5	10.0	105	80 - 120	P	05/19/2025	12:38	LB135823
	Sodium	1840	2000	92	80 - 120	P	05/19/2025	12:38	LB135823
	Thallium	44.4	40.0	111	80 - 120	P	05/19/2025	12:38	LB135823
	Vanadium	41.2	40.0	103	80 - 120	P	05/19/2025	12:38	LB135823
	Zinc	41.7	40.0	104	80 - 120	P	05/19/2025	12:38	LB135823

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 2a -
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV01	Aluminum	10300	10000	104	90 - 110	P	05/19/2025	13:15	LB135823
	Antimony	5120	5000	102	90 - 110	P	05/19/2025	13:15	LB135823
	Arsenic	5120	5000	102	90 - 110	P	05/19/2025	13:15	LB135823
	Barium	10100	10000	101	90 - 110	P	05/19/2025	13:15	LB135823
	Beryllium	269	250	107	90 - 110	P	05/19/2025	13:15	LB135823
	Cadmium	2540	2500	102	90 - 110	P	05/19/2025	13:15	LB135823
	Calcium	25400	25000	102	90 - 110	P	05/19/2025	13:15	LB135823
	Chromium	1020	1000	102	90 - 110	P	05/19/2025	13:15	LB135823
	Cobalt	2550	2500	102	90 - 110	P	05/19/2025	13:15	LB135823
	Copper	1290	1250	104	90 - 110	P	05/19/2025	13:15	LB135823
	Iron	4980	5000	100	90 - 110	P	05/19/2025	13:15	LB135823
	Lead	5090	5000	102	90 - 110	P	05/19/2025	13:15	LB135823
	Magnesium	25300	25000	101	90 - 110	P	05/19/2025	13:15	LB135823
	Manganese	2580	2500	103	90 - 110	P	05/19/2025	13:15	LB135823
	Nickel	2550	2500	102	90 - 110	P	05/19/2025	13:15	LB135823
	Potassium	24900	25000	99	90 - 110	P	05/19/2025	13:15	LB135823
	Selenium	5180	5000	104	90 - 110	P	05/19/2025	13:15	LB135823
	Silver	1280	1250	102	90 - 110	P	05/19/2025	13:15	LB135823
	Sodium	25000	25000	100	90 - 110	P	05/19/2025	13:15	LB135823
	Thallium	5220	5000	104	90 - 110	P	05/19/2025	13:15	LB135823
	Vanadium	2540	2500	101	90 - 110	P	05/19/2025	13:15	LB135823
	Zinc	2600	2500	104	90 - 110	P	05/19/2025	13:15	LB135823
CCV02	Aluminum	10200	10000	102	90 - 110	P	05/19/2025	14:13	LB135823
	Antimony	5060	5000	101	90 - 110	P	05/19/2025	14:13	LB135823
	Arsenic	5060	5000	101	90 - 110	P	05/19/2025	14:13	LB135823
	Barium	10200	10000	102	90 - 110	P	05/19/2025	14:13	LB135823
	Beryllium	257	250	103	90 - 110	P	05/19/2025	14:13	LB135823
	Cadmium	2540	2500	101	90 - 110	P	05/19/2025	14:13	LB135823
	Calcium	25300	25000	101	90 - 110	P	05/19/2025	14:13	LB135823
	Chromium	1020	1000	102	90 - 110	P	05/19/2025	14:13	LB135823
	Cobalt	2540	2500	102	90 - 110	P	05/19/2025	14:13	LB135823
	Copper	1280	1250	102	90 - 110	P	05/19/2025	14:13	LB135823
	Iron	5170	5000	103	90 - 110	P	05/19/2025	14:13	LB135823
	Lead	5070	5000	101	90 - 110	P	05/19/2025	14:13	LB135823

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 2a -
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV02	Magnesium	25100	25000	101	90 - 110	P	05/19/2025	14:13	LB135823
	Manganese	2550	2500	102	90 - 110	P	05/19/2025	14:13	LB135823
	Nickel	2540	2500	102	90 - 110	P	05/19/2025	14:13	LB135823
	Potassium	25800	25000	103	90 - 110	P	05/19/2025	14:13	LB135823
	Selenium	5100	5000	102	90 - 110	P	05/19/2025	14:13	LB135823
	Silver	1280	1250	102	90 - 110	P	05/19/2025	14:13	LB135823
	Sodium	26000	25000	104	90 - 110	P	05/19/2025	14:13	LB135823
	Thallium	5210	5000	104	90 - 110	P	05/19/2025	14:13	LB135823
	Vanadium	2540	2500	102	90 - 110	P	05/19/2025	14:13	LB135823
	Zinc	2570	2500	103	90 - 110	P	05/19/2025	14:13	LB135823
CCV03	Aluminum	9860	10000	99	90 - 110	P	05/19/2025	15:14	LB135823
	Antimony	4930	5000	99	90 - 110	P	05/19/2025	15:14	LB135823
	Arsenic	4900	5000	98	90 - 110	P	05/19/2025	15:14	LB135823
	Barium	9580	10000	96	90 - 110	P	05/19/2025	15:14	LB135823
	Beryllium	255	250	102	90 - 110	P	05/19/2025	15:14	LB135823
	Cadmium	2430	2500	97	90 - 110	P	05/19/2025	15:14	LB135823
	Calcium	24200	25000	97	90 - 110	P	05/19/2025	15:14	LB135823
	Chromium	982	1000	98	90 - 110	P	05/19/2025	15:14	LB135823
	Cobalt	2440	2500	98	90 - 110	P	05/19/2025	15:14	LB135823
	Copper	1240	1250	99	90 - 110	P	05/19/2025	15:14	LB135823
	Iron	4730	5000	94	90 - 110	P	05/19/2025	15:14	LB135823
	Lead	4880	5000	98	90 - 110	P	05/19/2025	15:14	LB135823
	Magnesium	24400	25000	98	90 - 110	P	05/19/2025	15:14	LB135823
	Manganese	2440	2500	98	90 - 110	P	05/19/2025	15:14	LB135823
	Nickel	2440	2500	98	90 - 110	P	05/19/2025	15:14	LB135823
	Potassium	23700	25000	95	90 - 110	P	05/19/2025	15:14	LB135823
	Selenium	4960	5000	99	90 - 110	P	05/19/2025	15:14	LB135823
	Silver	1230	1250	98	90 - 110	P	05/19/2025	15:14	LB135823
	Sodium	23600	25000	94	90 - 110	P	05/19/2025	15:14	LB135823
	Thallium	4950	5000	99	90 - 110	P	05/19/2025	15:14	LB135823
	Vanadium	2430	2500	97	90 - 110	P	05/19/2025	15:14	LB135823
	Zinc	2480	2500	99	90 - 110	P	05/19/2025	15:14	LB135823
CCV04	Aluminum	9920	10000	99	90 - 110	P	05/19/2025	16:03	LB135823
	Antimony	4960	5000	99	90 - 110	P	05/19/2025	16:03	LB135823

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 2a -
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV04	Arsenic	4940	5000	99	90 - 110	P	05/19/2025	16:03	LB135823
	Barium	9750	10000	98	90 - 110	P	05/19/2025	16:03	LB135823
	Beryllium	252	250	101	90 - 110	P	05/19/2025	16:03	LB135823
	Cadmium	2450	2500	98	90 - 110	P	05/19/2025	16:03	LB135823
	Calcium	24300	25000	97	90 - 110	P	05/19/2025	16:03	LB135823
	Chromium	989	1000	99	90 - 110	P	05/19/2025	16:03	LB135823
	Cobalt	2460	2500	98	90 - 110	P	05/19/2025	16:03	LB135823
	Copper	1250	1250	100	90 - 110	P	05/19/2025	16:03	LB135823
	Iron	4970	5000	99	90 - 110	P	05/19/2025	16:03	LB135823
	Lead	4880	5000	98	90 - 110	P	05/19/2025	16:03	LB135823
	Magnesium	24300	25000	97	90 - 110	P	05/19/2025	16:03	LB135823
	Manganese	2460	2500	98	90 - 110	P	05/19/2025	16:03	LB135823
	Nickel	2450	2500	98	90 - 110	P	05/19/2025	16:03	LB135823
	Potassium	25000	25000	100	90 - 110	P	05/19/2025	16:03	LB135823
	Selenium	5030	5000	101	90 - 110	P	05/19/2025	16:03	LB135823
	Silver	1250	1250	100	90 - 110	P	05/19/2025	16:03	LB135823
	Sodium	25100	25000	100	90 - 110	P	05/19/2025	16:03	LB135823
	Thallium	5180	5000	104	90 - 110	P	05/19/2025	16:03	LB135823
	Vanadium	2450	2500	98	90 - 110	P	05/19/2025	16:03	LB135823
	Zinc	2510	2500	101	90 - 110	P	05/19/2025	16:03	LB135823
CCV05	Aluminum	9910	10000	99	90 - 110	P	05/19/2025	16:47	LB135823
	Antimony	4930	5000	99	90 - 110	P	05/19/2025	16:47	LB135823
	Arsenic	4890	5000	98	90 - 110	P	05/19/2025	16:47	LB135823
	Barium	9850	10000	98	90 - 110	P	05/19/2025	16:47	LB135823
	Beryllium	258	250	103	90 - 110	P	05/19/2025	16:47	LB135823
	Cadmium	2440	2500	98	90 - 110	P	05/19/2025	16:47	LB135823
	Calcium	24300	25000	97	90 - 110	P	05/19/2025	16:47	LB135823
	Chromium	980	1000	98	90 - 110	P	05/19/2025	16:47	LB135823
	Cobalt	2450	2500	98	90 - 110	P	05/19/2025	16:47	LB135823
	Copper	1240	1250	99	90 - 110	P	05/19/2025	16:47	LB135823
	Iron	4730	5000	95	90 - 110	P	05/19/2025	16:47	LB135823
	Lead	4870	5000	97	90 - 110	P	05/19/2025	16:47	LB135823
	Magnesium	24500	25000	98	90 - 110	P	05/19/2025	16:47	LB135823
	Manganese	2480	2500	99	90 - 110	P	05/19/2025	16:47	LB135823

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 2a -
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV05	Nickel	2440	2500	98	90 - 110	P	05/19/2025	16:47	LB135823
	Potassium	23800	25000	95	90 - 110	P	05/19/2025	16:47	LB135823
	Selenium	4990	5000	100	90 - 110	P	05/19/2025	16:47	LB135823
	Silver	1220	1250	98	90 - 110	P	05/19/2025	16:47	LB135823
	Sodium	23900	25000	96	90 - 110	P	05/19/2025	16:47	LB135823
	Thallium	5190	5000	104	90 - 110	P	05/19/2025	16:47	LB135823
	Vanadium	2450	2500	98	90 - 110	P	05/19/2025	16:47	LB135823
	Zinc	2470	2500	99	90 - 110	P	05/19/2025	16:47	LB135823
CCV06	Aluminum	10200	10000	102	90 - 110	P	05/19/2025	17:35	LB135823
	Antimony	5000	5000	100	90 - 110	P	05/19/2025	17:35	LB135823
	Arsenic	4920	5000	98	90 - 110	P	05/19/2025	17:35	LB135823
	Barium	9800	10000	98	90 - 110	P	05/19/2025	17:35	LB135823
	Beryllium	260	250	104	90 - 110	P	05/19/2025	17:35	LB135823
	Cadmium	2480	2500	99	90 - 110	P	05/19/2025	17:35	LB135823
	Calcium	24800	25000	99	90 - 110	P	05/19/2025	17:35	LB135823
	Chromium	1000	1000	100	90 - 110	P	05/19/2025	17:35	LB135823
	Cobalt	2500	2500	100	90 - 110	P	05/19/2025	17:35	LB135823
	Copper	1250	1250	100	90 - 110	P	05/19/2025	17:35	LB135823
	Iron	4810	5000	96	90 - 110	P	05/19/2025	17:35	LB135823
	Lead	4940	5000	99	90 - 110	P	05/19/2025	17:35	LB135823
	Magnesium	25100	25000	100	90 - 110	P	05/19/2025	17:35	LB135823
	Manganese	2500	2500	100	90 - 110	P	05/19/2025	17:35	LB135823
	Nickel	2480	2500	99	90 - 110	P	05/19/2025	17:35	LB135823
	Potassium	24000	25000	96	90 - 110	P	05/19/2025	17:35	LB135823
	Selenium	5010	5000	100	90 - 110	P	05/19/2025	17:35	LB135823
	Silver	1240	1250	99	90 - 110	P	05/19/2025	17:35	LB135823
	Sodium	23900	25000	96	90 - 110	P	05/19/2025	17:35	LB135823
	Thallium	5240	5000	105	90 - 110	P	05/19/2025	17:35	LB135823
	Vanadium	2490	2500	100	90 - 110	P	05/19/2025	17:35	LB135823
	Zinc	2510	2500	100	90 - 110	P	05/19/2025	17:35	LB135823
CCV07	Aluminum	9790	10000	98	90 - 110	P	05/19/2025	18:21	LB135823
	Antimony	4970	5000	99	90 - 110	P	05/19/2025	18:21	LB135823
	Arsenic	4960	5000	99	90 - 110	P	05/19/2025	18:21	LB135823
	Barium	9920	10000	99	90 - 110	P	05/19/2025	18:21	LB135823

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 2a -
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV07	Beryllium	244	250	98	90 - 110	P	05/19/2025	18:21	LB135823
	Cadmium	2460	2500	99	90 - 110	P	05/19/2025	18:21	LB135823
	Calcium	24400	25000	97	90 - 110	P	05/19/2025	18:21	LB135823
	Chromium	987	1000	99	90 - 110	P	05/19/2025	18:21	LB135823
	Cobalt	2460	2500	98	90 - 110	P	05/19/2025	18:21	LB135823
	Copper	1250	1250	100	90 - 110	P	05/19/2025	18:21	LB135823
	Iron	5100	5000	102	90 - 110	P	05/19/2025	18:21	LB135823
	Lead	4910	5000	98	90 - 110	P	05/19/2025	18:21	LB135823
	Magnesium	24300	25000	97	90 - 110	P	05/19/2025	18:21	LB135823
	Manganese	2460	2500	98	90 - 110	P	05/19/2025	18:21	LB135823
	Nickel	2460	2500	98	90 - 110	P	05/19/2025	18:21	LB135823
	Potassium	25500	25000	102	90 - 110	P	05/19/2025	18:21	LB135823
	Selenium	5060	5000	101	90 - 110	P	05/19/2025	18:21	LB135823
	Silver	1240	1250	99	90 - 110	P	05/19/2025	18:21	LB135823
	Sodium	25400	25000	102	90 - 110	P	05/19/2025	18:21	LB135823
	Thallium	5140	5000	103	90 - 110	P	05/19/2025	18:21	LB135823
	Vanadium	2450	2500	98	90 - 110	P	05/19/2025	18:21	LB135823
	Zinc	2500	2500	100	90 - 110	P	05/19/2025	18:21	LB135823
CCV08	Aluminum	9850	10000	98	90 - 110	P	05/19/2025	19:09	LB135823
	Antimony	4980	5000	100	90 - 110	P	05/19/2025	19:09	LB135823
	Arsenic	4990	5000	100	90 - 110	P	05/19/2025	19:09	LB135823
	Barium	9660	10000	97	90 - 110	P	05/19/2025	19:09	LB135823
	Beryllium	258	250	103	90 - 110	P	05/19/2025	19:09	LB135823
	Cadmium	2470	2500	99	90 - 110	P	05/19/2025	19:09	LB135823
	Calcium	24300	25000	97	90 - 110	P	05/19/2025	19:09	LB135823
	Chromium	985	1000	98	90 - 110	P	05/19/2025	19:09	LB135823
	Cobalt	2470	2500	99	90 - 110	P	05/19/2025	19:09	LB135823
	Copper	1250	1250	100	90 - 110	P	05/19/2025	19:09	LB135823
	Iron	4840	5000	97	90 - 110	P	05/19/2025	19:09	LB135823
	Lead	4910	5000	98	90 - 110	P	05/19/2025	19:09	LB135823
	Magnesium	24400	25000	98	90 - 110	P	05/19/2025	19:09	LB135823
	Manganese	2460	2500	98	90 - 110	P	05/19/2025	19:09	LB135823
	Nickel	2470	2500	99	90 - 110	P	05/19/2025	19:09	LB135823
	Potassium	24600	25000	98	90 - 110	P	05/19/2025	19:09	LB135823

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 2a -
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV08	Selenium	5060	5000	101	90 - 110	P	05/19/2025	19:09	LB135823
	Silver	1240	1250	99	90 - 110	P	05/19/2025	19:09	LB135823
	Sodium	24200	25000	97	90 - 110	P	05/19/2025	19:09	LB135823
	Thallium	5120	5000	102	90 - 110	P	05/19/2025	19:09	LB135823
	Vanadium	2440	2500	98	90 - 110	P	05/19/2025	19:09	LB135823
	Zinc	2510	2500	100	90 - 110	P	05/19/2025	19:09	LB135823
CCV09	Aluminum	9590	10000	96	90 - 110	P	05/19/2025	19:55	LB135823
	Antimony	4940	5000	99	90 - 110	P	05/19/2025	19:55	LB135823
	Arsenic	4930	5000	99	90 - 110	P	05/19/2025	19:55	LB135823
	Barium	9570	10000	96	90 - 110	P	05/19/2025	19:55	LB135823
	Beryllium	239	250	96	90 - 110	P	05/19/2025	19:55	LB135823
	Cadmium	2430	2500	97	90 - 110	P	05/19/2025	19:55	LB135823
	Calcium	23900	25000	95	90 - 110	P	05/19/2025	19:55	LB135823
	Chromium	998	1000	100	90 - 110	P	05/19/2025	19:55	LB135823
	Cobalt	2420	2500	97	90 - 110	P	05/19/2025	19:55	LB135823
	Copper	1230	1250	99	90 - 110	P	05/19/2025	19:55	LB135823
	Iron	5010	5000	100	90 - 110	P	05/19/2025	19:55	LB135823
	Lead	4870	5000	98	90 - 110	P	05/19/2025	19:55	LB135823
	Magnesium	23800	25000	95	90 - 110	P	05/19/2025	19:55	LB135823
	Manganese	2370	2500	95	90 - 110	P	05/19/2025	19:55	LB135823
	Nickel	2430	2500	97	90 - 110	P	05/19/2025	19:55	LB135823
	Potassium	24800	25000	99	90 - 110	P	05/19/2025	19:55	LB135823
	Selenium	4950	5000	99	90 - 110	P	05/19/2025	19:55	LB135823
	Silver	1240	1250	99	90 - 110	P	05/19/2025	19:55	LB135823
	Sodium	24500	25000	98	90 - 110	P	05/19/2025	19:55	LB135823
	Thallium	5050	5000	101	90 - 110	P	05/19/2025	19:55	LB135823
	Vanadium	2400	2500	96	90 - 110	P	05/19/2025	19:55	LB135823
	Zinc	2480	2500	99	90 - 110	P	05/19/2025	19:55	LB135823
CCV10	Aluminum	9740	10000	97	90 - 110	P	05/19/2025	20:11	LB135823
	Antimony	4930	5000	99	90 - 110	P	05/19/2025	20:11	LB135823
	Arsenic	4950	5000	99	90 - 110	P	05/19/2025	20:11	LB135823
	Barium	9450	10000	94	90 - 110	P	05/19/2025	20:11	LB135823
	Beryllium	256	250	102	90 - 110	P	05/19/2025	20:11	LB135823
	Cadmium	2440	2500	98	90 - 110	P	05/19/2025	20:11	LB135823

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV10	Calcium	24000	25000	96	90 - 110	P	05/19/2025	20:11	LB135823
	Chromium	984	1000	98	90 - 110	P	05/19/2025	20:11	LB135823
	Cobalt	2440	2500	97	90 - 110	P	05/19/2025	20:11	LB135823
	Copper	1240	1250	99	90 - 110	P	05/19/2025	20:11	LB135823
	Iron	4710	5000	94	90 - 110	P	05/19/2025	20:11	LB135823
	Lead	4880	5000	98	90 - 110	P	05/19/2025	20:11	LB135823
	Magnesium	24300	25000	97	90 - 110	P	05/19/2025	20:11	LB135823
	Manganese	2400	2500	96	90 - 110	P	05/19/2025	20:11	LB135823
	Nickel	2440	2500	98	90 - 110	P	05/19/2025	20:11	LB135823
	Potassium	23300	25000	93	90 - 110	P	05/19/2025	20:11	LB135823
	Selenium	4990	5000	100	90 - 110	P	05/19/2025	20:11	LB135823
	Silver	1220	1250	98	90 - 110	P	05/19/2025	20:11	LB135823
	Sodium	22800	25000	91	90 - 110	P	05/19/2025	20:11	LB135823
	Thallium	5050	5000	101	90 - 110	P	05/19/2025	20:11	LB135823
	Vanadium	2410	2500	97	90 - 110	P	05/19/2025	20:11	LB135823
	Zinc	2450	2500	98	90 - 110	P	05/19/2025	20:11	LB135823

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 2b -
CRDL STANDARD FOR AA & ICP

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Initial Calibration Source:

Continuing Calibration Source:

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CRI01	Aluminum	113	100	113	65 - 135	P	05/19/2025	12:48	LB135823
	Antimony	52.5	50.0	105	65 - 135	P	05/19/2025	12:48	LB135823
	Arsenic	19.7	20.0	99	65 - 135	P	05/19/2025	12:48	LB135823
	Barium	96.2	100	96	65 - 135	P	05/19/2025	12:48	LB135823
	Beryllium	6.10	6.0	102	65 - 135	P	05/19/2025	12:48	LB135823
	Cadmium	6.33	6.0	106	65 - 135	P	05/19/2025	12:48	LB135823
	Calcium	2050	2000	102	65 - 135	P	05/19/2025	12:48	LB135823
	Chromium	10.1	10.0	101	65 - 135	P	05/19/2025	12:48	LB135823
	Cobalt	30.0	30.0	100	65 - 135	P	05/19/2025	12:48	LB135823
	Copper	22.7	20.0	114	65 - 135	P	05/19/2025	12:48	LB135823
	Iron	102	100	102	65 - 135	P	05/19/2025	12:48	LB135823
	Lead	12.8	12.0	107	65 - 135	P	05/19/2025	12:48	LB135823
	Magnesium	2140	2000	107	65 - 135	P	05/19/2025	12:48	LB135823
	Manganese	21.4	20.0	107	65 - 135	P	05/19/2025	12:48	LB135823
	Nickel	40.0	40.0	100	65 - 135	P	05/19/2025	12:48	LB135823
	Potassium	1950	2000	98	65 - 135	P	05/19/2025	12:48	LB135823
	Selenium	23.9	20.0	119	65 - 135	P	05/19/2025	12:48	LB135823
	Silver	10.3	10.0	103	65 - 135	P	05/19/2025	12:48	LB135823
	Sodium	1890	2000	95	65 - 135	P	05/19/2025	12:48	LB135823
	Thallium	42.9	40.0	107	65 - 135	P	05/19/2025	12:48	LB135823
	Vanadium	43.2	40.0	108	65 - 135	P	05/19/2025	12:48	LB135823
	Zinc	42.3	40.0	106	65 - 135	P	05/19/2025	12:48	LB135823
CRA	Mercury	0.19	0.2	97	70 - 130	CV	05/20/2025	09:47	LB135832

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB11	Mercury	0.20	+/-0.20	U	0.16	0.20	CV	05/20/2025	09:38	LB135832

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB40	Mercury	0.20	+/-0.20	U	0.16	0.20	CV	05/20/2025	09:45	LB135832
CCB41	Mercury	0.20	+/-0.20	U	0.16	0.20	CV	05/20/2025	10:15	LB135832
CCB42	Mercury	0.20	+/-0.20	U	0.16	0.20	CV	05/20/2025	10:44	LB135832
CCB43	Mercury	0.20	+/-0.20	U	0.16	0.20	CV	05/20/2025	11:11	LB135832
CCB44	Mercury	0.20	+/-0.20	U	0.16	0.20	CV	05/20/2025	11:39	LB135832
CCB45	Mercury	0.20	+/-0.20	U	0.16	0.20	CV	05/20/2025	11:57	LB135832

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Aluminum	100	+/-100	U	80.0	100	P	05/19/2025	12:44	LB135823
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	05/19/2025	12:44	LB135823
	Arsenic	20.0	+/-20.0	U	15.0	20.0	P	05/19/2025	12:44	LB135823
	Barium	100	+/-100	U	25.0	100	P	05/19/2025	12:44	LB135823
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	05/19/2025	12:44	LB135823
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	05/19/2025	12:44	LB135823
	Calcium	2000	+/-2000	U	500	2000	P	05/19/2025	12:44	LB135823
	Chromium	10.0	+/-10.0	U	5.00	10.0	P	05/19/2025	12:44	LB135823
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	05/19/2025	12:44	LB135823
	Copper	20.0	+/-20.0	U	16.0	20.0	P	05/19/2025	12:44	LB135823
	Iron	100	+/-100	U	80.0	100	P	05/19/2025	12:44	LB135823
	Lead	12.0	+/-12.0	U	9.60	12.0	P	05/19/2025	12:44	LB135823
	Magnesium	2000	+/-2000	U	500	2000	P	05/19/2025	12:44	LB135823
	Manganese	20.0	+/-20.0	U	15.0	20.0	P	05/19/2025	12:44	LB135823
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	05/19/2025	12:44	LB135823
	Potassium	2000	+/-2000	U	1600	2000	P	05/19/2025	12:44	LB135823
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	05/19/2025	12:44	LB135823
	Silver	10.0	+/-10.0	U	5.00	10.0	P	05/19/2025	12:44	LB135823
	Sodium	2000	+/-2000	U	1000	2000	P	05/19/2025	12:44	LB135823
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	05/19/2025	12:44	LB135823
	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	05/19/2025	12:44	LB135823
	Zinc	40.0	+/-40.0	U	15.0	40.0	P	05/19/2025	12:44	LB135823

Alliance TECHNICAL GROUP
284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Aluminum	15.2	+/-100	J	80.0	100	P	05/19/2025	13:23	LB135823
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	05/19/2025	13:23	LB135823
	Arsenic	20.0	+/-20.0	U	15.0	20.0	P	05/19/2025	13:23	LB135823
	Barium	100	+/-100	U	25.0	100	P	05/19/2025	13:23	LB135823
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	05/19/2025	13:23	LB135823
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	05/19/2025	13:23	LB135823
	Calcium	2000	+/-2000	U	500	2000	P	05/19/2025	13:23	LB135823
	Chromium	10.0	+/-10.0	U	5.00	10.0	P	05/19/2025	13:23	LB135823
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	05/19/2025	13:23	LB135823
	Copper	20.0	+/-20.0	U	16.0	20.0	P	05/19/2025	13:23	LB135823
	Iron	100	+/-100	U	80.0	100	P	05/19/2025	13:23	LB135823
	Lead	12.0	+/-12.0	U	9.60	12.0	P	05/19/2025	13:23	LB135823
	Magnesium	2000	+/-2000	U	500	2000	P	05/19/2025	13:23	LB135823
	Manganese	20.0	+/-20.0	U	15.0	20.0	P	05/19/2025	13:23	LB135823
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	05/19/2025	13:23	LB135823
	Potassium	2000	+/-2000	U	1600	2000	P	05/19/2025	13:23	LB135823
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	05/19/2025	13:23	LB135823
	Silver	10.0	+/-10.0	U	5.00	10.0	P	05/19/2025	13:23	LB135823
	Sodium	2000	+/-2000	U	1000	2000	P	05/19/2025	13:23	LB135823
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	05/19/2025	13:23	LB135823
	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	05/19/2025	13:23	LB135823
	Zinc	40.0	+/-40.0	U	15.0	40.0	P	05/19/2025	13:23	LB135823
CCB02	Aluminum	100	+/-100	U	80.0	100	P	05/19/2025	14:24	LB135823
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	05/19/2025	14:24	LB135823
	Arsenic	20.0	+/-20.0	U	15.0	20.0	P	05/19/2025	14:24	LB135823
	Barium	100	+/-100	U	25.0	100	P	05/19/2025	14:24	LB135823
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	05/19/2025	14:24	LB135823
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	05/19/2025	14:24	LB135823
	Calcium	2000	+/-2000	U	500	2000	P	05/19/2025	14:24	LB135823
	Chromium	10.0	+/-10.0	U	5.00	10.0	P	05/19/2025	14:24	LB135823
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	05/19/2025	14:24	LB135823
	Copper	20.0	+/-20.0	U	16.0	20.0	P	05/19/2025	14:24	LB135823
	Iron	100	+/-100	U	80.0	100	P	05/19/2025	14:24	LB135823
	Lead	12.0	+/-12.0	U	9.60	12.0	P	05/19/2025	14:24	LB135823
	Magnesium	2000	+/-2000	U	500	2000	P	05/19/2025	14:24	LB135823
	Manganese	20.0	+/-20.0	U	15.0	20.0	P	05/19/2025	14:24	LB135823
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	05/19/2025	14:24	LB135823
	Potassium	2000	+/-2000	U	1600	2000	P	05/19/2025	14:24	LB135823
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	05/19/2025	14:24	LB135823

Alliance TECHNICAL GROUP
284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB02	Silver	10.0	+/-10.0	U	5.00	10.0	P	05/19/2025	14:24	LB135823
	Sodium	2000	+/-2000	U	1000	2000	P	05/19/2025	14:24	LB135823
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	05/19/2025	14:24	LB135823
	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	05/19/2025	14:24	LB135823
	Zinc	40.0	+/-40.0	U	15.0	40.0	P	05/19/2025	14:24	LB135823
CCB03	Aluminum	100	+/-100	U	80.0	100	P	05/19/2025	15:19	LB135823
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	05/19/2025	15:19	LB135823
	Arsenic	20.0	+/-20.0	U	15.0	20.0	P	05/19/2025	15:19	LB135823
	Barium	100	+/-100	U	25.0	100	P	05/19/2025	15:19	LB135823
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	05/19/2025	15:19	LB135823
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	05/19/2025	15:19	LB135823
	Calcium	2000	+/-2000	U	500	2000	P	05/19/2025	15:19	LB135823
	Chromium	10.0	+/-10.0	U	5.00	10.0	P	05/19/2025	15:19	LB135823
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	05/19/2025	15:19	LB135823
	Copper	20.0	+/-20.0	U	16.0	20.0	P	05/19/2025	15:19	LB135823
	Iron	100	+/-100	U	80.0	100	P	05/19/2025	15:19	LB135823
	Lead	12.0	+/-12.0	U	9.60	12.0	P	05/19/2025	15:19	LB135823
	Magnesium	2000	+/-2000	U	500	2000	P	05/19/2025	15:19	LB135823
	Manganese	20.0	+/-20.0	U	15.0	20.0	P	05/19/2025	15:19	LB135823
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	05/19/2025	15:19	LB135823
	Potassium	2000	+/-2000	U	1600	2000	P	05/19/2025	15:19	LB135823
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	05/19/2025	15:19	LB135823
	Silver	10.0	+/-10.0	U	5.00	10.0	P	05/19/2025	15:19	LB135823
	Sodium	2000	+/-2000	U	1000	2000	P	05/19/2025	15:19	LB135823
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	05/19/2025	15:19	LB135823
	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	05/19/2025	15:19	LB135823
	Zinc	40.0	+/-40.0	U	15.0	40.0	P	05/19/2025	15:19	LB135823
CCB04	Aluminum	100	+/-100	U	80.0	100	P	05/19/2025	16:07	LB135823
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	05/19/2025	16:07	LB135823
	Arsenic	20.0	+/-20.0	U	15.0	20.0	P	05/19/2025	16:07	LB135823
	Barium	100	+/-100	U	25.0	100	P	05/19/2025	16:07	LB135823
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	05/19/2025	16:07	LB135823
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	05/19/2025	16:07	LB135823
	Calcium	2000	+/-2000	U	500	2000	P	05/19/2025	16:07	LB135823
	Chromium	10.0	+/-10.0	U	5.00	10.0	P	05/19/2025	16:07	LB135823
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	05/19/2025	16:07	LB135823
	Copper	20.0	+/-20.0	U	16.0	20.0	P	05/19/2025	16:07	LB135823
	Iron	100	+/-100	U	80.0	100	P	05/19/2025	16:07	LB135823
	Lead	12.0	+/-12.0	U	9.60	12.0	P	05/19/2025	16:07	LB135823

Alliance TECHNICAL GROUP
284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB04	Magnesium	2000	+/-2000	U	500	2000	P	05/19/2025	16:07	LB135823
	Manganese	20.0	+/-20.0	U	15.0	20.0	P	05/19/2025	16:07	LB135823
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	05/19/2025	16:07	LB135823
	Potassium	2000	+/-2000	U	1600	2000	P	05/19/2025	16:07	LB135823
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	05/19/2025	16:07	LB135823
	Silver	10.0	+/-10.0	U	5.00	10.0	P	05/19/2025	16:07	LB135823
	Sodium	2000	+/-2000	U	1000	2000	P	05/19/2025	16:07	LB135823
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	05/19/2025	16:07	LB135823
	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	05/19/2025	16:07	LB135823
	Zinc	40.0	+/-40.0	U	15.0	40.0	P	05/19/2025	16:07	LB135823
CCB05	Aluminum	100	+/-100	U	80.0	100	P	05/19/2025	16:51	LB135823
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	05/19/2025	16:51	LB135823
	Arsenic	20.0	+/-20.0	U	15.0	20.0	P	05/19/2025	16:51	LB135823
	Barium	100	+/-100	U	25.0	100	P	05/19/2025	16:51	LB135823
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	05/19/2025	16:51	LB135823
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	05/19/2025	16:51	LB135823
	Calcium	2000	+/-2000	U	500	2000	P	05/19/2025	16:51	LB135823
	Chromium	10.0	+/-10.0	U	5.00	10.0	P	05/19/2025	16:51	LB135823
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	05/19/2025	16:51	LB135823
	Copper	20.0	+/-20.0	U	16.0	20.0	P	05/19/2025	16:51	LB135823
	Iron	100	+/-100	U	80.0	100	P	05/19/2025	16:51	LB135823
	Lead	12.0	+/-12.0	U	9.60	12.0	P	05/19/2025	16:51	LB135823
	Magnesium	2000	+/-2000	U	500	2000	P	05/19/2025	16:51	LB135823
	Manganese	20.0	+/-20.0	U	15.0	20.0	P	05/19/2025	16:51	LB135823
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	05/19/2025	16:51	LB135823
	Potassium	2000	+/-2000	U	1600	2000	P	05/19/2025	16:51	LB135823
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	05/19/2025	16:51	LB135823
	Silver	10.0	+/-10.0	U	5.00	10.0	P	05/19/2025	16:51	LB135823
	Sodium	2000	+/-2000	U	1000	2000	P	05/19/2025	16:51	LB135823
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	05/19/2025	16:51	LB135823
	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	05/19/2025	16:51	LB135823
	Zinc	40.0	+/-40.0	U	15.0	40.0	P	05/19/2025	16:51	LB135823
CCB06	Aluminum	100	+/-100	U	80.0	100	P	05/19/2025	17:39	LB135823
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	05/19/2025	17:39	LB135823
	Arsenic	20.0	+/-20.0	U	15.0	20.0	P	05/19/2025	17:39	LB135823
	Barium	100	+/-100	U	25.0	100	P	05/19/2025	17:39	LB135823
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	05/19/2025	17:39	LB135823
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	05/19/2025	17:39	LB135823
	Calcium	2000	+/-2000	U	500	2000	P	05/19/2025	17:39	LB135823

Alliance TECHNICAL GROUP
284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB06	Chromium	10.0	+/-10.0	U	5.00	10.0	P	05/19/2025	17:39	LB135823
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	05/19/2025	17:39	LB135823
	Copper	20.0	+/-20.0	U	16.0	20.0	P	05/19/2025	17:39	LB135823
	Iron	100	+/-100	U	80.0	100	P	05/19/2025	17:39	LB135823
	Lead	12.0	+/-12.0	U	9.60	12.0	P	05/19/2025	17:39	LB135823
	Magnesium	2000	+/-2000	U	500	2000	P	05/19/2025	17:39	LB135823
	Manganese	20.0	+/-20.0	U	15.0	20.0	P	05/19/2025	17:39	LB135823
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	05/19/2025	17:39	LB135823
	Potassium	2000	+/-2000	U	1600	2000	P	05/19/2025	17:39	LB135823
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	05/19/2025	17:39	LB135823
	Silver	10.0	+/-10.0	U	5.00	10.0	P	05/19/2025	17:39	LB135823
	Sodium	2000	+/-2000	U	1000	2000	P	05/19/2025	17:39	LB135823
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	05/19/2025	17:39	LB135823
	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	05/19/2025	17:39	LB135823
	Zinc	40.0	+/-40.0	U	15.0	40.0	P	05/19/2025	17:39	LB135823
CCB07	Aluminum	100	+/-100	U	80.0	100	P	05/19/2025	18:25	LB135823
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	05/19/2025	18:25	LB135823
	Arsenic	20.0	+/-20.0	U	15.0	20.0	P	05/19/2025	18:25	LB135823
	Barium	100	+/-100	U	25.0	100	P	05/19/2025	18:25	LB135823
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	05/19/2025	18:25	LB135823
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	05/19/2025	18:25	LB135823
	Calcium	2000	+/-2000	U	500	2000	P	05/19/2025	18:25	LB135823
	Chromium	10.0	+/-10.0	U	5.00	10.0	P	05/19/2025	18:25	LB135823
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	05/19/2025	18:25	LB135823
	Copper	20.0	+/-20.0	U	16.0	20.0	P	05/19/2025	18:25	LB135823
	Iron	100	+/-100	U	80.0	100	P	05/19/2025	18:25	LB135823
	Lead	12.0	+/-12.0	U	9.60	12.0	P	05/19/2025	18:25	LB135823
	Magnesium	2000	+/-2000	U	500	2000	P	05/19/2025	18:25	LB135823
	Manganese	20.0	+/-20.0	U	15.0	20.0	P	05/19/2025	18:25	LB135823
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	05/19/2025	18:25	LB135823
	Potassium	2000	+/-2000	U	1600	2000	P	05/19/2025	18:25	LB135823
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	05/19/2025	18:25	LB135823
	Silver	10.0	+/-10.0	U	5.00	10.0	P	05/19/2025	18:25	LB135823
	Sodium	2000	+/-2000	U	1000	2000	P	05/19/2025	18:25	LB135823
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	05/19/2025	18:25	LB135823
	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	05/19/2025	18:25	LB135823
	Zinc	40.0	+/-40.0	U	15.0	40.0	P	05/19/2025	18:25	LB135823
CCB08	Aluminum	100	+/-100	U	80.0	100	P	05/19/2025	19:14	LB135823
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	05/19/2025	19:14	LB135823

Alliance TECHNICAL GROUP
284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB08	Arsenic	20.0	+/-20.0	U	15.0	20.0	P	05/19/2025	19:14	LB135823
	Barium	100	+/-100	U	25.0	100	P	05/19/2025	19:14	LB135823
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	05/19/2025	19:14	LB135823
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	05/19/2025	19:14	LB135823
	Calcium	2000	+/-2000	U	500	2000	P	05/19/2025	19:14	LB135823
	Chromium	10.0	+/-10.0	U	5.00	10.0	P	05/19/2025	19:14	LB135823
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	05/19/2025	19:14	LB135823
	Copper	20.0	+/-20.0	U	16.0	20.0	P	05/19/2025	19:14	LB135823
	Iron	100	+/-100	U	80.0	100	P	05/19/2025	19:14	LB135823
	Lead	12.0	+/-12.0	U	9.60	12.0	P	05/19/2025	19:14	LB135823
	Magnesium	2000	+/-2000	U	500	2000	P	05/19/2025	19:14	LB135823
	Manganese	20.0	+/-20.0	U	15.0	20.0	P	05/19/2025	19:14	LB135823
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	05/19/2025	19:14	LB135823
	Potassium	2000	+/-2000	U	1600	2000	P	05/19/2025	19:14	LB135823
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	05/19/2025	19:14	LB135823
	Silver	10.0	+/-10.0	U	5.00	10.0	P	05/19/2025	19:14	LB135823
	Sodium	2000	+/-2000	U	1000	2000	P	05/19/2025	19:14	LB135823
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	05/19/2025	19:14	LB135823
	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	05/19/2025	19:14	LB135823
	Zinc	40.0	+/-40.0	U	15.0	40.0	P	05/19/2025	19:14	LB135823
CCB09	Aluminum	100	+/-100	U	80.0	100	P	05/19/2025	19:59	LB135823
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	05/19/2025	19:59	LB135823
	Arsenic	20.0	+/-20.0	U	15.0	20.0	P	05/19/2025	19:59	LB135823
	Barium	100	+/-100	U	25.0	100	P	05/19/2025	19:59	LB135823
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	05/19/2025	19:59	LB135823
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	05/19/2025	19:59	LB135823
	Calcium	2000	+/-2000	U	500	2000	P	05/19/2025	19:59	LB135823
	Chromium	10.0	+/-10.0	U	5.00	10.0	P	05/19/2025	19:59	LB135823
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	05/19/2025	19:59	LB135823
	Copper	20.0	+/-20.0	U	16.0	20.0	P	05/19/2025	19:59	LB135823
	Iron	100	+/-100	U	80.0	100	P	05/19/2025	19:59	LB135823
	Lead	12.0	+/-12.0	U	9.60	12.0	P	05/19/2025	19:59	LB135823
	Magnesium	2000	+/-2000	U	500	2000	P	05/19/2025	19:59	LB135823
	Manganese	20.0	+/-20.0	U	15.0	20.0	P	05/19/2025	19:59	LB135823
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	05/19/2025	19:59	LB135823
	Potassium	2000	+/-2000	U	1600	2000	P	05/19/2025	19:59	LB135823
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	05/19/2025	19:59	LB135823
	Silver	10.0	+/-10.0	U	5.00	10.0	P	05/19/2025	19:59	LB135823
	Sodium	2000	+/-2000	U	1000	2000	P	05/19/2025	19:59	LB135823

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB09	Thallium	40.0	+/-40.0	U	20.0	40.0	P	05/19/2025	19:59	LB135823
	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	05/19/2025	19:59	LB135823
	Zinc	40.0	+/-40.0	U	15.0	40.0	P	05/19/2025	19:59	LB135823
CCB10	Aluminum	100	+/-100	U	80.0	100	P	05/19/2025	20:15	LB135823
	Antimony	50.0	+/-50.0	U	12.5	50.0	P	05/19/2025	20:15	LB135823
	Arsenic	20.0	+/-20.0	U	15.0	20.0	P	05/19/2025	20:15	LB135823
	Barium	100	+/-100	U	25.0	100	P	05/19/2025	20:15	LB135823
	Beryllium	6.00	+/-6.00	U	1.50	6.00	P	05/19/2025	20:15	LB135823
	Cadmium	6.00	+/-6.00	U	1.50	6.00	P	05/19/2025	20:15	LB135823
	Calcium	2000	+/-2000	U	500	2000	P	05/19/2025	20:15	LB135823
	Chromium	10.0	+/-10.0	U	5.00	10.0	P	05/19/2025	20:15	LB135823
	Cobalt	30.0	+/-30.0	U	7.50	30.0	P	05/19/2025	20:15	LB135823
	Copper	20.0	+/-20.0	U	16.0	20.0	P	05/19/2025	20:15	LB135823
	Iron	100	+/-100	U	80.0	100	P	05/19/2025	20:15	LB135823
	Lead	12.0	+/-12.0	U	9.60	12.0	P	05/19/2025	20:15	LB135823
	Magnesium	2000	+/-2000	U	500	2000	P	05/19/2025	20:15	LB135823
	Manganese	20.0	+/-20.0	U	15.0	20.0	P	05/19/2025	20:15	LB135823
	Nickel	40.0	+/-40.0	U	10.0	40.0	P	05/19/2025	20:15	LB135823
	Potassium	2000	+/-2000	U	1600	2000	P	05/19/2025	20:15	LB135823
	Selenium	20.0	+/-20.0	U	16.0	20.0	P	05/19/2025	20:15	LB135823
	Silver	10.0	+/-10.0	U	5.00	10.0	P	05/19/2025	20:15	LB135823
	Sodium	2000	+/-2000	U	1000	2000	P	05/19/2025	20:15	LB135823
	Thallium	40.0	+/-40.0	U	20.0	40.0	P	05/19/2025	20:15	LB135823
	Vanadium	40.0	+/-40.0	U	20.0	40.0	P	05/19/2025	20:15	LB135823
	Zinc	40.0	+/-40.0	U	15.0	40.0	P	05/19/2025	20:15	LB135823

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Instrument: CV1

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	LOD ug/L	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB168071BL		**WATER**		**Batch Number:**		**PB168071**		**Prep Date:**	**05/16/2025**	
	Mercury	0.20	<0.20	U	0.16	0.20	CV	05/20/2025	11:02	LB135832

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Instrument: P4

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	LOD ug/L	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB168036BL		**WATER**		**Batch Number:**		**PB168036**		**Prep Date:**	**05/16/2025**	
	Aluminum	50.0	<50.0	U	40.0	50.0	P	05/19/2025	15:09	LB135823
	Antimony	25.0	<25.0	U	6.25	25.0	P	05/19/2025	15:09	LB135823
	Arsenic	10.0	<10.0	U	7.50	10.0	P	05/19/2025	15:09	LB135823
	Barium	50.0	<50.0	U	12.5	50.0	P	05/19/2025	15:09	LB135823
	Beryllium	3.00	<3.00	U	0.75	3.00	P	05/19/2025	15:09	LB135823
	Cadmium	3.00	<3.00	U	0.75	3.00	P	05/19/2025	15:09	LB135823
	Calcium	1000	<1000	U	250	1000	P	05/19/2025	15:09	LB135823
	Chromium	5.00	<5.00	U	2.50	5.00	P	05/19/2025	15:09	LB135823
	Cobalt	15.0	<15.0	U	3.75	15.0	P	05/19/2025	15:09	LB135823
	Copper	10.0	<10.0	U	8.00	10.0	P	05/19/2025	15:09	LB135823
	Iron	50.0	<50.0	U	40.0	50.0	P	05/19/2025	15:09	LB135823
	Lead	6.00	<6.00	U	4.80	6.00	P	05/19/2025	15:09	LB135823
	Magnesium	1000	<1000	U	250	1000	P	05/19/2025	15:09	LB135823
	Manganese	10.0	<10.0	U	7.50	10.0	P	05/19/2025	15:09	LB135823
	Nickel	20.0	<20.0	U	5.00	20.0	P	05/19/2025	15:09	LB135823
	Potassium	1000	<1000	U	800	1000	P	05/19/2025	15:09	LB135823
	Selenium	10.0	<10.0	U	8.00	10.0	P	05/19/2025	15:09	LB135823
	Silver	5.00	<5.00	U	2.50	5.00	P	05/19/2025	15:09	LB135823
	Sodium	1000	<1000	U	500	1000	P	05/19/2025	15:09	LB135823
	Thallium	20.0	<20.0	U	10.0	20.0	P	05/19/2025	15:09	LB135823
	Vanadium	20.0	<20.0	U	10.0	20.0	P	05/19/2025	15:09	LB135823
	Zinc	20.0	<20.0	U	7.50	20.0	P	05/19/2025	15:09	LB135823

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals
- 4 -
INTERFERENCE CHECK SAMPLE

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

ICS Source: EPA **Instrument ID:** P4

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Low Limit (ug/L)	High Limit (ug/L)	Analysis Date	Analysis Time	Run Number
ICSA01	Aluminum	245000	255000	96	216000	294000	05/19/2025	12:52	LB135823
	Antimony	-0.96			-50	50	05/19/2025	12:52	LB135823
	Arsenic	5.21			-20	20	05/19/2025	12:52	LB135823
	Barium	4.26	6.0	71	-94	106	05/19/2025	12:52	LB135823
	Beryllium	0.58			-6	6	05/19/2025	12:52	LB135823
	Cadmium	-4.22	1.0	422	-5	7	05/19/2025	12:52	LB135823
	Calcium	232000	245000	95	208000	282000	05/19/2025	12:52	LB135823
	Chromium	55.5	52.0	107	42	62	05/19/2025	12:52	LB135823
	Cobalt	1.33			-30	30	05/19/2025	12:52	LB135823
	Copper	9.33	2.0	466	-18	22	05/19/2025	12:52	LB135823
	Iron	99000	101000	98	85600	116500	05/19/2025	12:52	LB135823
	Lead	-0.59			-12	12	05/19/2025	12:52	LB135823
	Magnesium	247000	255000	97	216000	294000	05/19/2025	12:52	LB135823
	Manganese	4.75	7.0	68	-13	27	05/19/2025	12:52	LB135823
	Nickel	1.99	2.0	100	-38	42	05/19/2025	12:52	LB135823
	Potassium	-23.0			0	0	05/19/2025	12:52	LB135823
	Selenium	4.52			-20	20	05/19/2025	12:52	LB135823
	Silver	-0.75			-10	10	05/19/2025	12:52	LB135823
	Sodium	-58.2			0	0	05/19/2025	12:52	LB135823
	Thallium	9.42			-40	40	05/19/2025	12:52	LB135823
	Vanadium	3.00			-40	40	05/19/2025	12:52	LB135823
	Zinc	2.14			-40	40	05/19/2025	12:52	LB135823
ICSAB01	Aluminum	248000	247000	100	209000	285000	05/19/2025	12:57	LB135823
	Antimony	634	618	103	525	711	05/19/2025	12:57	LB135823
	Arsenic	115	104	111	88.4	120	05/19/2025	12:57	LB135823
	Barium	481	537	90	437	637	05/19/2025	12:57	LB135823
	Beryllium	518	495	105	420	570	05/19/2025	12:57	LB135823
	Cadmium	1030	972	106	826	1120	05/19/2025	12:57	LB135823
	Calcium	229000	235000	97	199000	271000	05/19/2025	12:57	LB135823
	Chromium	571	542	105	460	624	05/19/2025	12:57	LB135823
	Cobalt	509	476	107	404	548	05/19/2025	12:57	LB135823
	Copper	512	511	100	434	588	05/19/2025	12:57	LB135823
	Iron	94000	99300	95	84400	114500	05/19/2025	12:57	LB135823
	Lead	49.5	49.0	101	37	61	05/19/2025	12:57	LB135823
	Magnesium	247000	248000	100	210000	286000	05/19/2025	12:57	LB135823
	Manganese	489	507	96	430	584	05/19/2025	12:57	LB135823
	Nickel	1010	954	106	810	1100	05/19/2025	12:57	LB135823
	Potassium	-11.6			0	0	05/19/2025	12:57	LB135823
	Selenium	58.0	46.0	126	26	66	05/19/2025	12:57	LB135823
	Silver	213	201	106	170	232	05/19/2025	12:57	LB135823
	Sodium	-11.9			0	0	05/19/2025	12:57	LB135823
	Thallium	108	108	100	68	148	05/19/2025	12:57	LB135823

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals
- 4 -
INTERFERENCE CHECK SAMPLE

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

ICS Source: EPA **Instrument ID:** P4

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Low Limit (ug/L)	High Limit (ug/L)	Analysis Date	Analysis Time	Run Number
ICSAB01	Vanadium	484	491	99	417	565	05/19/2025	12:57	LB135823
	Zinc	1050	952	110	809	1095	05/19/2025	12:57	LB135823

METAL QC DATA

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

metals
- 5a -
MATRIX SPIKE SUMMARY

client: Tetra Tech NUS, Inc. **level:** low **sdg no.:** Q2064

contract: TETR06 **lab code:** CHEM **case no.:** Q2064 **sas no.:** Q2064

matrix: Water **sample id:** Q2033-01 **client id:** TW-WTS-08MS

Percent Solids for Sample: NA **Spiked ID:** Q2033-01MS **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	ug/L	86 - 115	1290		286		1000	100		P
Antimony	ug/L	88 - 113	413		25.0	U	400	103		P
Arsenic	ug/L	87 - 113	416		10.0	U	400	104		P
Barium	ug/L	88 - 113	264		160		100	105		P
Beryllium	ug/L	89 - 112	93.8		3.00	U	100	94		P
Cadmium	ug/L	88 - 113	99.9		3.00	U	100	100		P
Calcium	ug/L	87 - 113	253000		245000		500	1596		P
Chromium	ug/L	90 - 113	273		79.3		200	97		P
Cobalt	ug/L	89 - 114	100		1.98	J	100	98		P
Copper	ug/L	86 - 114	160		19.1		150	94		P
Iron	ug/L	87 - 115	7710		5530		1500	146	N	P
Lead	ug/L	86 - 113	481		4.28	J	500	95		P
Magnesium	ug/L	85 - 113	898	J	1000	U	1000	90		P
Manganese	ug/L	90 - 114	94.7		10.0	U	100	95		P
Nickel	ug/L	88 - 113	261		18.1	J	250	97		P
Potassium	ug/L	86 - 114	287000		256000		5000	624		P
Selenium	ug/L	83 - 114	1020		10.0	U	1000	102		P
Silver	ug/L	84 - 115	6.75		5.00	U	37.5	18	N	P
Sodium	ug/L	87 - 115	124000		109000		1500	1002		P
Thallium	ug/L	85 - 114	953		20.0	U	1000	95		P
Vanadium	ug/L	90 - 111	150		4.53	J	150	97		P
Zinc	ug/L	87 - 115	107		8.68	J	100	99		P

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: Tetra Tech NUS, Inc. **level:** low **sdg no.:** Q2064

contract: TETR06 **lab code:** CHEM **case no.:** Q2064 **sas no.:** Q2064

matrix: Water **sample id:** Q2033-01 **client id:** TW-WTS-08MSD

Percent Solids for Sample: NA **Spiked ID:** Q2033-01MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	ug/L	86 - 115	1280		286		1000	100		P
Antimony	ug/L	88 - 113	415		25.0	U	400	104		P
Arsenic	ug/L	87 - 113	416		10.0	U	400	104		P
Barium	ug/L	88 - 113	254		160		100	95		P
Beryllium	ug/L	89 - 112	105		3.00	U	100	105		P
Cadmium	ug/L	88 - 113	101		3.00	U	100	101		P
Calcium	ug/L	87 - 113	251000		245000		500	1261		P
Chromium	ug/L	90 - 113	276		79.3		200	98		P
Cobalt	ug/L	89 - 114	101		1.98	J	100	99		P
Copper	ug/L	86 - 114	162		19.1		150	95		P
Iron	ug/L	87 - 115	7010		5530		1500	99		P
Lead	ug/L	86 - 113	484		4.28	J	500	96		P
Magnesium	ug/L	85 - 113	927	J	1000	U	1000	93		P
Manganese	ug/L	90 - 114	94.6		10.0	U	100	95		P
Nickel	ug/L	88 - 113	263		18.1	J	250	98		P
Potassium	ug/L	86 - 114	263000		256000		5000	135		P
Selenium	ug/L	83 - 114	1030		10.0	U	1000	103		P
Silver	ug/L	84 - 115	5.41		5.00	U	37.5	14	N	P
Sodium	ug/L	87 - 115	111000		109000		1500	190		P
Thallium	ug/L	85 - 114	962		20.0	U	1000	96		P
Vanadium	ug/L	90 - 111	150		4.53	J	150	97		P
Zinc	ug/L	87 - 115	108		8.68	J	100	99		P

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

metals
- 5a -
MATRIX SPIKE SUMMARY

client: Tetra Tech NUS, Inc. **level:** low **sdg no.:** Q2064

contract: TETR06 **lab code:** CHEM **case no.:** Q2064 **sas no.:** Q2064

matrix: Water **sample id:** Q2064-01 **client id:** RW8-SP100-70-20250514MS

Percent Solids for Sample: NA **Spiked ID:** Q2064-01MS **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/L	82 - 119	3.25		0.20	U	4.0	81	N	CV

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: Tetra Tech NUS, Inc. **level:** low **sdg no.:** Q2064

contract: TETR06 **lab code:** CHEM **case no.:** Q2064 **sas no.:** Q2064

matrix: Water **sample id:** Q2064-01 **client id:** RW8-SP100-70-20250514MSD

Percent Solids for Sample: NA **Spiked ID:** Q2064-01MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/L	82 - 119	3.71		0.20	U	4.0	93		CV

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals
- 5b -
POST DIGEST SPIKE SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Matrix: Water **Level:** LOW **Client ID:** TW-WTS-08A

Sample ID: Q2033-01 **Spiked ID:** Q2033-01A

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Iron	ug/L	87 - 115	6390		5530		1500	57	N	P
Silver	ug/L	84 - 115	31.6		5.00	U	37.5	84		P

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals
- 5b -
POST DIGEST SPIKE SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Matrix: Water **Level:** LOW **Client ID:** RW8-SP100-70-20250514A

Sample ID: Q2064-01 **Spiked ID:** Q2064-01A

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/L	82 - 119	3.98		0.20	U	4.00	100		CV

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 6 -
DUPLICATE SAMPLE SUMMARY

Client: Tetra Tech NUS, Inc. **Level:** LOW **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Matrix: Water **Sample ID:** Q2033-01 **Client ID:** TW-WTS-08DUP

Percent Solids for Sample: NA **Duplicate ID** Q2033-01DUP **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/L	20	286		301		5		P
Antimony	ug/L	20	25.0	U	25.0	U			P
Arsenic	ug/L	20	10.0	U	10.0	U			P
Barium	ug/L	20	160		166		4		P
Beryllium	ug/L	20	3.00	U	3.00	U			P
Cadmium	ug/L	20	3.00	U	3.00	U			P
Calcium	ug/L	20	245000		251000		2		P
Chromium	ug/L	20	79.3		83.6		5		P
Cobalt	ug/L	20	1.98	J	1.93	J	3		P
Copper	ug/L	20	19.1		19.5		2		P
Iron	ug/L	20	5530		5830		5		P
Lead	ug/L	20	4.28	J	4.38	J	2		P
Magnesium	ug/L	20	1000	U	1000	U			P
Manganese	ug/L	20	10.0	U	10.0	U			P
Nickel	ug/L	20	18.1	J	18.9	J	4		P
Potassium	ug/L	20	256000		270000		5		P
Selenium	ug/L	20	10.0	U	10.0	U			P
Silver	ug/L	20	5.00	U	5.00	U			P
Sodium	ug/L	20	109000		115000		5		P
Thallium	ug/L	20	20.0	U	20.0	U			P
Vanadium	ug/L	20	4.53	J	4.93	J	8		P
Zinc	ug/L	20	8.68	J	20.0	U	200.0		P

"A control limit of ±20% RPD for each matrix applies for sample values greater than 10 times Detection Limit"

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: Tetra Tech NUS, Inc. **Level:** LOW **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Matrix: Water **Sample ID:** Q2033-01MS **Client ID:** TW-WTS-08MSD

Percent Solids for Sample: NA **Duplicate ID** Q2033-01MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/L	20	1290		1280		1		P
Antimony	ug/L	20	413		415		0		P
Arsenic	ug/L	20	416		416		0		P
Barium	ug/L	20	264		254		4		P
Beryllium	ug/L	20	93.8		105		11		P
Cadmium	ug/L	20	99.9		101		1		P
Calcium	ug/L	20	253000		251000		1		P
Chromium	ug/L	20	273		276		1		P
Cobalt	ug/L	20	100		101		1		P
Copper	ug/L	20	160		162		1		P
Iron	ug/L	20	7710		7010		10		P
Lead	ug/L	20	481		484		1		P
Magnesium	ug/L	20	898	J	927	J	3		P
Manganese	ug/L	20	94.7		94.6		0		P
Nickel	ug/L	20	261		263		1		P
Potassium	ug/L	20	287000		263000		9		P
Selenium	ug/L	20	1020		1030		1		P
Silver	ug/L	20	6.75		5.41		22		P
Sodium	ug/L	20	124000		111000		11		P
Thallium	ug/L	20	953		962		1		P
Vanadium	ug/L	20	150		150		0		P
Zinc	ug/L	20	107		108		1		P

"A control limit of ±20% RPD for each matrix applies for sample values greater than 10 times Detection Limit"

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: Tetra Tech NUS, Inc. **Level:** LOW **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Matrix: Water **Sample ID:** Q2064-01 **Client ID:** RW8-SP100-70-20250514DUP

Percent Solids for Sample: NA **Duplicate ID** Q2064-01DUP **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/L	20	0.20	U	0.20	U			CV

"A control limit of ±20% RPD for each matrix applies for sample values greater than 10 times Detection Limit"

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: Tetra Tech NUS, Inc. **Level:** LOW **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Matrix: Water **Sample ID:** Q2064-01MS **Client ID:** RW8-SP100-70-20250514MSD

Percent Solids for Sample: NA **Duplicate ID** Q2064-01MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/L	20	3.25		3.71		13		CV

"A control limit of ±20% RPD for each matrix applies for sample values greater than 10 times Detection Limit"

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900, Fax : 908 789 8922

LABORATORY CONTROL SAMPLE SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB168036BS							
Aluminum	ug/L	1000	937		94	86 - 115	P
Antimony	ug/L	400	395		99	88 - 113	P
Arsenic	ug/L	400	386		96	87 - 113	P
Barium	ug/L	100	88.9		89	88 - 113	P
Beryllium	ug/L	100	98.6		99	89 - 112	P
Cadmium	ug/L	100	96.1		96	88 - 113	P
Calcium	ug/L	500	476	J	95	87 - 113	P
Chromium	ug/L	200	191		96	90 - 113	P
Cobalt	ug/L	100	93.3		93	89 - 114	P
Copper	ug/L	150	147		98	86 - 114	P
Iron	ug/L	1500	1380		92	87 - 115	P
Lead	ug/L	500	469		94	86 - 113	P
Magnesium	ug/L	1000	912	J	91	85 - 113	P
Manganese	ug/L	100	94.2		94	90 - 114	P
Nickel	ug/L	250	236		94	88 - 113	P
Potassium	ug/L	5000	4430		89	86 - 114	P
Selenium	ug/L	1000	983		98	83 - 114	P
Silver	ug/L	37.5	35.9		96	84 - 115	P
Sodium	ug/L	1500	1410		94	87 - 115	P
Thallium	ug/L	1000	968		97	85 - 114	P
Vanadium	ug/L	150	139		93	90 - 111	P
Zinc	ug/L	100	97.0		97	87 - 115	P

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900, Fax : 908 789 8922

LABORATORY CONTROL SAMPLE SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB168071BS							
Mercury	ug/L	4.0	3.61		90	82 - 119	CV

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

-9 -

ICP SERIAL DILUTIONS

SAMPLE NO.

TW-WTS-08L

Lab Name: Chemtech Consulting Group **Contract:** TETR06

Lab Code: CHEM **Lb No.:** lb135823 **Lab Sample ID :** Q2033-01L **SDG No.:** Q2064

Matrix (soil/water): Water **Level (low/med):** LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum	286		237	J	17		P
Antimony	25.0	U	125	U			P
Arsenic	10.0	U	50.0	U			P
Barium	160		162	J	1		P
Beryllium	3.00	U	15.0	U			P
Cadmium	3.00	U	15.0	U			P
Calcium	245000		248000		1		P
Chromium	79.3		78.0		2		P
Cobalt	1.98	J	75.0	U	100.0		P
Copper	19.1		18.7	J	2		P
Iron	5530		5940		7		P
Lead	4.28	J	30.0	U	100.0		P
Magnesium	1000	U	5000	U			P
Manganese	10.0	U	50.0	U			P
Nickel	18.1	J	18.6	J	3		P
Potassium	256000		256000		0		P
Selenium	10.0	U	50.0	U			P
Silver	5.00	U	25.0	U			P
Sodium	109000		109000		0		P
Thallium	20.0	U	100	U			P
Vanadium	4.53	J	100	U	100.0		P
Zinc	8.68	J	100	U	100.0		P

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

-9 -

ICP SERIAL DILUTIONS

SAMPLE NO.

RW8-SP100-70-20250514L

Lab Name: Chemtech Consulting Group **Contract:** TETR06

Lab Code: CHEM **Lb No.:** lb135832 **Lab Sample ID :** Q2064-01L **SDG No.:** Q2064

Matrix (soil/water): Water **Level (low/med):** LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Mercury	0.20	U	1.00	U			CV

METAL PREPARATION & INSTRUMENT DATA

Alliance TECHNICAL GROUP
284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900, Fax : 908 789 8922

Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Al	Ca	Fe	Mg	Ag
Aluminum	396.100	0.0000000	-0.0002060	0.0000000	0.0000000	0.0000000
Antimony	206.833	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	193.759	0.0000000	0.0000000	-0.0000440	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000930	0.0000000	0.0000000
Calcium	373.690	0.0000000	0.0000000	-0.0075970	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	0.0000000	0.0007850	0.0000000	0.0000000
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	-0.0000920	0.0000000	0.0000380	0.0000000	0.0000000
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	-0.0001440	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	-0.0001490	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0000000	0.0001050	0.0000000	0.0000000

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900, Fax : 908 789 8922

Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: As	Ba	Be	Cd	Co
Aluminum	396.100	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.833	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0002870
Calcium	373.690	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	0.0000000	0.0000000	0.0000000	0.0009530
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	-0.0039600
Lead	220.353	0.0000000	0.0003170	0.0000000	0.0000000	0.0000000
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0000000	-0.0003570
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0054900
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900, Fax : 908 789 8922

Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Cr	Cu	K	Mn	Mo
Aluminum	396.100	0.0000000	0.0000000	0.0000590	0.0000000	0.0396900
Antimony	206.833	0.0122000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	193.759	-0.0029000	0.0000000	0.0000000	0.0000000	0.0004900
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000	-0.0000710	-0.0003400
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	373.690	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000070	0.0002200	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	-0.0007860
Copper	224.700	0.0000000	0.0000000	0.0000000	0.0006510	0.0020500
Iron	240.488	0.0000000	0.0000000	0.0000730	0.0000000	-0.0015250
Lead	220.353	0.0000000	0.0000000	0.0000000	0.0001400	-0.0008600
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0007460	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	-0.0000120
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0017400	-0.0100400
Vanadium	292.402	-0.0025100	0.0000000	0.0000000	0.0000000	-0.0072000
Zinc	213.800	0.0000000	0.0009010	0.0000000	0.0000000	0.0000000

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900, Fax : 908 789 8922

Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Na	Ni	Pb	Sb	Se
Aluminum	396.100	0.0000000	0.0000000	0.0012800	0.0000000	0.0000000
Antimony	206.833	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	373.690	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	-0.0047000	0.0036100	0.0000000	0.0000000
Iron	240.488	0.0000000	-0.0017000	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0006580	0.0000000	0.0000000	0.0001290
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0003330	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0067600	0.0000000	0.0000000	0.0000000

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900, Fax : 908 789 8922

Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2064 **SAS No.:** Q2064

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Sn	Ti	Tl	V	Zn
Aluminum	396.100	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.833	-0.0035600	-0.0007970	0.0000000	-0.0018900	0.0000000
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000630	0.0001280	0.0000000	0.0000000
Calcium	373.690	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0001110	0.0000000
Cobalt	228.616	0.0000000	0.0018800	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	0.0003840	0.0000000	0.0000000	0.0000000
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	-0.0003610	0.0000000	0.0000000	0.0000000
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	-0.0007420	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	-0.0039700	0.0000000	-0.0115600	0.0000000
Vanadium	292.402	0.0000000	0.0005320	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

METAL PREPARATION & ANALYICAL SUMMARY

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals
- 13 -
SAMPLE PREPARATION SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Method:**

Case No.: Q2064 **SAS No.:** Q2064

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB168036**						
PB168036BL	PB168036BL	MB	WATER	05/16/2025	50.0	25.0	
PB168036BS	PB168036BS	LCS	WATER	05/16/2025	50.0	25.0	
Q2033-01DUP	TW-WTS-08DUP	DUP	WATER	05/16/2025	50.0	25.0	
Q2033-01MS	TW-WTS-08MS	MS	WATER	05/16/2025	50.0	25.0	
Q2033-01MSD	TW-WTS-08MSD	MSD	WATER	05/16/2025	50.0	25.0	
Q2064-01	RW8-SP100-70-20250514	SAM	WATER	05/16/2025	50.0	25.0	
Q2064-04	RW8-SP303-70-20250514	SAM	WATER	05/16/2025	50.0	25.0	
Q2064-05	RW8-SP100-90-20250514	SAM	WATER	05/16/2025	50.0	25.0	
Q2064-08	RW8-SP303-90-20250514	SAM	WATER	05/16/2025	50.0	25.0	

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals
- 13 -
SAMPLE PREPARATION SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2064

Contract: TETR06 **Lab Code:** CHEM **Method:**

Case No.: Q2064 **SAS No.:** Q2064

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB168071**						
PB168071BL	PB168071BL	MB	WATER	05/16/2025	30.0	30.0	
PB168071BS	PB168071BS	LCS	WATER	05/16/2025	30.0	30.0	
Q2064-01	RW8-SP100-70-20250514	SAM	WATER	05/16/2025	30.0	30.0	
Q2064-01DUP	RW8-SP100-70-20250514DUP	DUP	WATER	05/16/2025	30.0	30.0	
Q2064-01MS	RW8-SP100-70-20250514MS	MS	WATER	05/16/2025	30.0	30.0	
Q2064-01MSD	RW8-SP100-70-20250514MSD	MSD	WATER	05/16/2025	30.0	30.0	
Q2064-04	RW8-SP303-70-20250514	SAM	WATER	05/16/2025	30.0	30.0	
Q2064-05	RW8-SP100-90-20250514	SAM	WATER	05/16/2025	30.0	30.0	
Q2064-08	RW8-SP303-90-20250514	SAM	WATER	05/16/2025	30.0	30.0	

Alliance TECHNICAL GROUP
284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900, Fax : 908 789 8922

metals
- 14 -
ANALYSIS RUN LOG

Client: Tetra Tech NUS, Inc. **Contract:** TETR06

Lab code: CHEM **Case no.:** Q2064 **Sas no.:** Q2064 **Sdg no.:** Q2064

Instrument id number: **Method:** **Run number:** LB135823

Start date: 05/19/2025 **End date:** 05/19/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1202	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S1	S1	1	1206	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S2	S2	1	1211	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S3	S3	1	1215	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S4	S4	1	1219	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S5	S5	1	1223	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICV01	ICV01	1	1228	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
LLICV01	LLICV01	1	1238	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICB01	ICB01	1	1244	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CRI01	CRI01	1	1248	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICSA01	ICSA01	1	1252	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICSAB01	ICSAB01	1	1257	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV01	CCV01	1	1315	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB01	CCB01	1	1323	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV02	CCV02	1	1413	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB02	CCB02	1	1424	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
PB168036BL	PB168036BL	1	1509	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV03	CCV03	1	1514	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB03	CCB03	1	1519	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
PB168036BS	PB168036BS	1	1524	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV04	CCV04	1	1603	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB04	CCB04	1	1607	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV05	CCV05	1	1647	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB05	CCB05	1	1651	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV06	CCV06	1	1735	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB06	CCB06	1	1739	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV07	CCV07	1	1821	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB07	CCB07	1	1825	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q2033-01DUP	TW-WTS-08DUP	1	1829	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q2033-01L	TW-WTS-08L	5	1834	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q2033-01MS	TW-WTS-08MS	1	1839	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q2033-01MSD	TW-WTS-08MSD	1	1843	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q2033-01A	TW-WTS-08A	1	1848	Ag,Fe
Q2064-01	RW8-SP100-70-20250514	1	1852	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q2064-04	RW8-SP303-70-20250514	1	1856	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q2064-05	RW8-SP100-90-20250514	1	1901	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
Q2064-08	RW8-SP303-90-20250514	1	1905	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV08	CCV08	1	1909	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB08	CCB08	1	1914	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV09	CCV09	1	1955	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB09	CCB09	1	1959	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900, Fax : 908 789 8922

metals
- 14 -
ANALYSIS RUN LOG

Client: Tetra Tech NUS, Inc. **Contract:** TETR06

Lab code: CHEM **Case no.:** Q2064 **Sas no.:** Q2064 **Sdg no.:** Q2064

Instrument id number: **Method:** **Run number:** LB135823

Start date: 05/19/2025 **End date:** 05/19/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
CCV10	CCV10	1	2011	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB10	CCB10	1	2015	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900, Fax : 908 789 8922

metals
- 14 -
ANALYSIS RUN LOG

Client: Tetra Tech NUS, Inc. **Contract:** TETR06

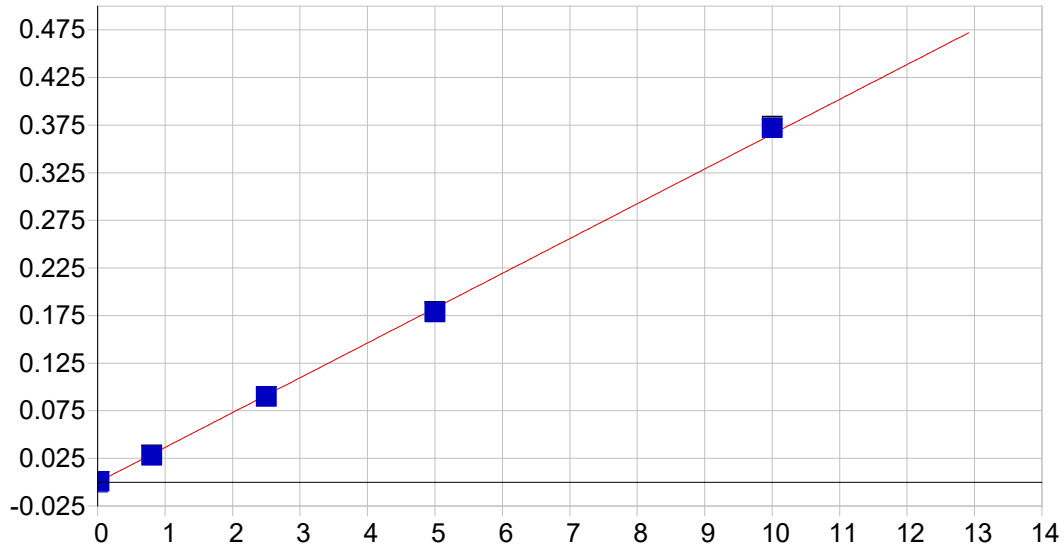
Lab code: CHEM **Case no.:** Q2064 **Sas no.:** Q2064 **Sdg no.:** Q2064

Instrument id number: **Method:** **Run number:** LB135832

Start date: 05/20/2025 **End date:** 05/20/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	0910	HG
S0.2	S0.2	1	0912	HG
S2.5	S2.5	1	0914	HG
S5	S5	1	0920	HG
S7.5	S7.5	1	0925	HG
S10	S10	1	0930	HG
ICV11	ICV11	1	0936	HG
ICB11	ICB11	1	0938	HG
CCV40	CCV40	1	0943	HG
CCB40	CCB40	1	0945	HG
CRA	CRA	1	0947	HG
CCV41	CCV41	1	1013	HG
CCB41	CCB41	1	1015	HG
CCV42	CCV42	1	1042	HG
CCB42	CCB42	1	1044	HG
PB168071BL	PB168071BL	1	1102	HG
PB168071BS	PB168071BS	1	1104	HG
CCV43	CCV43	1	1109	HG
CCB43	CCB43	1	1111	HG
Q2064-01	RW8-SP100-70-20250514	1	1113	HG
Q2064-01DUP	RW8-SP100-70-20250514DUP	1	1116	HG
Q2064-01MS	RW8-SP100-70-20250514MS	1	1118	HG
Q2064-01MSD	RW8-SP100-70-20250514MSD	1	1120	HG
Q2064-04	RW8-SP303-70-20250514	1	1123	HG
Q2064-05	RW8-SP100-90-20250514	1	1125	HG
Q2064-08	RW8-SP303-90-20250514	1	1127	HG
CCV44	CCV44	1	1136	HG
CCB44	CCB44	1	1139	HG
Q2064-01L	RW8-SP100-70-20250514L	5	1148	HG
Q2064-01A	RW8-SP100-70-20250514A	1	1150	HG
CCV45	CCV45	1	1155	HG
CCB45	CCB45	1	1157	HG

METAL
RAW DATA

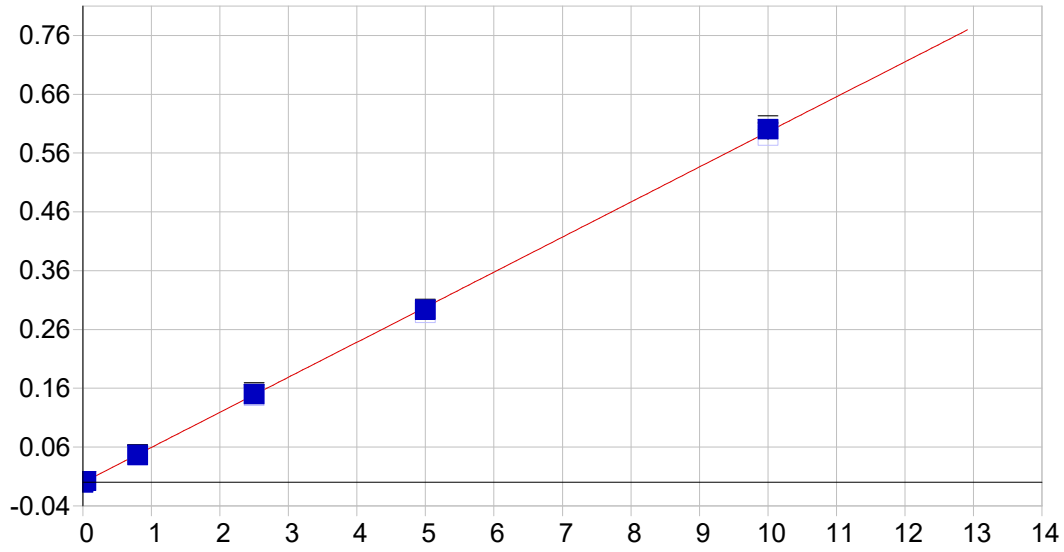


As 189.042 {479}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000034	Re-Slope:	1.000000
A1 (Gain):	0.036558	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999780	Status:	OK.
Std Error of Est:	0.000018		
Predicted MDL:	0.003952		
Predicted MQL:	0.013174		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00003	.000	1
S1	.02000	.02085	.001	4.23	.00072	.000	1
S3	2.5000	2.4569	-.043	-1.72	.08969	.000	1
S4	5.0000	4.8892	-.111	-2.22	.17851	.001	1
S5	10.000	10.186	.186	1.86	.37195	.002	1
S2	.80000	.76709	-.033	-4.11	.02798	.000	1

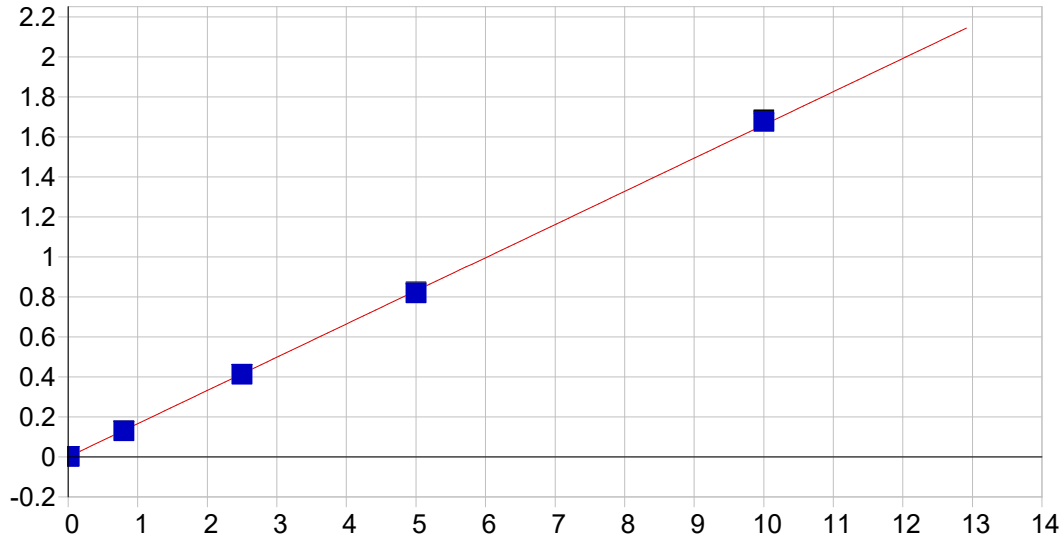


Tl 190.856 {477}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000129	Re-Slope:	1.000000
A1 (Gain):	0.059613	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999931	Status:	OK.
Std Error of Est:	0.000023		
Predicted MDL:	0.002330		
Predicted MQL:	0.007767		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00013	.000	1
S1	.04000	.04287	.003	7.17	.00227	.000	1
S3	2.5000	2.5168	.017	.672	.14716	.003	1
S4	5.0000	4.9238	-.076	-1.52	.28790	.001	1
S5	10.000	10.074	.074	.743	.58945	.006	1
S2	.80000	.78236	-.018	-2.20	.04563	.001	1

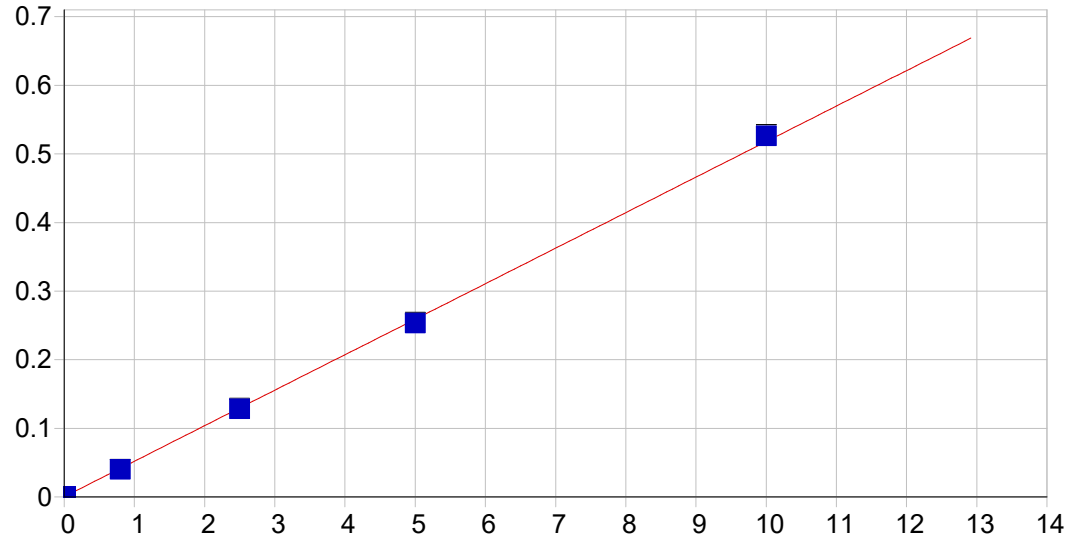


Pb 220.353 {453}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000183	Re-Slope:	1.000000
A1 (Gain):	0.166013	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999926	Status:	OK.
Std Error of Est:	0.000036		
Predicted MDL:	0.001933		
Predicted MQL:	0.006442		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00018	.000	1
S1	.01200	.01370	.002	14.1	.00205	.000	1
S3	2.5000	2.4827	-.017	-.693	.41154	.001	1
S4	5.0000	4.9379	-.062	-1.24	.81871	.004	1
S5	10.000	10.099	.099	.992	1.6747	.007	1
S2	.80000	.77864	-.021	-2.67	.12895	.001	1

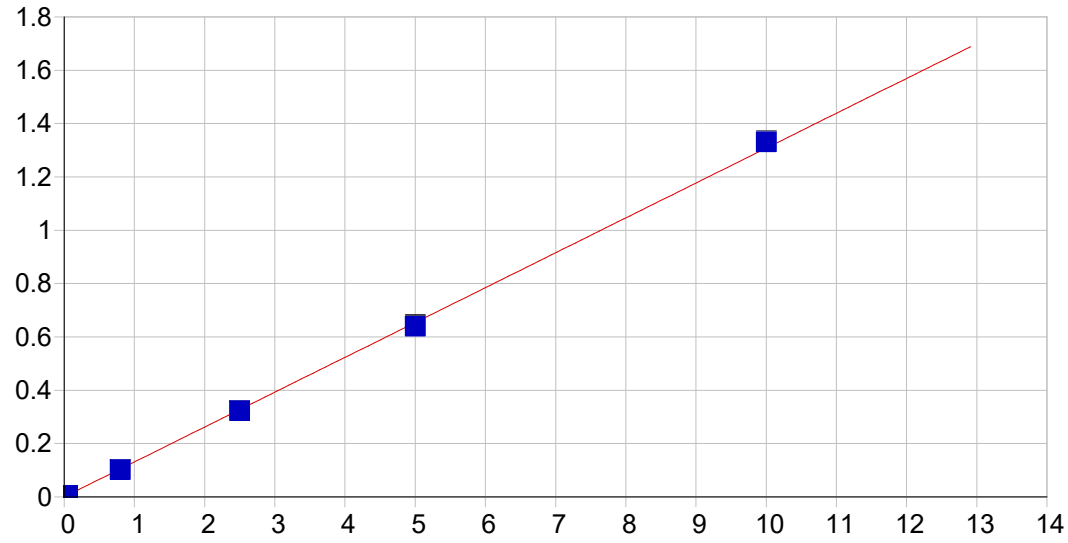


Se 196.090 {472}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000210	Re-Slope:	1.000000
A1 (Gain):	0.051771	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999826	Status:	OK.
Std Error of Est:	0.000023		
Predicted MDL:	0.004013		
Predicted MQL:	0.013378		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00021	.000	1
S1	.02000	.02151	.002	7.55	.00132	.000	1
S3	2.5000	2.4762	-.024	-.950	.12836	.001	1
S4	5.0000	4.8895	-.111	-2.21	.25325	.001	1
S5	10.000	10.161	.161	1.61	.52608	.002	1
S2	.80000	.77166	-.028	-3.54	.04014	.000	1

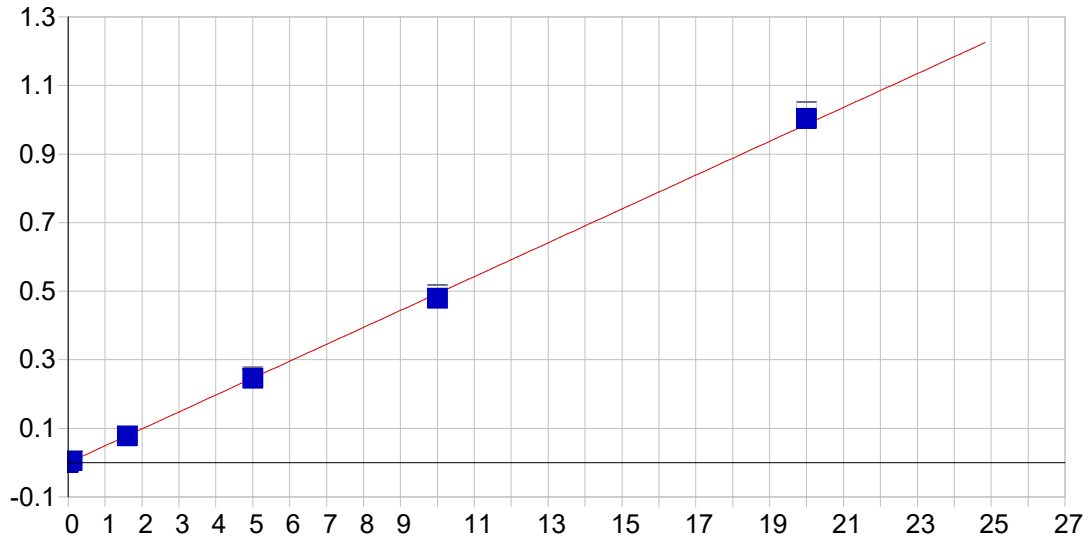


Sb 206.833 {463}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000358	Re-Slope:	1.000000
A1 (Gain):	0.130735	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999801	Status:	OK.
Std Error of Est:	0.000097		
Predicted MDL:	0.002235		
Predicted MQL:	0.007451		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00036	.000	1
S1	.05000	.05373	.004	7.47	.00740	.000	1
S3	2.5000	2.4629	-.037	-1.48	.32324	.001	1
S4	5.0000	4.8860	-.114	-2.28	.64090	.004	1
S5	10.000	10.174	.174	1.74	1.3340	.002	1
S2	.80000	.77334	-.027	-3.33	.10175	.000	1

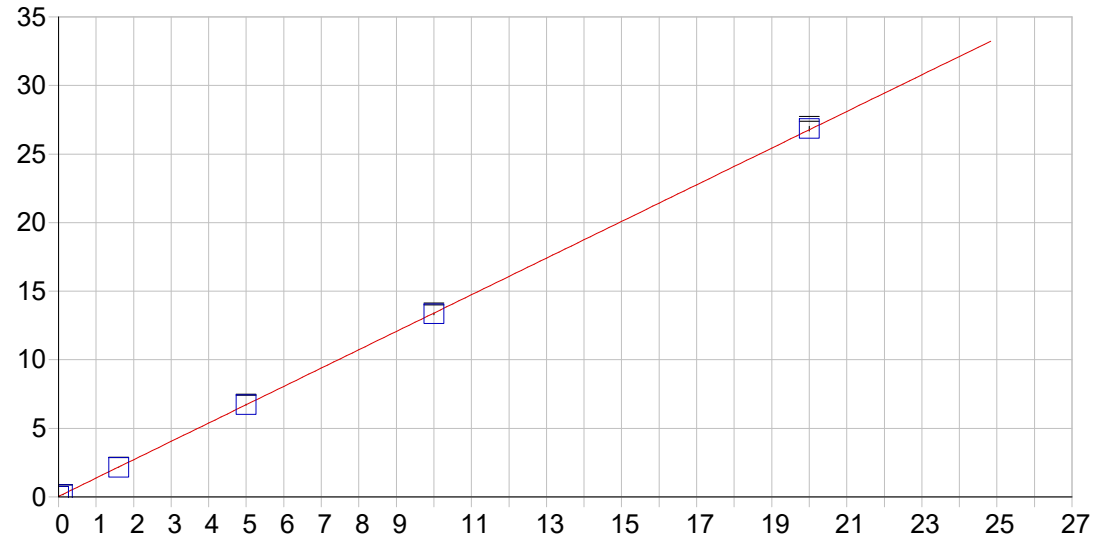


Al 396.152 { 85}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000207	Re-Slope:	1.000000
A1 (Gain):	0.049335	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999804	Status:	OK.
Std Error of Est:	0.000074		
Predicted MDL:	0.008225		
Predicted MQL:	0.027417		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00021	.000	1
S1	.10000	.10374	.004	3.74	.00529	.000	1
S3	5.0000	4.9676	-.032	-.649	.24965	.001	1
S4	10.000	9.7156	-.284	-2.84	.48869	.001	1
S5	20.000	20.344	.344	1.72	1.0226	.001	1
S2	1.6000	1.5693	-.031	-1.92	.07875	.000	1

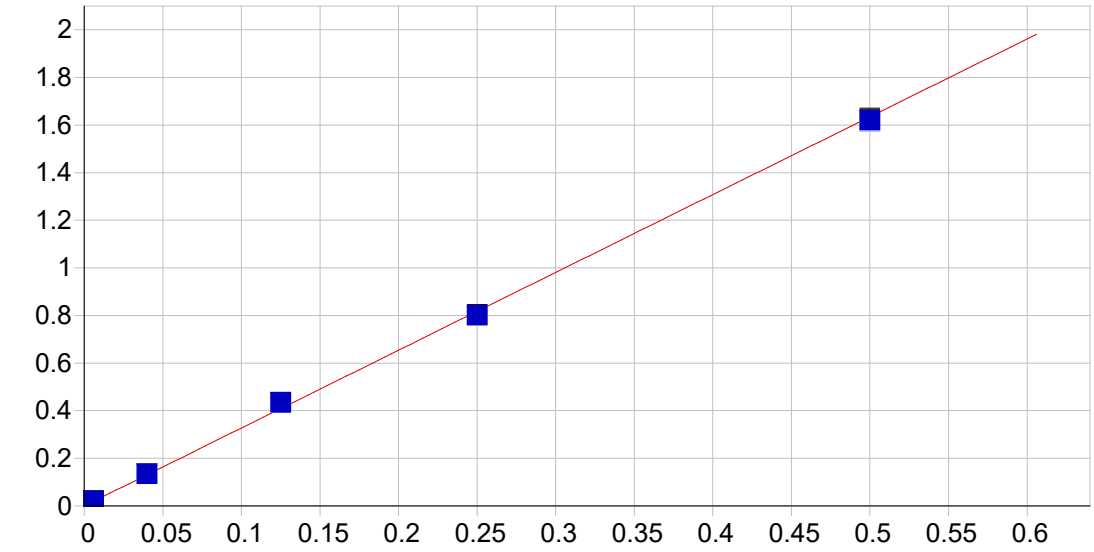


Ba 493.409 { 68}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.039672	Re-Slope:	1.000000
A1 (Gain):	1.336418	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999991	Status:	OK.
Std Error of Est:	0.000419		
Predicted MDL:	0.001171		
Predicted MQL:	0.003904		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.03968	.001	1
S1	.10000	.09649	-.004	-3.51	.16863	.001	1
S3	5.0000	5.0018	.002	.035	6.7241	.033	1
S4	10.000	9.9594	-.041	-.406	13.350	.076	1
S5	20.000	20.060	.060	.298	26.848	.167	1
S2	1.6000	1.5827	-.017	-1.08	2.1548	.007	1

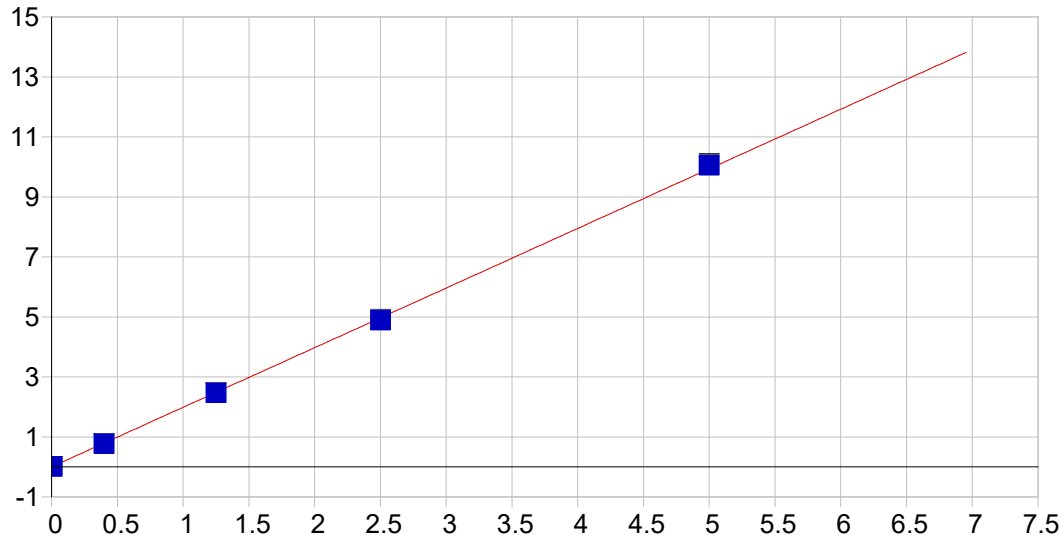


Be 234.861 {144}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000124	Re-Slope:	1.000000
A1 (Gain):	3.269626	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999629	Status:	OK.
Std Error of Est:	0.000255		
Predicted MDL:	0.000052		
Predicted MQL:	0.000174		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00012	.000	1
S1	.00600	.00634	.000	5.66	.02071	.000	1
S3	.12500	.13280	.008	6.24	.43249	.001	1
S4	.25000	.24519	-.005	-1.93	.79813	.003	1
S5	.50000	.49546	-.005	-.909	1.6128	.010	1
S2	.04000	.04122	.001	3.05	.13432	.000	1

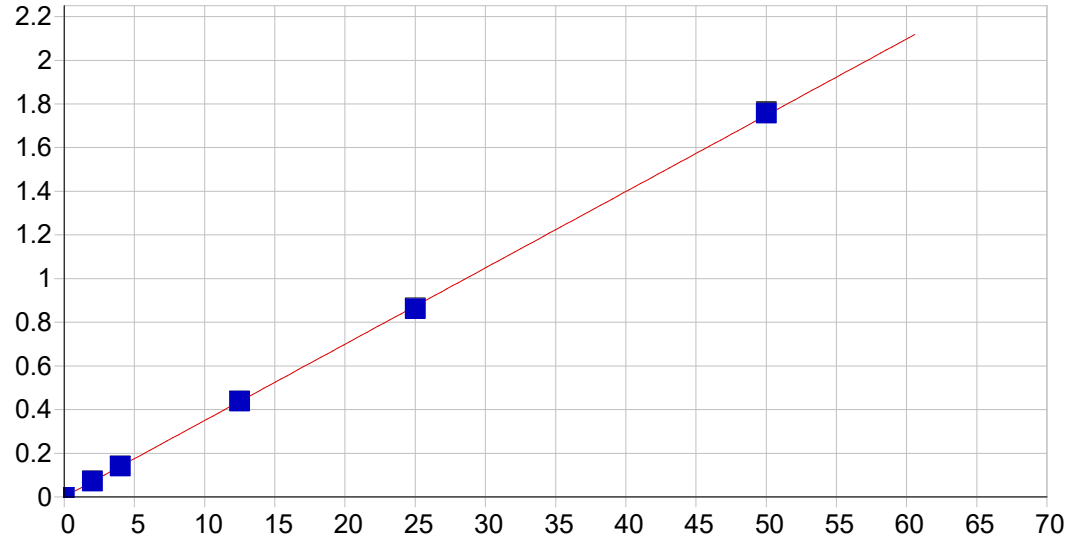


Cd 226.502 {449}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000138	Re-Slope:	1.000000
A1 (Gain):	1.987337	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999906	Status:	OK.
Std Error of Est:	0.000247		
Predicted MDL:	0.000110		
Predicted MQL:	0.000368		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00014	.000	1
S1	.00600	.00634	.000	5.71	.01253	.000	1
S3	1.2500	1.2392	-.011	-.864	2.4648	.006	1
S4	2.5000	2.4621	-.038	-1.52	4.8972	.021	1
S5	5.0000	5.0596	.060	1.19	10.064	.041	1
S2	.40000	.38875	-.011	-2.81	.77313	.005	1

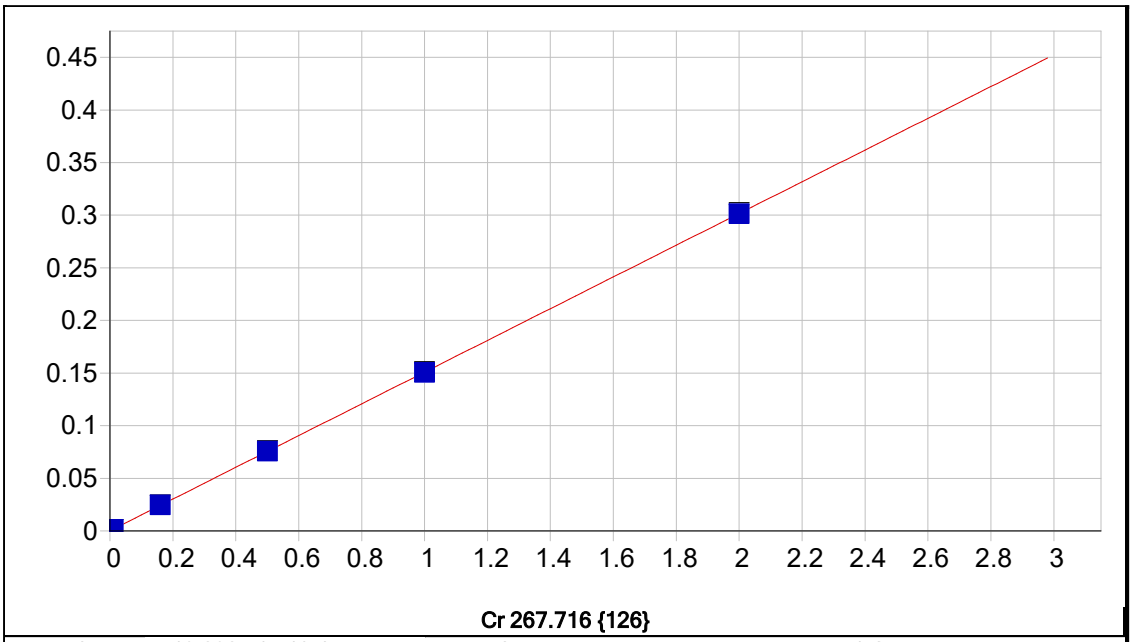


Ca 373.690 { 90}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000498	Re-Slope:	1.000000
A1 (Gain):	0.034949	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999962	Status:	OK.
Std Error of Est:	0.000162		
Predicted MDL:	0.010583		
Predicted MQL:	0.035276		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00003	-.000	.000	.00050	.000	1
S2	4.0000	3.9932	-.007	-.171	.14005	.001	1
S3	12.500	12.511	.011	.086	.43773	.001	1
S4	25.000	24.666	-.334	-1.33	.86256	.002	1
S5	50.000	50.283	.283	.566	1.7578	.005	1
S1	2.0000	2.0466	.047	2.33	.07202	.000	1

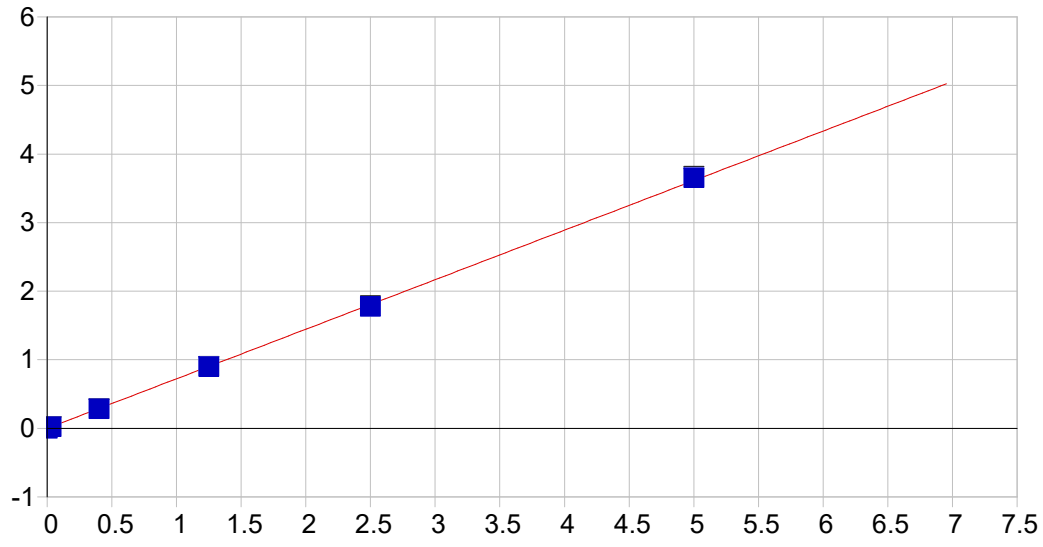


Cr 267.716 {126}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000122	Re-Slope:	1.000000
A1 (Gain):	0.150760	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999986	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	0.000473		
Predicted MQL:	0.001576		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00012	.000	1
S1	.01000	.00933	-.001	-6.68	.00153	.000	1
S3	.50000	.50190	.002	.381	.07581	.000	1
S4	1.0000	.99790	-.002	-.210	.15061	.001	1
S5	2.0000	1.9983	-.002	-.086	.30147	.001	1
S2	.16000	.16258	.003	1.61	.02464	.000	1

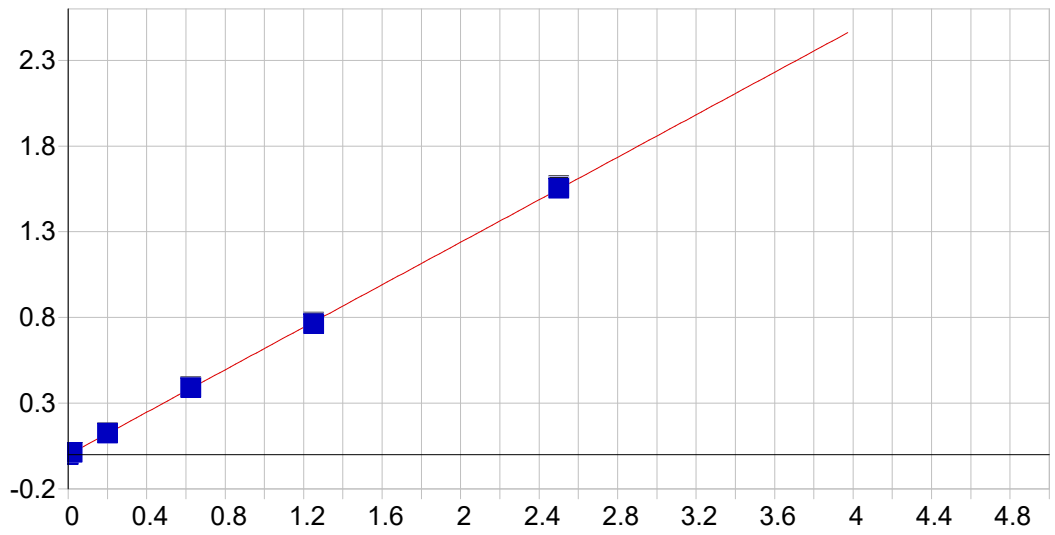


Co 228.616 {448}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000036	Re-Slope:	1.000000
A1 (Gain):	0.722551	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999908	Status:	OK.
Std Error of Est:	0.000199		
Predicted MDL:	0.000319		
Predicted MQL:	0.001062		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00004	.000	1
S1	.03000	.03020	.000	.662	.02169	.000	1
S3	1.2500	1.2451	-.005	-.391	.90115	.002	1
S4	2.5000	2.4565	-.044	-1.74	1.7780	.008	1
S5	5.0000	5.0580	.058	1.16	3.6608	.015	1
S2	.40000	.39017	-.010	-2.46	.28237	.002	1

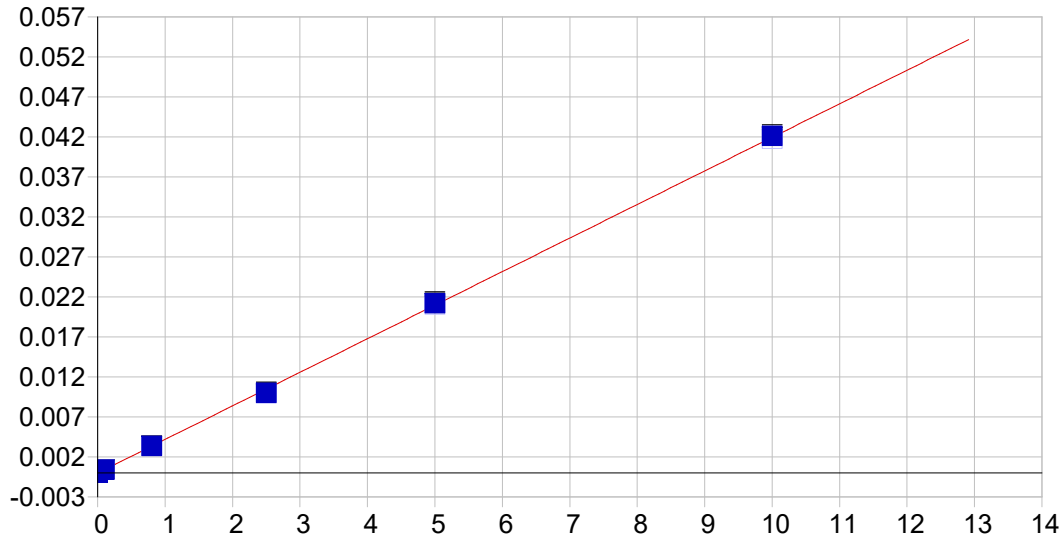


Cu 224.700 {450}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000761	Re-Slope:	1.000000
A1 (Gain):	0.619769	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999926	Status:	OK.
Std Error of Est:	0.000089		
Predicted MDL:	0.000513		
Predicted MQL:	0.001709		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00076	.000	1
S1	.02000	.02267	.003	13.4	.01341	.000	1
S3	.62500	.63165	.007	1.06	.39354	.002	1
S4	1.2500	1.2329	-.017	-1.37	.76898	.004	1
S5	2.5000	2.5067	.007	.268	1.5641	.003	1
S2	.20000	.20109	.001	.547	.12477	.000	1

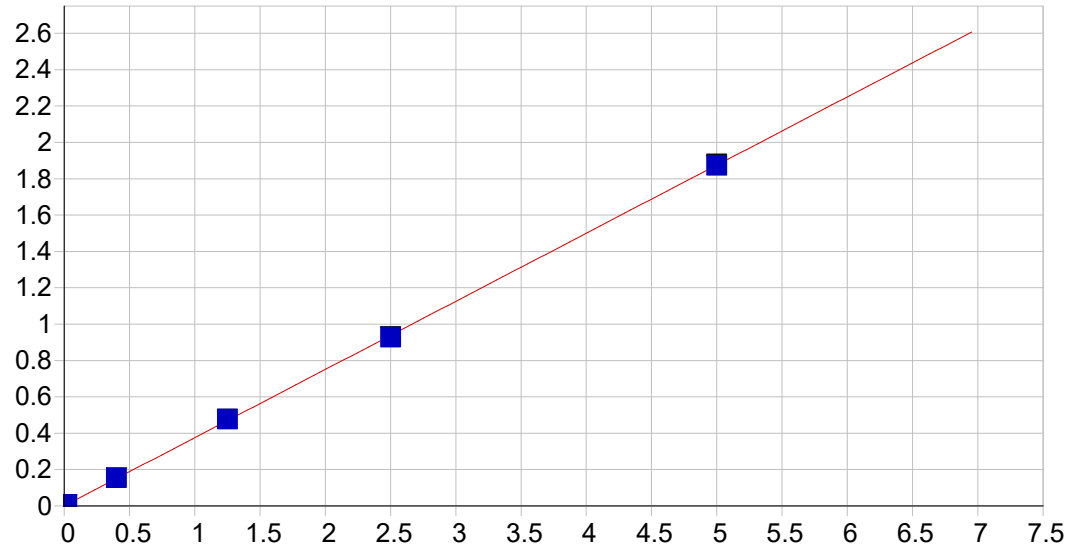


Fe 240.488 {140}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000016	Re-Slope:	1.000000
A1 (Gain):	0.004196	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999831	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.005722		
Predicted MQL:	0.019072		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00002	.000	1
S1	.10000	.09917	-.001	-.834	.00039	.000	1
S3	2.5000	2.3871	-.113	-4.52	.00991	.000	1
S4	5.0000	5.0587	.059	1.17	.02103	.000	1
S5	10.000	10.046	.046	.457	.04178	.000	1
S2	.80000	.80933	.009	1.17	.00335	.000	1

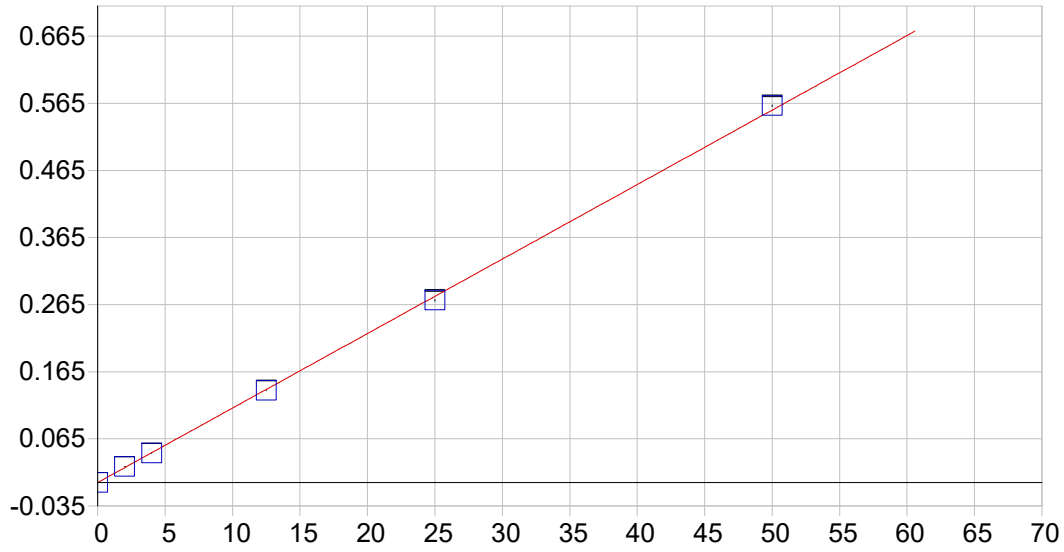


Mn 257.610 {131}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000613	Re-Slope:	1.000000
A1 (Gain):	0.374942	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999949	Status:	OK.
Std Error of Est:	0.000063		
Predicted MDL:	0.000381		
Predicted MQL:	0.001270		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00061	.000	1
S1	.02000	.02144	.001	7.21	.00865	.000	1
S3	1.2500	1.2704	.020	1.63	.47704	.001	1
S4	2.5000	2.4745	-.025	-1.02	.92859	.004	1
S5	5.0000	4.9940	-.006	-.121	1.8734	.007	1
S2	.40000	.40965	.010	2.41	.15424	.000	1

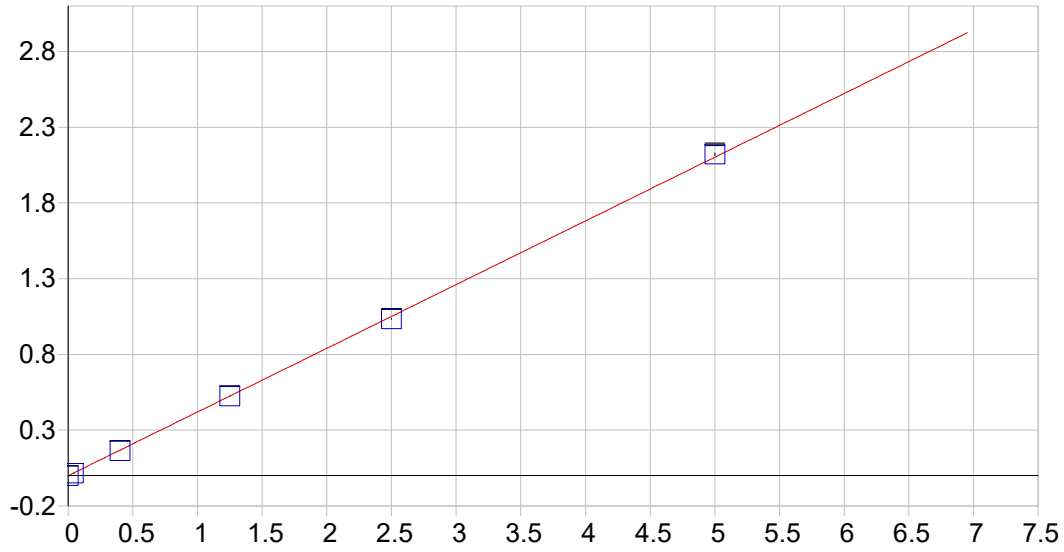


Mg 279.079 {121}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000174	Re-Slope:	1.000000
A1 (Gain):	0.011103	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999831	Status:	OK.
Std Error of Est:	0.000108		
Predicted MDL:	0.015257		
Predicted MQL:	0.050856		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00007	-.000	.000	-.00017	.000	1
S2	4.0000	3.9350	-.065	-1.62	.04352	.000	1
S3	12.500	12.353	-.147	-1.18	.13698	.000	1
S4	25.000	24.470	-.530	-2.12	.27151	.001	1
S5	50.000	50.598	.598	1.20	.56162	.001	1
S1	2.0000	2.1439	.144	7.20	.02363	.000	1

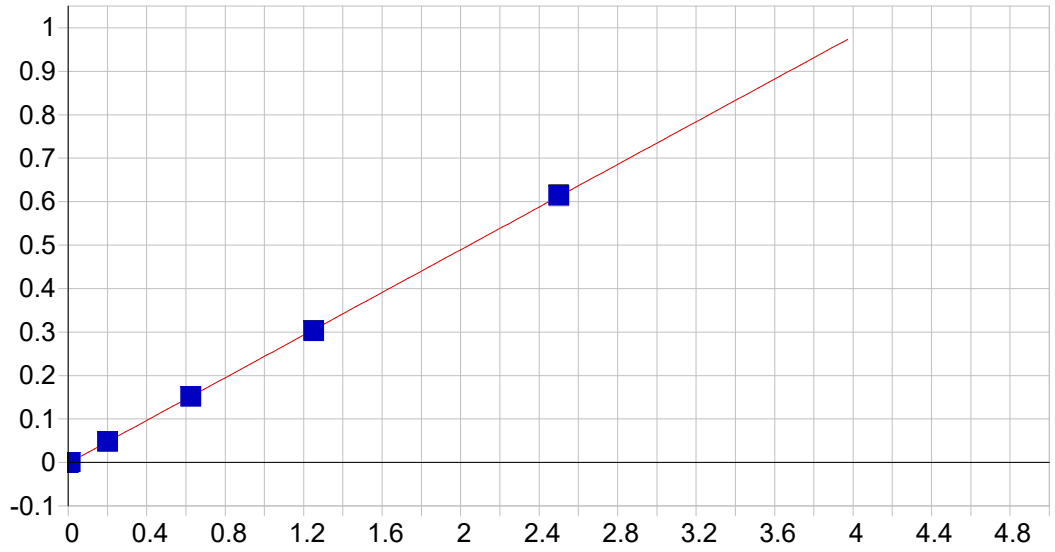


Ni 231.604 {446}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000389	Re-Slope:	1.000000
A1 (Gain):	0.420531	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999934	Status:	OK.
Std Error of Est:	0.000114		
Predicted MDL:	0.000470		
Predicted MQL:	0.001567		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00039	.000	1
S1	.04000	.03987	-.000	-.319	.01638	.000	1
S3	1.2500	1.2485	-.002	-.124	.52462	.001	1
S4	2.5000	2.4617	-.038	-1.53	1.0348	.004	1
S5	5.0000	5.0482	.048	.963	2.1225	.008	1
S2	.40000	.39184	-.008	-2.04	.16439	.001	1

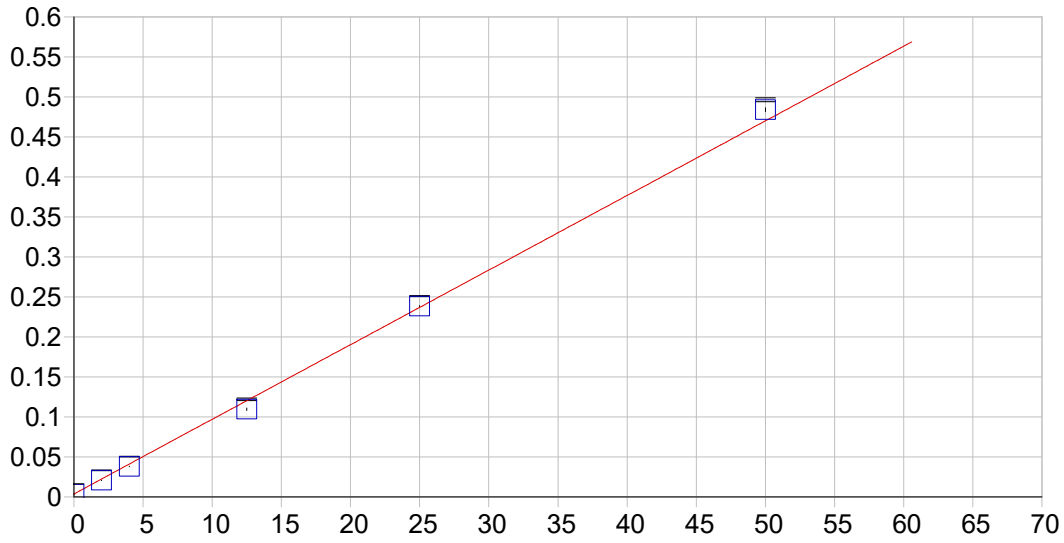


Ag 328.068 {103}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001521	Re-Slope:	1.000000
A1 (Gain):	0.245427	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999988	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	0.000420		
Predicted MQL:	0.001401		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00152	.000	1
S1	.01000	.01025	.000	2.50	.00098	.000	1
S3	.62500	.62399	-.001	-.161	.15101	.000	1
S4	1.2500	1.2408	-.009	-.738	.30178	.001	1
S5	2.5000	2.5095	.010	.381	.61195	.001	1
S2	.20000	.20046	.000	.230	.04748	.000	1

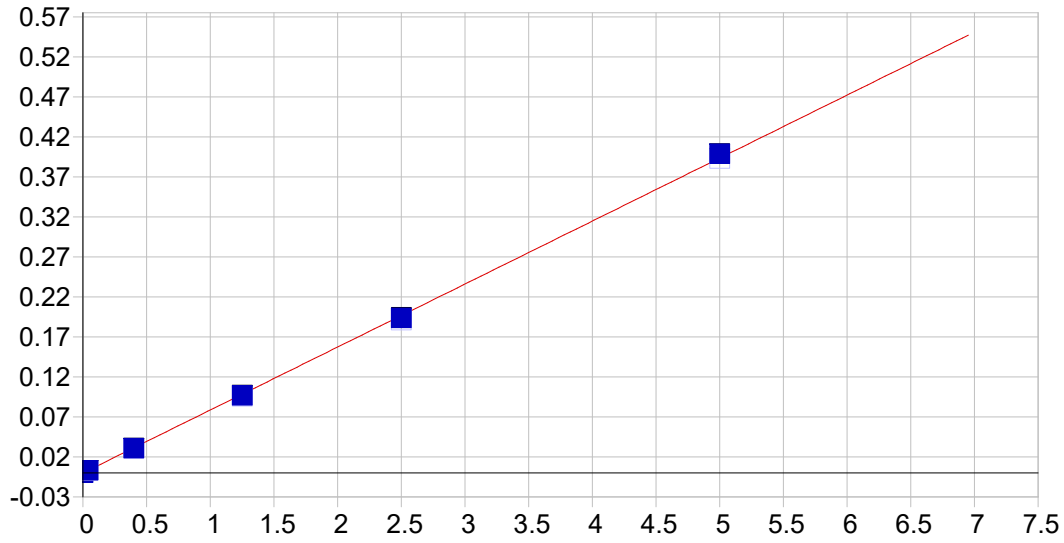


Na 589.592 { 57}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.003784	Re-Slope:	1.000000
A1 (Gain):	0.009325	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998958	Status:	OK.
Std Error of Est:	0.000225		
Predicted MDL:	0.022963		
Predicted MQL:	0.076543		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00046	.000	.000	.00379	.000	1
S2	4.0000	3.6719	-.328	-8.20	.03802	.000	1
S3	12.500	11.348	-1.15	-9.22	.10960	.001	1
S4	25.000	25.180	.180	.721	.23858	.001	1
S5	50.000	51.482	1.48	2.96	.48385	.002	1
S1	2.0000	1.8174	-.183	-9.13	.02073	.000	1

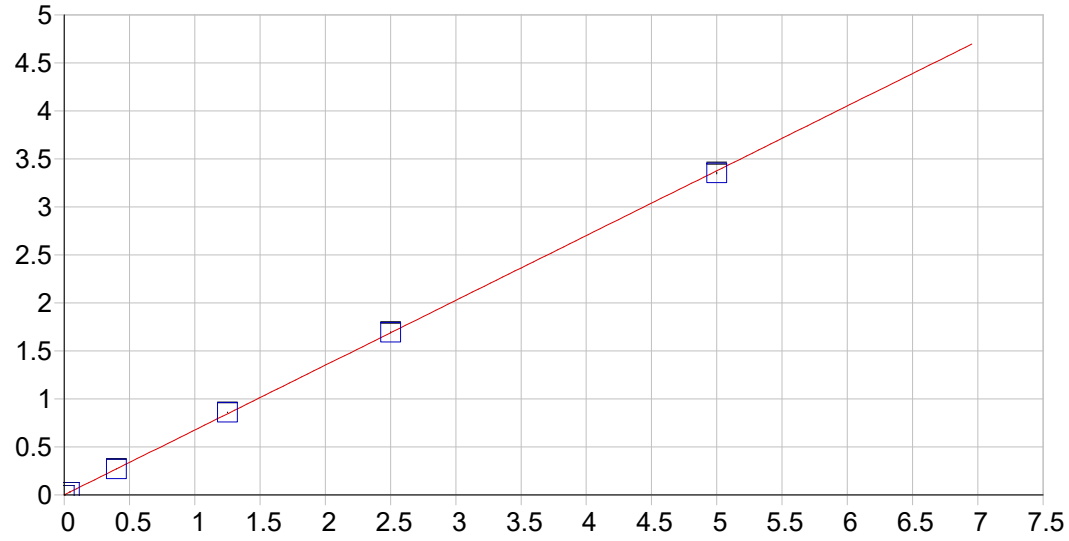


V 292.402 {115}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000109	Re-Slope:	1.000000
A1 (Gain):	0.078704	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999898	Status:	OK.
Std Error of Est:	0.000026		
Predicted MDL:	0.002013		
Predicted MQL:	0.006709		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00011	.000	1
S1	.04000	.03967	-.000	-.832	.00289	.000	1
S3	1.2500	1.2317	-.018	-1.46	.09540	.000	1
S4	2.5000	2.4611	-.039	-1.56	.19072	.001	1
S5	5.0000	5.0644	.064	1.29	.39274	.000	1
S2	.40000	.39312	-.007	-1.72	.03037	.000	1

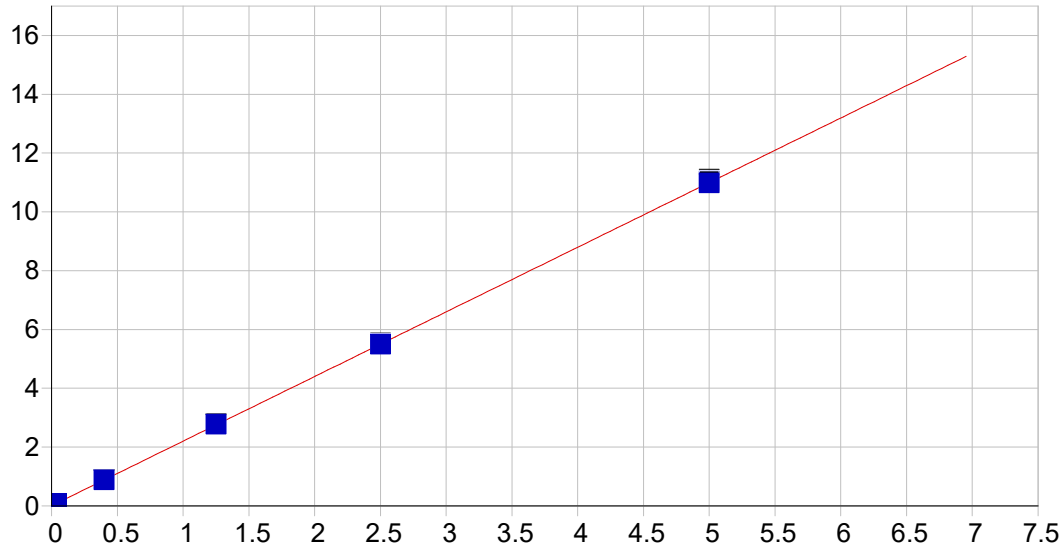


Zn 206.200 {464}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000626	Re-Slope:	1.000000
A1 (Gain):	0.675223	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999959	Status:	OK.
Std Error of Est:	0.000143		
Predicted MDL:	0.000278		
Predicted MQL:	0.000927		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00062	.000	1
S1	.04000	.04210	.002	5.25	.02905	.000	1
S3	1.2500	1.2721	.022	1.77	.85959	.003	1
S4	2.5000	2.5078	.008	.312	1.6940	.007	1
S5	5.0000	4.9666	-.033	-.667	3.3542	.010	1
S2	.40000	.40133	.001	.332	.27161	.002	1

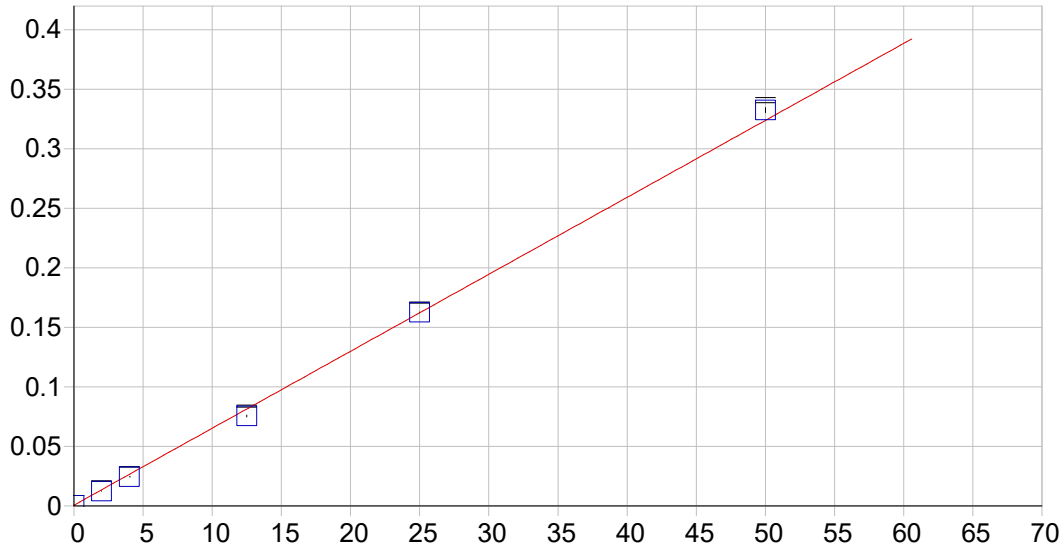


Zn 213.856 {158}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.004117	Re-Slope:	1.000000
A1 (Gain):	2.198340	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999994	Status:	OK.
Std Error of Est:	0.000174		
Predicted MDL:	0.000401		
Predicted MQL:	0.001338		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00411	.001	1
S1	.04000	.04088	.001	2.21	.09461	.002	1
S3	1.2500	1.2593	.009	.741	2.7915	.007	1
S4	2.5000	2.4979	-.002	-.084	5.5335	.009	1
S5	5.0000	4.9915	-.008	-.169	11.054	.054	1
S2	.40000	.40042	.000	.106	.89050	.007	1

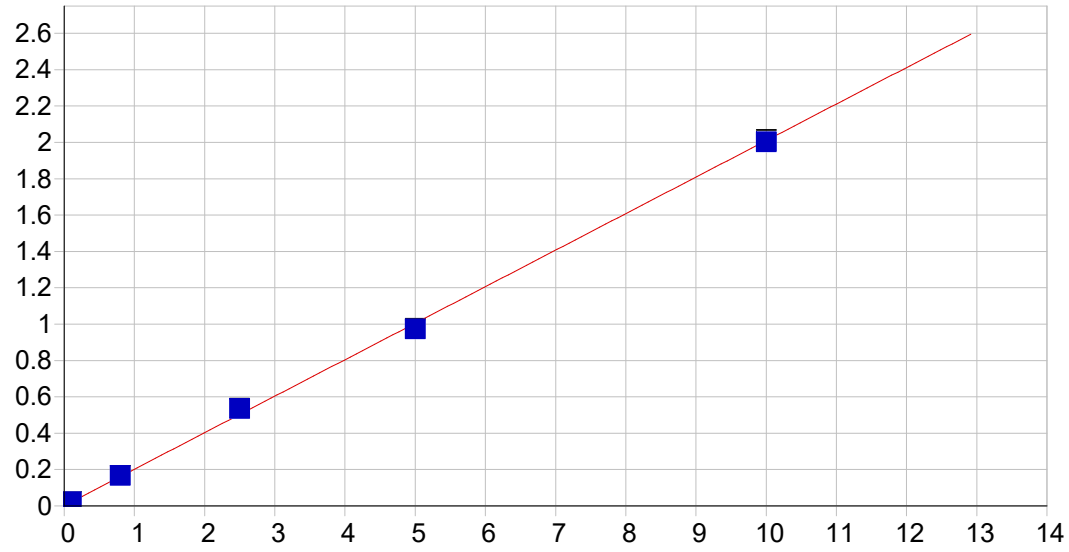


K 766.490 { 44}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000608	Re-Slope:	1.000000
A1 (Gain):	0.006466	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999248	Status:	OK.
Std Error of Est:	0.000133		
Predicted MDL:	0.035518		
Predicted MQL:	0.118395		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00041	.000	.000	.00061	.000	1
S2	4.0000	3.6993	-.301	-7.52	.02453	.000	1
S3	12.500	11.581	-.919	-7.35	.07550	.001	1
S4	25.000	25.045	.045	.179	.16256	.000	1
S5	50.000	51.344	1.34	2.69	.33262	.002	1
S1	2.0000	1.8308	-.169	-8.46	.01245	.000	1

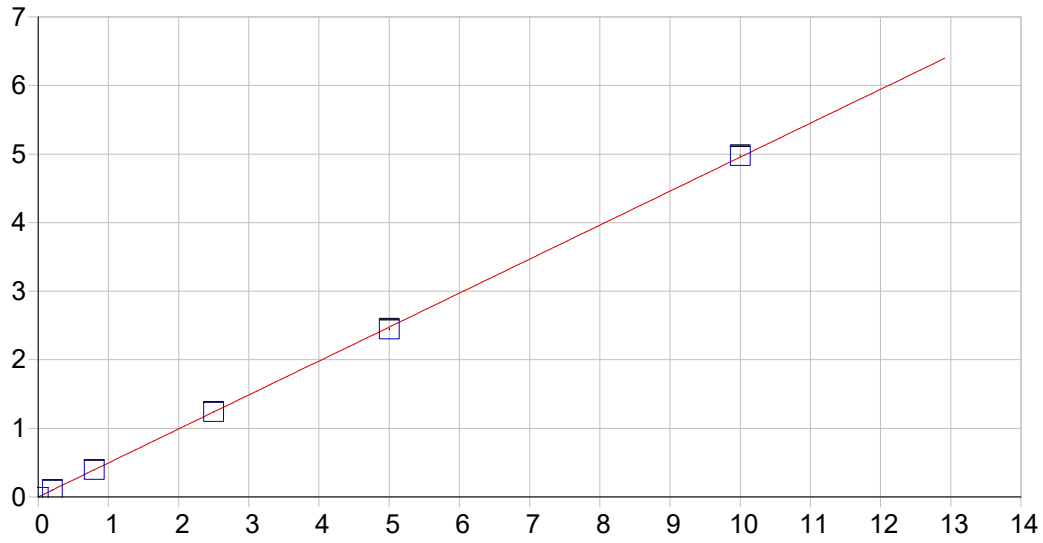


B 249.678 {135}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000757	Re-Slope:	1.000000
A1 (Gain):	0.200913	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999521	Status:	OK.
Std Error of Est:	0.000326		
Predicted MDL:	0.000947		
Predicted MQL:	0.003158		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00002	-.000	.000	.00075	.000	1
S1	.10000	.11284	.013	12.8	.02335	.000	1
S3	2.5000	2.6570	.157	6.28	.53373	.003	1
S4	5.0000	4.8389	-.161	-3.22	.97124	.003	1
S5	10.000	9.9665	-.033	-.335	1.9997	.013	1
S2	.80000	.82471	.025	3.09	.16618	.000	1

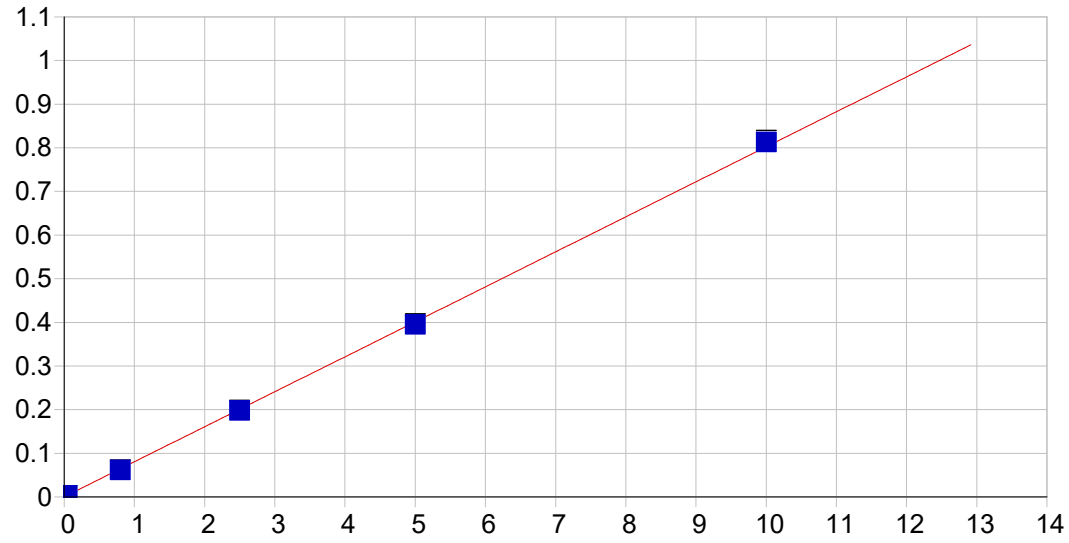


Mo 202.030 {467}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000156	Re-Slope:	1.000000
A1 (Gain):	0.495388	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999957	Status:	OK.
Std Error of Est:	0.000343		
Predicted MDL:	0.000393		
Predicted MQL:	0.001312		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00015	.000	1
S1	.20000	.21124	.011	5.62	.10480	.000	1
S3	2.5000	2.5071	.007	.283	1.2421	.005	1
S4	5.0000	4.9398	-.060	-1.20	2.4473	.011	1
S5	10.000	10.045	.045	.454	4.9765	.011	1
S2	.80000	.79643	-.004	-.446	.39470	.001	1

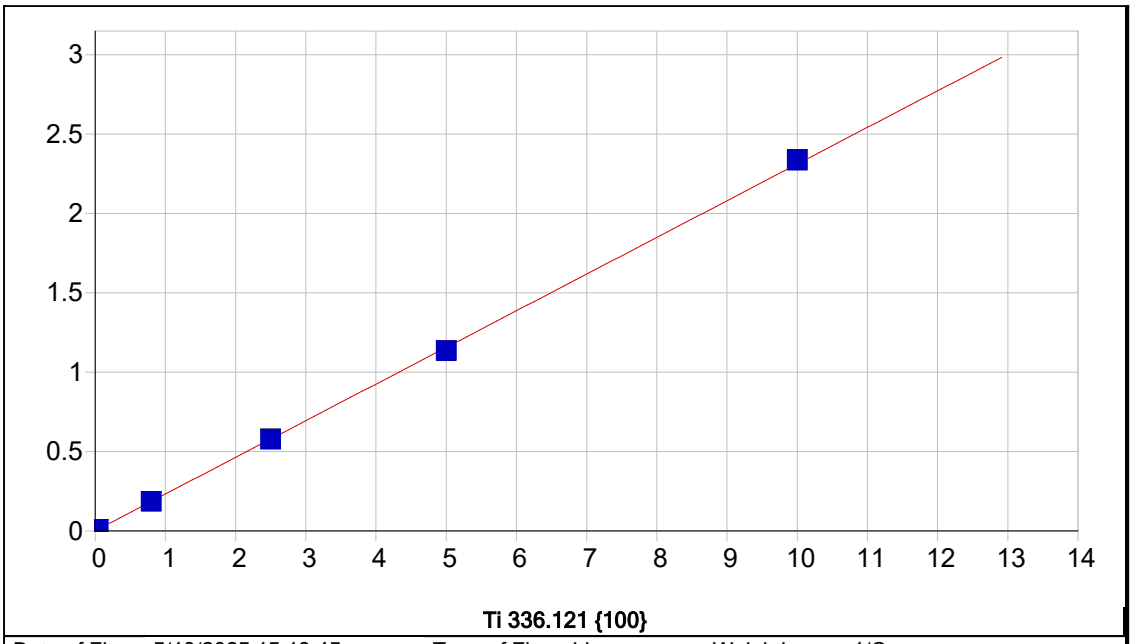


Sn 189.989 {478}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000285	Re-Slope:	1.000000
A1 (Gain):	0.080194	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999859	Status:	OK.
Std Error of Est:	0.000045		
Predicted MDL:	0.001229		
Predicted MQL:	0.004096		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00028	.000	1
S1	.04000	.04221	.002	5.52	.00367	.000	1
S3	2.5000	2.4675	-.033	-1.30	.19796	.001	1
S4	5.0000	4.9259	-.074	-1.48	.39490	.002	1
S5	10.000	10.140	.140	1.40	.81262	.004	1
S2	.80000	.76458	-.035	-4.43	.06153	.000	1

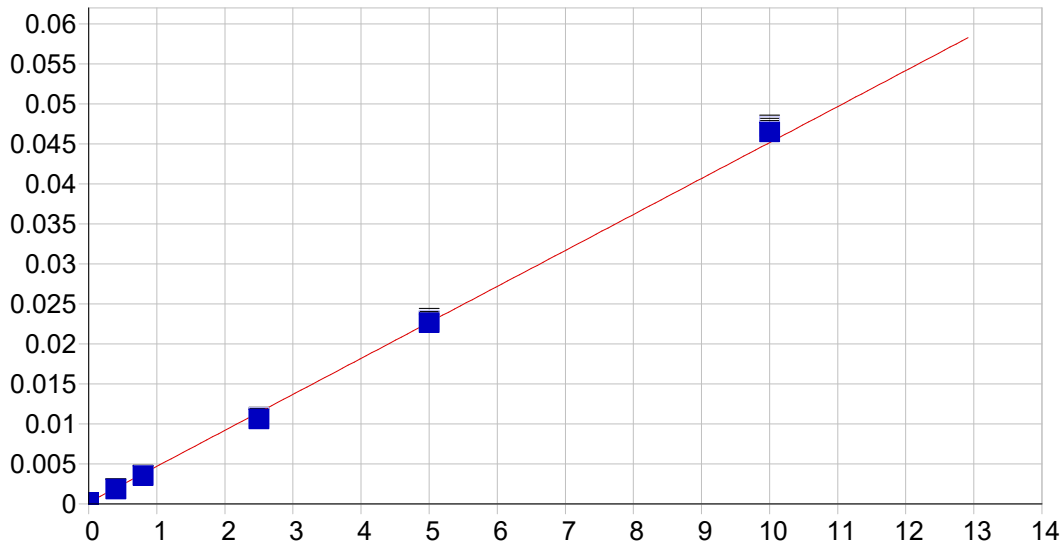


Ti 336.121 {100}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001445	Re-Slope:	1.000000
A1 (Gain):	0.231001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999917	Status:	OK.
Std Error of Est:	0.000098		
Predicted MDL:	0.000992		
Predicted MQL:	0.003307		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00144	.000	1
S1	.04000	.04162	.002	4.05	.01105	.000	1
S3	2.5000	2.4915	-.008	-.339	.57678	.002	1
S4	5.0000	4.9058	-.094	-1.88	1.1343	.003	1
S5	10.000	10.106	.106	1.06	2.3351	.004	1
S2	.80000	.79509	-.005	-.613	.18505	.001	1

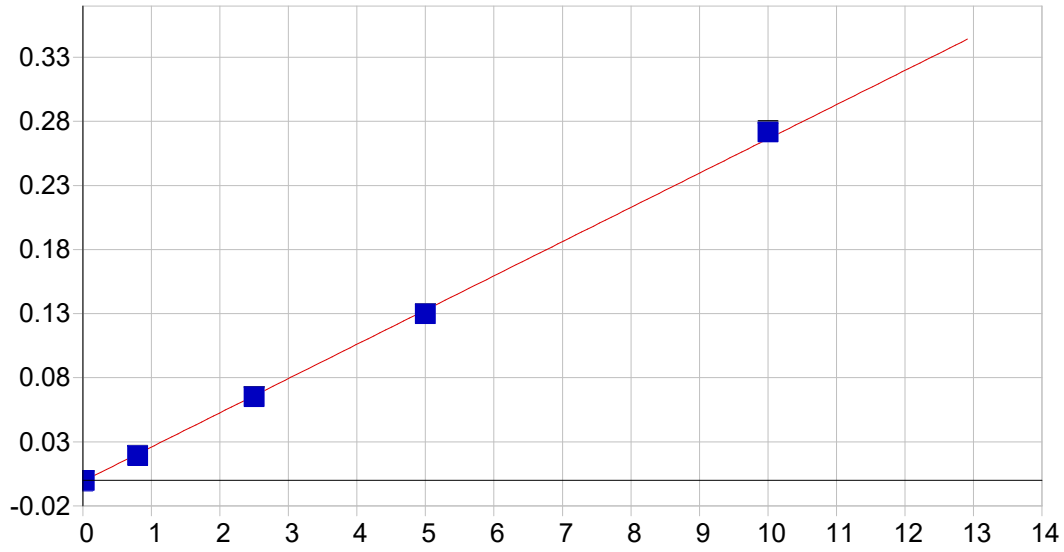


Si 288.158 {117}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000199	Re-Slope:	1.000000
A1 (Gain):	0.004497	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999217	Status:	OK.
Std Error of Est:	0.000019		
Predicted MDL:	0.009958		
Predicted MQL:	0.033192		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00008	.000	.000	.00020	.000	1
S1	.40000	.36514	-.035	-8.71	.00184	.000	1
S3	2.5000	2.3158	-.184	-7.37	.01078	.000	1
S4	5.0000	4.9882	-.012	-.235	.02297	.000	1
S5	10.000	10.293	.293	2.93	.04716	.000	1
S2	.80000	.73719	-.063	-7.85	.00357	.000	1

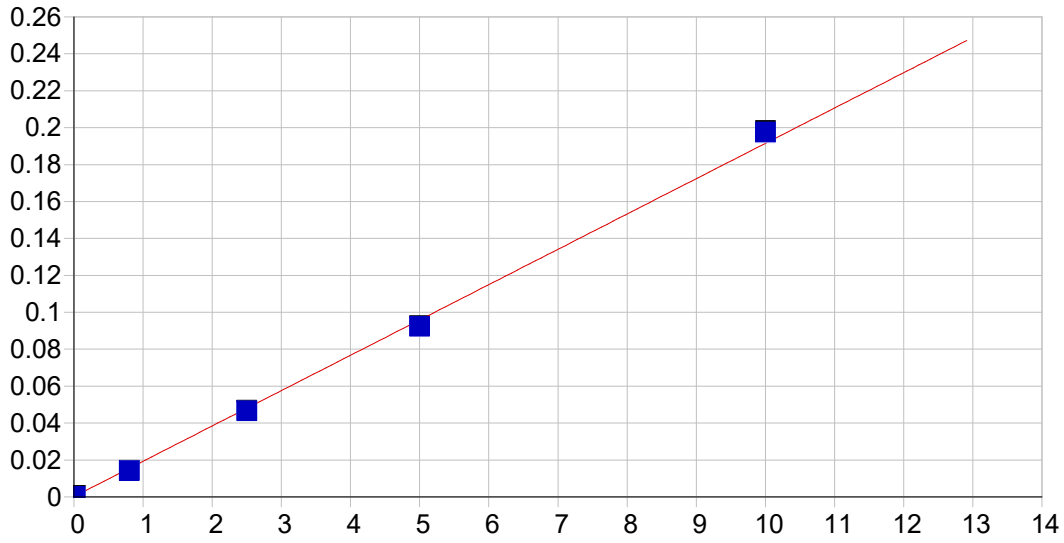


P 177.495 {490}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000779	Re-Slope:	1.000000
A1 (Gain):	0.026712	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999711	Status:	OK.
Std Error of Est:	0.000015		
Predicted MDL:	0.003954		
Predicted MQL:	0.013180		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00078	.000	1
S1	.02000	.01770	-.002	-11.5	-.00031	.000	1
S3	2.5000	2.4634	-.037	-1.46	.06501	.000	1
S4	5.0000	4.8886	-.111	-2.23	.12979	.000	1
S5	10.000	10.201	.201	2.01	.27168	.001	1
S2	.80000	.74903	-.051	-6.37	.01923	.000	1

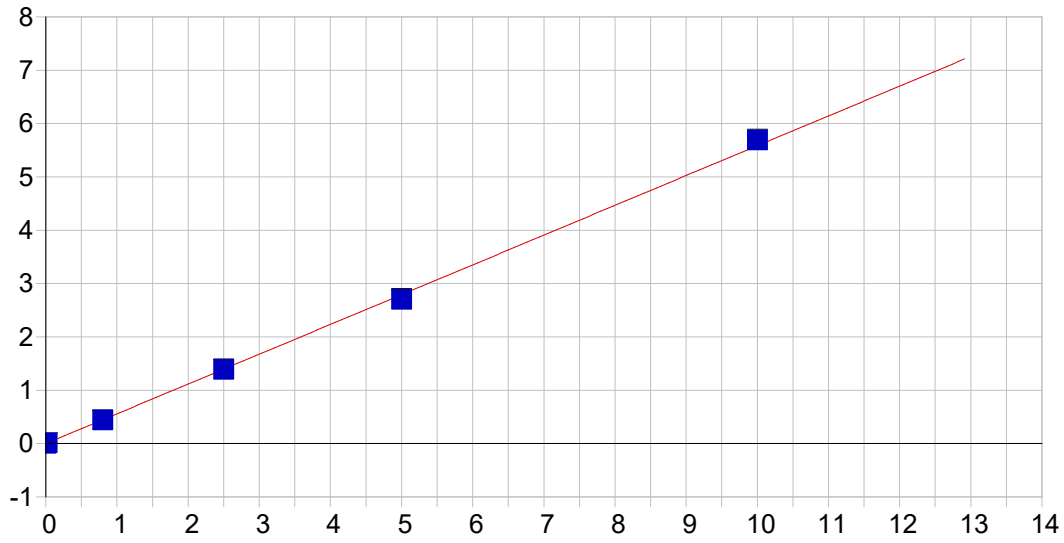


S 182.034 {485}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000182	Re-Slope:	1.000000
A1 (Gain):	0.019132	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999340	Status:	OK.
Std Error of Est:	0.000016		
Predicted MDL:	0.004913		
Predicted MQL:	0.016378		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00018	.000	1
S1	.02000	.02090	.001	4.51	.00057	.000	1
S3	2.5000	2.4235	-.077	-3.06	.04642	.000	1
S4	5.0000	4.8191	-.181	-3.62	.09213	.000	1
S5	10.000	10.319	.319	3.19	.19712	.001	1
S2	.80000	.73709	-.063	-7.86	.01424	.000	1

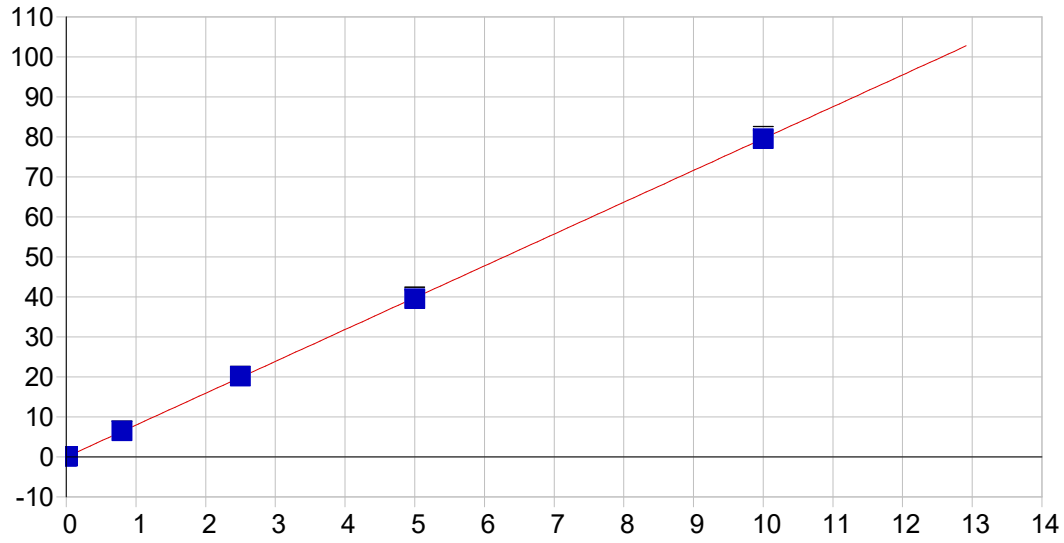


Li 670.784 { 50}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000916	Re-Slope:	1.000000
A1 (Gain):	0.558548	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999749	Status:	OK.
Std Error of Est:	0.000294		
Predicted MDL:	0.001383		
Predicted MQL:	0.004611		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00092	.000	1
S5	10.000	10.185	.185	1.85	5.6906	.015	1
S4	5.0000	4.8357	-.164	-3.29	2.7015	.011	1
S3	2.5000	2.4912	-.009	-.354	1.3912	.006	1
S1	.02000	.02175	.002	8.77	.01141	.000	1
S2	.80000	.78659	-.013	-1.68	.43866	.001	1

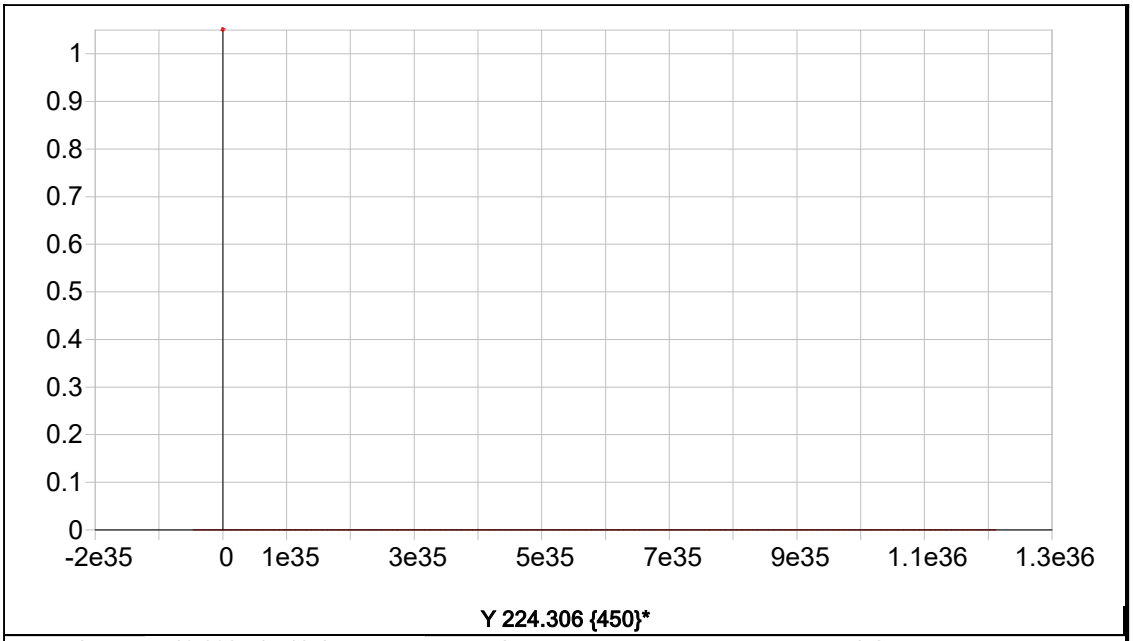


Sr 407.771 { 83}

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000071	Re-Slope:	1.000000
A1 (Gain):	7.957767	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999977	Status:	OK.
Std Error of Est:	0.001257		
Predicted MDL:	0.000066		
Predicted MQL:	0.000221		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00006	.000	1
S1	.02000	.02057	.001	2.87	.16456	.000	1
S3	2.5000	2.5289	.029	1.16	20.143	.049	1
S4	5.0000	4.9622	-.038	-.756	39.526	.436	1
S5	10.000	9.9958	-.004	-.042	79.621	.515	1
S2	.80000	.81250	.012	1.56	6.4719	.026	1

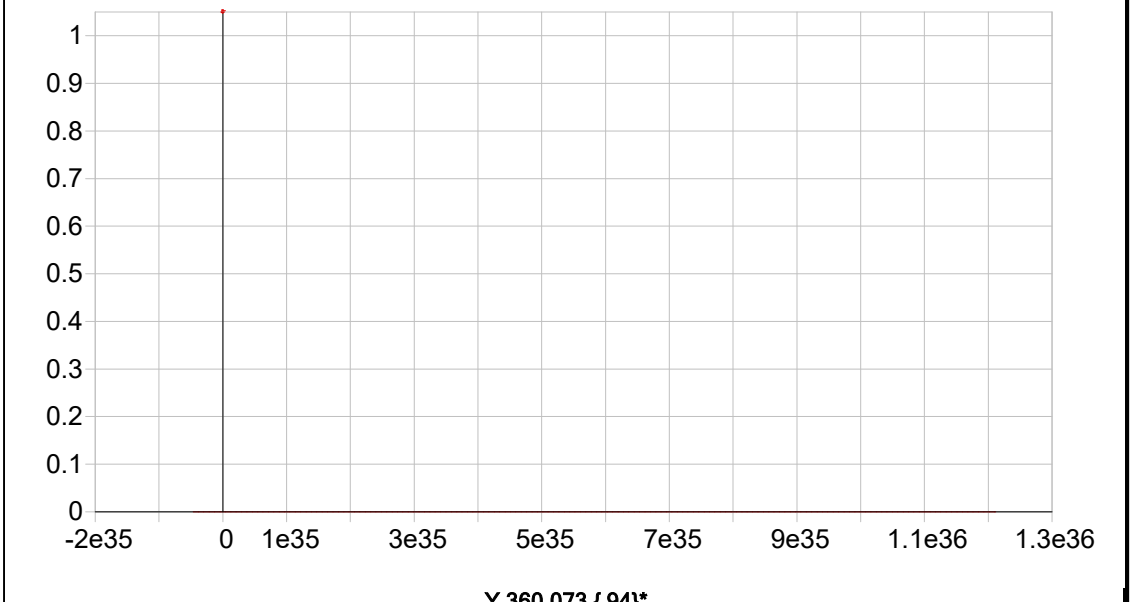


Y 224.306 {450}*

Date of Fit:	5/19/2025 15:13:45	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis



Y 360.073 { 94}*

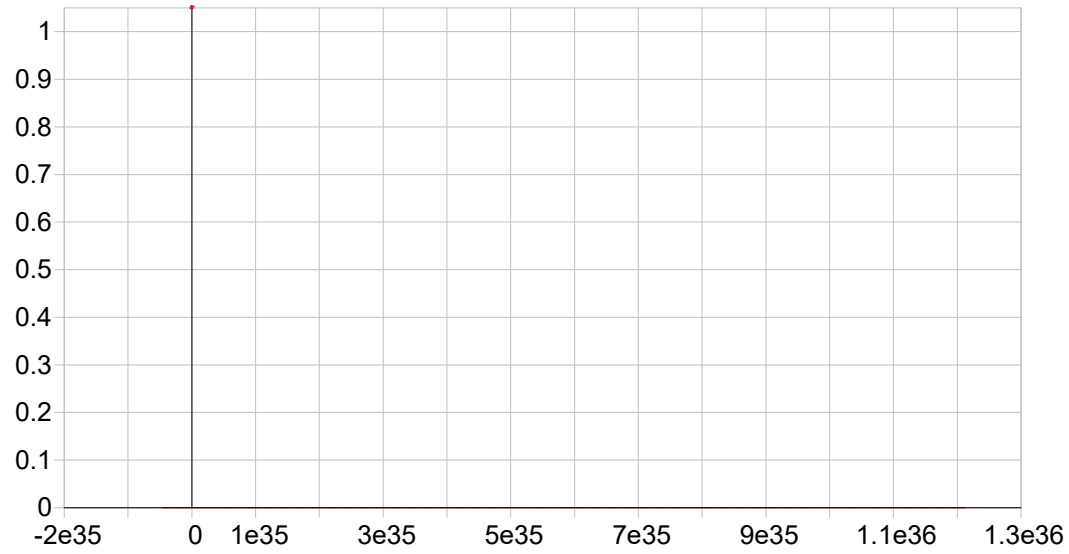
Date of Fit:	<not fit>	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

A2 (Curvature):	0.000000					
n (Exponent):	1.000000					
Correlation:	0.000000		Status:	Warning	Zero Gain	
Std Error of Est:	0.000000					
Predicted MDL:	n/a					
Predicted MQL:	n/a					

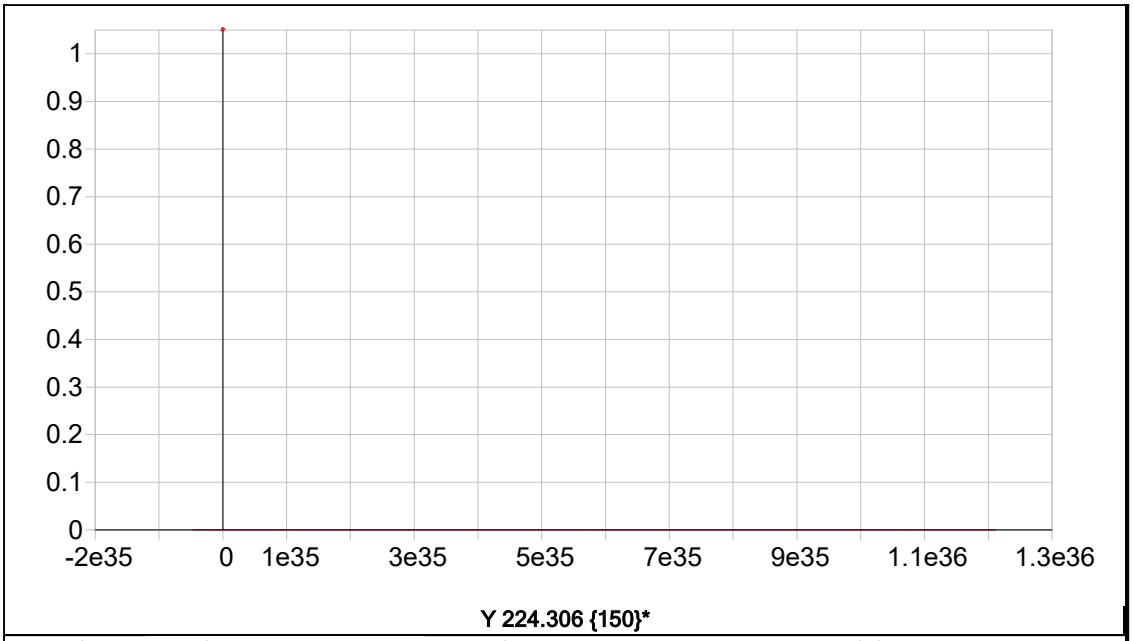
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis



Y 371.030 { 91}*

Date of Fit:	<not fit>		Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):		0.000000		Re-Slope:	1.000000	
A1 (Gain):		0.000000		Y-int:	0.000000	
A2 (Curvature):		0.000000				
n (Exponent):		1.000000				
Correlation:		0.000000		Status:	Warning	Zero Gain
Std Error of Est:		0.000000				
Predicted MDL:		n/a				
Predicted MQL:		n/a				

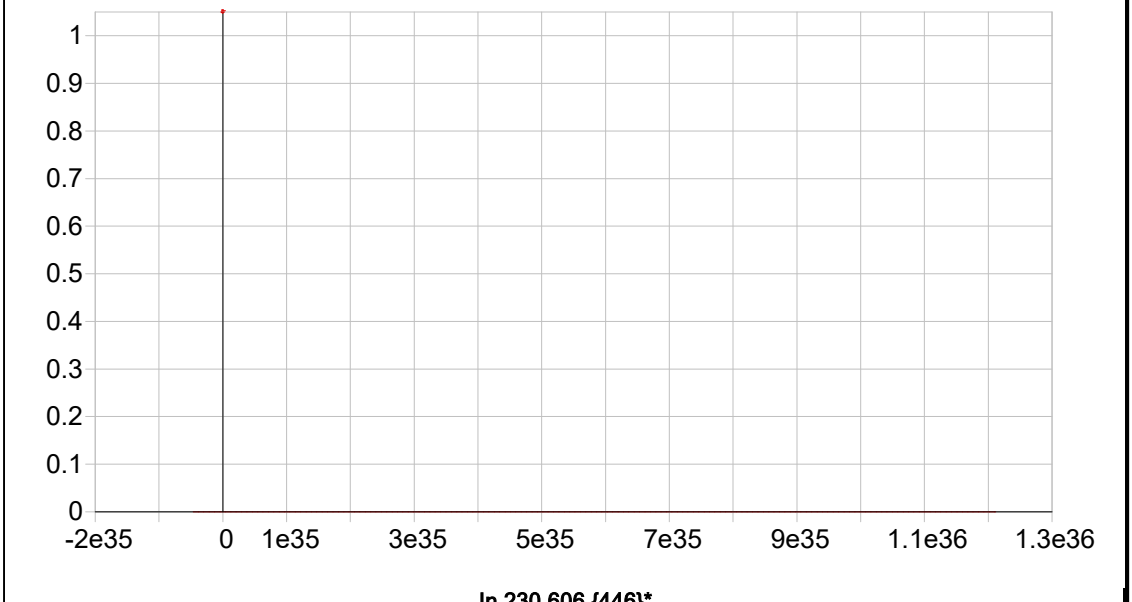
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis



Y 224.306 {150}*

Date of Fit:	<not fit>	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis



In 230.606 {446}*

Date of Fit:	<not fit>	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	

A2 (Curvature):		0.000000					
n (Exponent):		1.000000					
Correlation:		0.000000		Status:	Warning	Zero Gain	
Std Error of Est:		0.000000					
Predicted MDL:		n/a					
Predicted MQL:		n/a					
Std. Name	**Stated Conc.**	**Found Conc.**	**Difference**	**% Diff.**	**(S)IR**	**Std Dev**	**Emphasis**

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: S0 Acquired: 5/19/2025 12:02:26 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00003	-.00013	-.00018	.00021	.00036	-.00021	.03968	.00012
Stddev	.00010	.00010	.00007	.00006	.00011	.00043	.00063	.00007
%RSD	297.96	76.320	36.980	27.237	29.948	208.11	1.5946	53.927
#1	.00008	-.00006	-.00023	.00019	.00048	.00021	.04021	.00016
#2	-.00011	-.00024	-.00011	.00027	.00031	-.00018	.03898	.00005
#3	-.00008	-.00009	-.00021	.00016	.00028	-.00065	.03984	.00016

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00014	.00050	.00012	-.00004	-.00076	-.00002	.00061	-.00017
Stddev	.00017	.00001	.00005	.00021	.00020	.00001	.00009	.00008
%RSD	125.81	1.7882	40.378	589.27	26.829	75.737	15.483	45.181
#1	-.00008	.00050	.00017	-.00021	-.00062	-.00000	.00054	-.00009
#2	.00000	.00050	.00007	-.00009	-.00067	-.00002	.00058	-.00019
#3	-.00033	.00049	.00013	.00019	-.00100	-.00003	.00072	-.00025

Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00039	-.00152	.00379	-.00011	.00411	.00061	.00075	.00015
Stddev	.00010	.00002	.00016	.00009	.00058	.00018	.00011	.00013
%RSD	24.615	1.4474	4.2902	78.661	13.978	30.197	15.010	86.106
#1	-.00048	-.00150	.00365	-.00014	.00391	.00042	.00088	.00001
#2	-.00039	-.00153	.00397	-.00017	.00367	.00078	.00067	.00017
#3	-.00029	-.00153	.00374	-.00001	.00476	.00063	.00071	.00027

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00028	.00144	.00020	-.00078	.00018	-.00092	.00006
Stddev	.00002	.00020	.00003	.00003	.00005	.00032	.00031
%RSD	7.8479	14.047	14.168	3.3940	25.961	34.412	482.97
#1	.00027	.00122	.00023	-.00076	.00013	-.00058	.00040
#2	.00031	.00150	.00018	-.00081	.00021	-.00097	-.00020
#3	.00028	.00161	.00018	-.00077	.00021	-.00120	-.00001

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: S0 Acquired: 5/19/2025 12:02:26 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2781.7	66610.	17341.	1881.9	4183.3
Stddev	15.4	150.	65.	8.8	20.2
%RSD	.55332	.22551	.37398	.46970	.48239
#1	2769.4	66667.	17392.	1887.1	4166.3
#2	2798.9	66724.	17362.	1886.8	4205.6
#3	2776.7	66440.	17268.	1871.7	4177.9

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: S1 Acquired: 5/19/2025 12:06:52 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00072	.00227	.00205	.00132	.00740	.00529	.16863	.02071
Stddev	.00004	.00011	.00010	.00010	.00005	.00025	.00083	.00008
%RSD	5.0885	4.6893	4.7696	7.3086	.71411	4.6610	.49188	.39536
#1	.00070	.00229	.00214	.00134	.00738	.00507	.16947	.02074
#2	.00077	.00216	.00207	.00141	.00746	.00556	.16861	.02076
#3	.00070	.00237	.00195	.00122	.00735	.00525	.16781	.02061

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.01253	.07202	.00153	.02169	.01341	.00039	.00865	.02363
Stddev	.00014	.00038	.00007	.00014	.00017	.00002	.00008	.00006
%RSD	1.0876	.52521	4.8089	.62649	1.2693	4.0040	.89648	.24427
#1	.01241	.07160	.00153	.02154	.01361	.00041	.00858	.02369
#2	.01250	.07213	.00161	.02178	.01328	.00039	.00866	.02358
#3	.01268	.07234	.00146	.02177	.01336	.00038	.00873	.02361

Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.01638	.00098	.02073	.00289	.09461	.01245	.02335	.10480
Stddev	.00012	.00005	.00039	.00024	.00220	.00017	.00007	.00011
%RSD	.70758	5.3658	1.8903	8.2144	2.3219	1.3764	.29621	.10943
#1	.01625	.00096	.02095	.00270	.09526	.01239	.02341	.10493
#2	.01640	.00104	.02096	.00283	.09640	.01264	.02336	.10470
#3	.01648	.00093	.02028	.00316	.09216	.01231	.02327	.10478

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00367	.01105	.00184	-.00031	.00057	.01141	.16456
Stddev	.00005	.00022	.00006	.00010	.00007	.00022	.00037
%RSD	1.3778	2.0112	3.1287	32.767	12.350	1.9278	.22551
#1	.00364	.01130	.00190	-.00021	.00053	.01144	.16483
#2	.00372	.01087	.00185	-.00030	.00052	.01118	.16414
#3	.00364	.01099	.00178	-.00041	.00065	.01162	.16472

Sample Name: S1 Acquired: 5/19/2025 12:06:52 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2758.3	66671.	17094.	1907.3	4125.7
Stddev	7.2	1443.	106.	37.5	9.5
%RSD	.26252	2.1638	.62297	1.9664	.23025
#1	2751.6	65577.	16975.	1880.8	4117.9
#2	2757.3	66130.	17179.	1890.8	4123.0
#3	2766.0	68306.	17130.	1950.2	4136.3

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: S2 Acquired: 5/19/2025 12:11:16 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.02798	.04563	.12895	.04014	.10175	.07875	2.1548	.13432
Stddev	.00041	.00070	.00113	.00014	.00038	.00045	.0071	.00037
%RSD	1.4735	1.5380	.87663	.33722	.37583	.57207	.32826	.27850
#1	.02831	.04613	.13015	.04009	.10157	.07836	2.1629	.13441
#2	.02811	.04594	.12877	.04030	.10218	.07864	2.1506	.13391
#3	.02752	.04483	.12791	.04005	.10148	.07924	2.1508	.13464

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.77313	.14005	.02464	.28237	.12477	.00335	.15424	.04352
Stddev	.00510	.00055	.00008	.00203	.00013	.00002	.00033	.00007
%RSD	.66006	.39070	.31269	.71927	.10241	.49179	.21324	.15986
#1	.77751	.14031	.02457	.28435	.12469	.00337	.15462	.04345
#2	.77435	.14042	.02472	.28247	.12471	.00335	.15402	.04352
#3	.76753	.13943	.02463	.28029	.12492	.00334	.15408	.04359

Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.16439	.04748	.03802	.03037	.89050	.02453	.16618	.39470
Stddev	.00063	.00029	.00028	.00014	.00655	.00003	.00037	.00096
%RSD	.38470	.61008	.73443	.46394	.73527	.12662	.22150	.24339
#1	.16510	.04731	.03832	.03023	.88300	.02452	.16583	.39498
#2	.16419	.04732	.03799	.03051	.89507	.02450	.16656	.39549
#3	.16388	.04782	.03776	.03037	.89342	.02456	.16614	.39363

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.06153	.18505	.00357	.01923	.01424	.43866	6.4719
Stddev	.00050	.00061	.00002	.00026	.00016	.00140	.0262
%RSD	.80891	.32815	.69344	1.3453	1.1400	.31852	.40402
#1	.06203	.18570	.00354	.01943	.01443	.44027	6.5013
#2	.06153	.18451	.00359	.01931	.01419	.43794	6.4629
#3	.06104	.18493	.00357	.01893	.01412	.43776	6.4514

Sample Name: S2 Acquired: 5/19/2025 12:11:16 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2779.5	65688.	17452.	1876.5	4131.3
Stddev	4.7	270.	34.	15.4	6.2
%RSD	.17065	.41161	.19322	.81947	.15099
#1	2784.9	65938.	17453.	1893.7	4125.7
#2	2777.9	65725.	17485.	1871.4	4130.1
#3	2775.8	65401.	17418.	1864.2	4138.0

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: S3 Acquired: 5/19/2025 12:15:26 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.08969	.14716	.41154	.12836	.32324	.24965	6.7241	.43249
Stddev	.00015	.00297	.00082	.00066	.00133	.00051	.0326	.00145
%RSD	.16230	2.0162	.19878	.51270	.41029	.20592	.48490	.33495
#1	.08964	.14915	.41246	.12800	.32242	.24918	6.6865	.43413
#2	.08957	.14375	.41089	.12796	.32252	.24957	6.7444	.43194
#3	.08985	.14859	.41128	.12912	.32477	.25020	6.7415	.43139

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.4648	.43773	.07581	.90115	.39354	.00991	.47704	.13698
Stddev	.0063	.00107	.00049	.00154	.00187	.00010	.00092	.00048
%RSD	.25454	.24396	.64506	.17122	.47443	1.0101	.19274	.34881
#1	2.4720	.43870	.07528	.90280	.39188	.00982	.47606	.13708
#2	2.4606	.43791	.07624	.89975	.39318	.00989	.47719	.13740
#3	2.4617	.43659	.07592	.90090	.39556	.01002	.47788	.13646

Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.52462	.15101	.10960	.09540	2.7915	.07550	.53373	1.2421
Stddev	.00134	.00034	.00141	.00047	.0068	.00087	.00281	.0047
%RSD	.25473	.22571	1.2867	.48777	.24203	1.1490	.52571	.38211
#1	.52576	.15065	.10797	.09498	2.7837	.07460	.53695	1.2419
#2	.52315	.15132	.11043	.09590	2.7956	.07557	.53239	1.2375
#3	.52496	.15108	.11040	.09532	2.7952	.07633	.53184	1.2470

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.19796	.57678	.01078	.06501	.04642	1.3912	20.143
Stddev	.00067	.00177	.00007	.00044	.00036	.0061	.049
%RSD	.34006	.30767	.67494	.67437	.77532	.43594	.24390
#1	.19853	.57473	.01071	.06505	.04653	1.3845	20.186
#2	.19722	.57785	.01086	.06456	.04602	1.3962	20.154
#3	.19812	.57776	.01078	.06543	.04672	1.3930	20.090

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: S3 Acquired: 5/19/2025 12:15:26 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2714.3	65761.	17105.	1880.7	3953.3
Stddev	16.1	194.	87.	9.3	15.1
%RSD	.59478	.29467	.50888	.49236	.38265
#1	2724.1	65967.	17005.	1883.2	3953.7
#2	2723.2	65735.	17151.	1888.4	3968.3
#3	2695.7	65582.	17161.	1870.4	3938.0

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: S4 Acquired: 5/19/2025 12:19:39 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.17851	.28790	.81871	.25325	.64090	.48869	13.350	.79813
Stddev	.00070	.00110	.00435	.00118	.00411	.00075	.076	.00284
%RSD	.39339	.38061	.53120	.46638	.64116	.15329	.56985	.35628
#1	.17828	.28779	.81535	.25292	.63847	.48941	13.402	.80089
#2	.17794	.28686	.81716	.25227	.63859	.48791	13.262	.79830
#3	.17929	.28905	.82362	.25456	.64565	.48874	13.384	.79521

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4.8972	.86256	.15061	1.7780	.76898	.02103	.92859	.27151
Stddev	.0214	.00194	.00063	.0083	.00427	.00019	.00355	.00107
%RSD	.43730	.22455	.42131	.46485	.55488	.90761	.38272	.39571
#1	4.8849	.86459	.15010	1.7727	.76649	.02082	.93235	.27162
#2	4.8848	.86074	.15132	1.7737	.76654	.02110	.92815	.27039
#3	4.9219	.86234	.15041	1.7875	.77391	.02118	.92528	.27253

Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.0348	.30178	.23858	.19072	5.5335	.16256	.97124	2.4473
Stddev	.0037	.00072	.00053	.00054	.0086	.00046	.00349	.0114
%RSD	.36186	.23805	.22349	.28540	.15460	.28230	.35954	.46752
#1	1.0323	.30129	.23817	.19134	5.5288	.16206	.97509	2.4399
#2	1.0330	.30261	.23918	.19035	5.5284	.16296	.97035	2.4415
#3	1.0391	.30145	.23840	.19046	5.5434	.16266	.96828	2.4605

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.39490	1.1343	.02297	.12979	.09213	2.7015	39.526
Stddev	.00170	.0034	.00022	.00018	.00029	.0111	.436
%RSD	.43106	.30359	.94866	.14018	.31982	.40942	1.1022
#1	.39437	1.1382	.02272	.12971	.09211	2.7141	40.029
#2	.39353	1.1328	.02306	.12965	.09185	2.6968	39.290
#3	.39681	1.1318	.02312	.12999	.09244	2.6935	39.259

Sample Name: S4 Acquired: 5/19/2025 12:19:39 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2696.9	63587.	18105.	1797.9	3891.3
Stddev	14.7	141.	71.	3.6	19.3
%RSD	.54346	.22228	.38951	.19920	.49580
#1	2709.9	63749.	18027.	1797.1	3909.8
#2	2699.8	63495.	18124.	1801.8	3892.7
#3	2681.0	63515.	18164.	1794.7	3871.3

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: S5 Acquired: 5/19/2025 12:23:52 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.37195	.58945	1.6747	.52608	1.3340	1.0226	26.848	1.6128
Stddev	.00157	.00628	.0075	.00181	.0020	.0008	.167	.0100
%RSD	.42286	1.0652	.44656	.34499	.15134	.07652	.62217	.62199
#1	.37013	.58250	1.6764	.52410	1.3318	1.0217	26.881	1.6074
#2	.37277	.59114	1.6665	.52648	1.3344	1.0228	26.667	1.6243
#3	.37294	.59471	1.6812	.52766	1.3358	1.0232	26.995	1.6066

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	10.064	1.7578	.30147	3.6608	1.5641	.04178	1.8734	.56162
Stddev	.041	.0051	.00083	.0154	.0030	.00012	.0075	.00123
%RSD	.40766	.28967	.27637	.42009	.19311	.29869	.39809	.21906
#1	10.055	1.7546	.30122	3.6567	1.5617	.04179	1.8671	.56129
#2	10.028	1.7637	.30080	3.6478	1.5631	.04165	1.8817	.56298
#3	10.109	1.7552	.30240	3.6778	1.5675	.04190	1.8716	.56059

Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.1225	.61195	.48385	.39274	11.054	.33262	1.9997	4.9765
Stddev	.0082	.00115	.00243	.00024	.054	.00210	.0128	.0112
%RSD	.38488	.18771	.50130	.06135	.48609	.63155	.63874	.22405
#1	2.1209	.61081	.48275	.39260	10.993	.33281	1.9898	4.9639
#2	2.1153	.61192	.48217	.39302	11.073	.33044	2.0141	4.9805
#3	2.1314	.61311	.48663	.39260	11.095	.33462	1.9952	4.9852

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.81262	2.3351	.04716	.27168	.19712	5.6906	79.621
Stddev	.00404	.0038	.00019	.00090	.00079	.0154	.515
%RSD	.49732	.16193	.39558	.32983	.40258	.27096	.64727
#1	.81208	2.3321	.04710	.27104	.19630	5.6731	79.388
#2	.80887	2.3394	.04702	.27129	.19718	5.6963	80.212
#3	.81690	2.3339	.04737	.27271	.19788	5.7022	79.263

Sample Name: S5 Acquired: 5/19/2025 12:23:52 Type: Cal
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2589.2	62697.	17442.	1707.9	3671.4
Stddev	4.6	231.	89.	11.1	14.7
%RSD	.17649	.36882	.50797	.64778	.39976
#1	2584.7	62769.	17525.	1719.6	3662.7
#2	2593.9	62884.	17349.	1706.4	3688.4
#3	2589.1	62439.	17452.	1697.6	3663.1

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: ICV01 Acquired: 5/19/2025 12:28:13 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9915151	1.031269	.9975837	1.011737	1.025434	2.512793
Stddev	.0090891	.013008	.0057500	.009068	.000874	.012515
%RSD	.9166866	1.261317	.5763930	.8962427	.0852570	.4980626
#1	1.001128	1.027335	1.004196	1.020134	1.026396	2.510683
#2	.990357	1.045789	.994803	1.012955	1.024687	2.501467
#3	.983060	1.020682	.993753	1.002122	1.025219	2.526229

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4931232	.5005357	.5084946	9.846849	.5188786	.5027919
Stddev	.0023915	.0020684	.0035094	.037156	.0028360	.0018097
%RSD	.4849666	.4132295	.6901464	.3773419	.5465694	.3599258
#1	.4906349	.5005398	.5119238	9.803964	.5190091	.5043723
#2	.4933302	.4984652	.5086499	9.869412	.5159795	.5031858
#3	.4954045	.5026019	.5049102	9.867171	.5216471	.5008178

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5147775	9.596178	.5105217	5.774955	.5039523	.2317084
Stddev	.0010677	.066868	.0029759	.018399	.0022969	.0008511
%RSD	.2074134	.6968149	.5829169	.3185985	.4557851	.3673178
#1	.5160077	9.535046	.5078506	5.756469	.5065584	.2307593
#2	.5140917	9.585898	.5099851	5.775131	.5030755	.2319620
#3	.5142330	9.667591	.5137294	5.793265	.5022228	.2324039

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.974612	.4973044	1.016417	9.364214	F .0091898	F .0012449
Stddev	.068919	.0025304	.007603	.052863	.0010936	.0003372
%RSD	.6909481	.5088284	.7480434	.5645231	11.90048	27.08628
#1	9.898468	.4976809	1.024690	9.322907	.0096282	.0011515
#2	9.992645	.4946068	1.009736	9.345945	.0099961	.0009642
#3	10.03272	.4996255	1.014824	9.423788	.0079449	.0016189

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: ICV01 Acquired: 5/19/2025 12:28:13 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.001719	F -.000065	F -.010375	F .0131112	F .0025330	F .0009465
Stddev	.000955	.000267	.003273	.0025822	.0065351	.0016243
%RSD	55.55658	413.7304	31.54592	19.69493	257.9979	171.6096
#1	-.002214	.000244	-.009992	.0159412	-.004818	-.000630
#2	-.002326	-.000206	-.013823	.0125096	.004733	.000854
#3	-.000618	-.000232	-.007311	.0108829	.007685	.002615

Elem	Sr4077
Units	ppm
Avg	F -.007785
Stddev	.000115
%RSD	1.478933
#1	-.007713
#2	-.007724
#3	-.007917

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2758.652	66408.98	17981.12	1853.740	4108.673
Stddev	11.616	154.42	72.49	12.408	10.576
%RSD	.4210596	.2325271	.4031428	.6693460	.2573999
#1	2771.927	66257.57	17919.00	1840.289	4120.439
#2	2753.670	66566.24	18060.76	1864.739	4099.959
#3	2750.358	66403.13	17963.59	1856.193	4105.620

Sample Name: LLICV01 Acquired: 5/19/2025 12:38:32 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LLICV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0181325	.0444481	.0111828	.0222377	.0544149	.1064768
Stddev	.0017351	.0018176	.0012589	.0020545	.0005228	.0034067
%RSD	9.569151	4.089242	11.25790	9.238833	.9607242	3.199496
#1	.0200684	.0427542	.0124671	.0233815	.0540421	.1069614
#2	.0167173	.0442220	.0111304	.0234657	.0541900	.1028537
#3	.0176119	.0463682	.0099508	.0198659	.0550124	.1096153

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0956505	.0063183	.0063063	2.039991	.0098455	.0300668
Stddev	.0014184	.0000581	.0000937	.001409	.0002385	.0002623
%RSD	1.482922	.9203432	1.486010	.0690807	2.421965	.8724326
#1	.0961244	.0063248	.0062498	2.041470	.0095919	.0301537
#2	.0967713	.0063729	.0064145	2.039837	.0100651	.0302746
#3	.0940558	.0062572	.0062547	2.038664	.0098795	.0297720

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0225521	.1013171	.0215651	2.127022	.0404236	.0105011
Stddev	.0001846	.0029125	.0003401	.016558	.0002198	.0000543
%RSD	.8183049	2.874681	1.577217	.7784434	.5437766	.5169849
#1	.0224548	.1003590	.0213238	2.113536	.0405141	.0104484
#2	.0227649	.0990043	.0219541	2.145502	.0401729	.0105569
#3	.0224366	.1045880	.0214174	2.122027	.0405837	.0104981

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.837826	.0412203	.0416784	1.881406	F .1255588	.2124019
Stddev	.027497	.0002558	.0000289	.008237	.0008673	.0010549
%RSD	1.496150	.6205522	.0694040	.4377865	.6907391	.4966703
#1	1.822311	.0413972	.0416769	1.872475	.1252920	.2133570
#2	1.821593	.0409270	.0416503	1.883041	.1265282	.2125790
#3	1.869574	.0413368	.0417081	1.888703	.1248563	.2112696

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: LLICV01 Acquired: 5/19/2025 12:38:32 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LLICV01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0411284	.0419117	.3851127	.0208410	.0210137	.0221063
Stddev	.0005211	.0005716	.0083280	.0001006	.0018853	.0004749
%RSD	1.267095	1.363765	2.162475	.4827523	8.971616	2.148293
#1	.0414449	.0413506	.3897989	.0209500	.0191873	.0222633
#2	.0414134	.0418913	.3754974	.0208212	.0209010	.0215727
#3	.0405269	.0424932	.3900419	.0207517	.0229528	.0224828

Elem	Sr4077
Units	ppm
Avg	.0206221
Stddev	.0000588
%RSD	.2850612
#1	.0205729
#2	.0206063
#3	.0206873

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2734.074	64716.10	17161.19	1847.639	4086.642
Stddev	17.671	139.81	110.07	6.469	16.216
%RSD	.6463189	.2160409	.6414139	.3500990	.3968145
#1	2717.679	64574.04	17160.59	1842.657	4069.304
#2	2731.752	64720.69	17051.42	1845.310	4089.186
#3	2752.791	64853.56	17271.56	1854.949	4101.436

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: ICB01 Acquired: 5/19/2025 12:44:07 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009254	.0027728	.0007226	-.001835	-.001001	.0063844	-.003283
Stddev	.0011101	.0019167	.0009096	.003421	.000519	.0029466	.000414
%RSD	119.9663	69.12538	125.8821	186.4364	51.78442	46.15275	12.59663
#1	-.000186	.0046316	.0001227	-.000584	-.001398	.0075955	-.002807
#2	.000928	.0028838	.0017693	-.005705	-.000415	.0085324	-.003496
#3	.002034	.0008030	.0002759	.000785	-.001192	.0030253	-.003548

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000036	.0000787	.0059484	-.000533	-.000150	-.000318	.0116629
Stddev	.000055	.0000838	.0030147	.000096	.000158	.000354	.0084439
%RSD	152.9017	106.5155	50.68042	18.08036	105.3696	111.1009	72.39946
#1	.000025	.0000043	.0062614	-.000644	-.000041	-.000617	.0196388
#2	-.000081	.0001695	.0087944	-.000478	-.000078	.000072	.0028182
#3	-.000052	.0000622	.0027895	-.000476	-.000331	-.000410	.0125317

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000538	.0118807	.0001104	.0003624	-.097071	.0008756	.0002999
Stddev	.000409	.0082933	.0002442	.0002139	.010955	.0007028	.0005487
%RSD	76.16416	69.80498	221.2020	59.03108	11.28533	80.27417	182.9498
#1	-.000997	.0028729	.0003030	.0001899	-.105755	.0000824	.0000506
#2	-.000211	.0191995	.0001925	.0002955	-.100694	.0014210	-.000080
#3	-.000404	.0135698	-.000164	.0006018	-.084763	.0011232	.000929

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.050125	.0055542	.0000391	.0002472	.0006846	-.008455	-.000700
Stddev	.031701	.0002653	.0000595	.0011048	.0008625	.004269	.004169
%RSD	63.24357	4.777178	152.2277	446.9984	125.9745	50.48883	595.4422
#1	-.038613	.0052541	-.000028	-.000139	.0013941	-.003584	.004028
#2	-.085974	.0057578	.000086	-.000613	.0009352	-.010238	-.003850
#3	-.025789	.0056507	.000059	.001493	-.000275	-.011543	-.002279

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: ICB01 Acquired: 5/19/2025 12:44:07 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0012606	-.000314	-.000032
Stddev	.0046260	.000675	.000073
%RSD	366.9809	215.2208	226.8382
#1	.0066014	-.000011	-.000116
#2	-.001489	.000157	-.000000
#3	-.001331	-.001087	.000019

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2774.588	66068.51	18347.11	1875.011	4201.159
Stddev	2.882	128.61	73.20	8.297	8.446
%RSD	.1038735	.1946567	.3989514	.4425270	.2010462
#1	2775.170	65931.17	18290.40	1866.053	4206.988
#2	2771.459	66186.11	18321.21	1882.434	4191.472
#3	2777.134	66088.24	18429.74	1876.546	4205.015

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CRI01 Acquired: 5/19/2025 12:48:27 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0197112	.0428692	.0128264	.0238606	.0524935	.1132018	.0961515
Stddev	.0029701	.0030345	.0006294	.0018682	.0008932	.0044934	.0013418
%RSD	15.06829	7.078501	4.907417	7.829689	1.701475	3.969355	1.395524
#1	.0188661	.0408210	.0127784	.0233082	.0531369	.1180567	.0957306
#2	.0230123	.0463553	.0122223	.0259427	.0528699	.1123597	.0950706
#3	.0172552	.0414311	.0134784	.0223308	.0514738	.1091891	.0976533

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0060956	.0063316	2.046335	.0101360	.0299745	.0226933	.1022256
Stddev	.0000162	.0000926	.014274	.0003490	.0001731	.0002739	.0014454
%RSD	.2654663	1.461966	.6975601	3.442859	.5776373	1.207020	1.413902
#1	.0061129	.0062776	2.045580	.0098731	.0300126	.0225852	.1033858
#2	.0060809	.0064385	2.060972	.0100030	.0297855	.0224900	.1006065
#3	.0060929	.0062787	2.032453	.0105320	.0301255	.0230048	.1026846

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0214071	2.140908	.0399865	.0103144	1.891332	.0431513	.0423386
Stddev	.0001901	.013490	.0003434	.0003440	.019607	.0011981	.0006116
%RSD	.8882448	.6301081	.8586533	3.335009	1.036702	2.776409	1.444545
#1	.0213464	2.149806	.0398997	.0107052	1.904773	.0441058	.0425920
#2	.0216202	2.147531	.0403649	.0101808	1.868833	.0435413	.0427827
#3	.0212547	2.125386	.0396949	.0100573	1.900390	.0418069	.0416410

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.952502	.1132995	.2113794	.0417057	.0417921	.3974516	.0234222
Stddev	.027465	.0007286	.0016858	.0005190	.0004172	.0014242	.0007329
%RSD	1.406665	.6431157	.7975331	1.244349	.9982424	.3583323	3.129116
#1	1.933946	.1141397	.2095917	.0422801	.0422214	.3974745	.0226032
#2	1.939507	.1128402	.2116061	.0412706	.0413881	.3960162	.0236472
#3	1.984053	.1129187	.2129404	.0415664	.0417667	.3988643	.0240163

Sample Name: CRI01 Acquired: 5/19/2025 12:48:27 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0200002	.0214720	.0207433
Stddev	.0029878	.0010255	.0001118
%RSD	14.93878	4.775859	.5389267
#1	.0202761	.0219111	.0207256
#2	.0168840	.0203000	.0208629
#3	.0228404	.0222047	.0206414

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2721.292	64872.47	17770.10	1846.706	4042.502
Stddev	11.898	51.07	34.56	1.087	19.444
%RSD	.4372351	.0787271	.1944697	.0588836	.4809873
#1	2734.265	64890.34	17793.36	1846.707	4064.606
#2	2718.723	64912.21	17730.39	1845.618	4034.859
#3	2710.888	64814.87	17786.55	1847.792	4028.041

Sample Name: ICSA01 Acquired: 5/19/2025 12:52:45 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0052074	.0094157	-.000586	.0045196	-.000956	244.7421
Stddev	.0068029	.0035385	.002525	.0034589	.002240	.7826
%RSD	130.6380	37.58061	431.1088	76.53136	234.4271	.3197749
#1	.0058266	.0078686	-.002366	.0065115	.000704	243.8387
#2	.0116796	.0069143	.002304	.0005256	-.000067	245.2127
#3	-.001884	.0134643	-.001695	.0065216	-.003504	245.1750

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0042618	.0005795	-.004223	232.1958	.0555462	.0013329
Stddev	.0017871	.0000101	.000162	1.1703	.0003652	.0003511
%RSD	41.93402	1.748256	3.832232	.5040125	.6574662	26.33792
#1	.0024133	.0005772	-.004294	230.9497	.0555994	.0010551
#2	.0043915	.0005708	-.004338	232.3662	.0558819	.0017275
#3	.0059806	.0005906	-.004038	233.2716	.0551574	.0012161

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0093296	99.03981	.0047495	247.1661	.0019934	-.000749
Stddev	.0003209	.47166	.0004706	1.2071	.0005325	.000518
%RSD	3.439208	.4762361	9.908669	.4883897	26.71495	69.06825
#1	.0096997	98.53505	.0042377	246.0451	.0014261	-.000989
#2	.0091589	99.46934	.0051635	247.0094	.0020715	-.000155
#3	.0091302	99.11505	.0048474	248.4440	.0024825	-.001104

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.058159	.0029980	.0021375	-.022997	F -.205337	.0001278
Stddev	.019000	.0016055	.0005146	.059081	.001585	.0011992
%RSD	32.66844	53.55126	24.07591	256.9136	.7720779	938.5383
#1	-.078370	.0036526	.0025225	-.045986	-.206118	.0012743
#2	-.040662	.0041728	.0015530	-.067128	-.203513	-.001118
#3	-.055447	.0011687	.0023370	.044124	-.206380	.000227

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: ICSA01 Acquired: 5/19/2025 12:52:45 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.007686	-.001207	-.006032	-.000344	F -.020929	.0022416
Stddev	.000282	.001188	.004800	.003365	.003999	.0006046
%RSD	3.670881	98.41318	79.56875	978.9850	19.10544	26.97060
#1	-.007743	-.001504	-.002740	.003539	-.023697	.0029206
#2	-.007935	.000101	-.011539	-.002148	-.016345	.0020426
#3	-.007380	-.002219	-.003816	-.002422	-.022745	.0017617

Elem	Sr4077
Units	ppm
Avg	.0041578
Stddev	.0001662
%RSD	3.997732
#1	.0043128
#2	.0039822
#3	.0041783

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2470.282	59711.46	18027.95	1681.682	3470.153
Stddev	7.092	179.03	68.91	10.922	8.830
%RSD	.2871050	.2998291	.3822324	.6494517	.2544680
#1	2475.027	59908.53	18099.17	1694.219	3469.093
#2	2473.689	59558.85	18023.07	1674.227	3479.467
#3	2462.129	59666.99	17961.61	1676.601	3461.901

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: ICSAB01 Acquired: 5/19/2025 12:57:41 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1147047	.1079386	.0494996	.0580320	.6343828	247.5380
Stddev	.0012457	.0030461	.0012541	.0073033	.0024666	.6302
%RSD	1.086013	2.822042	2.533446	12.58494	.3888234	.2545706
#1	.1151133	.1114536	.0495629	.0602187	.6322595	248.2522
#2	.1156948	.1062913	.0482151	.0639922	.6338003	247.0602
#3	.1133060	.1060709	.0507208	.0498852	.6370885	247.3017

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4809123	.5177178	1.031104	229.2791	.5709151	.5090207
Stddev	.0023122	.0014024	.001083	.8521	.0002865	.0016362
%RSD	.4808002	.2708867	.1050276	.3716493	.0501801	.3214325
#1	.4804669	.5193370	1.029969	230.1330	.5710096	.5084484
#2	.4788552	.5168856	1.032126	228.4287	.5711424	.5108661
#3	.4834149	.5169309	1.031217	229.2755	.5705933	.5077476

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5122277	93.97648	.4889457	246.9887	1.007394	.2133306
Stddev	.0011552	.35639	.0007487	1.1988	.000364	.0006517
%RSD	.2255162	.3792344	.1531330	.4853711	.0361318	.3054993
#1	.5108947	93.89977	.4896062	248.3056	1.007711	.2138230
#2	.5128532	93.66469	.4881324	245.9608	1.007473	.2125916
#3	.5129352	94.36498	.4890987	246.6997	1.006996	.2135773

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.011872	.4842073	1.054909	-.011576	F .4256223	F .6707167
Stddev	.001478	.0010417	.003060	.014289	.0029599	.0019548
%RSD	12.45300	.2151445	.2900474	123.4387	.6954402	.2914502
#1	-.010165	.4833502	1.051736	-.018395	.4290237	.6716226
#2	-.012711	.4839050	1.055151	-.021178	.4242117	.6720541
#3	-.012741	.4853668	1.057841	.004845	.4236316	.6684732

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: ICSAB01 Acquired: 5/19/2025 12:57:41 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .6616568	F .6379856	F .6026069	F .0068504	F -.014280	F .0012173
Stddev	.0012861	.0020146	.0045162	.0009203	.001793	.0002913
%RSD	.1943713	.3157767	.7494407	13.43440	12.55854	23.92565
#1	.6630497	.6385616	.5976321	.0057929	-.015475	.0008902
#2	.6605145	.6357457	.6037396	.0072883	-.012218	.0013133
#3	.6614061	.6396495	.6064488	.0074700	-.015148	.0014485

Elem	Sr4077
Units	ppm
Avg	F .0068748
Stddev	.0000728
%RSD	1.058695
#1	.0068504
#2	.0069567
#3	.0068174

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2455.383	58372.18	17005.23	1627.122	3452.684
Stddev	3.826	149.65	83.93	5.893	6.010
%RSD	.1558058	.2563660	.4935561	.3621789	.1740744
#1	2452.295	58227.28	16916.21	1622.033	3447.623
#2	2454.192	58526.16	17082.92	1633.579	3451.103
#3	2459.662	58363.10	17016.57	1625.755	3459.327

Sample Name: ICSADLX20 Acquired: 5/19/2025 13:03:28 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000429	.0013482	.0000244	-.002932	.0011413	12.27972	-.000940
Stddev	.001663	.0001359	.0013488	.004722	.0004732	.01281	.001517
%RSD	387.6483	10.07947	5525.578	161.0224	41.46400	.1043226	161.3217
#1	-.002341	.0012578	.0015812	.000816	.0009193	12.27853	-.000272
#2	.000677	.0015045	-.000714	-.008235	.0008199	12.26755	-.002677
#3	.000377	.0012823	-.000794	-.001378	.0016847	12.29309	.000128

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000257	-.000215	12.06076	.0024383	-.000007	.0003815	4.810076
Stddev	.0000508	.000083	.03587	.0000892	.000220	.0003177	.011525
%RSD	198.1206	38.49681	.2973783	3.657967	3063.070	83.28781	.2395990
#1	.0000174	-.000310	12.02127	.0025237	-.000253	.0003264	4.813015
#2	.0000801	-.000174	12.06969	.0023458	.000060	.0007232	4.797366
#3	-.000021	-.000160	12.09132	.0024455	.000171	.0000949	4.819846

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001119	12.31042	.0000047	.0002720	-.205330	.0002699	.0002949
Stddev	.000160	.04606	.0002738	.0001297	.001190	.0009072	.0000419
%RSD	14.26384	.3741386	5770.713	47.66935	.5795370	336.1125	14.21015
#1	-.001097	12.26852	-.000011	.0002924	-.205083	.0009078	.0003017
#2	-.000971	12.30302	.000286	.0003902	-.206623	-.000769	.0003331
#3	-.001288	12.35974	-.000261	.0001333	-.204282	.000671	.0002501

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.078154	-.011467	.0002079	-.000748	-.000369	-.010006	.0002412
Stddev	.015000	.001849	.0004145	.001142	.000730	.006861	.0014598
%RSD	19.19239	16.12374	199.3580	152.7596	197.6945	68.56644	605.2995
#1	-.077268	-.009337	-.000195	.000401	.000470	-.016479	.0011546
#2	-.063617	-.012402	.000633	-.001883	-.000716	-.002814	.0010113
#3	-.093577	-.012661	.000185	-.000761	-.000861	-.010726	-.001442

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: ICSADLX20 Acquired: 5/19/2025 13:03:28 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.004819	-.000729	.0004239
Stddev	.000746	.000619	.0000424
%RSD	15.48022	85.00020	9.990736
#1	-.004324	-.001181	.0004513
#2	-.004457	-.000982	.0003751
#3	-.005677	-.000023	.0004454

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2735.901	64427.34	17512.82	1852.344	4060.099
Stddev	7.123	117.35	69.87	8.289	10.001
%RSD	.2603431	.1821359	.3989525	.4475004	.2463325
#1	2728.836	64464.82	17590.61	1859.330	4051.049
#2	2743.080	64521.37	17492.47	1854.518	4070.837
#3	2735.788	64295.84	17455.39	1843.185	4058.411

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: ICSABDLX20 Acquired: 5/19/2025 13:08:17 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004736	.0059017	.0030573	.0030904	.0317072	12.15203	.0237884
Stddev	.0023814	.0014233	.0017168	.0030933	.0012646	.00353	.0005021
%RSD	502.8080	24.11742	56.15308	100.0931	3.988390	.0290833	2.110828
#1	.0031714	.0070195	.0041032	.0029101	.0331661	12.15013	.0243171
#2	-.001336	.0063861	.0010760	.0000912	.0309229	12.14986	.0233179
#3	-.000414	.0042994	.0039929	.0062700	.0310327	12.15611	.0237301

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0266778	.0528605	11.95011	.0274074	.0258535	.0273540	4.662806
Stddev	.0001182	.0026204	.04415	.0007634	.0013476	.0010989	.042538
%RSD	.4431072	4.957184	.3694942	2.785219	5.212369	4.017414	.9122737
#1	.0265939	.0558857	11.94885	.0265342	.0273739	.0285814	4.652304
#2	.0266264	.0513011	11.99488	.0279483	.0248063	.0270192	4.709610
#3	.0268129	.0513945	11.90660	.0277398	.0253805	.0264614	4.626503

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0247851	12.20681	.0511046	.0104894	-.198318	.0253478	.0518877
Stddev	.0006447	.06918	.0021532	.0005000	.025548	.0004958	.0006753
%RSD	2.601144	.5667451	4.213357	4.766539	12.88213	1.955817	1.301402
#1	.0240701	12.24587	.0535469	.0102501	-.191951	.0248442	.0511310
#2	.0249632	12.24762	.0494800	.0110641	-.176556	.0253638	.0524290
#3	.0253221	12.12693	.0502869	.0101540	-.226447	.0258353	.0521032

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.077628	.0222734	.0346854	.0325199	.0340172	.0122266	-.003769
Stddev	.018787	.0004611	.0021751	.0019947	.0002595	.0040914	.002859
%RSD	24.20078	2.070343	6.271061	6.133710	.7627843	33.46338	75.86299
#1	-.085094	.0227148	.0371955	.0348123	.0338670	.0076198	-.002459
#2	-.091533	.0223105	.0333544	.0315672	.0338678	.0136228	-.007048
#3	-.056256	.0217948	.0335063	.0311803	.0343168	.0154372	-.001799

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: ICSABDLX20 Acquired: 5/19/2025 13:08:17 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0009267	-.001326	.0005208
Stddev	.0060532	.000922	.0000850
%RSD	653.1675	69.53967	16.31474
#1	-.006033	-.001181	.0005448
#2	.004965	-.002313	.0004264
#3	.003849	-.000485	.0005911

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2672.685	66117.13	17497.80	1877.967	3962.000
Stddev	100.927	382.70	26.38	15.062	148.883
%RSD	3.776226	.5788188	.1507893	.8020568	3.757782
#1	2556.148	66265.72	17515.87	1885.745	3790.298
#2	2731.732	65682.42	17510.00	1860.606	4055.275
#3	2730.174	66403.25	17467.52	1887.551	4040.426

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCV01 Acquired: 5/19/2025 13:15:29 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.116515	5.223504	5.088510	5.175811	5.121773	10.34680	10.14477
Stddev	.003964	.082094	.023356	.027633	.013404	.03691	.12943
%RSD	.0774700	1.571627	.4589957	.5338778	.2616998	.3567640	1.275832
#1	5.114531	5.268901	5.064606	5.207417	5.107404	10.34601	10.29227
#2	5.113935	5.272873	5.089648	5.156218	5.123979	10.31029	10.09187
#3	5.121079	5.128738	5.111277	5.163798	5.133938	10.38410	10.05016

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2685843	2.544370	25.40289	1.018755	2.550175	1.294421	4.983899
Stddev	.0007100	.004818	.03647	.002063	.006396	.003552	.007488
%RSD	.2643542	.1893696	.1435649	.2024924	.2508073	.2743775	.1502511
#1	.2685821	2.539247	25.44476	1.017241	2.544411	1.293700	4.979690
#2	.2678755	2.545054	25.37806	1.017921	2.549058	1.291284	4.979462
#3	.2692955	2.548811	25.38585	1.021105	2.557056	1.298277	4.992545

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.575189	25.30350	2.550918	1.281723	25.02189	2.535575	2.595751
Stddev	.006140	.04035	.007351	.002463	.11088	.003328	.007483
%RSD	.2384383	.1594833	.2881531	.1921306	.4431275	.1312635	.2882980
#1	2.580580	25.25699	2.544938	1.279319	25.12605	2.536240	2.587259
#2	2.568505	25.32428	2.548692	1.281610	24.90533	2.531964	2.598615
#3	2.576481	25.32923	2.559124	1.284241	25.03431	2.538520	2.601381

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.86031	5.348108	5.121199	5.100571	5.095125	4.895373	5.220491
Stddev	.07913	.013283	.009077	.012699	.018469	.036031	.010924
%RSD	.3183122	.2483753	.1772432	.2489796	.3624895	.7360242	.2092467
#1	24.92519	5.359088	5.116282	5.086004	5.108825	4.858719	5.209784
#2	24.77215	5.333343	5.115641	5.109308	5.074120	4.896654	5.231619
#3	24.88359	5.351893	5.131674	5.106402	5.102428	4.930747	5.220069

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCV01 Acquired: 5/19/2025 13:15:29 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.160591	5.257215	5.126062
Stddev	.008439	.037310	.022731
%RSD	.1635253	.7096874	.4434461
#1	5.169599	5.285109	5.150527
#2	5.159307	5.214834	5.122065
#3	5.152868	5.271700	5.105594

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2637.788	63139.01	16859.66	1786.327	3791.003
Stddev	12.801	43.16	35.26	1.432	18.382
%RSD	.4852848	.0683530	.2091588	.0801513	.4848963
#1	2648.078	63184.78	16822.51	1787.912	3809.557
#2	2641.832	63133.21	16892.67	1785.126	3790.653
#3	2623.453	63099.05	16863.80	1785.943	3772.798

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCB01 Acquired: 5/19/2025 13:23:34 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010266	-.000004	-.000043	-.002277	-.000243	.0151797	-.002196
Stddev	.0003917	.000373	.001980	.000755	.001958	.0032831	.001321
%RSD	38.15210	10220.70	4570.779	33.15169	807.4013	21.62844	60.16164
#1	.0005876	-.000212	.000211	-.001752	-.001895	.0115772	-.001357
#2	.0011520	-.000226	.001797	-.003143	-.000752	.0159584	-.003719
#3	.0013403	.000427	-.002138	-.001937	.001920	.0180034	-.001513

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000030	.0000881	.0065089	-.000491	.0002558	-.000129	.0089113
Stddev	.000007	.0000255	.0065799	.000268	.0003297	.000081	.0054697
%RSD	22.59339	28.94357	101.0914	54.52282	128.8747	63.05072	61.37866
#1	-.000023	.0001089	.0033911	-.000731	.0005778	-.000039	.0035657
#2	-.000036	.0000597	.0140682	-.000539	-.000081	-.000152	.0144971
#3	-.000030	.0000959	.0020673	-.000203	.000271	-.000196	.0086711

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000598	.0076682	.0003142	-.000065	-.182196	.0019492	.0049371
Stddev	.000162	.0100418	.0001453	.000403	.018218	.0011865	.0002093
%RSD	27.04095	130.9551	46.24960	617.2782	9.999394	60.87227	4.238814
#1	-.000420	-.003885	.0001656	-.000453	-.182264	.0029770	.0047606
#2	-.000637	.012593	.0003210	.000352	-.163944	.0006507	.0051683
#3	-.000737	.014297	.0004559	-.000094	-.200380	.0022198	.0048824

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.094133	.0060279	.0004665	.0012028	.0011054	-.009180	.0008639
Stddev	.007344	.0004390	.0001468	.0007627	.0001306	.014255	.0041249
%RSD	7.801442	7.282171	31.46345	63.40805	11.81547	155.2843	477.4950
#1	-.085928	.0055580	.0004567	.0014094	.0011787	-.002076	.0010841
#2	-.100088	.0060982	.0003249	.0018410	.0009546	-.025591	.0048742
#3	-.096384	.0064275	.0006179	.0003581	.0011829	.000127	-.003367

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCB01 Acquired: 5/19/2025 13:23:34 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0007768	-.000113	.0001323
Stddev	.0031027	.000733	.0000244
%RSD	399.4104	647.0995	18.42749
#1	-.000043	-.000954	.0001541
#2	-.001834	.000393	.0001367
#3	.004207	.000221	.0001060

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2754.566	65156.48	18358.77	1852.814	4131.327
Stddev	8.585	152.72	68.02	8.156	7.843
%RSD	.3116807	.2343961	.3705041	.4401924	.1898397
#1	2744.986	64980.77	18285.71	1843.601	4123.589
#2	2761.565	65257.36	18420.26	1855.732	4139.271
#3	2757.147	65231.30	18370.36	1859.110	4131.120

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2038-02 Acquired: 5/19/2025 13:27:53 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004058	-.003593	.0006213	.0001254	.0012198	.0559436	.3409314
Stddev	.004082	.002889	.0013575	.0017812	.0016036	.0029415	.0004004
%RSD	100.5968	80.40869	218.4842	1420.812	131.4666	5.258036	.1174304
#1	.000386	-.006410	-.000811	.0011179	.0030711	.0578146	.3413789
#2	-.004918	-.003734	.000785	-.001931	.0003261	.0525531	.3408080
#3	-.007640	-.000636	.001890	.001189	.0002621	.0574631	.3406072

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000781	.0007425	66.00215	-.000675	.0000463	.0122745	.0080914
Stddev	.0000478	.0000490	.06481	.000193	.0001208	.0002783	.0023058
%RSD	61.18261	6.599662	.0982005	28.59215	260.9386	2.266972	28.49738
#1	.0000518	.0007689	66.04835	-.000476	.0000103	.0125656	.0054779
#2	.0001332	.0007726	66.03004	-.000689	-.000052	.0120111	.0089577
#3	.0000492	.0006859	65.92806	-.000861	.000181	.0122467	.0098386

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6018063	3.266240	.0047180	-.000007	321.6616	-.000093	.0742137
Stddev	.0023784	.015489	.0002254	.000089	1.0617	.000500	.0001881
%RSD	.3952095	.4742135	4.778007	1274.097	.3300752	540.3119	.2535301
#1	.6037954	3.249631	.0048145	.000079	321.8145	-.000311	.0741937
#2	.5991718	3.268798	.0048791	-.000098	322.6386	-.000446	.0740363
#3	.6024517	3.280290	.0044604	-.000002	320.5317	.000480	.0744110

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.610413	.0354456	.0005905	-.004582	-.001723	.8833223	.0195460
Stddev	.026497	.0007658	.0001498	.001319	.000220	.0044532	.0033997
%RSD	1.645383	2.160341	25.36457	28.79284	12.75287	.5041395	17.39301
#1	1.628194	.0345706	.0007142	-.003610	-.001746	.8792196	.0209475
#2	1.579959	.0359934	.0004240	-.006084	-.001930	.8880581	.0156697
#3	1.623086	.0357728	.0006332	-.004052	-.001492	.8826891	.0220209

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2038-02 Acquired: 5/19/2025 13:27:53 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.3345604	-.010697	.1764877
Stddev	.0060125	.000323	.0006500
%RSD	1.797131	3.023515	.3682732
#1	.3307994	-.010948	.1771900
#2	.3313870	-.010811	.1759074
#3	.3414947	-.010332	.1763656

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2588.419	62521.54	18430.41	1758.186	3671.584
Stddev	5.438	283.30	28.15	13.145	10.778
%RSD	.2100871	.4531241	.1527596	.7476219	.2935630
#1	2582.577	62848.67	18399.69	1772.514	3660.280
#2	2589.345	62359.49	18454.99	1755.358	3672.724
#3	2593.334	62356.48	18436.54	1746.685	3681.746

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2017-04 Acquired: 5/19/2025 13:32:18 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005322	-.005108	.0022645	.0063983	.0004457	.0759384	.3014445
Stddev	.002555	.002617	.0018319	.0032397	.0017425	.0038654	.0019237
%RSD	48.01173	51.23807	80.89714	50.63426	390.9562	5.090129	.6381555
#1	-.006385	-.003635	.0028769	.0032914	.0015162	.0762279	.3032049
#2	-.007175	-.008130	.0002048	.0097562	-.001565	.0796508	.3017375
#3	-.002407	-.003559	.0037118	.0061471	.001386	.0719364	.2993911

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000824	.0022566	13.34526	-.000487	.0003079	.0368012	.0134505
Stddev	.0000051	.0001372	.04835	.000216	.0000902	.0002101	.0008532
%RSD	6.196600	6.080510	.3623164	44.43960	29.28752	.5709282	6.343055
#1	.0000883	.0022488	13.37952	-.000253	.0004050	.0365589	.0124663
#2	.0000798	.0021234	13.36632	-.000528	.0002923	.0369321	.0139799
#3	.0000791	.0023975	13.28995	-.000680	.0002266	.0369127	.0139054

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3736026	1.178302	.0012464	.0000611	402.0955	.0019624	.0893243
Stddev	.0003903	.030590	.0004451	.0004420	2.5878	.0011297	.0010809
%RSD	.1044605	2.596102	35.70667	722.9733	.6435713	57.56590	1.210052
#1	.3738084	1.177359	.0017598	-.000053	399.1506	.0025770	.0880903
#2	.3738470	1.209352	.0010102	-.000313	404.0064	.0006587	.0897795
#3	.3731526	1.148194	.0009693	.000549	403.1294	.0026515	.0901031

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6781256	.0338543	.0001461	-.002089	.0013969	.6244882	.0368938
Stddev	.0392865	.0006050	.0005161	.001292	.0003234	.0179836	.0029320
%RSD	5.793390	1.787055	353.1582	61.84184	23.14897	2.879732	7.946997
#1	.6971198	.0339395	-.000073	-.000679	.0013181	.6353739	.0347467
#2	.6329516	.0344122	-.000224	-.003216	.0017525	.6037307	.0402343
#3	.7043054	.0332112	.000736	-.002372	.0011203	.6343599	.0357005

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2017-04 Acquired: 5/19/2025 13:32:18 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2927280	-.003359	.0730200
Stddev	.0058936	.001421	.0002081
%RSD	2.013321	42.28801	.2849393
#1	.2859785	-.001820	.0732554
#2	.2968558	-.003636	.0729439
#3	.2953496	-.004621	.0728607

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2583.000	61575.56	17403.79	1703.390	3659.131
Stddev	15.807	308.81	67.70	10.671	19.479
%RSD	.6119444	.5015106	.3889896	.6264330	.5323372
#1	2594.828	61926.86	17391.63	1714.890	3677.402
#2	2589.125	61452.83	17343.00	1701.473	3661.356
#3	2565.048	61346.98	17476.74	1693.809	3638.635

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2017-08 Acquired: 5/19/2025 13:36:45 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004334	-.001505	.0015283	.0030549	.0014697	.0162544	.2413812
Stddev	.003518	.003186	.0005314	.0009371	.0017203	.0062805	.0003535
%RSD	81.17101	211.7342	34.77386	30.67581	117.0506	38.63893	.1464440
#1	-.007912	-.003691	.0010253	.0020939	.0019325	.0232812	.2409739
#2	-.004213	.002150	.0020842	.0039662	-.000435	.0111875	.2416084
#3	-.000878	-.002973	.0014754	.0031044	.002911	.0142944	.2415613

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000025	.0001280	6.043023	-.000929	-.000061	.0126728	.0137408
Stddev	.000036	.0000576	.026183	.000238	.000248	.0003583	.0032343
%RSD	145.9851	44.97858	.4332698	25.62233	409.4938	2.827403	23.53800
#1	-.000045	.0001527	6.053056	-.001074	-.000113	.0126079	.0174163
#2	.000017	.0000622	6.013307	-.000655	-.000279	.0130592	.0124765
#3	-.000046	.0001691	6.062705	-.001060	.000209	.0123514	.0113296

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0150034	.9502664	.0004776	.0002201	366.9839	.0024799	.0561383
Stddev	.0000972	.0152072	.0000676	.0001660	.3895	.0019453	.0005985
%RSD	.6478975	1.600310	14.16079	75.43053	.1061320	78.44480	1.066169
#1	.0149301	.9482982	.0004241	.0003432	366.5361	.0020432	.0554505
#2	.0151137	.9663618	.0005537	.0002857	367.2440	.0046064	.0565408
#3	.0149663	.9361391	.0004551	.0000313	367.1716	.0007900	.0564237

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5543368	.0325179	-.000006	-.002511	.0007374	.3096419	.0802748
Stddev	.0055747	.0005033	.000351	.000409	.0003713	.0130390	.0041318
%RSD	1.005652	1.547687	5835.954	16.27430	50.35579	4.210984	5.147086
#1	.5556070	.0321245	-.000232	-.002041	.0004059	.2971597	.0786321
#2	.5591669	.0323442	-.000185	-.002780	.0011386	.3085918	.0772170
#3	.5482367	.0330850	.000398	-.002711	.0006677	.3231741	.0849754

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2017-08 Acquired: 5/19/2025 13:36:45 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.3196884	-.003565	.0395248
Stddev	.0059390	.001772	.0002408
%RSD	1.857735	49.72016	.6092267
#1	.3178017	-.002194	.0392637
#2	.3149221	-.002934	.0395727
#3	.3263416	-.005566	.0397380

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2591.867	62552.19	17723.38	1730.699	3706.490
Stddev	6.176	109.42	36.09	6.378	2.039
%RSD	.2382948	.1749223	.2036143	.3685284	.0550090
#1	2598.988	62678.24	17726.29	1737.942	3708.748
#2	2587.967	62496.66	17757.92	1725.925	3705.938
#3	2588.646	62481.67	17685.93	1728.229	3704.785

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2035-01 Acquired: 5/19/2025 13:41:11 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0189268	-.006254	.9833605	-.006230	-.001971	39.64002
Stddev	.0019266	.001530	.0052572	.001199	.000740	.05605
%RSD	10.17912	24.46114	.5346135	19.24210	37.56797	.1414080
#1	.0193492	-.005006	.9838197	-.004965	-.002793	39.70468
#2	.0168240	-.005796	.9883730	-.006376	-.001764	39.60530
#3	.0206071	-.007961	.9778888	-.007350	-.001356	39.61007

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0684949	.0176697	.0229025	159.6195	.0861751	.2481399
Stddev	.0002229	.0000765	.0000492	.2803	.0004276	.0011973
%RSD	.3254457	.4330687	.2150281	.1756286	.4962021	.4825087
#1	.0682640	.0176743	.0229577	159.5049	.0860838	.2493698
#2	.0687088	.0177438	.0228631	159.9390	.0858005	.2480717
#3	.0685118	.0175910	.0228868	159.4147	.0866410	.2469781

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8641024	29.69801	13.14367	54.86920	.2403461	-.002156
Stddev	.0025283	.04627	.02122	.16586	.0007437	.000244
%RSD	.2925912	.1557982	.1614573	.3022737	.3094353	11.32232
#1	.8642247	29.64459	13.15141	54.74225	.2408517	-.001951
#2	.8615152	29.72445	13.15994	55.05685	.2406945	-.002426
#3	.8665674	29.72500	13.11967	54.80849	.2394921	-.002091

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.365909	.2644133	4.379349	13.86718	.4004871	-.001201
Stddev	.036527	.0011374	.017693	.01509	.0006190	.000497
%RSD	.6807230	.4301514	.4040062	.1088031	.1545728	41.42651
#1	5.398183	.2641506	4.367908	13.88455	.4001961	-.000704
#2	5.373288	.2656591	4.399728	13.85735	.4000673	-.001698
#3	5.326256	.2634303	4.370411	13.85964	.4011981	-.001200

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2035-01 Acquired: 5/19/2025 13:41:11 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.007064	.0203456	F 33.92143	2.607092	F 344.8484	.0434424
Stddev	.000362	.0004500	.11477	.022383	1.4718	.0007390
%RSD	5.120888	2.211776	.3383476	.8585457	.4268024	1.701106
#1	-.007204	.0208107	33.82012	2.613860	344.4064	.0432277
#2	-.007335	.0199123	33.89809	2.625310	346.4906	.0442650
#3	-.006653	.0203137	34.04608	2.582106	343.6483	.0428346

Elem	Sr4077
Units	ppm
Avg	.5713297
Stddev	.0023545
%RSD	.4121102
#1	.5735242
#2	.5716222
#3	.5688426

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3614.702	90644.24	23534.36	2500.300	3766.747
Stddev	25.440	336.65	64.87	13.490	18.114
%RSD	.7037899	.3713946	.2756516	.5395390	.4808796
#1	3615.591	91032.83	23562.42	2505.172	3765.957
#2	3639.685	90440.88	23460.18	2485.050	3785.242
#3	3588.828	90459.02	23580.48	2510.677	3749.041

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2043-03DLX2 Acquired: 5/19/2025 13:45:24 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0525862	-.000559	131.6759	-.002348	1.095046	63.82205
Stddev	.0047071	.001783	.2368	.002806	.001030	.08309
%RSD	8.951261	318.7146	.1798549	119.5330	.0940644	.1301949
#1	.0578957	.000944	131.9126	-.004061	1.094779	63.86151
#2	.0489244	-.002529	131.6760	.000891	1.094176	63.72658
#3	.0509385	-.000093	131.4390	-.003873	1.096184	63.87806

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4479595	.0217977	.0051757	48.86384	.2479067	.1435419
Stddev	.0012345	.0001685	.0001457	.30048	.0006076	.0004057
%RSD	.2755748	.7730007	2.814440	.6149277	.2450704	.2826340
#1	.4491514	.0219773	.0050686	49.02533	.2485498	.1439166
#2	.4466864	.0216431	.0051169	48.51715	.2478281	.1435980
#3	.4480407	.0217727	.0053416	49.04905	.2473423	.1431110

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	39.22019	73.78317	1.529381	65.57725	.1727787	.0155614
Stddev	.05198	.21091	.005734	.38798	.0009042	.0002959
%RSD	.1325348	.2858489	.3749415	.5916411	.5233378	1.901261
#1	39.28021	73.66929	1.533112	65.73686	.1734031	.0154498
#2	39.18980	74.02654	1.522778	65.13492	.1731913	.0158969
#3	39.19057	73.65368	1.532252	65.85998	.1717418	.0153377

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.204871	.2386404	1.930389	10.02377	-.143307	.0017687
Stddev	.028801	.0015607	.009792	.07259	.000427	.0002191
%RSD	.8986753	.6539938	.5072794	.7242041	.2978080	12.38519
#1	3.187632	.2397365	1.938370	10.03707	-.143581	.0019727
#2	3.238120	.2368535	1.933335	10.08879	-.143525	.0017963
#3	3.188860	.2393311	1.919461	9.94545	-.142816	.0015372

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2043-03DLX2 Acquired: 5/19/2025 13:45:24 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 36.17970	.2882869	1.010928	F 21.26247	2.068369	.0618285
Stddev	.09496	.0012808	.009865	.04369	.006929	.0004415
%RSD	.2624737	.4442753	.9757884	.2055002	.3350012	.7140808
#1	36.26967	.2889479	1.017443	21.31275	2.075177	.0620995
#2	36.18899	.2868107	1.015762	21.23373	2.061325	.0620669
#3	36.08043	.2891022	.999579	21.24092	2.068605	.0613190

Elem	Sr4077
Units	ppm
Avg	.1507299
Stddev	.0004337
%RSD	.2877573
#1	.1511728
#2	.1503059
#3	.1507109

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3427.947	82601.77	23874.67	2319.221	3772.645
Stddev	8.329	173.48	149.15	6.651	7.954
%RSD	.2429843	.2100246	.6247115	.2867978	.2108249
#1	3418.458	82695.48	23804.68	2321.506	3763.473
#2	3434.051	82401.59	24045.94	2311.729	3776.824
#3	3431.332	82708.26	23773.38	2324.429	3777.638

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2035-01DUP Acquired: 5/19/2025 13:49:58 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0217152	-.005991	.9739902	-.005200	-.001959	39.79970
Stddev	.0026007	.002480	.0015434	.000708	.000214	.01303
%RSD	11.97636	41.39085	.1584616	13.60743	10.90093	.0327364
#1	.0188008	-.008063	.9745709	-.004980	-.001774	39.78813
#2	.0225453	-.006668	.9722407	-.004629	-.001910	39.81381
#3	.0237995	-.003243	.9751590	-.005992	-.002193	39.79714

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0699062	.0182914	.0226578	160.1317	.0863268	.2465429
Stddev	.0003980	.0001989	.0000955	.4405	.0006819	.0004546
%RSD	.5692681	1.087541	.4213517	.2750879	.7899464	.1843688
#1	.0696169	.0182979	.0225700	159.8754	.0857404	.2465444
#2	.0703600	.0184870	.0227594	160.6404	.0870751	.2460876
#3	.0697416	.0180893	.0226439	159.8795	.0861649	.2469967

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8613670	30.19665	13.17215	55.54795	.2382194	-.002082
Stddev	.0002972	.23214	.03996	.24511	.0000879	.000016
%RSD	.0344995	.7687603	.3033651	.4412625	.0369083	.7870778
#1	.8615525	30.07265	13.13643	55.37358	.2383207	-.002095
#2	.8615243	30.05284	13.21531	55.82820	.2381739	-.002064
#3	.8610243	30.46446	13.16472	55.44206	.2381635	-.002088

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.382912	.2645744	4.472210	14.07105	.4160621	-.000956
Stddev	.045313	.0004639	.019157	.09114	.0031853	.000168
%RSD	.8417849	.1753487	.4283656	.6476948	.7655875	17.57713
#1	5.375494	.2651096	4.454521	14.03839	.4155977	-.001145
#2	5.341767	.2642857	4.469551	14.00074	.4194541	-.000823
#3	5.431477	.2643280	4.492558	14.17402	.4131344	-.000899

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2035-01DUP Acquired: 5/19/2025 13:49:58 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005217	.0206978	F 34.62567	2.593435	F 343.1829	.0439715
Stddev	.001145	.0001904	.28956	.006549	.5770	.0012034
%RSD	21.95464	.9199072	.8362569	.2525118	.1681363	2.736749
#1	-.004714	.0205523	34.58239	2.591961	342.9027	.0448976
#2	-.004409	.0209133	34.36018	2.600595	343.8465	.0444056
#3	-.006528	.0206278	34.93443	2.587750	342.7995	.0426113

Elem	Sr4077
Units	ppm
Avg	.5688874
Stddev	.0005524
%RSD	.0970956
#1	.5689520
#2	.5694046
#3	.5683056

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3611.528	87446.03	22992.02	2463.307	3762.632
Stddev	1.663	511.82	111.64	26.553	1.725
%RSD	.0460409	.5852974	.4855616	1.077935	.0458445
#1	3613.380	87868.98	23080.65	2477.959	3760.682
#2	3611.041	87592.05	22866.64	2479.305	3763.958
#3	3610.163	86877.07	23028.79	2432.656	3763.257

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2035-01LX5 Acquired: 5/19/2025 13:54:05 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0054199	-.002188	.1901015	-.000297	-.000906	9.686059
Stddev	.0026054	.002171	.0017107	.002931	.000916	.017371
%RSD	48.07104	99.23727	.8998653	985.9554	101.0580	.1793375
#1	.0027376	-.001515	.1881716	.002978	-.000095	9.690055
#2	.0055814	-.000433	.1914310	-.001196	-.001899	9.701084
#3	.0079409	-.004616	.1907019	-.002674	-.000724	9.667039

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0162294	.0042093	.0039467	39.84900	.0216656	.0477345
Stddev	.0003314	.0000304	.0001138	.04199	.0000730	.0003482
%RSD	2.041966	.7218001	2.884133	.1053630	.3371315	.7294384
#1	.0158995	.0042376	.0038158	39.82176	.0215844	.0473561
#2	.0162263	.0041772	.0040022	39.89735	.0216864	.0478058
#3	.0165623	.0042131	.0040221	39.82788	.0217260	.0480414

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2199221	8.072864	3.294167	13.50118	.0464960	-.000506
Stddev	.0007863	.057674	.006340	.05082	.0005287	.000529
%RSD	.3575219	.7144127	.1924708	.3764190	1.137116	104.4318
#1	.2190143	8.044389	3.288034	13.47795	.0470998	-.000781
#2	.2203872	8.034966	3.300696	13.55946	.0461163	.000103
#3	.2203649	8.139238	3.293772	13.46612	.0462718	-.000841

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.212441	.0680028	1.153074	3.454803	.1012304	-.000491
Stddev	.014340	.0019944	.002743	.048917	.0016691	.000275
%RSD	1.182759	2.932855	.2379170	1.415903	1.648772	56.01904
#1	1.207702	.0657656	1.155183	3.456219	.1019736	-.000547
#2	1.228551	.0695946	1.149973	3.405194	.1023988	-.000734
#3	1.201070	.0686482	1.154066	3.502997	.0993189	-.000192

Sample Name: Q2035-01LX5 Acquired: 5/19/2025 13:54:05 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000773	.0059290	8.858700	.4891584	F 66.44602	.0094923
Stddev	.001473	.0005915	.074563	.0025823	.20532	.0006381
%RSD	190.4910	9.976097	.8416963	.5279134	.3089980	6.722259
#1	-.002463	.0055137	8.876992	.4861781	66.21071	.0094208
#2	.000238	.0056671	8.776692	.4905648	66.53860	.0101631
#3	-.000095	.0066062	8.922414	.4907322	66.58874	.0088929

Elem	Sr4077
Units	ppm
Avg	.1410565
Stddev	.0000401
%RSD	.0284062
#1	.1410852
#2	.1410735
#3	.1410107

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2929.924	70928.84	19695.16	1998.734	4059.299
Stddev	2.521	310.25	83.88	19.081	1.910
%RSD	.0860456	.4374082	.4259120	.9546293	.0470640
#1	2931.749	71029.50	19720.19	2010.870	4061.214
#2	2927.047	71176.26	19601.61	2008.591	4057.394
#3	2930.976	70580.76	19763.68	1976.741	4059.291

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2035-01MS Acquired: 5/19/2025 13:58:15 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3108270	.9526712	1.434214	.7144946	.2896478	40.11942
Stddev	.0004243	.0017025	.004003	.0003932	.0034326	.04243
%RSD	.1364975	.1787040	.2791240	.0550283	1.185095	.1057698
#1	.3110703	.9509686	1.434321	.7147163	.2857368	40.12105
#2	.3110737	.9543735	1.430159	.7140406	.2921607	40.07619
#3	.3103372	.9526715	1.438164	.7147268	.2910460	40.16101

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1372711	.0873340	.1180603	158.3814	.2205317	.3391362
Stddev	.0006889	.0001800	.0002746	.1624	.0003784	.0010975
%RSD	.5018366	.2061317	.2326357	.1025345	.1715666	.3236062
#1	.1378722	.0872266	.1179328	158.2192	.2209682	.3383508
#2	.1365194	.0872336	.1178726	158.5440	.2202972	.3386675
#3	.1374218	.0875419	.1183756	158.3808	.2203298	.3403901

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9638350	32.35755	13.07231	54.78466	.4702087	.0244782
Stddev	.0009514	.11579	.01154	.10486	.0013921	.0001679
%RSD	.0987132	.3578347	.0882992	.1914074	.2960527	.6860522
#1	.9637844	32.45803	13.07595	54.74683	.4686124	.0244760
#2	.9629098	32.38370	13.05939	54.90318	.4711701	.0243113
#3	.9648107	32.23093	13.08159	54.70396	.4708437	.0246472

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.862151	.3641707	4.507491	18.43758	.4917416	.1458491
Stddev	.028818	.0012079	.016660	.04302	.0031957	.0005703
%RSD	.4199570	.3316927	.3696168	.2333523	.6498683	.3910282
#1	6.879588	.3644211	4.523537	18.48129	.4888420	.1451908
#2	6.828888	.3628572	4.490278	18.39528	.4912147	.1461916
#3	6.877978	.3652338	4.508658	18.43616	.4951679	.1461651

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2035-01MS Acquired: 5/19/2025 13:58:15 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3372299	.0897995	F 36.32924	5.632641	F 340.7056	.1210932
Stddev	.0008908	.0010825	.05576	.009352	.2837	.0009171
%RSD	.2641626	1.205441	.1534858	.1660252	.0832680	.7573272
#1	.3369805	.0894959	36.33256	5.625257	340.4119	.1209461
#2	.3364904	.0889013	36.38326	5.629509	340.9781	.1202587
#3	.3382189	.0910014	36.27189	5.643157	340.7268	.1220750

Elem	Sr4077
Units	ppm
Avg	.6431651
Stddev	.0017257
%RSD	.2683121
#1	.6426719
#2	.6417398
#3	.6450837

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3572.787	87223.40	24280.93	2425.960	3738.962
Stddev	1.957	116.62	57.40	10.729	3.890
%RSD	.0547616	.1336986	.2363796	.4422583	.1040287
#1	3571.262	87089.97	24276.31	2419.440	3740.172
#2	3574.993	87305.85	24340.49	2438.343	3742.103
#3	3572.106	87274.37	24225.97	2420.097	3734.611

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2035-01MSD Acquired: 5/19/2025 14:02:17 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3081799	.9515237	1.462020	.7186931	.2908940	40.37051
Stddev	.0031013	.0098605	.017334	.0082032	.0061250	.04857
%RSD	1.006335	1.036286	1.185647	1.141401	2.105566	.1203226
#1	.3112755	.9550147	1.481611	.7274861	.2979015	40.42138
#2	.3081915	.9403927	1.448669	.7112462	.2882185	40.32462
#3	.3050729	.9591639	1.455782	.7173471	.2865619	40.36551

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1402606	.0839531	.1191894	161.0797	.2222881	.3468740
Stddev	.0004919	.0000616	.0012408	.3955	.0000668	.0035582
%RSD	.3506930	.0733421	1.041040	.2455328	.0300354	1.025801
#1	.1407923	.0839082	.1205828	161.5283	.2222849	.3508949
#2	.1401678	.0839277	.1182038	160.7814	.2222230	.3441319
#3	.1398218	.0840233	.1187816	160.9294	.2223564	.3455952

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9813759	34.28480	13.27648	55.41477	.4794507	.0247986
Stddev	.0083263	.17273	.04269	.05277	.0053809	.0005047
%RSD	.8484290	.5037995	.3215157	.0952249	1.122296	2.035290
#1	.9908700	34.47054	13.32536	55.43344	.4853512	.0252603
#2	.9753165	34.25488	13.25752	55.35521	.4748146	.0248757
#3	.9779411	34.12900	13.24656	55.45567	.4781864	.0242597

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.247316	.3693168	4.566716	19.30426	.4795824	.1473346
Stddev	.068461	.0008542	.007852	.12823	.0009445	.0010531
%RSD	.9446345	.2313026	.1719344	.6642678	.1969516	.7147550
#1	7.309559	.3686140	4.572817	19.43602	.4806590	.1484771
#2	7.258399	.3702676	4.569474	19.29689	.4791950	.1464028
#3	7.173990	.3690688	4.557857	19.17987	.4788931	.1471240

Sample Name: Q2035-01MSD Acquired: 5/19/2025 14:02:17 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3437187	.0899453	F 38.21971	5.764854	F 350.7598	.1210520
Stddev	.0041622	.0006409	.19287	.058658	3.5938	.0007958
%RSD	1.210933	.7125175	.5046362	1.017503	1.024590	.6574336
#1	.3476657	.0902255	38.41059	5.811091	354.4109	.1205370
#2	.3393704	.0892120	38.22364	5.698872	347.2261	.1206504
#3	.3441200	.0903984	38.02491	5.784601	350.6426	.1219686

Elem	Sr4077
Units	ppm
Avg	.6505548
Stddev	.0020193
%RSD	.3103961
#1	.6528709
#2	.6491635
#3	.6496299

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3546.304	86394.77	25150.66	2406.594	3679.973
Stddev	21.390	354.41	18.97	5.202	33.588
%RSD	.6031605	.4102231	.0754236	.2161393	.9127280
#1	3522.037	86145.72	25170.56	2400.901	3643.746
#2	3562.418	86238.07	25132.78	2407.781	3710.080
#3	3554.458	86800.52	25148.63	2411.099	3686.093

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2035-01A Acquired: 5/19/2025 14:06:19 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5815557	1.862210	1.880613	1.405201	.5700513	40.38496
Stddev	.0047529	.019150	.008078	.004482	.0015832	.02294
%RSD	.8172746	1.028334	.4295345	.3189823	.2777199	.0568061
#1	.5852518	1.853856	1.878690	1.400086	.5684730	40.36066
#2	.5761942	1.848657	1.873670	1.407076	.5700416	40.38796
#3	.5832212	1.884118	1.889479	1.408441	.5716393	40.40625

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2022906	.1494482	.2104989	159.7455	.3520342	.4309316
Stddev	.0009800	.0002769	.0007929	.3792	.0003435	.0019556
%RSD	.4844335	.1852719	.3766539	.2374008	.0975691	.4538104
#1	.2013531	.1494194	.2102026	159.3096	.3516376	.4300727
#2	.2033081	.1491869	.2098970	159.9269	.3522279	.4295524
#3	.2022106	.1497384	.2113973	160.0000	.3522371	.4331697

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.062573	34.57245	13.19121	55.35543	.6976129	.0496594
Stddev	.002644	.12411	.03134	.25992	.0018868	.0000853
%RSD	.2488005	.3589744	.2375679	.4695419	.2704599	.1717089
#1	1.060172	34.44238	13.15556	55.07655	.6958027	.0495669
#2	1.062141	34.68958	13.21442	55.39882	.6974682	.0496764
#3	1.065406	34.58539	13.20365	55.59092	.6995679	.0497349

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.160474	.4631444	4.560556	22.37165	.5687478	.2857643
Stddev	.047304	.0024168	.007454	.12157	.0020234	.0002435
%RSD	.5796751	.5218311	.1634401	.5433942	.3557581	.0852066
#1	8.148948	.4646258	4.562649	22.27134	.5670354	.2855853
#2	8.212477	.4603555	4.552279	22.50684	.5682274	.2856659
#3	8.119999	.4644519	4.566738	22.33676	.5709805	.2860415

Sample Name: Q2035-01A Acquired: 5/19/2025 14:06:19 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6715768	.1570384	F 37.61723	8.575066	F 342.5535	.1921081
Stddev	.0045213	.0013130	.10288	.034857	1.3699	.0008559
%RSD	.6732391	.8360686	.2734829	.4064938	.3999090	.4455460
#1	.6680903	.1558568	37.51161	8.601208	341.6401	.1911250
#2	.6699546	.1584518	37.71713	8.535491	341.8917	.1926881
#3	.6766854	.1568065	37.62296	8.588498	344.1286	.1925111

Elem	Sr4077
Units	ppm
Avg	.7116479
Stddev	.0014713
%RSD	.2067516
#1	.7115198
#2	.7131791
#3	.7102448

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3557.026	87225.77	25131.99	2439.686	3713.591
Stddev	16.422	13.24	65.33	7.143	21.196
%RSD	.4616859	.0151748	.2599281	.2927639	.5707565
#1	3575.817	87239.73	25109.59	2433.687	3736.250
#2	3549.832	87224.17	25205.56	2447.587	3710.274
#3	3545.427	87213.40	25080.80	2437.784	3694.250

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCV02 Acquired: 5/19/2025 14:13:07 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV02 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.063427	5.210208	5.066270	5.097541	5.059363	10.18656	10.24516
Stddev	.009553	.033079	.014155	.030660	.015799	.01336	.09601
%RSD	.1886696	.6348945	.2793912	.6014677	.3122698	.1311235	.9370803
#1	5.052401	5.187309	5.051331	5.062279	5.041550	10.17480	10.13795
#2	5.069224	5.248133	5.067999	5.112439	5.064858	10.18380	10.32320
#3	5.068657	5.195181	5.079481	5.117905	5.071681	10.20109	10.27433

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2570339	2.535726	25.32347	1.023496	2.537772	1.277997	5.172090
Stddev	.0006562	.006604	.04736	.001462	.008219	.005748	.017423
%RSD	.2552820	.2604281	.1870167	.1428710	.3238755	.4497617	.3368565
#1	.2565007	2.529100	25.31822	1.025182	2.529808	1.272438	5.176678
#2	.2577667	2.535771	25.27896	1.022576	2.537284	1.277637	5.152833
#3	.2568342	2.542307	25.37324	1.022730	2.546225	1.283917	5.186759

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.554505	25.14547	2.540227	1.278160	26.04127	2.536571	2.569337
Stddev	.003593	.11971	.009793	.001097	.12228	.010364	.007357
%RSD	.1406441	.4760856	.3855100	.0858431	.4695583	.4085870	.2863243
#1	2.555466	25.02564	2.531204	1.279174	26.16575	2.539055	2.577778
#2	2.550530	25.14568	2.538837	1.276995	25.92131	2.525191	2.565947
#3	2.557520	25.26507	2.550641	1.278310	26.03674	2.545468	2.564287

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.76517	5.102197	5.099783	5.094870	5.073945	5.113190	5.266881
Stddev	.10609	.020588	.020945	.016546	.002580	.041485	.039985
%RSD	.4117446	.4035085	.4107060	.3247494	.0508558	.8113246	.7591705
#1	25.85317	5.085879	5.078390	5.078167	5.072649	5.108592	5.220885
#2	25.64737	5.125328	5.100710	5.095189	5.076917	5.074196	5.286406
#3	25.79498	5.095385	5.120250	5.111253	5.072270	5.156782	5.293351

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCV02 Acquired: 5/19/2025 14:13:07 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV02 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.133965	5.143742	5.178004
Stddev	.015393	.006279	.005516
%RSD	.2998205	.1220723	.1065287
#1	5.117938	5.150271	5.176638
#2	5.135325	5.143206	5.184075
#3	5.148633	5.137747	5.173300

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2680.525	63107.02	17700.15	1790.274	3845.829
Stddev	3.495	70.87	59.73	6.330	5.393
%RSD	.1303764	.1122971	.3374273	.3535500	.1402232
#1	2683.411	63097.72	17734.06	1786.102	3847.608
#2	2681.525	63182.08	17631.19	1797.557	3850.107
#3	2676.639	63041.27	17735.20	1787.162	3839.771

Sample Name: CCB02 Acquired: 5/19/2025 14:24:41 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001595	.0007049	.0007997	.0012812	.0010655	.0080423
Stddev	.001004	.0017052	.0006071	.0014904	.0019782	.0060785
%RSD	62.96019	241.9067	75.92123	116.3276	185.6646	75.58197
#1	-.001376	-.000257	.0009687	.0027013	.0026096	.0145085
#2	-.000718	-.000302	.0013045	-.000271	.0017511	.0024449
#3	-.002690	.002674	.0001260	.001413	-.001164	.0071736

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000824	-.000015	.0000260	.0015159	-.000358	.0002302
Stddev	.001583	.000021	.0000283	.0073680	.000245	.0001821
%RSD	192.1930	139.9830	108.6981	486.0381	68.48046	79.11373
#1	-.000756	-.000018	.0000053	-.004404	-.000387	.0000653
#2	-.002439	.000007	.0000145	-.000816	-.000588	.0001997
#3	.000724	-.000034	.0000582	.009768	-.000100	.0004257

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004230	.0069216	-.000457	.0058873	-.000136	.0003880
Stddev	.0001092	.0002095	.000123	.0114369	.000348	.0002481
%RSD	25.81313	3.026844	26.87040	194.2641	255.7506	63.93981
#1	.0003131	.0071077	-.000369	.0049267	-.000538	.0006677
#2	.0005315	.0066947	-.000597	-.005039	.000070	.0001944
#3	.0004244	.0069623	-.000404	.017774	.000059	.0003020

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.148832	.0016709	.0020413	-.074001	.0041218	-.000047
Stddev	.007667	.0011086	.0001603	.007456	.0005854	.000195
%RSD	5.151628	66.34667	7.851886	10.07508	14.20140	417.1586
#1	-.154206	.0007175	.0021497	-.066995	.0036407	-.000189
#2	-.152238	.0028874	.0018572	-.073171	.0047735	.000175
#3	-.140051	.0014079	.0021169	-.081837	.0039512	-.000126

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCB02 Acquired: 5/19/2025 14:24:41 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007938	.0015819	-.012024	-.000156	F .0154127	-.000325
Stddev	.0016738	.0007258	.008971	.001935	.0038986	.001046
%RSD	210.8438	45.87788	74.60972	1242.582	25.29491	322.4276
#1	.0026759	.0007443	-.022320	.000755	.0197475	-.001401
#2	.0002335	.0019780	-.007854	-.002379	.0121933	-.000261
#3	-.000528	.0020235	-.005897	.001156	.0142974	.000689

Elem	Sr4077
Units	ppm
Avg	.0000304
Stddev	.0000387
%RSD	127.1747
#1	.0000539
#2	-.000014
#3	.000052

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2742.078	66564.51	17948.23	1827.357	4145.540
Stddev	3.510	73.84	174.37	9.156	7.915
%RSD	.1280158	.1109271	.9714913	.5010606	.1909332
#1	2738.254	66587.74	17813.91	1817.352	4140.581
#2	2745.153	66623.95	18145.28	1835.320	4154.668
#3	2742.828	66481.86	17885.51	1829.397	4141.370

Sample Name: PB168044TB Acquired: 5/19/2025 14:29:00 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001355	.0004259	.0003433	.0013989	.0006043	.0012004	-.001978
Stddev	.005111	.0015017	.0010362	.0016141	.0025117	.0055978	.000640
%RSD	377.1777	352.5855	301.8357	115.3886	415.6520	466.3402	32.37058
#1	-.004204	.0021596	-.000730	.0032188	.0034465	.0063865	-.002656
#2	-.004405	-.000410	.001338	.0008369	-.001317	-.004734	-.001384
#3	.004545	-.000472	.000422	.0001408	-.000317	.001949	-.001894

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000061	-.000064	-.004607	-.000724	-.000068	.0003001	.0063156
Stddev	.000038	.000088	.004775	.000113	.000078	.0003566	.0016699
%RSD	61.73225	138.8588	103.6568	15.65138	113.9180	118.8202	26.44017
#1	-.000033	-.000034	-.008265	-.000783	-.000153	-.000077	.0044354
#2	-.000046	.000006	-.006349	-.000795	-.000001	.000346	.0076259
#3	-.000104	-.000163	.000795	-.000593	-.000051	.000631	.0068857

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001413	.0053942	-.000340	.0003641	-.295229	.0012127	-.000875
Stddev	.000182	.0039170	.000325	.0003662	.003980	.0019605	.000406
%RSD	12.89545	72.61489	95.37675	100.5594	1.348131	161.6654	46.39017
#1	-.001216	.0046018	-.000715	.0004610	-.299393	.0019644	-.001292
#2	-.001575	.0096468	-.000154	.0006721	-.291462	-.001012	-.000481
#3	-.001447	.0019340	-.000151	-.000041	-.294833	.002686	-.000854

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.063464	.0021332	.0008291	-.003106	.0001223	-.015370	.0022497
Stddev	.020288	.0001400	.0002369	.000966	.0002604	.007626	.0016826
%RSD	31.96859	6.563999	28.56772	31.08950	212.8091	49.61526	74.79327
#1	-.080693	.0020248	.0010572	-.002491	.0002203	-.018962	.0004890
#2	-.068596	.0020836	.0008458	-.004219	-.000173	-.006611	.0038415
#3	-.041102	.0022913	.0005844	-.002608	.000319	-.020536	.0024186

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: PB168044TB Acquired: 5/19/2025 14:29:00 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	9.058251	-.002685	-.000006
Stddev	.047593	.001169	.000058
%RSD	.5254056	43.54834	903.2680
#1	9.094436	-.001375	-.000048
#2	9.075979	-.003623	-.000031
#3	9.004339	-.003057	.000060

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2795.392	70362.09	18700.97	1948.757	4242.009
Stddev	12.872	193.08	46.07	2.783	11.523
%RSD	.4604861	.2744138	.2463627	.1428054	.2716433
#1	2804.840	70584.77	18713.69	1950.204	4252.260
#2	2800.605	70260.30	18739.35	1950.518	4244.229
#3	2780.730	70241.20	18649.88	1945.548	4229.537

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: PB168044BL Acquired: 5/19/2025 14:33:19 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000793	.0006441	.0004822	-.000813	.0014085	.0080623	-.000708
Stddev	.002403	.0004370	.0005307	.002524	.0004016	.0043127	.000913
%RSD	302.8440	67.84336	110.0550	310.4758	28.51312	53.49240	128.9397
#1	-.003284	.0011024	.0001569	-.002542	.0009569	.0030838	.000298
#2	.001510	.0005977	.0010946	-.001979	.0015431	.0104494	-.000939
#3	-.000606	.0002322	.0001951	.002083	.0017255	.0106537	-.001482

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000327	.0000085	-.000714	-.000791	-.000088	-.000196	.0046234
Stddev	.0000257	.0000401	.003892	.000401	.000112	.000424	.0010957
%RSD	78.58431	469.3915	544.8995	50.62950	127.9433	216.2211	23.69767
#1	.0000148	-.000023	.003381	-.000576	-.000187	-.000612	.0054540
#2	.0000621	-.000004	-.004365	-.000544	.000034	-.000211	.0050346
#3	.0000211	.000053	-.001159	-.001253	-.000111	.000235	.0033817

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001804	.0064037	-.000219	-.000101	-.215601	.0003560	-.001026
Stddev	.000233	.0128265	.000435	.000253	.012461	.0003054	.000269
%RSD	12.92718	200.2995	198.2254	249.4786	5.779584	85.77960	26.17333
#1	-.001794	.0144951	.000221	.000102	-.214960	.0006935	-.000735
#2	-.002042	.0131011	-.000231	-.000022	-.228370	.0000987	-.001263
#3	-.001576	-.008385	-.000648	-.000384	-.203473	.0002759	-.001081

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.089381	.0016945	-.000234	.0005598	.0006450	-.019377	.0021633
Stddev	.013133	.0005752	.000306	.0010058	.0006724	.007629	.0025746
%RSD	14.69333	33.94291	131.0747	179.6867	104.2375	39.37335	119.0128
#1	-.097403	.0021704	.000048	-.000317	.0009465	-.012015	.0034882
#2	-.096515	.0010554	-.000560	.001658	.0011139	-.027248	-.000804
#3	-.074225	.0018578	-.000189	.000339	-.000125	-.018867	.003806

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: PB168044BL Acquired: 5/19/2025 14:33:19 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0056359	-.001593	-.000013
Stddev	.0022398	.000805	.000037
%RSD	39.74142	50.52984	290.0707
#1	.0060521	-.001945	-.000040
#2	.0032172	-.002162	-.000027
#3	.0076383	-.000672	.000029

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2768.460	66001.44	17700.90	1880.179	4159.321
Stddev	4.649	204.14	61.65	2.351	4.898
%RSD	.1679429	.3092983	.3482820	.1250561	.1177580
#1	2766.760	66222.84	17649.59	1882.826	4157.486
#2	2764.899	65960.82	17683.83	1878.333	4155.605
#3	2773.720	65820.66	17769.29	1879.378	4164.871

Sample Name: PB168044BS Acquired: 5/19/2025 14:41:28 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7473900	1.923862	.9210854	1.904322	.7834117	1.865664
Stddev	.0038256	.004394	.0037038	.005413	.0009884	.006091
%RSD	.5118659	.2283813	.4021141	.2842370	.1261698	.3264922
#1	.7441851	1.926241	.9170851	1.898719	.7823285	1.869102
#2	.7463595	1.918792	.9243956	1.904726	.7842648	1.869260
#3	.7516253	1.926554	.9217756	1.909522	.7836418	1.858631

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1800155	.1983425	.1873385	.9586004	.3808990	.1832871
Stddev	.0011518	.0019522	.0001485	.0089337	.0011290	.0002191
%RSD	.6398062	.9842664	.0792631	.9319509	.2964120	.1195623
#1	.1808281	.1986813	.1872821	.9538113	.3815962	.1832004
#2	.1805209	.2001032	.1875069	.9689075	.3815044	.1831246
#3	.1786974	.1962431	.1872264	.9530824	.3795964	.1835363

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2896840	2.772120	.1882834	1.832896	.4611073	.0720548
Stddev	.0009226	.008721	.0006812	.008074	.0012038	.0004776
%RSD	.3184785	.3145998	.3617683	.4404914	.2610634	.6627670
#1	.2887884	2.762093	.1883802	1.825261	.4600743	.0721551
#2	.2896321	2.776327	.1889110	1.832080	.4608183	.0715351
#3	.2906314	2.777940	.1875590	1.841347	.4624293	.0724743

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.441399	.2795177	.1938139	8.849124	.2903260	.3999056
Stddev	.019677	.0018498	.0005451	.089064	.0026307	.0009286
%RSD	.8059790	.6617893	.2812215	1.006468	.9061337	.2322077
#1	2.429298	.2774593	.1932311	8.805225	.2909530	.3988367
#2	2.430795	.2810408	.1938994	8.790531	.2925865	.4003675
#3	2.464104	.2800530	.1943111	8.951615	.2874384	.4005128

Sample Name: PB168044BS Acquired: 5/19/2025 14:41:28 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6717751	.1940961	.7835020	5.612082	F -.004550	.1974288
Stddev	.0026238	.0004868	.0182898	.002383	.002468	.0009518
%RSD	.3905691	.2508019	2.334361	.0424684	54.24311	.4821084
#1	.6746700	.1935473	.7655966	5.613157	-.006401	.1966679
#2	.6695539	.1944755	.7827562	5.609351	-.005502	.1984961
#3	.6711016	.1942656	.8021533	5.613739	-.001748	.1971225

Elem	Sr4077
Units	ppm
Avg	.1874855
Stddev	.0002088
%RSD	.1113828
#1	.1873324
#2	.1877234
#3	.1874008

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2777.143	64620.34	17450.05	1851.890	4193.346
Stddev	7.525	230.54	93.45	11.382	5.979
%RSD	.2709645	.3567657	.5355308	.6145941	.1425775
#1	2784.865	64854.75	17503.24	1864.111	4191.056
#2	2769.832	64612.41	17342.15	1849.968	4188.851
#3	2776.730	64393.87	17504.77	1841.593	4200.132

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: PB168025BL Acquired: 5/19/2025 14:45:35 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003331	.0011461	-.001946	-.000384	.0022283	-.002708	-.000881
Stddev	.0046225	.0015151	.001191	.002442	.0002391	.001469	.000598
%RSD	1387.548	132.1963	61.20617	635.6160	10.73199	54.21928	67.83614
#1	.0052562	-.000602	-.000577	-.003135	.0021089	-.003794	-.001101
#2	-.003915	.002078	-.002518	.000451	.0025037	-.003294	-.000205
#3	-.000342	.001962	-.002743	.001531	.0020724	-.001037	-.001339

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000031	-.000047	.0026005	-.000303	.0001412	.0000581	.0034792
Stddev	.000009	.000076	.0059512	.000306	.0002172	.0000900	.0048552
%RSD	29.60988	161.9248	228.8521	101.0643	153.8368	155.0435	139.5496
#1	-.000040	-.000056	.0024226	-.000062	-.000034	-.000015	.0074031
#2	-.000021	-.000118	-.003260	-.000199	.000074	.000031	-.001950
#3	-.000033	.000033	.008639	-.000647	.000384	.000158	.004985

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001295	.0055129	-.000065	.0003318	-.201168	.0019901	-.000966
Stddev	.000283	.0016709	.000084	.0002563	.014810	.0008807	.000284
%RSD	21.86387	30.30933	128.7939	77.24780	7.361969	44.25363	29.38224
#1	-.001078	.0063132	-.000074	.0006118	-.184286	.0028930	-.001144
#2	-.001191	.0035924	-.000145	.0002750	-.207247	.0011335	-.001115
#3	-.001615	.0066332	.000023	.0001087	-.211971	.0019437	-.000639

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.107924	-.000037	.0001249	.0005178	.0008007	-.014042	-.001976
Stddev	.014787	.001183	.0001349	.0005441	.0007598	.006922	.001469
%RSD	13.70127	3219.317	107.9901	105.0818	94.89639	49.29648	74.35629
#1	-.104024	-.001304	.0000867	.0009486	.0000144	-.012783	-.003628
#2	-.095478	.001039	.0000132	.0006984	.0015309	-.021506	-.001483
#3	-.124270	.000154	.0002748	-.000094	.0008569	-.007835	-.000817

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: PB168025BL Acquired: 5/19/2025 14:45:35 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0000108	-.001835	-.000038
Stddev	.0048756	.000917	.000073
%RSD	44991.83	49.95430	192.0927
#1	-.005595	-.001771	-.000001
#2	.002369	-.000952	-.000122
#3	.003259	-.002782	.000009

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2779.745	65782.15	18342.46	1870.569	4187.458
Stddev	5.172	297.88	99.87	14.665	10.621
%RSD	.1860639	.4528228	.5444887	.7839808	.2536375
#1	2780.529	65515.67	18294.98	1860.902	4192.975
#2	2784.481	66103.73	18275.17	1887.443	4194.185
#3	2774.226	65727.04	18457.21	1863.362	4175.214

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: PB168025BS Acquired: 5/19/2025 14:57:25 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7666465	1.964509	.9392445	1.947834	.7776702	1.888946
Stddev	.0052549	.019548	.0035845	.003130	.0004433	.007061
%RSD	.6854412	.9950777	.3816386	.1606895	.0570057	.3737953
#1	.7638221	1.973294	.9399908	1.945074	.7777520	1.896437
#2	.7634077	1.942109	.9353455	1.951235	.7771917	1.887988
#3	.7727096	1.978123	.9423971	1.947193	.7780669	1.882413

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1811614	.2017278	.1923321	.9607476	.3842219	.1870310
Stddev	.0015587	.0008705	.0002085	.0076613	.0019321	.0006156
%RSD	.8603703	.4315093	.1084000	.7974316	.5028507	.3291628
#1	.1829409	.2021774	.1924037	.9686994	.3821730	.1863795
#2	.1800383	.2007245	.1920972	.9601291	.3860108	.1876031
#3	.1805049	.2022815	.1924953	.9534143	.3844820	.1871103

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2937295	2.753123	.1904371	1.879211	.4709298	.0722838
Stddev	.0014213	.028713	.0010516	.016680	.0006236	.0004518
%RSD	.4838858	1.042926	.5522105	.8875852	.1324112	.6250036
#1	.2943029	2.732815	.1916221	1.860302	.4712258	.0726240
#2	.2921111	2.785974	.1900742	1.891833	.4702134	.0717712
#3	.2947746	2.740581	.1896150	1.885499	.4713503	.0724561

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.832391	.2807734	.1939735	8.762774	.2946848	.3960965
Stddev	.029935	.0025353	.0018466	.038158	.0017425	.0009448
%RSD	1.056872	.9029782	.9520032	.4354543	.5913164	.2385258
#1	2.851044	.2804827	.1935220	8.728269	.2953812	.3957813
#2	2.848267	.2834415	.1960040	8.803755	.2927017	.3953495
#3	2.797863	.2783959	.1923944	8.756298	.2959713	.3971586

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: PB168025BS Acquired: 5/19/2025 14:57:25 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6734340	.1920308	.7613380	5.783086	F -.005062	.1984334
Stddev	.0029836	.0015620	.0052403	.020240	.004273	.0012156
%RSD	.4430347	.8134258	.6883061	.3499862	84.40994	.6125763
#1	.6740235	.1933858	.7643062	5.786858	-.002918	.1997921
#2	.6701997	.1903223	.7552873	5.761226	-.009982	.1980591
#3	.6760788	.1923841	.7644203	5.801175	-.002286	.1974490

Elem	Sr4077
Units	ppm
Avg	.1880924
Stddev	.0009496
%RSD	.5048506
#1	.1891850
#2	.1874661
#3	.1876262

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2769.120	65152.30	17356.19	1859.100	4140.990
Stddev	2.044	145.49	63.45	15.376	4.712
%RSD	.0737987	.2233092	.3655922	.8270744	.1137904
#1	2770.320	65245.83	17287.32	1855.431	4146.225
#2	2770.280	64984.67	17412.28	1845.891	4139.657
#3	2766.761	65226.39	17368.96	1875.979	4137.088

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: PB168038BL Acquired: 5/19/2025 15:01:32 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001963	.0009143	.0004005	.0010532	.0006395	-.003587	-.001628
Stddev	.002343	.0009237	.0010250	.0018420	.0006097	.003965	.000755
%RSD	119.3601	101.0345	255.9701	174.8967	95.34692	110.5256	46.38596
#1	-.004443	.0013906	.0015802	-.001063	-.000012	-.008134	-.002424
#2	-.001658	-.000150	-.000106	.001925	.001197	-.000854	-.001541
#3	.000213	.001503	-.000272	.002297	.000733	-.001773	-.000920

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000020	.0000816	-.005569	-.000412	.0000912	-.000390	.0059484
Stddev	.000048	.0000281	.001721	.000230	.0002642	.000383	.0061411
%RSD	238.4890	34.41372	30.90243	55.75833	289.6113	98.34956	103.2398
#1	.000004	.0000638	-.003746	-.000226	-.000210	-.000369	.0045778
#2	.000011	.0001140	-.005797	-.000342	.000202	-.000017	.0126589
#3	-.000076	.0000670	-.007166	-.000670	.000282	-.000783	.0006084

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001508	.0018575	.0000885	.0001980	-.218224	.0017501	-.001081
Stddev	.000173	.0127822	.0002317	.0002859	.017097	.0015604	.000363
%RSD	11.44609	688.1237	261.7566	144.4336	7.834553	89.16284	33.57942
#1	-.001689	-.007078	-.000148	-.000016	-.214123	.0033956	-.001495
#2	-.001345	-.003848	.000315	.000087	-.236998	.0015629	-.000935
#3	-.001489	.016499	.000099	.000523	-.203550	.0002917	-.000814

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.081004	-.001045	-.000214	-.000440	-.000010	-.021197	-.000423
Stddev	.023098	.000550	.000166	.000720	.000387	.010755	.004358
%RSD	28.51424	52.69521	77.61134	163.6017	3724.688	50.74017	1030.266
#1	-.083701	-.001246	-.000363	-.000114	.000419	-.030102	-.000577
#2	-.102635	-.000422	-.000246	-.001265	-.000331	-.024242	-.004701
#3	-.056677	-.001466	-.000034	.000059	-.000120	-.009247	.004010

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: PB168038BL Acquired: 5/19/2025 15:01:32 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0000332	-.000288	.0000118
Stddev	.0024858	.001252	.0000300
%RSD	7479.482	434.2837	254.3806
#1	.0025088	.000538	.0000068
#2	-.002463	-.001729	-.000015
#3	.000054	.000327	.000044

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2803.182	66710.79	18400.99	1878.795	4242.321
Stddev	.532	153.68	26.50	9.155	7.167
%RSD	.0189651	.2303643	.1440108	.4873069	.1689291
#1	2802.688	66655.99	18421.72	1876.082	4244.679
#2	2803.114	66592.02	18410.11	1871.302	4248.012
#3	2803.745	66884.35	18371.13	1889.000	4234.273

Sample Name: PB168038BS Acquired: 5/19/2025 15:05:52 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7663302	1.975228	.9338977	1.939398	.7845902	1.927560
Stddev	.0018067	.018524	.0033608	.011622	.0055793	.007269
%RSD	.2357589	.9377921	.3598703	.5992717	.7111093	.3771019
#1	.7646271	1.992654	.9321518	1.940692	.7791810	1.926502
#2	.7661383	1.955774	.9317690	1.927183	.7842643	1.920877
#3	.7682252	1.977256	.9377721	1.950319	.7903253	1.935299

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1810321	.1933244	.1916973	.9575572	.3784202	.1864094
Stddev	.0009903	.0005513	.0008654	.0054518	.0019715	.0005757
%RSD	.5470323	.2851571	.4514576	.5693423	.5209801	.3088527
#1	.1820747	.1926951	.1914062	.9635769	.3800396	.1864088
#2	.1801041	.1935559	.1910150	.9561425	.3789961	.1858339
#3	.1809173	.1937222	.1926708	.9529523	.3762249	.1869854

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2936102	2.671173	.1894194	1.858767	.4690699	.0703146
Stddev	.0008028	.009539	.0006154	.007250	.0023916	.0004405
%RSD	.2734098	.3571250	.3249057	.3900634	.5098551	.6265036
#1	.2937105	2.661682	.1888060	1.861279	.4677030	.0707498
#2	.2927620	2.680760	.1900368	1.850594	.4676753	.0703252
#3	.2943581	2.671078	.1894156	1.864427	.4718314	.0698689

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.661714	.2806398	.1891497	8.541783	.2826499	.3996322
Stddev	.020592	.0016080	.0012698	.013539	.0022443	.0016993
%RSD	.7736283	.5729793	.6713007	.1585024	.7940276	.4252103
#1	2.673740	.2793897	.1905653	8.551919	.2850564	.3976999
#2	2.673465	.2824538	.1881112	8.547022	.2806138	.4003030
#3	2.637938	.2800758	.1887726	8.526407	.2822795	.4008937

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: PB168038BS Acquired: 5/19/2025 15:05:52 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6771272	.1912947	F .7431855	5.767371	F -.004976	.1959892
Stddev	.0013566	.0009283	.0087820	.021061	.004780	.0003714
%RSD	.2003441	.4852729	1.181677	.3651712	96.06156	.1894912
#1	.6756313	.1902256	.7402657	5.767898	-.000864	.1957074
#2	.6774727	.1917619	.7362353	5.746052	-.003844	.1964100
#3	.6782777	.1918965	.7530556	5.788164	-.010221	.1958502

Elem	Sr4077
Units	ppm
Avg	.1879071
Stddev	.0002343
%RSD	.1246912
#1	.1881612
#2	.1878603
#3	.1876997

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2753.988	68044.56	17752.95	1874.589	4137.034
Stddev	4.132	94.58	19.96	3.183	4.382
%RSD	.1500516	.1389982	.1124393	.1697726	.1059254
#1	2758.319	68122.36	17774.62	1873.930	4141.681
#2	2750.089	67939.28	17748.93	1878.050	4136.443
#3	2753.555	68072.03	17735.31	1871.788	4132.977

Sample Name: PB168036BL Acquired: 5/19/2025 15:09:59 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002632	.0017019	.0001089	.0014906	-.000090	.0052690	-.000742
Stddev	.003163	.0004589	.0009660	.0033064	.002035	.0064407	.001308
%RSD	120.1728	26.96222	886.9309	221.8141	2273.114	122.2364	176.2393
#1	-.005751	.0021905	.0010248	-.002223	.000977	.0115634	-.001909
#2	-.002718	.0016351	.0002024	.004115	-.002436	.0055522	-.000990
#3	.000573	.0012801	-.000900	.002580	.001191	-.001309	.000672

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000157	.0000299	-.005746	-.000524	.0000339	.0000258	.0057367
Stddev	.0000368	.0000698	.004706	.000121	.0003100	.0002268	.0041362
%RSD	234.5572	233.0514	81.89908	23.03881	914.3962	880.1018	72.10161
#1	-.000023	.0001016	-.001493	-.000632	.0003868	-.000179	.0010236
#2	.000020	.0000259	-.010801	-.000394	-.000194	-.000013	.0087632
#3	.000050	-.000038	-.004942	-.000547	-.000091	.000270	.0074232

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001676	.0062826	.0000357	.0002320	-.235939	.0010906	-.000840
Stddev	.000297	.0088086	.0002807	.0003823	.016036	.0014342	.000103
%RSD	17.72017	140.2065	785.7946	164.7859	6.796874	131.5020	12.29438
#1	-.001437	.0117363	-.000210	.0004011	-.219310	.0026134	-.000909
#2	-.002008	.0109911	-.000025	-.000206	-.237198	.0008928	-.000721
#3	-.001582	-.003880	.000342	.000501	-.251309	-.000234	-.000889

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.075786	-.000989	-.000241	.0001544	.0010857	-.007707	-.001599
Stddev	.019117	.000537	.000360	.0012637	.0008846	.002843	.004199
%RSD	25.22496	54.33811	149.2190	818.7522	81.48369	36.89175	262.5323
#1	-.090087	-.001059	.000113	-.000197	.0018111	-.004909	.002437
#2	-.054073	-.000420	-.000229	.001556	.0001001	-.010593	-.005944
#3	-.083197	-.001488	-.000608	-.000897	.0013457	-.007617	-.001291

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: PB168036BL Acquired: 5/19/2025 15:09:59 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.001701	-.001375	-.000018
Stddev	.001659	.000544	.000053
%RSD	97.55034	39.54520	297.6139
#1	-.000167	-.001785	-.000078
#2	-.003463	-.000758	.000023
#3	-.001473	-.001583	.000002

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2726.153	64357.70	17313.26	1798.335	4114.039
Stddev	8.289	164.42	68.29	2.765	3.574
%RSD	.3040422	.2554741	.3944267	.1537450	.0868672
#1	2719.650	64230.56	17282.16	1795.154	4115.792
#2	2723.323	64299.16	17391.57	1799.695	4116.399
#3	2735.486	64543.37	17266.07	1800.157	4109.928

Sample Name: CCV03 Acquired: 5/19/2025 15:14:18 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.895446	4.951513	4.881173	4.964732	4.928211	9.855103	9.575962
Stddev	.004805	.030154	.010206	.011444	.010625	.036964	.016114
%RSD	.0981505	.6089867	.2090822	.2305156	.2155956	.3750759	.1682727
#1	4.898663	4.921864	4.875933	4.958129	4.926229	9.894256	9.565143
#2	4.889923	4.982148	4.874653	4.977946	4.918716	9.850246	9.568261
#3	4.897753	4.950528	4.892935	4.958119	4.939687	9.820808	9.594481

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2551411	2.434757	24.23121	.9821077	2.439565	1.238275	4.726922
Stddev	.0006454	.004391	.04652	.0027287	.004399	.001188	.021873
%RSD	.2529665	.1803396	.1919937	.2778422	.1803364	.0959027	.4627330
#1	.2545132	2.432197	24.20118	.9849517	2.437429	1.237175	4.747753
#2	.2558027	2.432247	24.28480	.9795112	2.436641	1.238115	4.704137
#3	.2551074	2.439827	24.20764	.9818602	2.444625	1.239534	4.728875

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.442753	24.37180	2.441822	1.229125	23.55713	2.434839	2.483886
Stddev	.000790	.13736	.006565	.002671	.19439	.007899	.010167
%RSD	.0323333	.5635899	.2688450	.2173011	.8251913	.3244009	.4093311
#1	2.441859	24.35554	2.437985	1.231108	23.70726	2.436568	2.491402
#2	2.443355	24.51657	2.438080	1.226088	23.33756	2.441730	2.472317
#3	2.443046	24.24330	2.449403	1.230181	23.62658	2.426219	2.487940

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.73367	5.064716	4.960108	4.885351	4.863298	4.685945	4.928465
Stddev	.18113	.008953	.005844	.007474	.002461	.012399	.030528
%RSD	.7631584	.1767644	.1178184	.1529891	.0506090	.2645894	.6194292
#1	23.90677	5.054996	4.955287	4.880925	4.865823	4.690961	4.897849
#2	23.54546	5.072624	4.958430	4.881147	4.860905	4.695050	4.928642
#3	23.74878	5.066526	4.966608	4.893980	4.863165	4.671825	4.958905

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCV03 Acquired: 5/19/2025 15:14:18 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.855936	4.966301	4.881910
Stddev	.026095	.016134	.023137
%RSD	.5373820	.3248616	.4739319
#1	4.828431	4.978609	4.868278
#2	4.859033	4.948036	4.868828
#3	4.880345	4.972257	4.908624

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2703.695	64606.30	17293.17	1810.232	3916.856
Stddev	3.208	316.35	33.75	13.402	.390
%RSD	.1186427	.4896641	.1951399	.7403344	.0099634
#1	2700.766	64241.52	17270.71	1798.659	3916.976
#2	2703.195	64805.32	17276.82	1824.915	3916.420
#3	2707.123	64772.08	17331.98	1807.121	3917.172

Sample Name: CCB03 Acquired: 5/19/2025 15:19:53 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001234	.0018386	-.000601	.0012069	-.000286	.0077294	-.003445
Stddev	.002958	.0020509	.000685	.0015877	.000718	.0010633	.000560
%RSD	239.7634	111.5517	113.8829	131.5470	251.5310	13.75649	16.26214
#1	.002102	.0005021	.000146	.0030090	-.000487	.0074662	-.003203
#2	-.002264	.0008136	-.001199	.0000141	.000512	.0068224	-.004086
#3	-.003539	.0041999	-.000750	.0005977	-.000881	.0088995	-.003047

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000058	.0000980	.0057977	-.000407	-.000079	.0003228	.0082840
Stddev	.000060	.0000336	.0047341	.000188	.000090	.0000774	.0025462
%RSD	103.1740	34.32160	81.65502	46.06857	113.6689	23.99005	30.73610
#1	-.000067	.0001020	.0054036	-.000624	-.000096	.0004091	.0055684
#2	-.000113	.0000626	.0107166	-.000298	.000018	.0003001	.0106177
#3	.000006	.0001295	.0012730	-.000300	-.000160	.0002593	.0086659

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000058	.0111052	.0001498	-.000051	-.172639	-.000184	.0057783
Stddev	.000225	.0061892	.0002877	.000467	.008016	.002886	.0002643
%RSD	386.8983	55.73218	192.1208	919.6594	4.643091	1566.046	4.573806
#1	-.000208	.0039619	.0004758	-.000250	-.163451	.002925	.0057892
#2	-.000167	.0148659	.0000424	-.000385	-.178207	-.002777	.0055087
#3	.000201	.0144880	-.000069	.000483	-.176257	-.000701	.0060369

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.065901	.0080642	.0009160	.0005432	.0006022	-.007466	-.001714
Stddev	.024698	.0005168	.0002054	.0004631	.0001607	.003487	.001885
%RSD	37.47781	6.408417	22.42818	85.26498	26.68248	46.69950	110.0202
#1	-.046766	.0074713	.0008658	.0000885	.0007663	-.007425	-.003801
#2	-.057154	.0083026	.0011419	.0010144	.0004451	-.004000	-.001203
#3	-.093782	.0084189	.0007403	.0005266	.0005953	-.010973	-.000136

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCB03 Acquired: 5/19/2025 15:19:53 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0010351	-.000771	.0001522
Stddev	.0012330	.000428	.0000136
%RSD	119.1190	55.57954	8.955141
#1	-.000383	-.001092	.0001364
#2	.001858	-.000936	.0001595
#3	.001630	-.000284	.0001606

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2752.910	65369.20	17456.79	1864.402	4140.583
Stddev	3.753	198.31	89.02	11.443	7.726
%RSD	.1363300	.3033671	.5099523	.6137642	.1865954
#1	2748.984	65442.59	17531.18	1876.136	4133.883
#2	2753.284	65520.36	17358.16	1863.796	4149.034
#3	2756.462	65144.66	17481.03	1853.274	4138.831

Sample Name: PB168036BS Acquired: 5/19/2025 15:24:12 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7724513	1.935726	.9388407	1.966691	.7891723	1.874077
Stddev	.0055392	.047600	.0030476	.017027	.0027058	.006518
%RSD	.7170937	2.459005	.3246182	.8657892	.3428696	.3478228
#1	.7666501	1.880841	.9360513	1.951190	.7860717	1.869863
#2	.7730190	1.960626	.9383772	1.963969	.7903889	1.881585
#3	.7776848	1.965710	.9420935	1.984916	.7910562	1.870782

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1777241	.1972447	.1921468	.9520154	.3813172	.1866088
Stddev	.0007046	.0005959	.0009407	.0025119	.0003865	.0007663
%RSD	.3964451	.3020905	.4895942	.2638532	.1013662	.4106725
#1	.1769211	.1975383	.1917135	.9495780	.3811197	.1865053
#2	.1780126	.1976367	.1915008	.9518726	.3817625	.1858995
#3	.1782386	.1965590	.1932261	.9545957	.3810693	.1874217

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2946092	2.753779	.1883224	1.824977	.4713983	.0718962
Stddev	.0011439	.012899	.0005485	.008282	.0012064	.0001748
%RSD	.3882715	.4683984	.2912400	.4537979	.2559210	.2431890
#1	.2938423	2.765228	.1884519	1.829918	.4709800	.0717455
#2	.2940614	2.739804	.1887945	1.829596	.4704567	.0720879
#3	.2959240	2.756306	.1877207	1.815415	.4727582	.0718551

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.824838	.2776346	.1939327	8.862125	.2944445	.3970958
Stddev	.017783	.0017721	.0005262	.051816	.0016464	.0019201
%RSD	.6295094	.6382759	.2713246	.5846855	.5591423	.4835408
#1	2.818023	.2796767	.1945397	8.832650	.2945356	.3954163
#2	2.845020	.2765016	.1936539	8.921954	.2960434	.3966820
#3	2.811471	.2767254	.1936046	8.831770	.2927544	.3991890

Sample Name: PB168036BS Acquired: 5/19/2025 15:24:12 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6778800	.1918026	.7704738	5.822526	F -.010082	.1969628
Stddev	.0021673	.0018266	.0079583	.047668	.000808	.0024220
%RSD	.3197147	.9523111	1.032915	.8186826	8.011458	1.229671
#1	.6757119	.1899350	.7620590	5.791130	-.009922	.1941927
#2	.6778815	.1918875	.7778794	5.799072	-.009367	.1980152
#3	.6800464	.1935852	.7714831	5.877377	-.010958	.1986806

Elem	Sr4077
Units	ppm
Avg	.1876593
Stddev	.0004290
%RSD	.2286047
#1	.1873756
#2	.1881528
#3	.1874495

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2743.325	65252.36	17637.82	1858.036	4094.742
Stddev	3.049	87.39	23.95	6.788	4.976
%RSD	.1111408	.1339303	.1357990	.3653448	.1215112
#1	2744.092	65337.06	17665.44	1865.347	4089.869
#2	2739.966	65257.53	17625.25	1856.829	4094.543
#3	2745.918	65162.50	17622.77	1851.933	4099.815

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: PB168046BL Acquired: 5/19/2025 15:28:20 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0018809	.0014006	-.000210	-.000767	.0009580	.0031161	-.002042
Stddev	.0051769	.0002750	.001870	.001469	.0008908	.0078877	.000818
%RSD	275.2381	19.63581	891.8062	191.4048	92.98624	253.1243	40.03046
#1	.0077258	.0010896	-.001588	-.002448	.0019861	.0086267	-.002774
#2	-.002127	.0015004	-.000960	.000267	.0004164	-.005919	-.001160
#3	.000044	.0016119	.001919	-.000120	.0004714	.006641	-.002192

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000018	.0000792	-.007680	-.000878	-.000014	.0000708	-.001988
Stddev	.000032	.0001022	.014823	.000377	.000135	.0000668	.004232
%RSD	177.9063	129.0246	193.0174	42.94686	974.3974	94.36040	212.8821
#1	.000013	.0000570	.008164	-.001241	.000051	.0001128	-.002744
#2	-.000050	.0001907	-.021211	-.000488	.000076	.0001057	.002571
#3	-.000016	-.000010	-.009992	-.000906	-.000169	-.000006	-.005791

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001530	-.003988	-.000290	.0001230	-.231738	.0013074	-.000850
Stddev	.000191	.007101	.000171	.0002755	.028718	.0004635	.000144
%RSD	12.49247	178.0393	58.89963	224.0002	12.39245	35.45531	16.96523
#1	-.001692	.001955	-.000367	.0002849	-.234773	.0014862	-.001017
#2	-.001319	-.011851	-.000094	.0002792	-.258817	.0016548	-.000762
#3	-.001580	-.002068	-.000410	-.000195	-.201623	.0007811	-.000772

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.089841	.0027744	-.000157	.0001977	.0005033	-.014312	-.003178
Stddev	.020960	.0002180	.000070	.0004848	.0005750	.004532	.001045
%RSD	23.33002	7.857622	44.72332	245.2991	114.2528	31.66306	32.87762
#1	-.073260	.0030137	-.000192	-.000304	.0003424	-.011565	-.003372
#2	-.082862	.0027223	-.000076	.000664	.0000259	-.011828	-.002050
#3	-.113400	.0025871	-.000203	.000233	.0011416	-.019542	-.004112

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: PB168046BL Acquired: 5/19/2025 15:28:20 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.004468	-.000696	.0000182
Stddev	.000987	.001161	.0000509
%RSD	22.07960	166.6863	279.0457
#1	-.003561	-.000860	.0000581
#2	-.005519	.000538	.0000358
#3	-.004326	-.001767	-.000039

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2765.793	65778.56	18169.93	1867.870	4173.264
Stddev	15.485	144.05	127.46	10.611	16.710
%RSD	.5598631	.2189989	.7014649	.5680793	.4004151
#1	2758.200	65944.90	18211.97	1879.040	4163.930
#2	2783.608	65694.89	18026.77	1866.646	4192.556
#3	2755.570	65695.89	18271.06	1857.924	4163.306

Sample Name: PB168046BS Acquired: 5/19/2025 15:32:39 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8404483	2.116463	1.023883	2.137631	.8662459	2.055783
Stddev	.0075949	.016928	.002740	.008890	.0027398	.010778
%RSD	.9036775	.7998473	.2676495	.4158904	.3162889	.5242905
#1	.8476044	2.099469	1.026641	2.129603	.8642663	2.068229
#2	.8324798	2.116597	1.021160	2.136105	.8650985	2.049519
#3	.8412605	2.133325	1.023847	2.147186	.8693729	2.049602

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1987322	.2099150	.2090449	1.052353	.4205676	.2037202
Stddev	.0005666	.0012301	.0004361	.002212	.0001091	.0006914
%RSD	.2850929	.5859971	.2086011	.2101683	.0259431	.3393801
#1	.1983678	.2107150	.2094383	1.050921	.4206050	.2035554
#2	.1984437	.2105314	.2085760	1.051238	.4206530	.2031260
#3	.1993849	.2084986	.2091204	1.054900	.4204447	.2044790

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3228564	3.147983	.2069196	1.997878	.5134435	.0798345
Stddev	.0011856	.039607	.0007546	.009248	.0002846	.0002091
%RSD	.3672210	1.258162	.3646758	.4629068	.0554236	.2619394
#1	.3220395	3.135930	.2063311	1.989079	.5136397	.0799077
#2	.3223134	3.115803	.2066574	2.007518	.5135737	.0795987
#3	.3242162	3.192216	.2077703	1.997039	.5131171	.0799973

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.289014	.3074331	.2165712	10.10677	.3093965	.4387961
Stddev	.043574	.0016097	.0013161	.09489	.0025686	.0019230
%RSD	1.324837	.5235969	.6076843	.9388422	.8301887	.4382531
#1	3.246535	.3092847	.2159626	9.99722	.3098706	.4387045
#2	3.286901	.3066480	.2156696	10.16014	.3116951	.4369205
#3	3.333606	.3063666	.2180814	10.16296	.3066239	.4407633

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: PB168046BS Acquired: 5/19/2025 15:32:39 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7414560	.2129518	.8898739	6.306340	F -.008259	.2178288
Stddev	.0001606	.0010073	.0089577	.028312	.002936	.0011601
%RSD	.0216607	.4730219	1.006627	.4489471	35.55353	.5325736
#1	.7413914	.2117929	.8804152	6.295191	-.006355	.2185616
#2	.7416388	.2134453	.8909782	6.285300	-.011641	.2184336
#3	.7413377	.2136171	.8982283	6.338530	-.006781	.2164913

Elem	Sr4077
Units	ppm
Avg	.2082817
Stddev	.0003941
%RSD	.1891896
#1	.2082296
#2	.2086993
#3	.2079164

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2747.355	64954.82	18341.30	1851.168	4129.474
Stddev	8.830	213.02	71.00	8.022	9.431
%RSD	.3213991	.3279565	.3871267	.4333453	.2283719
#1	2751.863	65041.46	18261.04	1852.079	4135.638
#2	2753.020	65110.86	18366.92	1858.696	4134.166
#3	2737.181	64712.12	18395.93	1842.730	4118.618

Sample Name: PB167994TB Acquired: 5/19/2025 15:36:43 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004581	-.003791	.0008469	.0036291	.0006840	.0053245	-.003794
Stddev	.002829	.002073	.0017603	.0030188	.0021562	.0047103	.000598
%RSD	61.75353	54.68232	207.8387	83.18412	315.2261	88.46348	15.77377
#1	-.007024	-.002069	-.001186	.0059134	-.001765	.0052063	-.003957
#2	-.005236	-.006092	.001850	.0002066	.002298	.0006745	-.004293
#3	-.001482	-.003212	.001876	.0047673	.001519	.0100928	-.003130

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000168	-.000001	.0601087	-.000280	-.000099	-.000139	.0194940
Stddev	.000016	.000149	.0025158	.000251	.000241	.000455	.0054624
%RSD	9.805578	12278.23	4.185454	89.71161	242.9025	327.5155	28.02067
#1	-.000152	-.000162	.0572422	-.000099	-.000284	-.000234	.0158544
#2	-.000185	.000131	.0619502	-.000567	-.000187	.000356	.0257751
#3	-.000167	.000028	.0611338	-.000174	.000173	-.000539	.0168527

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0052824	.0008594	.0005899	.0002393	321.7382	.0004733	.0011586
Stddev	.0003863	.0059952	.0000916	.0003829	4.5551	.0021940	.0000898
%RSD	7.313662	697.6014	15.53448	159.9648	1.415781	463.5802	7.747647
#1	.0056258	-.001655	.0005103	-.000014	321.0737	.0023673	.0010732
#2	.0053571	.007702	.0006901	.000680	326.5891	.0009834	.0012522
#3	.0048641	-.003469	.0005694	.000053	317.5518	-.001931	.0011504

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.018445	.0009915	.0001426	-.001074	.0005089	-.012334	.0052733
Stddev	.008261	.0005481	.0003850	.000357	.0001420	.000913	.0018557
%RSD	44.78702	55.27998	270.0190	33.21688	27.90452	7.405888	35.19079
#1	-.010336	.0003623	-.000272	-.000826	.0003774	-.011715	.0035922
#2	-.018149	.0013649	.000210	-.000914	.0006595	-.011904	.0049632
#3	-.026850	.0012473	.000489	-.001483	.0004898	-.013383	.0072646

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: PB167994TB Acquired: 5/19/2025 15:36:43 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1136533	-.003248	.0002270
Stddev	.0049349	.001063	.0000060
%RSD	4.342072	32.71165	2.640610
#1	.1148536	-.002936	.0002228
#2	.1178773	-.002377	.0002244
#3	.1082289	-.004432	.0002339

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2627.764	62608.46	17532.25	1753.662	3790.547
Stddev	12.046	199.49	26.51	4.630	11.910
%RSD	.4583967	.3186347	.1512091	.2640264	.3141984
#1	2627.807	62537.40	17558.63	1757.002	3795.970
#2	2639.787	62454.22	17532.51	1755.608	3798.781
#3	2615.696	62833.75	17505.61	1748.377	3776.891

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2019-04 Acquired: 5/19/2025 15:41:10 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005564	-.002967	.0010972	.0025344	.0023771	.0407810	.1981105
Stddev	.002422	.001193	.0010663	.0037464	.0032079	.0031188	.0013759
%RSD	43.53368	40.19149	97.18279	147.8230	134.9471	7.647786	.6944997
#1	-.004759	-.001677	.0021518	.0009334	.0042250	.0404475	.1991184
#2	-.003647	-.003197	.0000197	-.000146	.0042334	.0440533	.1986700
#3	-.008286	-.004029	.0011200	.006815	-.001327	.0378424	.1965430

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000241	.0004938	7.204664	-.000068	-.000222	.0746947	.0305505
Stddev	.0000413	.0001319	.019037	.000510	.000310	.0008751	.0033408
%RSD	171.6990	26.70695	.2642291	744.8353	139.3708	1.171624	10.93551
#1	-.000017	.0003439	7.207041	-.000218	-.000364	.0737515	.0295991
#2	.000024	.0005455	7.222401	-.000487	-.000436	.0748521	.0277885
#3	.000065	.0005920	7.184551	.000500	.000133	.0754804	.0342638

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0687515	.6276998	.0018368	.0000463	350.5198	-.000447	.4905738
Stddev	.0002613	.0144072	.0002525	.0001152	1.3253	.001160	.0037150
%RSD	.3800619	2.295243	13.74826	248.6977	.3780955	259.6964	.7572804
#1	.0686351	.6169414	.0019149	-.000017	350.4192	-.001764	.4865257
#2	.0690508	.6220898	.0015545	-.000024	351.8925	.000420	.4938271
#3	.0685687	.6440681	.0020411	.000179	349.2477	.000004	.4913686

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4511691	.0203896	-.000031	-.001615	.0012007	.3024970	.0542031
Stddev	.0181383	.0005206	.000314	.000750	.0007160	.0103934	.0035768
%RSD	4.020290	2.553286	1011.658	46.45474	59.62861	3.435853	6.598888
#1	.4631186	.0202146	.000061	-.000765	.0003936	.2905160	.0511778
#2	.4302979	.0199790	.000227	-.001897	.0017592	.3078854	.0532807
#3	.4600909	.0209751	-.000381	-.002184	.0014494	.3090897	.0581507

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2019-04 Acquired: 5/19/2025 15:41:10 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.6042888	-.003543	.0437554
Stddev	.0082457	.000665	.0002193
%RSD	1.364527	18.76120	.5011047
#1	.5952297	-.003422	.0437763
#2	.6062807	-.004260	.0439634
#3	.6113562	-.002948	.0435264

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2589.376	62895.64	17517.07	1771.246	3699.777
Stddev	10.466	290.51	7.07	10.656	10.203
%RSD	.4041802	.4618991	.0403611	.6015847	.2757636
#1	2599.071	63178.55	17524.46	1782.990	3705.130
#2	2590.776	62910.30	17516.38	1768.554	3706.189
#3	2578.280	62598.08	17510.37	1762.195	3688.012

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2020-04 Acquired: 5/19/2025 15:45:35 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.006571	-.003236	.0664568	.0070856	-.000174	.0767282	.5082014
Stddev	.002182	.002019	.0012228	.0039114	.001743	.0052791	.0017474
%RSD	33.19948	62.40345	1.839990	55.20173	999.3618	6.880287	.3438441
#1	-.004222	-.003824	.0667058	.0025700	-.002125	.0768978	.5095552
#2	-.008533	-.000988	.0675360	.0094216	.001229	.0713663	.5088201
#3	-.006960	-.004896	.0651287	.0092653	.000373	.0819205	.5062288

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000438	-.000148	53.63954	-.000585	.0025631	.0463480	6.400410
Stddev	.0000211	.000007	.10838	.000371	.0000520	.0003767	.037056
%RSD	48.29712	4.437905	.2020600	63.47946	2.028074	.8128334	.5789552
#1	.0000414	-.000153	53.58669	-.000834	.0025487	.0467415	6.357622
#2	.0000660	-.000150	53.76420	-.000763	.0025199	.0463119	6.421961
#3	.0000239	-.000140	53.56771	-.000158	.0026208	.0459906	6.421647

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.384360	4.357644	.0039981	-.000150	411.3300	.0011206	.1446890
Stddev	.004448	.035459	.0005172	.000131	2.6888	.0025163	.0006557
%RSD	.3212705	.8137180	12.93521	87.46638	.6536925	224.5358	.4531690
#1	1.383321	4.337932	.0039727	-.000235	408.9550	.0013992	.1446829
#2	1.389235	4.398579	.0045274	-.000217	414.2493	.0034861	.1453478
#3	1.380523	4.336420	.0034940	.000001	410.7855	-.001523	.1440364

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.393113	.0620798	-.000004	-.004311	.0001001	1.512864	.0190408
Stddev	.014532	.0011177	.000250	.000700	.0001680	.020074	.0018390
%RSD	.6072234	1.800413	5661.311	16.24404	167.8489	1.326899	9.658398
#1	2.388080	.0633391	.000000	-.003744	.0000544	1.492725	.0209547
#2	2.381767	.0612055	.000243	-.005094	-.000040	1.532873	.0188808
#3	2.409492	.0616947	-.000257	-.004097	.000286	1.512995	.0172871

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2020-04 Acquired: 5/19/2025 15:45:35 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.6407639	-.006383	.2320068
Stddev	.0068360	.000505	.0001588
%RSD	1.066855	7.915157	.0684254
#1	.6341797	-.006855	.2321002
#2	.6402854	-.005850	.2320968
#3	.6478266	-.006445	.2318235

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2558.138	62155.43	18917.30	1728.441	3638.339
Stddev	8.438	104.11	50.33	5.689	10.871
%RSD	.3298540	.1675029	.2660433	.3291582	.2988023
#1	2553.929	62275.36	18865.73	1729.798	3642.852
#2	2567.853	62088.28	18919.86	1722.195	3646.227
#3	2552.633	62102.64	18966.29	1733.328	3625.938

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2023-02 Acquired: 5/19/2025 15:50:00 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.006117	-.005087	.0000443	.0018771	.0000501	.1817693	.2257144
Stddev	.002461	.001895	.0004083	.0030117	.0008587	.0037682	.0008877
%RSD	40.22733	37.25423	920.9347	160.4410	1714.746	2.073045	.3932836
#1	-.005925	-.004644	-.000153	-.001506	-.000391	.1799308	.2266163
#2	-.008668	-.003453	-.000228	.004265	-.000498	.1861038	.2256854
#3	-.003758	-.007165	.000514	.002873	.001040	.1792733	.2248416

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000125	-.000018	161.5479	.0067001	-.000182	.0034111	.0548613
Stddev	.000051	.000035	.2670	.0002776	.000087	.0002074	.0003768
%RSD	41.07198	196.9679	.1653056	4.143841	47.46662	6.079398	.6868303
#1	-.000177	.000022	161.2745	.0067567	-.000170	.0032408	.0546800
#2	-.000123	-.000035	161.8081	.0063985	-.000103	.0036420	.0552945
#3	-.000074	-.000040	161.5610	.0069450	-.000274	.0033505	.0546094

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0014575	.0433999	.0000588	-.000189	315.2602	.0018251	.0045938
Stddev	.0002944	.0147094	.0000776	.000241	1.6888	.0014529	.0002717
%RSD	20.19996	33.89282	132.0111	127.7253	.5356881	79.60542	5.913919
#1	.0012289	.0296048	.0000078	-.000449	315.5021	.0023661	.0044450
#2	.0017897	.0417160	.0001481	-.000147	313.4635	.0001793	.0049074
#3	.0013538	.0588787	.0000204	.000028	316.8151	.0029298	.0044291

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.586373	.0129675	.0052844	-.004931	-.002058	.6082869	.0202966
Stddev	.049918	.0007819	.0002940	.000286	.000459	.0045803	.0032140
%RSD	1.391876	6.029947	5.563373	5.798806	22.32109	.7529819	15.83503
#1	3.540007	.0127571	.0050929	-.005212	-.001971	.6134845	.0182175
#2	3.579902	.0138331	.0051374	-.004640	-.002554	.6065356	.0186739
#3	3.639211	.0123123	.0056229	-.004942	-.001648	.6048407	.0239985

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2023-02 Acquired: 5/19/2025 15:50:00 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.084309	-.022478	2.312460
Stddev	.014964	.000319	.010982
%RSD	.7179582	1.419002	.4748996
#1	2.084436	-.022491	2.325100
#2	2.069281	-.022153	2.305262
#3	2.099209	-.022790	2.307018

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2496.237	61806.73	17795.66	1697.704	3565.696
Stddev	8.244	31.73	105.95	8.474	11.485
%RSD	.3302446	.0513302	.5953891	.4991156	.3220992
#1	2492.610	61787.38	17696.88	1706.936	3565.865
#2	2505.673	61789.45	17782.54	1690.280	3577.095
#3	2490.429	61843.34	17907.56	1695.897	3554.127

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2027-03 Acquired: 5/19/2025 15:54:35 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004155	-.003529	.0036396	.0007439	.0045559	.1000453	.4171681
Stddev	.003102	.001619	.0008994	.0038947	.0011935	.0052519	.0007806
%RSD	74.64847	45.86486	24.71003	523.5260	26.19588	5.249560	.1871175
#1	-.007370	-.003238	.0034635	-.003486	.0054115	.0948754	.4163941
#2	-.001180	-.005274	.0028413	.001536	.0050636	.0998847	.4179551
#3	-.003916	-.002076	.0046140	.004182	.0031925	.1053756	.4171550

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000123	.0005784	231.8138	-.000311	.0060942	.0025064	.3946032
Stddev	.000029	.0000227	.4524	.000223	.0002312	.0006570	.0013749
%RSD	23.20680	3.917427	.1951391	71.67471	3.793906	26.21095	.3484314
#1	-.000133	.0005692	231.6267	-.000312	.0061019	.0018813	.3961734
#2	-.000091	.0005618	231.4851	-.000534	.0058593	.0024468	.3940210
#3	-.000145	.0006042	232.3297	-.000088	.0063215	.0031911	.3936151

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5795502	4.035624	.0215711	-.000262	476.1253	.0030869	.1093928
Stddev	.0011926	.014602	.0007495	.000504	5.8428	.0012162	.0006069
%RSD	.2057841	.3618353	3.474662	192.4605	1.227166	39.39990	.5548039
#1	.5782658	4.027257	.0209327	-.000309	482.0977	.0044855	.1100875
#2	.5797622	4.027130	.0213843	.000264	470.4212	.0022775	.1089658
#3	.5806226	4.052485	.0223964	-.000741	475.8571	.0024977	.1091250

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.378381	.0442379	.0020706	-.007762	.0026573	4.668242	.0158751
Stddev	.014408	.0006570	.0001934	.000440	.0001521	.012513	.0009840
%RSD	.6057700	1.485079	9.340397	5.670830	5.725166	.2680421	6.198186
#1	2.394999	.0447359	.0021474	-.007268	.0026072	4.680851	.0154072
#2	2.370761	.0434933	.0022139	-.007906	.0028281	4.668048	.0152124
#3	2.369385	.0444845	.0018506	-.008112	.0025365	4.655827	.0170057

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2027-03 Acquired: 5/19/2025 15:54:35 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.250224	-.035944	.3995712
Stddev	.017546	.000736	.0005057
%RSD	.4128161	2.047561	.1265672
#1	4.249381	-.035136	.3993981
#2	4.233115	-.036576	.3991749
#3	4.268176	-.036120	.4001408

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2463.727	62028.27	18588.55	1673.259	3484.331
Stddev	.484	143.52	34.93	4.221	3.369
%RSD	.0196497	.2313855	.1878884	.2522861	.0966908
#1	2463.931	61893.43	18607.57	1668.471	3485.585
#2	2463.175	62179.14	18609.83	1676.444	3486.893
#3	2464.076	62012.23	18548.24	1674.862	3480.515

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2027-04 Acquired: 5/19/2025 15:59:00 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002610	-.002713	-.000214	.0012630	.0005264	.0459679	.0813067
Stddev	.002123	.000854	.000810	.0009749	.0016711	.0091559	.0008695
%RSD	81.34112	31.45878	378.9189	77.19459	317.4703	19.91800	1.069425
#1	-.005004	-.002022	.000581	.0019159	-.000821	.0543263	.0822951
#2	-.000957	-.003668	-.000184	.0001423	.002396	.0473952	.0809654
#3	-.001868	-.002450	-.001038	.0017307	.000004	.0361822	.0806596

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000137	-.000029	178.1602	.0377692	-.000542	.0045647	.0117893
Stddev	.000026	.000049	.1922	.0003506	.000096	.0005519	.0051375
%RSD	19.14029	168.2127	.1079063	.9282776	17.78845	12.08991	43.57726
#1	-.000124	-.000032	178.2322	.0381736	-.000546	.0043017	.0170275
#2	-.000120	-.000077	177.9423	.0375830	-.000443	.0041934	.0115815
#3	-.000167	.000021	178.3060	.0375508	-.000636	.0051988	.0067589

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0142123	.0360615	.0004138	-.000222	332.5216	.0017275	.0053101
Stddev	.0002243	.0194770	.0000856	.000575	2.2058	.0007313	.0001633
%RSD	1.577892	54.01057	20.69116	259.3573	.6633558	42.33389	3.075386
#1	.0139718	.0331512	.0003657	-.000881	335.0418	.0024670	.0054179
#2	.0142497	.0568300	.0005127	.000041	331.5803	.0017107	.0051222
#3	.0144156	.0182034	.0003631	.000175	330.9426	.0010047	.0053902

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.650792	.0090618	.0016773	-.005404	-.003085	1.592020	.0074304
Stddev	.020815	.0002344	.0001867	.001989	.000689	.017644	.0042429
%RSD	.4475568	2.587066	11.13247	36.81659	22.32364	1.108277	57.10207
#1	4.662954	.0090602	.0016403	-.007141	-.003210	1.598387	.0047934
#2	4.662663	.0092970	.0018797	-.003233	-.002343	1.605597	.0051730
#3	4.626757	.0088282	.0015118	-.005837	-.003703	1.572076	.0123248

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2027-04 Acquired: 5/19/2025 15:59:00 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	6.252659	-.028833	.4893361
Stddev	.019917	.000562	.0015383
%RSD	.3185377	1.948508	.3143584
#1	6.232857	-.029065	.4907156
#2	6.252432	-.028192	.4876774
#3	6.272689	-.029241	.4896154

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2537.693	62362.34	18492.42	1711.089	3618.176
Stddev	12.300	116.90	97.56	4.237	11.052
%RSD	.4846732	.1874527	.5275758	.2476405	.3054499
#1	2540.500	62234.92	18444.85	1709.225	3622.851
#2	2548.346	62464.62	18604.64	1708.104	3626.122
#3	2524.232	62387.49	18427.77	1715.939	3605.555

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCV04 Acquired: 5/19/2025 16:03:25 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.938652	5.176441	4.882160	5.028393	4.964913	9.920710	9.746771
Stddev	.014850	.025511	.012422	.007668	.006928	.008612	.058537
%RSD	.3006809	.4928339	.2544315	.1524871	.1395397	.0868084	.6005737
#1	4.930130	5.147531	4.869026	5.021985	4.969647	9.912341	9.803134
#2	4.930027	5.195792	4.883734	5.026306	4.956962	9.929546	9.686280
#3	4.955799	5.186001	4.893719	5.036888	4.968132	9.920243	9.750898

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2515536	2.454782	24.26451	.9889431	2.461014	1.246690	4.968577
Stddev	.0001796	.008350	.01926	.0024866	.006590	.002550	.019020
%RSD	.0713799	.3401715	.0793719	.2514386	.2677682	.2045708	.3828009
#1	.2513477	2.445692	24.24240	.9904951	2.455182	1.247651	4.961737
#2	.2516356	2.456544	24.27766	.9860751	2.459697	1.243799	4.990071
#3	.2516776	2.462112	24.27346	.9902591	2.468163	1.248620	4.953924

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.456504	24.33746	2.453731	1.246088	25.05014	2.446212	2.514711
Stddev	.001510	.03502	.007260	.004077	.11450	.005864	.009523
%RSD	.0614581	.1438879	.2958609	.3271845	.4570705	.2396987	.3786887
#1	2.458215	24.32701	2.445665	1.246479	25.08117	2.448478	2.506315
#2	2.455361	24.37651	2.455787	1.249955	25.14593	2.450604	2.525059
#3	2.455935	24.30885	2.459741	1.241829	24.92333	2.439554	2.512759

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.01126	4.964244	4.976470	4.939879	4.894898	4.910451	4.985813
Stddev	.07610	.004992	.008566	.017502	.003036	.016287	.009574
%RSD	.3042688	.1005686	.1721275	.3542956	.0620217	.3316840	.1920300
#1	25.03854	4.969108	4.967852	4.919825	4.892379	4.896664	4.974772
#2	25.06995	4.964491	4.976573	4.952071	4.898268	4.928422	4.990855
#3	24.92527	4.959132	4.984983	4.947741	4.894045	4.906266	4.991814

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCV04 Acquired: 5/19/2025 16:03:25 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.950968	5.028543	4.982736
Stddev	.011224	.007035	.037206
%RSD	.2267051	.1399078	.7466991
#1	4.938892	5.030269	4.970542
#2	4.952929	5.034554	4.953157
#3	4.961082	5.020805	5.024509

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2711.232	63977.92	17818.11	1801.547	3903.641
Stddev	11.974	274.07	53.24	8.813	13.442
%RSD	.4416498	.4283769	.2987846	.4891926	.3443533
#1	2699.472	64204.02	17870.46	1807.047	3893.231
#2	2710.815	63673.11	17764.03	1791.382	3898.876
#3	2723.410	64056.62	17819.83	1806.211	3918.817

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCB04 Acquired: 5/19/2025 16:07:37 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001499	.0018818	-.000530	.0003209	-.000252	.0100428	-.002360
Stddev	.002606	.0007204	.000077	.0022172	.001883	.0052071	.000185
%RSD	173.8938	38.28108	14.52087	690.8847	748.0247	51.84920	7.844331
#1	-.001392	.0019045	-.000442	.0026351	-.001834	.0157369	-.002531
#2	-.004156	.0011503	-.000584	-.001785	-.000752	.0055234	-.002386
#3	.001052	.0025905	-.000564	.000112	.001831	.0088679	-.002164

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000080	.0001500	.0120620	-.000562	.0002135	.0004390	.0067374
Stddev	.0000331	.0000618	.0069664	.000285	.0001565	.0001957	.0038603
%RSD	414.6325	41.23981	57.75455	50.72178	73.27248	44.57091	57.29668
#1	-.000029	.0001309	.0046593	-.000726	.0002100	.0002388	.0100340
#2	.000018	.0000999	.0130376	-.000726	.0003717	.0004484	.0076874
#3	.000035	.0002191	.0184892	-.000233	.0000589	.0006298	.0024908

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000449	-.002667	-.000240	.0000385	-.065313	.0007408	.0069560
Stddev	.000143	.004905	.000140	.0001332	.013032	.0012774	.0002761
%RSD	31.79520	183.8789	58.31364	345.8142	19.95318	172.4394	3.968816
#1	-.000613	.002996	-.000396	.0000792	-.052966	-.000715	.0072540
#2	-.000348	-.005519	-.000125	-.000110	-.064037	.001673	.0069051
#3	-.000388	-.005479	-.000200	.000147	-.078936	.001265	.0067089

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003966	.0071890	.0003800	.0004876	.0008061	-.016786	.0042546
Stddev	.039944	.0004676	.0000903	.0008078	.0000952	.003162	.0029640
%RSD	1007.042	6.504830	23.75449	165.6696	11.80508	18.83866	69.66480
#1	.041120	.0076921	.0004352	.0000386	.0006982	-.018926	.0076603
#2	-.018087	.0071071	.0004290	.0000041	.0008780	-.018278	.0028450
#3	-.034932	.0067676	.0002758	.0014202	.0008421	-.013154	.0022585

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCB04 Acquired: 5/19/2025 16:07:37 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0051043	.0018362	.0000878
Stddev	.0046310	.0008930	.0000359
%RSD	90.72727	48.63431	40.86123
#1	.0008906	.0008187	.0001241
#2	.0043600	.0024899	.0000524
#3	.0100624	.0021999	.0000870

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2780.985	66333.62	18628.27	1875.966	4167.275
Stddev	4.567	125.48	50.91	14.784	6.878
%RSD	.1642212	.1891691	.2732808	.7880832	.1650381
#1	2782.404	66322.05	18683.47	1879.866	4175.209
#2	2775.877	66464.48	18583.16	1888.410	4163.010
#3	2784.674	66214.32	18618.19	1859.623	4163.606

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2032-09 Acquired: 5/19/2025 16:11:56 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003313	-.001966	.0124766	.0035255	.0019761	.1289209	.1644868
Stddev	.002102	.001312	.0010359	.0001920	.0005537	.0007827	.0006107
%RSD	63.46684	66.72787	8.302849	5.445855	28.02163	.6070985	.3712776
#1	-.005689	-.001099	.0112814	.0035781	.0020352	.1298226	.1646709
#2	-.002553	-.003476	.0131154	.0033127	.0024979	.1285227	.1638052
#3	-.001695	-.001325	.0130330	.0036857	.0013952	.1284173	.1649843

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002038	-.000092	2.740975	.0009001	.0023114	.0063747	1.545967
Stddev	.0000107	.000022	.017758	.0002459	.0003420	.0004016	.006639
%RSD	5.240233	24.54840	.6478799	27.32412	14.79679	6.299202	.4294181
#1	.0002104	-.000067	2.723643	.0007655	.0023070	.0067903	1.538499
#2	.0002094	-.000096	2.740151	.0007509	.0019716	.0059888	1.551197
#3	.0001915	-.000111	2.759130	.0011840	.0026556	.0063451	1.548206

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0938636	.3074727	.0022850	-.000145	324.4728	.0015888	.0520134
Stddev	.0002211	.0154347	.0002879	.000316	2.0110	.0010208	.0006741
%RSD	.2355980	5.019852	12.59989	218.2899	.6197768	64.25217	1.295995
#1	.0936376	.3224334	.0020588	.000194	323.8882	.0024992	.0517879
#2	.0940796	.3083804	.0026090	-.000431	322.8188	.0004852	.0514811
#3	.0938735	.2916042	.0021870	-.000197	326.7113	.0017820	.0527714

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3317964	.0196829	-.000204	-.001675	.0012170	.2773490	.0105618
Stddev	.0179644	.0006545	.000070	.000460	.0007251	.0090916	.0022166
%RSD	5.414274	3.324985	34.10184	27.47481	59.58068	3.278042	20.98676
#1	.3182123	.0189279	-.000145	-.001324	.0016838	.2727056	.0086509
#2	.3250120	.0200892	-.000281	-.001506	.0003816	.2715168	.0100425
#3	.3521650	.0200315	-.000187	-.002196	.0015855	.2878246	.0129919

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2032-09 Acquired: 5/19/2025 16:11:56 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.3340546	-.002828	.0188740
Stddev	.0008808	.000807	.0000384
%RSD	.2636786	28.54237	.2033966
#1	.3333363	-.001930	.0188301
#2	.3350374	-.003493	.0189012
#3	.3337900	-.003062	.0188906

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2653.648	63811.93	19130.34	1780.676	3788.426
Stddev	4.225	63.34	15.46	4.806	1.987
%RSD	.1592253	.0992527	.0808156	.2699171	.0524618
#1	2657.900	63877.60	19132.06	1786.209	3788.828
#2	2653.593	63751.22	19144.87	1778.277	3790.181
#3	2649.450	63806.97	19114.09	1777.541	3786.268

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2034-04 Acquired: 5/19/2025 16:16:22 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005610	-.002862	.0090066	.0031623	.0004651	.1091340	.1321190
Stddev	.000411	.000964	.0016150	.0002552	.0010344	.0052137	.0008830
%RSD	7.332218	33.68349	17.93115	8.068808	222.4284	4.777288	.6683658
#1	-.006081	-.003919	.0104044	.0030005	.0014316	.1144307	.1317798
#2	-.005423	-.002032	.0093768	.0034564	-.000626	.1040076	.1314559
#3	-.005324	-.002636	.0072387	.0030299	.000590	.1089638	.1331213

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000006	.0004971	6.785807	-.000710	-.000106	.0108320	.0379439
Stddev	.0000231	.0000733	.025862	.000099	.000353	.0003654	.0028988
%RSD	3747.442	14.73614	.3811165	13.97299	334.2428	3.373270	7.639783
#1	-.000004	.0004356	6.756230	-.000646	-.000425	.0109208	.0410782
#2	-.000020	.0005782	6.797023	-.000661	-.000167	.0104304	.0373945
#3	.000026	.0004776	6.804166	-.000825	.000274	.0111448	.0353591

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0281737	.4424143	.0029139	.0000582	346.4322	.0012440	.0938795
Stddev	.0003863	.0084156	.0001714	.0002198	.4499	.0015494	.0006464
%RSD	1.371128	1.902191	5.882111	377.8550	.1298582	124.5541	.6885595
#1	.0283015	.4515502	.0028352	.0001168	346.2540	.0019111	.0945325
#2	.0284799	.4349787	.0031106	.0002427	346.0987	-.000527	.0938662
#3	.0277397	.4407139	.0027960	-.000185	346.9438	.002348	.0932399

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5441875	.0125343	.0000917	-.002024	.0014926	.3062956	.0176910
Stddev	.0255768	.0002858	.0002186	.000200	.0007692	.0050545	.0036167
%RSD	4.700001	2.280325	238.3927	9.863860	51.53406	1.650204	20.44357
#1	.5338518	.0126065	.0001823	-.001802	.0009201	.3016008	.0197822
#2	.5253959	.0122193	.0002503	-.002081	.0023670	.3056402	.0135148
#3	.5733148	.0127771	-.000158	-.002189	.0011908	.3116459	.0197759

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2034-04 Acquired: 5/19/2025 16:16:22 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2145283	-.004742	.0515685
Stddev	.0018500	.000504	.0000958
%RSD	.8623600	10.63549	.1857343
#1	.2127326	-.004190	.0515060
#2	.2164282	-.005179	.0515209
#3	.2144240	-.004857	.0516788

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2632.795	64092.15	18706.45	1787.844	3742.434
Stddev	13.653	70.51	90.00	5.364	24.199
%RSD	.5185604	.1100068	.4811427	.3000371	.6466120
#1	2644.724	64097.59	18797.36	1790.945	3764.641
#2	2635.755	64159.78	18617.38	1790.938	3746.018
#3	2617.905	64019.08	18704.60	1781.650	3716.642

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2034-08 Acquired: 5/19/2025 16:20:49 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005581	-.003409	.0107111	.0034051	.0008410	.0695032	.1727496
Stddev	.002600	.002221	.0010044	.0023624	.0004190	.0055495	.0019475
%RSD	46.59238	65.15260	9.377014	69.37743	49.81811	7.984560	1.127358
#1	-.006741	-.001336	.0111173	.0026166	.0010539	.0650149	.1709962
#2	-.007398	-.005753	.0095673	.0015378	.0011108	.0757082	.1724069
#3	-.002602	-.003138	.0114488	.0060609	.0003583	.0677864	.1748457

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000020	.0006099	9.753350	-.000383	.0002663	.0107977	.0117369
Stddev	.000023	.0000389	.026646	.000549	.0000378	.0004665	.0013070
%RSD	114.5922	6.383471	.2731934	143.5351	14.20342	4.320724	11.13569
#1	.000002	.0005653	9.733753	.000205	.0002244	.0112220	.0113589
#2	-.000043	.0006373	9.742607	-.000470	.0002978	.0108731	.0131913
#3	-.000019	.0006271	9.783690	-.000882	.0002767	.0102981	.0106606

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0758594	1.227946	.0034312	.0000348	311.3101	.0022061	.1097569
Stddev	.0005239	.015072	.0004824	.0002879	4.6932	.0012949	.0005200
%RSD	.6906542	1.227381	14.06043	826.6502	1.507556	58.69507	.4737992
#1	.0758600	1.212188	.0039504	.0003534	315.7809	.0034660	.1091652
#2	.0753352	1.229430	.0033463	-.000042	311.7271	.0008789	.1099641
#3	.0763831	1.242221	.0029968	-.000207	306.4223	.0022732	.1101413

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3806249	.0181158	-.000002	-.001137	.0002734	.7856969	.0125875
Stddev	.0116793	.0003230	.000140	.001019	.0002190	.0128188	.0005088
%RSD	3.068443	1.782845	6514.488	89.62942	80.09365	1.631523	4.042210
#1	.3710142	.0181917	-.000006	-.001588	.0002741	.7832259	.0131732
#2	.3936236	.0183940	-.000141	-.001852	.0004920	.7742935	.0122549
#3	.3772370	.0177616	.000140	.000030	.0000540	.7995714	.0123345

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2034-08 Acquired: 5/19/2025 16:20:49 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.3544367	-.004683	.0504924
Stddev	.0027090	.000307	.0001445
%RSD	.7643231	6.549714	.2861646
#1	.3574430	-.005023	.0504223
#2	.3521849	-.004596	.0503963
#3	.3536821	-.004428	.0506586

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2647.352	64212.32	18186.83	1794.253	3803.714
Stddev	7.625	134.26	55.80	2.883	9.435
%RSD	.2880183	.2090817	.3068274	.1606765	.2480411
#1	2647.627	64116.19	18148.46	1797.543	3803.085
#2	2654.836	64365.71	18250.85	1793.045	3813.448
#3	2639.593	64155.06	18161.20	1792.170	3794.610

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2034-12 Acquired: 5/19/2025 16:25:16 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002583	-.003554	.0191308	.0019236	.0004296	.1290703	.2319383
Stddev	.001693	.003338	.0012022	.0004069	.0013844	.0013660	.0003312
%RSD	65.55686	93.91911	6.284328	21.15155	322.2287	1.058310	.1427963
#1	-.000672	-.005239	.0191334	.0016125	-.000775	.1281181	.2322567
#2	-.003895	.000291	.0179272	.0017741	.000122	.1306353	.2315956
#3	-.003181	-.005712	.0203317	.0023840	.001942	.1284574	.2319625

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000488	.0013186	52.32673	-.000463	.0002403	.0140497	.0299992
Stddev	.0000490	.0000553	.15121	.000304	.0000870	.0004562	.0058846
%RSD	100.5215	4.190800	.2889739	65.68658	36.21515	3.247004	19.61597
#1	.0001053	.0013421	52.21455	-.000314	.0003165	.0144626	.0360069
#2	.0000196	.0013582	52.26695	-.000261	.0002588	.0135600	.0297447
#3	.0000214	.0012555	52.49869	-.000812	.0001455	.0141266	.0242459

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1227690	2.756465	.0079599	-.000311	348.9183	.0017103	.2209504
Stddev	.0005156	.010573	.0004214	.000226	2.3402	.0001285	.0004193
%RSD	.4199492	.3835692	5.293970	72.53878	.6707054	7.513562	.1897923
#1	.1226274	2.744898	.0080733	-.000561	350.5429	.0016566	.2205992
#2	.1223391	2.765631	.0083131	-.000121	346.2359	.0018569	.2214147
#3	.1233406	2.758866	.0074934	-.000252	349.9760	.0016173	.2208373

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.146754	.0148513	.0000565	-.004456	.0000142	1.560433	.0253417
Stddev	.007990	.0010055	.0003352	.000265	.0009137	.010501	.0021296
%RSD	.6967340	6.770178	592.8167	5.955468	6438.118	.6729391	8.403643
#1	1.146448	.0138233	.0004388	-.004453	.0005402	1.566670	.0233241
#2	1.138921	.0158326	-.000187	-.004723	-.001041	1.566319	.0275680
#3	1.154892	.0148978	-.000082	-.004192	.000543	1.548309	.0251331

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2034-12 Acquired: 5/19/2025 16:25:16 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.268827	-.009999	.2491611
Stddev	.010949	.001124	.0004203
%RSD	.8629244	11.24518	.1686854
#1	1.281400	-.011297	.2488265
#2	1.263693	-.009384	.2496328
#3	1.261388	-.009317	.2490240

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2665.429	63684.02	18991.90	1776.405	3787.868
Stddev	6.198	68.00	34.23	3.568	10.496
%RSD	.2325407	.1067706	.1802240	.2008499	.2771055
#1	2659.295	63647.84	18978.65	1777.971	3777.856
#2	2665.304	63762.45	19030.78	1772.322	3786.960
#3	2671.689	63641.76	18966.28	1778.922	3798.789

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2034-16 Acquired: 5/19/2025 16:29:41 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002521	-.003169	.0225531	.0049007	-.000695	.1735657	.1519152
Stddev	.004874	.002485	.0021268	.0006146	.000769	.0053447	.0016610
%RSD	193.3389	78.42026	9.430319	12.54121	110.7164	3.079325	1.093393
#1	-.005675	-.004114	.0203124	.0054703	-.000631	.1706805	.1530946
#2	-.004981	-.000350	.0228028	.0042493	-.001494	.1702837	.1526352
#3	.003093	-.005044	.0245439	.0049826	.000041	.1797330	.1500156

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001218	.0004808	7.964034	.0527140	.0038128	.0520420	.1868724
Stddev	.0000420	.0000673	.015380	.0001196	.0000516	.0003510	.0028260
%RSD	34.49134	13.99357	.1931192	.2269528	1.353580	.6744773	1.512244
#1	.0001365	.0005311	7.973169	.0526550	.0038128	.0524306	.1849224
#2	.0000744	.0004044	7.972656	.0528517	.0037612	.0517479	.1855815
#3	.0001544	.0005068	7.946277	.0526353	.0038644	.0519476	.1901133

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8664228	.6566209	.0237770	-.000240	352.4278	.0009148	.1355641
Stddev	.0019761	.0140199	.0003488	.000186	2.5987	.0008477	.0010976
%RSD	.2280731	2.135161	1.466997	77.47096	.7373574	92.66441	.8096315
#1	.8673462	.6426709	.0240440	-.000069	354.5858	.0000197	.1367075
#2	.8677681	.6707097	.0233823	-.000213	349.5431	.0010195	.1354658
#3	.8641540	.6564822	.0239046	-.000438	353.1544	.0017054	.1345190

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.792850	.0126482	.0003766	-.002249	.0010735	.7232471	.0203375
Stddev	.064335	.0008612	.0001337	.000844	.0004206	.0128276	.0018645
%RSD	3.588417	6.808721	35.51275	37.54859	39.17568	1.773609	9.167864
#1	1.797080	.0118658	.0002333	-.001786	.0009626	.7180646	.0182529
#2	1.854965	.0125078	.0003983	-.003224	.0007196	.7138216	.0209139
#3	1.726504	.0135709	.0004981	-.001738	.0015385	.7378551	.0218458

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2034-16 Acquired: 5/19/2025 16:29:41 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.6170877	-.003134	.0647069
Stddev	.0042901	.000843	.0002519
%RSD	.6952106	26.91142	.3893040
#1	.6197971	-.002233	.0648292
#2	.6121415	-.003263	.0648743
#3	.6193246	-.003905	.0644172

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2572.307	63178.09	17882.73	1752.835	3654.972
Stddev	7.595	328.52	70.80	10.150	6.823
%RSD	.2952520	.5199945	.3959232	.5790898	.1866727
#1	2566.797	63225.30	17832.94	1751.805	3648.763
#2	2580.970	63480.46	17963.78	1763.462	3662.276
#3	2569.153	62828.52	17851.46	1743.239	3653.875

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2034-20 Acquired: 5/19/2025 16:34:08 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.006509	-.003176	.0102056	.0029586	.0013857	.0525502	.3036379
Stddev	.001553	.001385	.0025863	.0076704	.0009156	.0034150	.0019354
%RSD	23.85447	43.60667	25.34201	259.2567	66.07426	6.498617	.6373948
#1	-.005044	-.002451	.0075966	-.005319	.0011631	.0489555	.3035085
#2	-.008137	-.002304	.0127686	.009825	.0006020	.0529435	.3017705
#3	-.006345	-.004773	.0102515	.004370	.0023921	.0557515	.3056347

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000383	.0008361	12.54905	-.000582	-.000020	.0153227	.0240612
Stddev	.0000391	.0000840	.05989	.000430	.000171	.0001579	.0040944
%RSD	102.1300	10.04366	.4772120	73.96092	839.0689	1.030452	17.01670
#1	.0000306	.0008934	12.50499	-.000502	-.000195	.0154834	.0195135
#2	.0000807	.0007397	12.52492	-.000197	-.000013	.0151678	.0252159
#3	.0000036	.0008753	12.61723	-.001046	.000147	.0153170	.0274544

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0600106	1.067171	.0042782	-.000091	312.5489	.0023946	.1852273
Stddev	.0004345	.034643	.0003801	.000363	.9683	.0009574	.0013796
%RSD	.7239748	3.246240	8.883295	399.9737	.3098206	39.98197	.7447925
#1	.0595754	1.072722	.0041071	-.000390	313.6175	.0013257	.1854645
#2	.0600120	1.030087	.0047138	.000313	311.7296	.0031735	.1837446
#3	.0604444	1.098703	.0040138	-.000196	312.2997	.0026845	.1864729

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.585381	.0452168	.0004636	-.002860	.0008127	.7269399	.1023187
Stddev	.038368	.0002185	.0002599	.000941	.0004267	.0113026	.0033407
%RSD	2.420113	.4832832	56.05954	32.90070	52.50750	1.554824	3.265037
#1	1.552454	.0453036	.0002127	-.003947	.0009683	.7259589	.1026079
#2	1.627515	.0449682	.0004464	-.002314	.0011398	.7387011	.1055054
#3	1.576176	.0453786	.0007316	-.002320	.0003300	.7161598	.0988427

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2034-20 Acquired: 5/19/2025 16:34:08 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.3328803	-.004823	.0891564
Stddev	.0052901	.000412	.0003444
%RSD	1.589177	8.548373	.3863361
#1	.3340847	-.004491	.0888937
#2	.3270918	-.004693	.0890291
#3	.3374642	-.005284	.0895464

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2607.970	62534.33	18179.80	1741.611	3729.783
Stddev	6.014	133.64	115.65	13.092	6.483
%RSD	.2306154	.2137083	.6361716	.7516934	.1738147
#1	2607.591	62501.80	18234.57	1727.099	3722.345
#2	2614.165	62419.95	18257.89	1752.532	3732.772
#3	2602.154	62681.23	18046.93	1745.203	3734.232

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2034-24 Acquired: 5/19/2025 16:38:34 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005127	-.002902	.0040685	.0055327	.0008755	.1929011	.1629492
Stddev	.002737	.000707	.0000489	.0021362	.0016738	.0047291	.0005063
%RSD	53.38426	24.36811	1.203015	38.61043	191.1910	2.451589	.3107004
#1	-.003104	-.002116	.0040333	.0031177	.0017060	.1970672	.1628126
#2	-.004036	-.003486	.0041244	.0071750	-.001051	.1938754	.1625253
#3	-.008241	-.003105	.0040478	.0063054	.001972	.1877607	.1635098

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000009	.0004641	5.594389	-.000543	.0010673	.0209561	.0325812
Stddev	.000070	.0000347	.023981	.000255	.0001956	.0001590	.0020991
%RSD	791.5477	7.471717	.4286700	46.95751	18.32391	.7587450	6.442615
#1	.000071	.0004981	5.601562	-.000807	.0012629	.0207919	.0306890
#2	-.000037	.0004288	5.567639	-.000524	.0010672	.0211093	.0322155
#3	-.000061	.0004655	5.613965	-.000298	.0008718	.0209669	.0348391

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8812603	1.101915	.0130258	-.000318	303.0348	.0019453	.2660651
Stddev	.0016112	.006840	.0003136	.000445	4.3859	.0011498	.0017805
%RSD	.1828270	.6207104	2.407339	140.0449	1.447323	59.10755	.6692102
#1	.8829453	1.109765	.0130666	.000115	307.6835	.0018603	.2669802
#2	.8797348	1.097235	.0126938	-.000295	302.4505	.0031354	.2640131
#3	.8811008	1.098746	.0133170	-.000774	298.9703	.0008404	.2672019

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6890314	.0082872	-.000017	-.002539	.0005381	.4487840	.0137884
Stddev	.0303384	.0009675	.000398	.001723	.0005186	.0085740	.0011527
%RSD	4.403045	11.67512	2376.056	67.84258	96.38479	1.910501	8.360205
#1	.7236047	.0093112	.000191	-.003756	.0011358	.4585901	.0140843
#2	.6766367	.0073883	.000234	-.003293	.0002069	.4450621	.0125166
#3	.6668528	.0081620	-.000476	-.000568	.0002716	.4426999	.0147644

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2034-24 Acquired: 5/19/2025 16:38:34 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.6524525	-.003482	.0408906
Stddev	.0047896	.000097	.0001031
%RSD	.7340926	2.793674	.2521383
#1	.6563526	-.003404	.0408402
#2	.6471065	-.003451	.0410092
#3	.6538983	-.003591	.0408225

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2630.920	63797.73	18899.09	1799.126	3767.795
Stddev	4.407	457.39	96.09	12.962	8.621
%RSD	.1674954	.7169306	.5084415	.7204811	.2287967
#1	2634.329	63282.59	19008.72	1785.560	3777.715
#2	2632.486	64156.16	18829.44	1811.386	3763.543
#3	2625.943	63954.45	18859.12	1800.432	3762.126

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2048-04 Acquired: 5/19/2025 16:42:58 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002654	-.001950	.0042702	.0010194	.0009328	.1242539	.4114022
Stddev	.001593	.001999	.0018920	.0030014	.0018531	.0019259	.0010711
%RSD	60.00408	102.5244	44.30651	294.4218	198.6616	1.549950	.2603527
#1	-.003261	-.000390	.0059980	-.002090	.0013162	.1233664	.4110479
#2	-.003855	-.004204	.0045642	.001249	.0025643	.1229317	.4105532
#3	-.000847	-.001257	.0022484	.003900	-.001082	.1264635	.4126056

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004485	.0001150	10.71891	-.000972	-.000155	.0145161	.0566705
Stddev	.0000578	.0000888	.06408	.000260	.000172	.0000744	.0017773
%RSD	12.89223	77.19186	.5977934	26.77624	111.4886	.5125297	3.136185
#1	.0004256	.0000415	10.65354	-.001085	.000042	.0145800	.0558123
#2	.0004056	.0002137	10.72160	-.000674	-.000280	.0144345	.0587141
#3	.0005143	.0000899	10.78161	-.001156	-.000226	.0145340	.0554852

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0272256	1.963290	.0043643	.0001307	304.8769	.0009121	.1653780
Stddev	.0000848	.027388	.0003362	.0002530	.5949	.0020153	.0004902
%RSD	.3114624	1.395024	7.703321	193.5642	.1951365	220.9617	.2964097
#1	.0271889	1.931766	.0039870	-.000110	304.5593	.0012521	.1655369
#2	.0271654	1.981246	.0044736	.000108	304.5081	.0027357	.1657689
#3	.0273226	1.976857	.0046322	.000394	305.5632	-.001252	.1648280

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4338392	.0979518	-.000263	-.002006	.0021441	.4998450	.0349389
Stddev	.0181845	.0008821	.000200	.000720	.0007663	.0029506	.0060028
%RSD	4.191525	.9005138	76.07615	35.87336	35.73821	.5903001	17.18090
#1	.4511173	.0988916	-.000121	-.002644	.0021886	.4985290	.0418602
#2	.4355334	.0971418	-.000176	-.002149	.0028871	.4977815	.0318033
#3	.4148670	.0978221	-.000492	-.001226	.0013565	.5032246	.0311532

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2048-04 Acquired: 5/19/2025 16:42:58 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.5479238	-.003793	.0773709
Stddev	.0047353	.000255	.0000562
%RSD	.8642188	6.713321	.0726382
#1	.5485345	-.003575	.0773885
#2	.5523242	-.003731	.0773081
#3	.5429129	-.004073	.0774163

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2645.051	64003.39	17890.25	1807.582	3775.056
Stddev	9.433	57.89	96.59	7.418	4.518
%RSD	.3566293	.0904438	.5399180	.4103985	.1196707
#1	2655.674	63936.84	18001.00	1816.148	3777.866
#2	2637.657	64042.11	17846.36	1803.287	3777.457
#3	2641.821	64031.20	17823.40	1803.311	3769.845

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCV05 Acquired: 5/19/2025 16:47:26 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.887681	5.194844	4.867914	4.991918	4.933604	9.907306	9.845144
Stddev	.035590	.019847	.018554	.020461	.013984	.027135	.092735
%RSD	.7281620	.3820478	.3811513	.4098874	.2834507	.2738851	.9419362
#1	4.847795	5.205840	4.847590	4.973617	4.918294	9.879453	9.738065
#2	4.899049	5.171933	4.872205	4.988129	4.936813	9.908804	9.899220
#3	4.916198	5.206758	4.883946	5.014010	4.945705	9.933660	9.898148

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2576483	2.438781	24.33943	.9795190	2.450684	1.237166	4.731784
Stddev	.0042490	.008438	.15272	.0037195	.006381	.005994	.035239
%RSD	1.649152	.3459915	.6274794	.3797285	.2603756	.4845197	.7447307
#1	.2533163	2.429498	24.17029	.9769351	2.443484	1.231404	4.769711
#2	.2578195	2.440860	24.38074	.9778398	2.452933	1.236726	4.725586
#3	.2618091	2.445985	24.46724	.9837820	2.455637	1.243368	4.700055

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.475712	24.47358	2.441088	1.223391	23.89635	2.448593	2.468930
Stddev	.013205	.22857	.007984	.001347	.40080	.012144	.012385
%RSD	.5333706	.9339555	.3270707	.1101128	1.677239	.4959481	.5016373
#1	2.460974	24.22958	2.432193	1.224320	24.31507	2.434708	2.480050
#2	2.479698	24.50843	2.443436	1.224007	23.85771	2.457230	2.471157
#3	2.486465	24.68273	2.447635	1.221846	23.51627	2.453842	2.455583

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.81732	5.112322	4.971215	4.913234	4.900440	4.651113	4.993984
Stddev	.33912	.091080	.013712	.018098	.018697	.043748	.035097
%RSD	1.423826	1.781576	.2758266	.3683469	.3815459	.9405999	.7027860
#1	24.12612	5.020912	4.961010	4.892502	4.879698	4.693678	4.953458
#2	23.87146	5.112986	4.965833	4.921327	4.905621	4.653391	5.014233
#3	23.45439	5.203069	4.986801	4.925873	4.916000	4.606270	5.014263

Sample Name: CCV05 Acquired: 5/19/2025 16:47:26 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.903372	5.043572	4.951126
Stddev	.014279	.016265	.046685
%RSD	.2912149	.3224918	.9429190
#1	4.887733	5.048501	4.902374
#2	4.906666	5.056803	4.955579
#3	4.915716	5.025413	4.995425

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2743.319	65443.52	17282.28	1853.049	3955.193
Stddev	3.622	310.85	251.97	10.113	8.289
%RSD	.1320265	.4749824	1.457967	.5457462	.2095800
#1	2741.124	65147.65	17487.95	1843.082	3950.255
#2	2741.334	65767.44	17357.67	1863.302	3950.562
#3	2747.500	65415.49	17001.22	1852.763	3964.763

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCB05 Acquired: 5/19/2025 16:51:37 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000996	.0000011	-.000713	-.001235	.0003907	.0059271	-.004544
Stddev	.001420	.0016304	.001637	.001315	.0019182	.0052178	.000432
%RSD	142.5685	153750.8	229.4596	106.4690	490.9027	88.03322	9.503024
#1	-.002282	.0014854	-.002573	-.001576	.0024067	.0111589	-.004387
#2	.000528	.0002618	.000507	-.002345	-.001412	.0007233	-.005033
#3	-.001233	-.001744	-.000074	.000217	.000177	.0058991	-.004213

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000019	.0000730	.0149575	-.000231	.0000980	.0000927	.0027451
Stddev	.000023	.0001091	.0022498	.000383	.0002290	.0001326	.0045645
%RSD	122.3921	149.4369	15.04107	165.8688	233.6820	143.0050	166.2767
#1	-.000045	.0000277	.0125634	-.000227	.0002883	.0000052	.0040201
#2	-.000011	-.000006	.0152813	-.000616	.0001617	.0000276	-.002321
#3	-.000001	.000197	.0170279	.000150	-.000156	.0002452	.006536

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000294	.0153487	.0002095	.0001503	.0931454	.0015327	.0022345
Stddev	.000274	.0097384	.0003670	.0001765	.0315039	.0007724	.0003852
%RSD	92.94984	63.44764	175.2354	117.4082	33.82223	50.39308	17.23866
#1	-.000609	.0167298	.0002804	.0002297	.1276702	.0008512	.0026150
#2	-.000109	.0243229	.0005359	.0002731	.0858091	.0023716	.0022437
#3	-.000165	.0049935	-.000188	-.000052	.0659571	.0013752	.0018448

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0274641	.0076103	.0006334	.0015925	.0007261	-.009468	.0004384
Stddev	.0358861	.0008114	.0002161	.0008644	.0010792	.002854	.0013362
%RSD	130.6654	10.66181	34.11682	54.27726	148.6225	30.14551	304.7980
#1	.0401636	.0078663	.0005453	.0009755	.0016607	-.012602	.0005391
#2	-.013045	.0082628	.0004753	.0025804	-.000455	-.007018	-.000945
#3	.055274	.0067017	.0008796	.0012216	.000973	-.008785	.001721

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCB05 Acquired: 5/19/2025 16:51:37 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB05 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0024388	.0022935	.0001048
Stddev	.0060215	.0006716	.0000378
%RSD	246.9002	29.28392	36.08092
#1	-.004383	.0024982	.0001473
#2	.004688	.0015433	.0000750
#3	.007012	.0028389	.0000920

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2792.085	66756.81	18599.94	1891.424	4173.582
Stddev	5.854	154.31	58.62	12.208	8.480
%RSD	.2096608	.2311555	.3151387	.6454361	.2031719
#1	2789.218	66593.09	18627.97	1878.017	4173.031
#2	2798.820	66899.57	18639.27	1901.898	4182.323
#3	2788.218	66777.78	18532.57	1894.356	4165.391

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2048-08 Acquired: 5/19/2025 16:55:57 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003055	-.002909	.0037687	.0028241	.0006152	.0342939	.3295461
Stddev	.002368	.003983	.0005008	.0020924	.0005139	.0050073	.0025464
%RSD	77.48436	136.8874	13.28802	74.09275	83.53293	14.60098	.7727088
#1	-.004396	-.003230	.0036603	.0041215	.0011159	.0293065	.3308425
#2	-.004449	.001224	.0043148	.0004102	.0006406	.0393208	.3266123
#3	-.000322	-.006722	.0033309	.0039405	.0000890	.0342545	.3311835

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000009	.0001716	11.76279	-.000787	-.000119	.0121709	.0269776
Stddev	.0000287	.0000489	.06924	.000218	.000268	.0002016	.0043721
%RSD	3159.736	28.49849	.5886163	27.67895	225.6989	1.656045	16.20635
#1	-.000005	.0001460	11.74605	-.000720	-.000224	.0123706	.0225566
#2	.000032	.0001408	11.70347	-.001031	-.000319	.0119675	.0270771
#3	-.000024	.0002280	11.83887	-.000612	.000186	.0121747	.0312991

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0133986	1.002693	.0003045	-.000209	325.1399	.0028120	.0997301
Stddev	.0001111	.017329	.0000924	.000121	3.0956	.0013869	.0004530
%RSD	.8288758	1.728231	30.34141	57.85299	.9520772	49.31956	.4542451
#1	.0133649	1.007263	.0002631	-.000345	326.6180	.0042056	.0995434
#2	.0133083	.983537	.0002401	-.000115	321.5823	.0027986	.1002467
#3	.0135226	1.017278	.0004104	-.000167	327.2194	.0014319	.0994003

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.136655	.0544078	.0002195	-.003450	.0003172	.8607304	.1840612
Stddev	.014512	.0002786	.0001865	.001103	.0005677	.0029063	.0026800
%RSD	1.276772	.5119613	84.98802	31.96412	178.9663	.3376587	1.456043
#1	1.148128	.0544248	.0002330	-.002926	-.000316	.8628942	.1868063
#2	1.141497	.0541211	.0003989	-.002707	.000782	.8618700	.1814515
#3	1.120341	.0546774	.0000266	-.004717	.000486	.8574270	.1839258

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2048-08 Acquired: 5/19/2025 16:55:57 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.4226564	-.004637	.0742732
Stddev	.0013101	.000984	.0002783
%RSD	.3099593	21.22437	.3746389
#1	.4219633	-.003539	.0743276
#2	.4218384	-.005441	.0739717
#3	.4241674	-.004931	.0745202

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2614.685	63190.78	18691.90	1776.618	3734.860
Stddev	15.342	141.06	87.48	7.765	13.078
%RSD	.5867736	.2232297	.4680039	.4370595	.3501729
#1	2618.634	63350.40	18785.38	1785.518	3741.222
#2	2627.667	63082.88	18678.31	1771.229	3743.540
#3	2597.755	63139.06	18612.02	1773.105	3719.817

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2048-12 Acquired: 5/19/2025 17:00:23 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001056	-.001921	.0025435	.0027424	-.000002	.0380832	.1416598
Stddev	.002271	.003078	.0013469	.0010504	.001771	.0032887	.0004125
%RSD	214.9698	160.2452	52.95455	38.30163	102439.6	8.635500	.2912055
#1	-.001520	-.004240	.0015049	.0030755	.001236	.0353618	.1421332
#2	-.003059	-.003094	.0020603	.0015658	-.002030	.0371503	.1414696
#3	.001411	.001571	.0040654	.0035858	.000789	.0417376	.1413768

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000057	.0000787	7.092524	.0000776	-.000030	.0081787	.0149224
Stddev	.0000219	.0000434	.002508	.0001704	.000190	.0004845	.0021147
%RSD	383.2345	55.23459	.0353610	219.6530	631.0233	5.924227	14.17125
#1	-.000006	.0000503	7.095401	.0000544	-.000052	.0083645	.0157208
#2	.000031	.0000570	7.090799	-.000080	-.000209	.0076288	.0125247
#3	-.000007	.0001287	7.091371	.000258	.000170	.0085428	.0165216

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0138824	.8326263	.0003082	-.000068	238.6762	.0017250	.0298878
Stddev	.0003337	.0270189	.0001609	.000277	1.8192	.0012537	.0002501
%RSD	2.403901	3.245026	52.20788	405.8937	.7622011	72.67446	.8366857
#1	.0135266	.8133506	.0004528	-.000266	237.3333	.0014757	.0301267
#2	.0139319	.8210188	.0003369	.000248	237.9488	.0006148	.0299088
#3	.0141885	.8635093	.0001349	-.000186	240.7466	.0030846	.0296279

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2303323	.0207528	.0000407	-.002998	.0008443	.4659955	.0239466
Stddev	.0194220	.0008344	.0001234	.000736	.0003633	.0038955	.0003687
%RSD	8.432165	4.020714	303.0881	24.56603	43.02820	.8359473	1.539590
#1	.2312190	.0214634	-.000050	-.003762	.0005094	.4696596	.0237551
#2	.2492959	.0209609	.000181	-.002940	.0012305	.4664231	.0243716
#3	.2104822	.0198340	-.000009	-.002292	.0007931	.4619039	.0237130

Sample Name: Q2048-12 Acquired: 5/19/2025 17:00:23 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2109842	-.004751	.0438246
Stddev	.0039398	.000582	.0000951
%RSD	1.867341	12.24781	.2170365
#1	.2083643	-.005335	.0437627
#2	.2155150	-.004172	.0437770
#3	.2090732	-.004745	.0439341

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2680.808	64706.50	17914.21	1806.105	3868.864
Stddev	11.258	124.43	28.64	4.744	4.451
%RSD	.4199599	.1922917	.1598885	.2626766	.1150592
#1	2670.530	64643.06	17882.13	1804.735	3866.541
#2	2692.840	64849.86	17937.23	1811.383	3873.996
#3	2679.053	64626.58	17923.26	1802.195	3866.053

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2048-16 Acquired: 5/19/2025 17:04:50 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005021	-.002527	.0007630	.0047209	-.000350	.0753758	.3361192
Stddev	.004149	.000894	.0007503	.0039407	.001880	.0068617	.0008975
%RSD	82.62787	35.37761	98.33455	83.47257	536.5905	9.103271	.2670146
#1	-.000707	-.002592	.0005968	.0024600	.001481	.0675273	.3355571
#2	-.008982	-.003387	.0001097	.0092713	-.002276	.0783605	.3371543
#3	-.005373	-.001603	.0015824	.0024316	-.000256	.0802397	.3356463

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000922	.0005163	13.79364	-.000393	-.000277	.0199118	.0462864
Stddev	.0000142	.0002187	.02982	.000262	.000102	.0002994	.0032859
%RSD	15.40749	42.36498	.2162117	66.60274	36.78498	1.503574	7.099016
#1	.0000844	.0007684	13.77570	-.000613	-.000241	.0196158	.0486459
#2	.0001086	.0004039	13.82807	-.000103	-.000392	.0202144	.0476798
#3	.0000835	.0003766	13.77715	-.000463	-.000197	.0199052	.0425334

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0067068	1.130167	.0023394	-.000091	322.9583	.0016743	.1438529
Stddev	.0000951	.028037	.0002995	.000205	4.2429	.0005388	.0008107
%RSD	1.417995	2.480789	12.80096	226.2963	1.313750	32.18254	.5635536
#1	.0067535	1.115988	.0026602	.000145	319.0217	.0012340	.1429172
#2	.0067694	1.112051	.0020672	-.000226	327.4523	.0022751	.1442974
#3	.0065973	1.162461	.0022908	-.000190	322.4008	.0015136	.1443442

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8865887	.0341576	-.000108	-.002723	.0009034	.6589568	.2316134
Stddev	.0081258	.0007942	.000472	.000654	.0005658	.0065523	.0015073
%RSD	.9165288	2.325039	435.1865	24.01169	62.62733	.9943443	.6507942
#1	.8940449	.0344695	-.000404	-.001972	.0012652	.6514718	.2333217
#2	.8779277	.0332548	.000436	-.003027	.0002514	.6636549	.2310478
#3	.8877934	.0347484	-.000357	-.003169	.0011937	.6617437	.2304707

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2048-16 Acquired: 5/19/2025 17:04:50 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.4354187	-.005038	.0840488
Stddev	.0038592	.000400	.0003443
%RSD	.8863250	7.937063	.4096967
#1	.4336412	-.005427	.0839445
#2	.4398463	-.005060	.0844332
#3	.4327685	-.004628	.0837686

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2628.899	63103.20	18926.57	1758.701	3776.452
Stddev	6.617	139.65	68.49	4.416	2.904
%RSD	.2516989	.2213026	.3618738	.2510801	.0769009
#1	2622.406	63256.97	18961.75	1761.903	3774.308
#2	2635.633	62984.27	18847.64	1760.537	3775.291
#3	2628.659	63068.37	18970.32	1753.663	3779.757

Sample Name: Q2048-16DUP Acquired: 5/19/2025 17:09:17 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002988	-.003198	.0026243	.0029822	.0024690	.0739249	.3385142
Stddev	.001118	.000855	.0014956	.0028218	.0029293	.0103334	.0020154
%RSD	37.42110	26.74798	56.98933	94.61954	118.6450	13.97826	.5953800
#1	-.001698	-.002930	.0043399	.0057576	.0057234	.0620238	.3375648
#2	-.003581	-.004155	.0019378	.0030728	.0016404	.0806181	.3371487
#3	-.003684	-.002509	.0015952	.0001163	.0000432	.0791329	.3408290

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001506	.0005103	13.98674	-.000018	-.000032	.0197129	.0509301
Stddev	.0000148	.0001092	.02169	.000081	.000179	.0000552	.0052284
%RSD	9.857990	21.40126	.1551033	451.9321	550.0567	.2798602	10.26588
#1	.0001620	.0005767	13.98102	-.000095	-.000092	.0197648	.0569180
#2	.0001560	.0003843	13.96848	.000067	-.000174	.0196550	.0472687
#3	.0001338	.0005700	14.01072	-.000026	.000168	.0197189	.0486036

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0080534	1.161037	.0030944	.0003029	319.8388	.0025929	.1462186
Stddev	.0002682	.007399	.0007242	.0001215	1.2814	.0001418	.0011191
%RSD	3.330287	.6372699	23.40264	40.12227	.4006469	5.468599	.7653460
#1	.0077444	1.167820	.0032934	.0003587	321.3053	.0024727	.1475106
#2	.0081894	1.162146	.0022916	.0003864	318.9348	.0025567	.1455508
#3	.0082264	1.153147	.0036983	.0001635	319.2764	.0027493	.1455946

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8593731	.0338272	.0000257	-.003306	.0012035	.6496334	.2344377
Stddev	.0190774	.0006787	.0003762	.001225	.0002989	.0038088	.0021571
%RSD	2.219924	2.006223	1464.861	37.03858	24.83137	.5862985	.9201333
#1	.8727811	.0344143	-.000373	-.003056	.0011122	.6540285	.2327304
#2	.8375325	.0339831	.000075	-.004636	.0009610	.6475735	.2337207
#3	.8678057	.0330841	.000375	-.002226	.0015374	.6472982	.2368620

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2048-16DUP Acquired: 5/19/2025 17:09:17 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.4414339	-.004676	.0842964
Stddev	.0045726	.000613	.0003911
%RSD	1.035855	13.10808	.4640138
#1	.4417079	-.005207	.0838711
#2	.4367304	-.004005	.0843773
#3	.4458633	-.004817	.0846408

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2643.665	63014.32	18500.32	1761.302	3789.267
Stddev	2.636	164.08	78.06	8.224	3.225
%RSD	.0997222	.2603902	.4219455	.4669407	.0851055
#1	2644.938	62873.12	18414.57	1753.129	3787.275
#2	2645.423	62975.52	18519.13	1761.202	3792.987
#3	2640.634	63194.33	18567.26	1769.576	3787.538

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2048-16LX5 Acquired: 5/19/2025 17:13:44 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000561	-.000390	-.000104	.0009003	-.000840	.0184469	.0645334
Stddev	.003792	.000182	.000661	.0017689	.002335	.0051194	.0014274
%RSD	675.5680	46.66011	634.0844	196.4690	278.0825	27.75201	2.211825
#1	-.003899	-.000456	-.000858	.0029422	.001749	.0210957	.0644947
#2	.003561	-.000529	.000166	-.000077	-.002786	.0216992	.0659797
#3	-.001346	-.000184	.000379	-.000165	-.001482	.0125458	.0631258

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000482	.0001883	2.771975	-.000702	.0001196	.0040055	.0110740
Stddev	.0000262	.0001602	.017818	.000218	.0002130	.0003604	.0017076
%RSD	54.43074	85.10372	.6428022	31.08364	178.0214	8.996606	15.42008
#1	.0000723	.0000292	2.764720	-.000832	-.000006	.0038846	.0106486
#2	.0000203	.0001859	2.792276	-.000825	-.000000	.0037212	.0129541
#3	.0000521	.0003497	2.758929	-.000450	.000366	.0044108	.0096192

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000040	.2299130	.0004161	.0000102	60.56619	.0016867	.0280564
Stddev	.000082	.0033973	.0004107	.0004984	.26589	.0010857	.0004462
%RSD	204.6352	1.477662	98.72027	4905.855	.4390107	64.37237	1.590433
#1	.000050	.2271178	.0008902	.0003505	60.83859	.0027552	.0277328
#2	-.000061	.2336943	.0001712	-.000562	60.30732	.0005845	.0278708
#3	-.000109	.2289269	.0001867	.000242	60.55266	.0017204	.0285654

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1552622	.0069679	-.000422	.0001748	.0012620	.1161489	.0414700
Stddev	.0187783	.0001606	.000154	.0013646	.0002528	.0111936	.0003563
%RSD	12.09459	2.304537	36.43075	780.5527	20.03019	9.637237	.8591437
#1	.1345721	.0067856	-.000417	-.000657	.0012839	.1046325	.0417347
#2	.1599889	.0070884	-.000578	-.000568	.0015030	.1168253	.0416103
#3	.1712255	.0070298	-.000271	.001750	.0009989	.1269890	.0410649

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2048-16LX5 Acquired: 5/19/2025 17:13:44 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0823549	.0004268	.0166968
Stddev	.0019533	.0010941	.0000355
%RSD	2.371751	256.3249	.2125625
#1	.0845269	.0012656	.0167203
#2	.0817954	.0008256	.0166559
#3	.0807425	-.000811	.0167141

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2732.546	65254.72	18579.33	1841.581	4010.234
Stddev	11.773	130.48	62.37	9.105	13.178
%RSD	.4308548	.1999625	.3356949	.4944316	.3286131
#1	2742.632	65128.94	18549.37	1834.013	4014.565
#2	2735.397	65245.77	18537.59	1839.044	4020.701
#3	2719.609	65389.45	18651.02	1851.686	3995.435

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2048-16MS Acquired: 5/19/2025 17:18:02 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8048784	1.963209	.9426169	2.025039	.8023111	1.976772	.5543544
Stddev	.0085428	.003695	.0013571	.005053	.0027889	.001283	.0021723
%RSD	1.061373	.1882360	.1439750	.2495063	.3476134	.0649071	.3918693
#1	.8055093	1.967012	.9413617	2.028598	.8011501	1.978078	.5566481
#2	.7960377	1.959631	.9424319	2.019255	.8054930	1.976725	.5540868
#3	.8130882	1.962985	.9440570	2.027262	.8002903	1.975513	.5523282

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1755599	.1989941	15.52232	.3826287	.1944287	.3074569	3.041046
Stddev	.0005218	.0005355	.03989	.0007723	.0003056	.0002957	.013170
%RSD	.2972190	.2691160	.2570011	.2018299	.1571943	.0961704	.4330877
#1	.1749861	.1994611	15.49676	.3820654	.1947621	.3071843	3.033717
#2	.1756877	.1984096	15.50192	.3823116	.1941618	.3074150	3.033171
#3	.1760059	.1991116	15.56829	.3835090	.1943622	.3077713	3.056251

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1980841	2.962585	.4853859	.0710975	338.5586	.2912259	.3376840
Stddev	.0008642	.034221	.0009796	.0001613	2.3827	.0018575	.0022643
%RSD	.4362554	1.155093	.2018222	.2268479	.7037751	.6378369	.6705411
#1	.1972516	2.931193	.4862084	.0710661	340.4546	.2896621	.3400137
#2	.1989767	2.957496	.4843021	.0712721	335.8840	.2907364	.3375471
#3	.1980240	2.999064	.4856471	.0709541	339.3371	.2932792	.3354913

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.66478	.2801679	.4139863	.6947776	.1979112	1.564510	6.611394
Stddev	.09317	.0021087	.0008704	.0013303	.0017381	.010722	.027856
%RSD	.7987250	.7526407	.2102533	.1914656	.8782118	.6853427	.4213376
#1	11.76084	.2778034	.4137181	.6959121	.1962897	1.572642	6.632700
#2	11.57480	.2808468	.4132816	.6933136	.1976977	1.552359	6.579872
#3	11.65870	.2818535	.4149593	.6951072	.1997461	1.568528	6.621611

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2048-16MS Acquired: 5/19/2025 17:18:02 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.4288855	.2063363	.2869696
Stddev	.0027424	.0007870	.0006308
%RSD	.6394238	.3813936	.2198067
#1	.4258735	.2064504	.2876960
#2	.4312379	.2070599	.2866529
#3	.4295452	.2054985	.2865599

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2594.704	65295.27	19173.04	1807.943	3694.798
Stddev	8.500	224.53	72.39	7.639	9.428
%RSD	.3275912	.3438649	.3775565	.4225390	.2551804
#1	2601.197	65283.02	19249.40	1806.996	3698.208
#2	2597.832	65525.67	19164.28	1816.012	3702.046
#3	2585.083	65077.12	19105.42	1800.822	3684.138

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2048-16MSD Acquired: 5/19/2025 17:22:13 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8029578	1.942915	.9348877	2.010041	.8087345	2.006786	.5502320
Stddev	.0023122	.010066	.0024343	.008901	.0048569	.030339	.0082317
%RSD	.2879644	.5180655	.2603855	.4428482	.6005504	1.511804	1.496049
#1	.8036310	1.931725	.9330639	2.015845	.8065726	1.984426	.5493594
#2	.8003836	1.951230	.9376520	1.999792	.8053340	2.041321	.5588654
#3	.8048587	1.945790	.9339472	2.014485	.8142970	1.994612	.5424714

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1903449	.1975737	16.05456	.3809696	.1920466	.3052461	2.907784
Stddev	.0013486	.0001482	.21069	.0001064	.0004047	.0005282	.015205
%RSD	.7084934	.0750154	1.312351	.0279343	.2107520	.1730421	.5229108
#1	.1892018	.1974068	16.01154	.3809043	.1919603	.3049915	2.905615
#2	.1918322	.1976240	16.28345	.3810924	.1924875	.3048935	2.923957
#3	.1900006	.1976902	15.86871	.3809120	.1916919	.3058534	2.893780

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1971351	3.078114	.4803350	.0716306	326.2092	.2880684	.3474588
Stddev	.0036847	.037094	.0014881	.0001118	1.8833	.0031608	.0019017
%RSD	1.869137	1.205093	.3098114	.1560465	.5773192	1.097246	.5473034
#1	.1954826	3.067328	.4786269	.0717590	325.6763	.2866389	.3489696
#2	.2013569	3.119405	.4810267	.0715779	328.3015	.2916914	.3480834
#3	.1945660	3.047608	.4813514	.0715550	324.6499	.2858748	.3453234

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.08604	.3073330	.4159137	.6974022	.1989056	1.532756	6.601194
Stddev	.04878	.0026775	.0015786	.0029635	.0034213	.022121	.010711
%RSD	.4399825	.8712215	.3795502	.4249313	1.720069	1.443221	.1622643
#1	11.08151	.3044211	.4154225	.6951536	.1960939	1.529229	6.590598
#2	11.13692	.3096889	.4146391	.7007603	.2027148	1.556428	6.612017
#3	11.03969	.3078891	.4176795	.6962927	.1979081	1.512610	6.600966

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2048-16MSD Acquired: 5/19/2025 17:22:13 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.4545090	.2061928	.2836262
Stddev	.0114724	.0043647	.0036944
%RSD	2.524140	2.116789	1.302547
#1	.4412812	.2061705	.2827214
#2	.4605012	.2105685	.2876889
#3	.4617445	.2018393	.2804682

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2576.055	63321.67	17520.95	1770.136	3666.832
Stddev	3.317	202.78	199.60	4.115	7.626
%RSD	.1287439	.3202367	1.139233	.2324733	.2079696
#1	2576.190	63371.40	17671.60	1768.508	3675.602
#2	2579.302	63098.66	17294.56	1767.084	3663.127
#3	2572.673	63494.96	17596.70	1774.816	3661.766

Sample Name: Q2048-16A Acquired: 5/19/2025 17:26:26 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8035542	1.986886	.9521625	2.011712	.8103373	2.018369	.5234440
Stddev	.0019837	.026159	.0022014	.002887	.0030050	.004839	.0026251
%RSD	.2468623	1.316603	.2311978	.1435241	.3708286	.2397433	.5015050
#1	.8020205	1.994458	.9496341	2.008446	.8069397	2.023879	.5251033
#2	.8057944	1.957776	.9536535	2.013927	.8126462	2.014811	.5204175
#3	.8028477	2.008425	.9531998	2.012761	.8114258	2.016417	.5248112

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1895761	.2010240	14.70714	.3923126	.1964107	.3075227	3.009807
Stddev	.0004726	.0003222	.01576	.0010883	.0003884	.0011981	.008878
%RSD	.2492831	.1602644	.1071615	.2774015	.1977377	.3896071	.2949528
#1	.1893934	.2008451	14.69138	.3927196	.1967595	.3061462	3.014726
#2	.1901128	.2008309	14.70716	.3931387	.1959922	.3083317	2.999558
#3	.1892222	.2013959	14.72290	.3910795	.1964805	.3080901	3.015136

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2005108	3.002118	.4891120	.0727767	305.2968	.2953204	.3377634
Stddev	.0005083	.009012	.0005450	.0001069	1.3888	.0018167	.0014062
%RSD	.2534944	.3001942	.1114336	.1469313	.4549158	.6151763	.4163422
#1	.2005052	3.009162	.4897222	.0726549	306.8602	.2932579	.3391591
#2	.2000053	2.991962	.4886735	.0728203	304.8245	.2966837	.3377842
#3	.2010218	3.005230	.4889401	.0728549	304.2058	.2960195	.3363468

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.44305	.3020337	.4239508	.7108882	.2020280	1.515969	6.588588
Stddev	.05581	.0001783	.0024632	.0015143	.0018277	.016347	.031914
%RSD	.4876972	.0590365	.5810146	.2130134	.9046551	1.078309	.4843833
#1	11.46864	.3021879	.4216179	.7092165	.2022762	1.522345	6.604923
#2	11.37904	.3018384	.4265264	.7112800	.2000889	1.497395	6.551813
#3	11.48148	.3020747	.4237080	.7121680	.2037189	1.528167	6.609027

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2048-16A Acquired: 5/19/2025 17:26:26 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.4087256	.2081243	.2802413
Stddev	.0039939	.0002341	.0006754
%RSD	.9771688	.1124854	.2410239
#1	.4065621	.2080224	.2807983
#2	.4062802	.2083921	.2794900
#3	.4133346	.2079583	.2804356

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2648.575	63655.15	18183.45	1794.342	3776.443
Stddev	8.974	139.45	13.43	8.494	.677
%RSD	.3388201	.2190719	.0738748	.4733577	.0179277
#1	2654.283	63596.43	18187.36	1791.519	3776.402
#2	2638.231	63814.35	18168.50	1803.887	3775.788
#3	2653.210	63554.66	18194.49	1787.619	3777.140

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2052-01 Acquired: 5/19/2025 17:30:38 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0514363	-.000659	.6474220	.0076261	.0047853	88.98070
Stddev	.0024636	.003384	.0014209	.0072463	.0025380	.11067
%RSD	4.789602	513.7781	.2194639	95.01941	53.03721	.1243758
#1	.0501860	-.002951	.6477959	.0110113	.0074507	89.04118
#2	.0498485	-.002253	.6458516	.0125604	.0045075	88.85297
#3	.0542743	.003228	.6486185	-.000693	.0023976	89.04795

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6478702	.0057909	-.001950	640.5295	.3431959	.0779488
Stddev	.0025325	.0000662	.000206	2.2625	.0011603	.0005346
%RSD	.3909019	1.142881	10.54180	.3532264	.3380832	.6858863
#1	.6503967	.0057185	-.001836	641.9252	.3434000	.0785616
#2	.6453317	.0058484	-.002187	641.7443	.3419471	.0775774
#3	.6478823	.0058057	-.001826	637.9191	.3442405	.0777075

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6449710	166.1065	2.745582	64.73999	.1910759	-.001267
Stddev	.0002026	.1616	.004370	.25216	.0011337	.000041
%RSD	.0314126	.0972839	.1591812	.3895039	.5933079	3.227703
#1	.6450352	166.2812	2.740540	64.45045	.1922283	-.001228
#2	.6447441	166.0759	2.747908	64.91147	.1899619	-.001263
#3	.6451337	165.9624	2.748297	64.85804	.1910376	-.001310

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.831124	.2612088	2.459232	13.16286	-.239161	.0101062
Stddev	.043036	.0014417	.013317	.03386	.000958	.0005784
%RSD	.5495458	.5519231	.5415193	.2572070	.4007429	5.723177
#1	7.879489	.2616923	2.464635	13.19776	-.238851	.0103676
#2	7.797057	.2595876	2.444062	13.16067	-.238395	.0105076
#3	7.816827	.2623467	2.468999	13.13015	-.240236	.0094432

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2052-01 Acquired: 5/19/2025 17:30:38 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2175339	3.552822	F 15.24033	5.138471	15.29730	.0873486
Stddev	.0012073	.000508	.05087	.005430	.01989	.0006301
%RSD	.5549983	.0142974	.3337672	.1056790	.1300220	.7213348
#1	.2161448	3.553388	15.24675	5.140472	15.28109	.0878801
#2	.2183304	3.552408	15.18655	5.142616	15.29131	.0866526
#3	.2181266	3.552669	15.28768	5.132324	15.31949	.0875132

Elem	Sr4077
Units	ppm
Avg	2.701823
Stddev	.016538
%RSD	.6121202
#1	2.719738
#2	2.687138
#3	2.698593

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2674.640	63395.89	18499.09	1798.053	3449.166
Stddev	3.693	76.80	32.27	1.768	4.524
%RSD	.1380660	.1211424	.1744316	.0983344	.1311715
#1	2678.732	63354.47	18523.77	1796.171	3450.924
#2	2673.633	63348.70	18462.58	1799.680	3452.547
#3	2671.556	63484.51	18510.94	1798.307	3444.027

Sample Name: CCV06 Acquired: 5/19/2025 17:35:00 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.921946	5.235082	4.941757	5.005398	4.998250	10.16075	9.799946
Stddev	.007704	.056013	.001885	.002017	.012719	.01174	.072484
%RSD	.1565285	1.069956	.0381349	.0402973	.2544775	.1155844	.7396384
#1	4.921779	5.278791	4.943438	5.007086	5.000554	10.16903	9.720778
#2	4.914327	5.254514	4.942113	5.005944	5.009660	10.14731	9.863053
#3	4.929733	5.171941	4.939720	5.003165	4.984536	10.16591	9.816008

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2603929	2.483446	24.81335	.9999551	2.498261	1.251510	4.808195
Stddev	.0000777	.004012	.04878	.0015564	.002172	.000947	.022100
%RSD	.0298542	.1615512	.1965932	.1556488	.0869468	.0756648	.4596346
#1	.2603289	2.478820	24.82987	1.001680	2.497876	1.250928	4.810429
#2	.2603704	2.485964	24.85173	.999530	2.500600	1.252602	4.829093
#3	.2604794	2.485556	24.75846	.998656	2.496308	1.250999	4.785063

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.504487	25.09349	2.479207	1.241347	23.87921	2.490550	2.505484
Stddev	.006974	.07971	.001879	.002815	.05270	.008967	.004165
%RSD	.2784451	.3176348	.0758033	.2267339	.2207056	.3600244	.1662303
#1	2.506784	25.07143	2.477165	1.238311	23.89631	2.497025	2.502342
#2	2.510022	25.18190	2.479591	1.243869	23.92124	2.480315	2.503903
#3	2.496655	25.02713	2.480864	1.241861	23.82008	2.494308	2.510208

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.02708	5.170055	5.044075	4.994112	4.967133	4.804366	5.102495
Stddev	.04097	.007629	.009453	.011161	.000651	.021170	.026112
%RSD	.1705275	.1475671	.1874055	.2234776	.0131102	.4406416	.5117574
#1	24.05018	5.162791	5.038944	4.990484	4.966433	4.780799	5.086309
#2	24.05129	5.169371	5.054984	5.006635	4.967244	4.821773	5.132619
#3	23.97977	5.178003	5.038296	4.985216	4.967722	4.810527	5.088557

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCV06 Acquired: 5/19/2025 17:35:00 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.948910	5.077212	5.003247
Stddev	.011100	.007100	.034393
%RSD	.2242976	.1398413	.6874102
#1	4.958656	5.085206	4.967737
#2	4.936827	5.071639	5.005602
#3	4.951247	5.074791	5.036402

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2748.896	65126.21	17244.34	1817.872	3948.490
Stddev	7.218	269.18	37.29	5.137	11.837
%RSD	.2625795	.4133229	.2162536	.2825855	.2997970
#1	2747.881	65360.11	17286.86	1823.803	3946.300
#2	2742.240	64831.98	17217.19	1814.889	3937.901
#3	2756.568	65186.52	17228.96	1814.923	3961.270

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCB06 Acquired: 5/19/2025 17:39:13 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000755	.0012417	-.000693	-.000017	.0018175	.0004711	-.002047
Stddev	.002004	.0006622	.000867	.001854	.0016855	.0065195	.000674
%RSD	265.3251	53.33043	125.1776	11153.36	92.74109	1383.879	32.93887
#1	-.003003	.0015691	.000031	-.002060	.0037636	.0078176	-.001341
#2	-.000104	.0004796	-.000456	.001557	.0008641	-.004626	-.002685
#3	.000842	.0016764	-.001653	.000452	.0008247	-.001779	-.002116

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000095	-.000000	-.003779	-.000760	.0000677	-.000082	.0008561
Stddev	.0000606	.000060	.009496	.000287	.0000511	.000533	.0076283
%RSD	634.8411	22895.97	251.2591	37.77566	75.39695	650.1402	891.0277
#1	.0000120	-.000068	-.006643	-.000501	.0000527	-.000556	-.001356
#2	.0000688	.000044	.006819	-.001069	.0000259	.000494	-.005422
#3	-.000052	.000023	-.011514	-.000709	.0001247	-.000184	.009346

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001348	.0140179	-.000004	-.000017	-.123360	.0010454	-.000641
Stddev	.000350	.0048501	.000396	.000422	.018088	.0015770	.000182
%RSD	25.95660	34.59931	9947.501	2447.512	14.66290	150.8477	28.46134
#1	-.001114	.0128972	-.000017	-.000020	-.102672	.0004689	-.000505
#2	-.001751	.0193302	-.000393	-.000438	-.131221	-.000162	-.000570
#3	-.001181	.0098262	.000398	.000406	-.136189	.002830	-.000848

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.015315	.0072665	.0004063	.0001133	.0009832	-.014951	-.000264
Stddev	.048386	.0004767	.0001946	.0010252	.0006092	.009016	.001292
%RSD	315.9438	6.559873	47.90384	905.1518	61.96609	60.30227	488.9505
#1	.024257	.0077485	.0003554	-.001057	.0004935	-.023826	-.001380
#2	-.069258	.0067954	.0002421	.000855	.0007906	-.005801	-.000564
#3	-.000944	.0072557	.0006213	.000541	.0016655	-.015225	.001151

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCB06 Acquired: 5/19/2025 17:39:13 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.003169	-.000401	.0001324
Stddev	.003573	.000497	.0000544
%RSD	112.7592	123.8750	41.11692
#1	-.007276	.000027	.0001678
#2	-.000768	-.000946	.0001596
#3	-.001463	-.000284	.0000697

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2831.404	67365.20	18133.39	1920.328	4259.850
Stddev	11.350	237.80	142.56	6.999	11.399
%RSD	.4008525	.3529979	.7861598	.3644447	.2676026
#1	2843.166	67105.87	17996.76	1912.281	4269.015
#2	2830.528	67416.70	18281.21	1923.717	4263.450
#3	2820.517	67573.03	18122.19	1924.988	4247.085

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2055-01 Acquired: 5/19/2025 17:43:32 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0433418	-.006084	.2238452	.0210340	-.004731	102.2907	.4895953
Stddev	.0012852	.001481	.0012116	.0013230	.003022	.2484	.0029628
%RSD	2.965187	24.33957	.5412726	6.289897	63.87912	.2427931	.6051633
#1	.0435068	-.007341	.2247261	.0224190	-.001789	102.4607	.4891180
#2	.0445364	-.006458	.2224635	.0209000	-.007826	102.4057	.4927678
#3	.0419821	-.004452	.2243459	.0197831	-.004577	102.0057	.4869001

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0051520	-.004391	36.86024	.2225594	.1203735	.3488079	203.9589
Stddev	.0000699	.000331	.09678	.0006521	.0001499	.0005793	1.9615
%RSD	1.357507	7.548780	.2625708	.2930152	.1245200	.1660788	.9617131
#1	.0051421	-.004048	36.88531	.2230757	.1202916	.3494029	202.8586
#2	.0052263	-.004710	36.94203	.2227760	.1202823	.3482458	206.2235
#3	.0050875	-.004415	36.75339	.2218266	.1205464	.3487750	202.7945

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.153123	43.91920	.2041466	-.003274	3.781125	.3707233	.3825678
Stddev	.013018	.05335	.0001268	.000255	.063027	.0027303	.0005380
%RSD	.4128762	.1214783	.0620985	7.799891	1.666889	.7364856	.1406289
#1	3.155028	43.85783	.2042306	-.003187	3.753976	.3721064	.3822827
#2	3.165084	43.94529	.2042083	-.003074	3.853178	.3675782	.3831884
#3	3.139257	43.95450	.2040007	-.003562	3.736223	.3724854	.3822324

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.47099	-.393640	.0058171	.0522678	5.801856	3.905989	8.410190
Stddev	.19809	.006353	.0003026	.0004475	.023551	.036168	.007393
%RSD	.9676851	1.613814	5.201512	.8561438	.4059190	.9259606	.0879035
#1	20.35183	-.398803	.0059876	.0520989	5.806624	3.894134	8.402068
#2	20.69966	-.386546	.0054678	.0527752	5.822658	3.946597	8.416526
#3	20.36148	-.395570	.0059960	.0519293	5.776286	3.877237	8.411976

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2055-01 Acquired: 5/19/2025 17:43:32 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	7.104404	.1993722	-.078747
Stddev	.018596	.0022982	.001360
%RSD	.2617542	1.152718	1.726450
#1	7.109730	.1994539	-.077646
#2	7.119755	.2016284	-.080267
#3	7.083726	.1970342	-.078330

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3122.222	75310.29	21347.42	2135.703	3800.918
Stddev	8.601	186.11	112.43	14.400	6.362
%RSD	.2754855	.2471253	.5266445	.6742540	.1673816
#1	3125.026	75525.16	21281.67	2149.608	3805.433
#2	3112.568	75199.40	21477.24	2136.646	3793.642
#3	3129.071	75206.33	21283.36	2120.854	3803.678

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2057-01 Acquired: 5/19/2025 17:47:37 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0149740	.0036160	.0957024	.0109893	.0005335	44.96946	.4135623
Stddev	.0060569	.0010145	.0027686	.0007934	.0013063	.09258	.0012147
%RSD	40.44931	28.05732	2.892895	7.219945	244.8431	.2058659	.2937232
#1	.0217313	.0024852	.0925303	.0116448	-.000764	45.07361	.4125919
#2	.0100334	.0039162	.0969438	.0101073	.000516	44.93824	.4149246
#3	.0131573	.0044465	.0976329	.0112159	.001849	44.89653	.4131704

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0046081	-.003613	20.14565	.0987393	.0666551	.6360686	126.3612
Stddev	.0000777	.000184	.05295	.0003090	.0002652	.0013633	.7952
%RSD	1.686477	5.089014	.2628224	.3129557	.3978500	.2143371	.6292950
#1	.0045378	-.003404	20.11975	.0983902	.0668682	.6369042	125.4503
#2	.0046916	-.003690	20.11063	.0988498	.0667390	.6344954	126.7165
#3	.0045950	-.003747	20.20656	.0989778	.0663581	.6368061	126.9168

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.179090	22.35332	.1268512	-.001535	.4784779	.1535072	1.737609
Stddev	.013123	.06587	.0002158	.000310	.0010341	.0007064	.007662
%RSD	.4127946	.2946750	.1701350	20.19498	.2161200	.4601909	.4409264
#1	3.166306	22.29860	.1268993	-.001728	.4792404	.1529232	1.733416
#2	3.178437	22.33493	.1266154	-.001178	.4773009	.1533060	1.732958
#3	3.192528	22.42643	.1270389	-.001700	.4788925	.1542924	1.746452

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.760788	-.229800	.0015446	.0120374	1.827086	3.784558	6.576042
Stddev	.066194	.001827	.0002279	.0001697	.004425	.020895	.020545
%RSD	.8529303	.7950907	14.75444	1.409469	.2422031	.5521196	.3124240
#1	7.684806	-.231846	.0018070	.0119107	1.822029	3.766880	6.557816
#2	7.805971	-.228332	.0014300	.0119714	1.830251	3.807618	6.572003
#3	7.791587	-.229223	.0013968	.0122302	1.828979	3.779175	6.598306

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2057-01 Acquired: 5/19/2025 17:47:37 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1308639	.1605129	-.042891
Stddev	.0024517	.0010386	.000858
%RSD	1.873474	.6470629	1.999489
#1	.1334043	.1599003	-.041913
#2	.1306756	.1599263	-.043243
#3	.1285118	.1617121	-.043516

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2951.575	72296.36	20347.72	2031.576	3893.602
Stddev	6.203	17.65	80.70	3.838	6.989
%RSD	.2101539	.0244140	.3965842	.1889191	.1795091
#1	2944.679	72299.79	20261.72	2031.729	3890.427
#2	2956.701	72277.25	20421.78	2035.336	3901.615
#3	2953.345	72312.05	20359.66	2027.664	3888.763

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2057-01DUP Acquired: 5/19/2025 17:51:47 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0210240	.0044932	.1142685	.0159681	-.000805	54.30852	.4906570
Stddev	.0008901	.0012895	.0028928	.0062868	.002697	.10740	.0040352
%RSD	4.233637	28.69962	2.531602	39.37120	335.0762	.1977588	.8224064
#1	.0219213	.0038415	.1161686	.0157709	.001873	54.43230	.4876023
#2	.0201413	.0036597	.1109392	.0223512	-.003521	54.25309	.4952314
#3	.0210093	.0059786	.1156977	.0097822	-.000768	54.24015	.4891373

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0049582	-.004516	23.83713	.1251600	.0817717	.7380343	147.4067
Stddev	.0000728	.000328	.05384	.0003706	.0004051	.0014781	.8741
%RSD	1.468380	7.267919	.2258781	.2961018	.4953453	.2002767	.5930190
#1	.0049056	-.004191	23.80026	.1252853	.0814179	.7396329	146.6076
#2	.0049276	-.004847	23.89892	.1247430	.0816835	.7367170	148.3403
#3	.0050413	-.004510	23.81221	.1254516	.0822135	.7377531	147.2722

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.706383	27.67632	.1454886	-.001766	.6279090	.1717185	1.591529
Stddev	.019758	.06282	.0004698	.000113	.0104995	.0018792	.005111
%RSD	.5330844	.2269816	.3229063	6.389909	1.672133	1.094323	.3211428
#1	3.704151	27.71504	.1453996	-.001824	.6174145	.1696834	1.589433
#2	3.727163	27.71009	.1450697	-.001838	.6278989	.1720840	1.587799
#3	3.687836	27.60384	.1459966	-.001636	.6384134	.1733881	1.597355

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.575966	-.261171	.0012285	-.002181	1.939657	2.514883	6.860607
Stddev	.040791	.002072	.0002125	.000813	.005597	.008511	.027871
%RSD	.4259776	.7934114	17.29526	37.27108	.2885407	.3384243	.4062433
#1	9.531622	-.262746	.0012463	-.001259	1.940908	2.505057	6.837864
#2	9.611890	-.258824	.0014316	-.002794	1.944523	2.519949	6.852260
#3	9.584387	-.261944	.0010077	-.002490	1.933541	2.519642	6.891698

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2057-01DUP Acquired: 5/19/2025 17:51:47 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1259751	.1964431	-.047268
Stddev	.0053873	.0004014	.000482
%RSD	4.276487	.2043450	1.018985
#1	.1233648	.1959952	-.046768
#2	.1223901	.1965637	-.047729
#3	.1321703	.1967703	-.047308

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3003.879	72480.54	20557.95	2042.097	3934.203
Stddev	4.976	208.04	20.23	7.459	4.595
%RSD	.1656588	.2870290	.0984267	.3652377	.1168038
#1	3003.396	72691.06	20534.63	2050.220	3936.629
#2	2999.161	72475.51	20570.79	2040.515	3928.903
#3	3009.079	72275.07	20568.44	2035.557	3937.077

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2057-01LX5 Acquired: 5/19/2025 17:55:56 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0031025	.0017401	.0190171	.0017923	-.000204	9.489370	.0853600
Stddev	.0021505	.0007157	.0019030	.0024549	.001505	.027578	.0007155
%RSD	69.31503	41.12759	10.00666	136.9693	738.8577	.2906210	.8382438
#1	.0053691	.0017692	.0211487	.0041780	.001296	9.477459	.0849417
#2	.0010907	.0024408	.0184137	-.000726	-.000193	9.469750	.0849522
#3	.0028479	.0010103	.0174890	.001925	-.001714	9.520902	.0861862

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009889	-.001317	4.242387	.0203905	.0128340	.1337820	26.68760
Stddev	.0000494	.000108	.018551	.0003956	.0002227	.0000949	.10132
%RSD	4.993714	8.215489	.4372865	1.940240	1.735576	.0709115	.3796472
#1	.0009569	-.001417	4.242237	.0207824	.0125857	.1338832	26.78113
#2	.0009639	-.001202	4.223911	.0203979	.0130162	.1336950	26.70171
#3	.0010457	-.001333	4.261013	.0199913	.0129001	.1337678	26.57997

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6750475	4.697220	.0239974	-.000388	-.044265	.0344540	.3749574
Stddev	.0035214	.054242	.0004182	.000326	.012842	.0015264	.0022916
%RSD	.5216494	1.154768	1.742488	83.94729	29.01065	4.430198	.6111722
#1	.6771754	4.703867	.0244786	-.000368	-.055895	.0339614	.3761118
#2	.6709828	4.639960	.0237913	-.000723	-.030484	.0361659	.3723182
#3	.6769842	4.747831	.0237224	-.000073	-.046417	.0332348	.3764423

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.569251	-.048157	.0000638	.0012497	.3857374	1.068472	1.237442
Stddev	.010445	.001053	.0002897	.0006110	.0003337	.014360	.008267
%RSD	.6656096	2.186410	454.0976	48.88784	.0864960	1.344004	.6680423
#1	1.567682	-.048184	-.000255	.0019550	.3854799	1.060538	1.246670
#2	1.580392	-.047091	.000135	.0008817	.3856180	1.085049	1.230713
#3	1.559680	-.049197	.000311	.0009125	.3861143	1.059829	1.234943

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2057-01LX5 Acquired: 5/19/2025 17:55:56 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0208092	.0325474	-.009168
Stddev	.0013533	.0009540	.000107
%RSD	6.503613	2.931068	1.166752
#1	.0220457	.0330470	-.009282
#2	.0193634	.0331478	-.009153
#3	.0210186	.0314473	-.009069

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2858.519	67372.64	18857.87	1911.008	4156.349
Stddev	3.949	125.91	88.36	3.142	2.963
%RSD	.1381513	.1868917	.4685422	.1643905	.0712775
#1	2860.921	67451.40	18942.81	1914.137	4158.805
#2	2860.675	67227.42	18864.34	1911.033	4157.182
#3	2853.961	67439.10	18766.45	1907.854	4153.059

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2057-01MS Acquired: 5/19/2025 18:00:10 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7095731	1.985227	1.025306	1.671763	.3633798	53.72562	.5556080
Stddev	.0044211	.009697	.002250	.006291	.0003113	.05897	.0009071
%RSD	.6230702	.4884390	.2194140	.3762993	.0856711	.1097539	.1632610
#1	.7133626	1.974285	1.022709	1.678973	.3636134	53.78930	.5566271
#2	.7047159	1.992753	1.026662	1.667391	.3630264	53.71464	.5548891
#3	.7106406	1.988644	1.026546	1.668925	.3634996	53.67291	.5553076

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1809094	.1884624	21.47446	.4645728	.2583165	.9070433	130.2833
Stddev	.0007997	.0004155	.04160	.0003383	.0007597	.0029623	.6493
%RSD	.4420471	.2204778	.1937116	.0728159	.2941017	.3265857	.4983843
#1	.1816656	.1881185	21.51997	.4644089	.2581419	.9082317	130.0790
#2	.1800724	.1883447	21.46500	.4649619	.2576592	.9036713	131.0102
#3	.1809903	.1889241	21.43840	.4643478	.2591483	.9092268	129.7608

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.353113	26.68400	.6026829	.0614746	2.709811	.4025397	1.700603
Stddev	.011109	.11200	.0018431	.0002586	.005421	.0038661	.003469
%RSD	.3312961	.4197244	.3058147	.4206932	.2000429	.9604359	.2039900
#1	3.363706	26.80529	.6007014	.0611906	2.710440	.4068535	1.703944
#2	3.354082	26.66224	.6030010	.0615367	2.714890	.4013783	1.697019
#3	3.341552	26.58448	.6043462	.0616965	2.704103	.3993875	1.700847

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.66251	-.051695	.3508903	.6623796	2.017536	3.636695	12.00236
Stddev	.06592	.002470	.0008795	.0020958	.003654	.011919	.02680
%RSD	.3956417	4.777123	.2506635	.3164054	.1811192	.3277341	.2232960
#1	16.60862	-.053627	.3512701	.6599656	2.019723	3.628499	11.99338
#2	16.73602	-.048913	.3498847	.6634398	2.019568	3.631219	12.03250
#3	16.64289	-.052546	.3515161	.6637335	2.013318	3.650368	11.98120

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2057-01MS Acquired: 5/19/2025 18:00:10 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1293241	.3501822	.1233339
Stddev	.0012722	.0007446	.0006512
%RSD	.9837256	.2126250	.5279661
#1	.1301563	.3493813	.1238126
#2	.1299564	.3503117	.1225924
#3	.1278596	.3508535	.1235966

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3004.153	71320.88	19243.39	1975.966	3990.778
Stddev	17.904	146.91	60.14	1.024	18.619
%RSD	.5959625	.2059814	.3125433	.0518344	.4665543
#1	2995.334	71416.76	19180.43	1974.804	3985.947
#2	3024.755	71151.74	19300.25	1976.356	4011.336
#3	2992.369	71394.13	19249.50	1976.738	3975.050

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2057-01MSD Acquired: 5/19/2025 18:04:12 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7110810	1.980391	1.030898	1.671350	.3479136	55.03450	.5962345
Stddev	.0040516	.012919	.003594	.009183	.0033902	.11986	.0005958
%RSD	.5697769	.6523690	.3486304	.5494090	.9744422	.2177887	.0999203
#1	.7064228	1.968252	1.028638	1.662155	.3448640	54.91881	.5957503
#2	.7130341	1.978951	1.029015	1.671373	.3515641	55.02656	.5968998
#3	.7137861	1.993970	1.035043	1.680521	.3473127	55.15813	.5960535

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1694336	.1880422	21.87504	.4595176	.2624149	.8933112	133.4148
Stddev	.0013976	.0005325	.03530	.0013972	.0006946	.0029147	.8787
%RSD	.8248501	.2831607	.1613861	.3040470	.2646900	.3262843	.6586353
#1	.1692652	.1874297	21.83864	.4608493	.2616183	.8906942	133.5283
#2	.1709077	.1883945	21.90913	.4596404	.2627322	.8927870	132.4848
#3	.1681278	.1883025	21.87735	.4580631	.2628941	.8964525	134.2313

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.431992	26.58993	.6047013	.0642257	3.088034	.4156648	1.763370
Stddev	.006567	.13698	.0014499	.0002621	.028156	.0008473	.006492
%RSD	.1913495	.5151716	.2397763	.4080923	.9117652	.2038423	.3681458
#1	3.424533	26.43780	.6031899	.0645266	3.091761	.4165225	1.763772
#2	3.436905	26.62852	.6048332	.0641037	3.058201	.4148283	1.756686
#3	3.434538	26.70349	.6060807	.0640468	3.114141	.4156438	1.769651

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.25982	-.007264	.3524170	.6665596	2.088990	4.711697	11.87656
Stddev	.08822	.001807	.0017130	.0036533	.001743	.041134	.04144
%RSD	.4831585	24.87281	.4860714	.5480895	.0834329	.8730277	.3489320
#1	18.29831	-.007270	.3509601	.6625905	2.086996	4.726134	11.83032
#2	18.15888	-.009068	.3519869	.6697818	2.089747	4.665291	11.88899
#3	18.32225	-.005454	.3543041	.6673065	2.090226	4.743667	11.91036

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2057-01MSD Acquired: 5/19/2025 18:04:12 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1309592	.3548781	.1318254
Stddev	.0059253	.0018381	.0009184
%RSD	4.524567	.5179619	.6966805
#1	.1309775	.3548912	.1314322
#2	.1250247	.3530335	.1328750
#3	.1368753	.3567097	.1311691

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3050.202	72613.69	21088.13	2025.367	4031.490
Stddev	8.635	203.64	127.44	11.031	9.593
%RSD	.2830834	.2804420	.6043044	.5446413	.2379410
#1	3045.383	72757.75	21193.67	2031.726	4031.939
#2	3060.171	72702.60	20946.56	2031.744	4040.849
#3	3045.053	72380.71	21124.15	2012.629	4021.680

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2057-01A Acquired: 5/19/2025 18:08:13 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7245800	2.037429	1.042066	1.763290	.7174854	46.22698	.5815637
Stddev	.0008495	.010425	.001409	.005700	.0068559	.10368	.0023016
%RSD	.1172350	.5116572	.1352124	.3232469	.9555447	.2242839	.3957585
#1	.7251580	2.033113	1.041803	1.767918	.7209808	46.24196	.5799266
#2	.7236047	2.029856	1.040807	1.756924	.7095863	46.32236	.5841953
#3	.7249774	2.049319	1.043588	1.765029	.7218891	46.11663	.5805691

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1764409	.1917156	20.77196	.4492043	.2586117	.8776988	126.7029
Stddev	.0013787	.0002791	.06254	.0019923	.0006408	.0030965	.7241
%RSD	.7813728	.1455621	.3010810	.4435171	.2477993	.3527968	.5714726
#1	.1762302	.1917589	20.70241	.4503527	.2584584	.8763627	126.1555
#2	.1751798	.1919706	20.82357	.4469037	.2580614	.8754946	127.5239
#3	.1779128	.1914175	20.78990	.4503563	.2593153	.8812390	126.4293

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.317491	23.65766	.6023821	.0642014	3.007740	.4100352	1.869963
Stddev	.010195	.12401	.0010276	.0001648	.043443	.0020974	.009750
%RSD	.3073085	.5242010	.1705893	.2566379	1.444388	.5115170	.5214064
#1	3.305719	23.56548	.6023105	.0640865	2.977764	.4088917	1.861622
#2	3.323415	23.60885	.6013922	.0643902	3.057562	.4087581	1.867587
#3	3.323340	23.79865	.6034437	.0641275	2.987893	.4124559	1.880682

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.42190	.0117797	.3721537	.7094103	1.993906	5.227542	12.25675
Stddev	.11787	.0021703	.0010704	.0020873	.005483	.048330	.01141
%RSD	.7177818	18.42379	.2876230	.2942305	.2750026	.9245326	.0931263
#1	16.36093	.0142707	.3716550	.7072999	1.991884	5.213381	12.26768
#2	16.55777	.0102971	.3714236	.7114737	2.000114	5.281371	12.24491
#3	16.34700	.0107714	.3733824	.7094574	1.989721	5.187874	12.25766

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2057-01A Acquired: 5/19/2025 18:08:13 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1107178	.3459095	.1359744
Stddev	.0074452	.0020152	.0005805
%RSD	6.724507	.5825696	.4269379
#1	.1091587	.3458018	.1363106
#2	.1041755	.3479764	.1363086
#3	.1188191	.3439504	.1353041

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3007.884	72183.31	20116.51	2033.812	3962.021
Stddev	22.115	122.60	80.29	8.801	20.679
%RSD	.7352295	.1698439	.3991072	.4327307	.5219405
#1	3008.397	72320.34	20149.66	2043.665	3961.480
#2	3029.738	72084.01	20174.91	2031.039	3982.966
#3	2985.517	72145.58	20024.95	2026.731	3941.618

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2032-11 Acquired: 5/19/2025 18:12:14 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002616	-.001568	.0011145	.0030176	-.000377	.0082936	-.005232
Stddev	.001778	.001680	.0010100	.0013735	.001072	.0070554	.001151
%RSD	67.96276	107.1460	90.62165	45.51657	283.8670	85.07120	22.00000
#1	-.003570	-.003209	-.000050	.0030778	-.000411	.0078046	-.006375
#2	-.003713	-.001645	.001640	.0043600	.000710	.0014953	-.004073
#3	-.000565	.000149	.001753	.0016150	-.001432	.0155808	-.005249

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000154	-.000043	.0385042	-.000335	-.000144	.0000381	.0090356
Stddev	.000027	.000035	.0011198	.000274	.000135	.0001288	.0071854
%RSD	17.80107	81.07109	2.908168	81.67437	93.88117	337.6482	79.52333
#1	-.000148	-.000013	.0373370	-.000645	-.000027	.0000991	.0093402
#2	-.000184	-.000034	.0395696	-.000128	-.000292	-.000110	.0160638
#3	-.000130	-.000081	.0386058	-.000232	-.000112	.000125	.0017027

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0070086	.0012548	-.000314	.0002147	-.179387	.0016659	.0319622
Stddev	.0004290	.0070609	.000243	.0003077	.011464	.0011588	.0004453
%RSD	6.120400	562.6961	77.19252	143.3542	6.390474	69.56466	1.393321
#1	.0074449	.0020328	-.000176	-.000121	-.168235	.0012635	.0324764
#2	.0065874	.0078945	-.000173	.000283	-.178789	.0029723	.0317016
#3	.0069936	-.006163	-.000594	.000483	-.191139	.0007618	.0317085

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.036868	.0004828	.0003089	-.002262	.0001369	.0059220	.0068744
Stddev	.026821	.0007655	.0002299	.000368	.0004162	.0046869	.0007789
%RSD	72.74890	158.5563	74.42508	16.25270	303.9113	79.14282	11.33042
#1	-.040424	-.000374	.0003451	-.002423	.0002770	.0048738	.0076869
#2	-.008446	.000725	.0000630	-.001841	-.000331	.0018480	.0068019
#3	-.061733	.001098	.0005184	-.002521	.000465	.0110443	.0061342

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2032-11 Acquired: 5/19/2025 18:12:14 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0463950	-.002502	.0000932
Stddev	.0028993	.000648	.0000316
%RSD	6.249187	25.88472	33.88590
#1	.0434598	-.003011	.0001155
#2	.0492570	-.002722	.0000570
#3	.0464683	-.001773	.0001070

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2840.522	68230.88	19571.15	1906.286	4321.168
Stddev	5.564	371.34	131.73	15.823	12.702
%RSD	.1958626	.5442395	.6730645	.8300668	.2939513
#1	2846.685	67851.17	19514.44	1890.724	4335.792
#2	2835.872	68248.21	19721.73	1905.775	4312.874
#3	2839.008	68593.25	19477.27	1922.359	4314.839

Sample Name: Q2033-01 Acquired: 5/19/2025 18:16:34 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003038	-.003269	.0085681	-.003987	.0027671	.5717081
Stddev	.001557	.002298	.0015031	.001790	.0025223	.0020041
%RSD	51.25873	70.29755	17.54253	44.88766	91.15051	.3505418
#1	-.003276	-.002733	.0078504	-.003525	.0056750	.5715414
#2	-.001375	-.005787	.0075585	-.002473	.0011715	.5697927
#3	-.004462	-.001286	.0102955	-.005962	.0014549	.5737904

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3192097	-.000037	-.000662	489.8121	.1586886	.0039655
Stddev	.0005472	.000035	.000093	5.6324	.0002995	.0003372
%RSD	.1714209	94.34334	14.02792	1.149918	.1887291	8.503967
#1	.3188909	-.000017	-.000730	483.4772	.1589765	.0041277
#2	.3188966	-.000016	-.000556	494.2546	.1583788	.0035779
#3	.3198415	-.000077	-.000699	491.7046	.1587107	.0041910

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0382168	11.05659	-.001512	.0167030	.0362309	-.000912
Stddev	.0002116	.09550	.000352	.0171437	.0000539	.000338
%RSD	.5537391	.8637834	23.26838	102.6388	.1487647	37.08439
#1	.0384369	11.06558	-.001886	.0028928	.0362924	-.001043
#2	.0380148	10.95690	-.001463	.0113253	.0361921	-.001164
#3	.0381989	11.14728	-.001188	.0358909	.0362080	-.000528

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	217.0344	.0090657	.0173669	512.1387	-.013465	.2068764
Stddev	3.0552	.0013012	.0001776	3.3057	.001291	.0005172
%RSD	1.407684	14.35342	1.022592	.6454714	9.585442	.2499886
#1	219.0255	.0087527	.0175148	510.4223	-.011993	.2067568
#2	213.5168	.0079495	.0171700	510.0443	-.013998	.2074429
#3	218.5608	.0104949	.0174160	515.9496	-.014404	.2064295

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2033-01 Acquired: 5/19/2025 18:16:34 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.008430	-.011170	7.079661	.0354341	F 187.3012	.0667683
Stddev	.001687	.000280	.060012	.0019214	.2390	.0024334
%RSD	20.01158	2.504803	.8476608	5.422592	.1276059	3.644579
#1	-.009747	-.010849	7.085490	.0370728	187.0386	.0693330
#2	-.009014	-.011361	7.016948	.0333194	187.3588	.0644918
#3	-.006528	-.011300	7.136545	.0359100	187.5061	.0664802

Elem	Sr4077
Units	ppm
Avg	9.231868
Stddev	.083297
%RSD	.9022754
#1	9.136244
#2	9.288647
#3	9.270713

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2450.785	61133.08	16692.17	1688.677	3402.856
Stddev	8.651	123.44	59.36	12.811	9.085
%RSD	.3529785	.2019243	.3555940	.7586455	.2669863
#1	2459.028	61053.81	16760.42	1679.754	3409.568
#2	2441.778	61275.31	16652.54	1703.356	3392.518
#3	2451.549	61070.13	16663.56	1682.920	3406.483

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCV07 Acquired: 5/19/2025 18:21:16 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV07 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.964985	5.136771	4.912749	5.060169	4.965023	9.786366	9.919344
Stddev	.005585	.027275	.020756	.019911	.014040	.025126	.083853
%RSD	.1124817	.5309781	.4224840	.3934759	.2827765	.2567470	.8453485
#1	4.958545	5.109555	4.891976	5.056772	4.972668	9.803976	9.969287
#2	4.967927	5.136653	4.912782	5.042175	4.948819	9.757592	9.822535
#3	4.968484	5.164105	4.933488	5.081559	4.973581	9.797530	9.966209

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2436542	2.464765	24.35294	.9866696	2.460559	1.245891	5.095963
Stddev	.0010793	.008744	.08642	.0010889	.007042	.002908	.005664
%RSD	.4429522	.3547558	.3548678	.1103597	.2861921	.2334390	.1111551
#1	.2447970	2.457930	24.45267	.9870336	2.454811	1.247159	5.102353
#2	.2435133	2.461748	24.30009	.9875298	2.458453	1.242564	5.093979
#3	.2426523	2.474618	24.30606	.9854453	2.468414	1.247950	5.091558

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.459372	24.27333	2.462865	1.238800	25.43886	2.453945	2.499896
Stddev	.002532	.11815	.009885	.001153	.07008	.007240	.005038
%RSD	.1029403	.4867350	.4013751	.0930993	.2754874	.2950234	.2015379
#1	2.461457	24.39092	2.452362	1.239751	25.35922	2.462211	2.494133
#2	2.460104	24.15463	2.464246	1.237517	25.49108	2.450888	2.503468
#3	2.456555	24.27443	2.471987	1.239131	25.46629	2.448734	2.502086

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.45097	4.793327	4.954659	4.953558	4.892929	5.025787	5.136790
Stddev	.10034	.018560	.011743	.020943	.001703	.018986	.025569
%RSD	.3942332	.3872031	.2370088	.4227848	.0348041	.3777676	.4977687
#1	25.34850	4.809761	4.956308	4.941222	4.891516	5.008358	5.121317
#2	25.45537	4.797023	4.942179	4.941713	4.894820	5.022985	5.122750
#3	25.54903	4.773198	4.965490	4.977739	4.892452	5.046019	5.166304

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCV07 Acquired: 5/19/2025 18:21:16 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV07 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.022910	4.893844	4.998840
Stddev	.033063	.021030	.059342
%RSD	.6582498	.4297243	1.187106
#1	5.000543	4.872636	5.054528
#2	5.007298	4.914691	4.936419
#3	5.060888	4.894206	5.005574

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2708.347	64271.16	18443.74	1819.143	3889.160
Stddev	9.117	220.54	54.92	10.668	4.912
%RSD	.3366325	.3431366	.2977816	.5864130	.1262897
#1	2697.915	64251.68	18380.45	1825.451	3883.626
#2	2714.786	64500.79	18478.88	1825.152	3893.002
#3	2712.341	64061.01	18471.88	1806.826	3890.851

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCB07 Acquired: 5/19/2025 18:25:28 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB07 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000445	-.000144	.0001008	-.001877	-.000254	.0044903	-.003727
Stddev	.002786	.001230	.0026147	.003702	.000894	.0049953	.000600
%RSD	626.6899	856.7051	2593.992	197.2322	352.2369	111.2467	16.10840
#1	.001553	-.001161	-.001839	-.001773	-.001094	.0095984	-.003045
#2	-.003627	.001223	-.000934	.001772	.000686	.0042565	-.003962
#3	.000741	-.000492	.003074	-.005629	-.000354	-.000384	-.004175

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000012	.0001299	-.002600	-.000364	.0002410	.0000519	-.001451
Stddev	.000033	.0001220	.005069	.000230	.0001763	.0004994	.001990
%RSD	271.3990	93.84381	194.9242	63.02149	73.13602	961.8552	137.1181
#1	.000022	.0000169	-.007515	-.000419	.0000598	.0003135	-.002301
#2	-.000044	.0001137	.002610	-.000561	.0004119	-.000524	-.002876
#3	-.000014	.0002592	-.002897	-.000112	.0002513	.000366	.000822

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001600	.0022408	-.000187	-.000123	-.200954	.0019300	-.001168
Stddev	.000246	.0099936	.000338	.000121	.019290	.0015495	.000231
%RSD	15.35602	445.9921	181.0746	97.83601	9.599041	80.28530	19.80117
#1	-.001583	-.008269	.000187	-.000107	-.196888	.0021740	-.000905
#2	-.001854	.011622	-.000276	-.000012	-.221952	.0002730	-.001260
#3	-.001363	.003369	-.000472	-.000251	-.184021	.0033431	-.001338

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.010815	.0071636	.0005494	.0005291	.0009505	-.020128	.0020771
Stddev	.022702	.0006370	.0002449	.0017327	.0003108	.015265	.0020604
%RSD	209.9053	8.892234	44.57839	327.4848	32.70017	75.83788	99.19504
#1	-.036323	.0064690	.0007003	.0018478	.0005957	-.037014	.0040785
#2	-.003293	.0073014	.0006811	-.001433	.0011748	-.007308	-.000038
#3	.007171	.0077205	.0002668	.001173	.0010810	-.016063	.002191

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCB07 Acquired: 5/19/2025 18:25:28 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB07 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0044625	-.001033	.0000419
Stddev	.0038270	.000273	.0000405
%RSD	85.75902	26.42097	96.52404
#1	.0022131	-.001154	.0000804
#2	.0022931	-.000720	-.000000
#3	.0088813	-.001225	.000046

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2759.554	67017.50	17922.76	1901.433	4120.682
Stddev	21.305	56.50	30.95	13.131	22.278
%RSD	.7720310	.0843091	.1726754	.6905920	.5406322
#1	2771.573	67078.50	17938.91	1905.871	4137.352
#2	2772.133	66966.96	17887.08	1886.659	4129.314
#3	2734.955	67007.04	17942.29	1911.771	4095.380

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2033-01DUP Acquired: 5/19/2025 18:29:47 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004744	-.004876	.0087552	-.003397	.0016030	.6013882
Stddev	.002377	.002349	.0014349	.002232	.0023223	.0049804
%RSD	50.11073	48.17832	16.38921	65.69302	144.8725	.8281483
#1	-.006386	-.006292	.0080976	-.005566	.0023604	.5964903
#2	-.005829	-.002164	.0077670	-.001107	-.001003	.6064472
#3	-.002018	-.006172	.0104011	-.003519	.003452	.6012271

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3318724	-.000061	-.000644	502.3215	.1671268	.0038683
Stddev	.0018797	.000049	.000143	5.4020	.0010722	.0002450
%RSD	.5663876	80.27078	22.21637	1.075409	.6415369	6.334212
#1	.3334891	-.000116	-.000605	505.8789	.1678161	.0041251
#2	.3323183	-.000021	-.000525	504.9801	.1676727	.0036371
#3	.3298099	-.000047	-.000803	496.1054	.1658915	.0038427

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0390341	11.66095	.0008596	.0150122	.0377350	-.000835
Stddev	.0005348	.25377	.0001967	.0042817	.0000866	.000044
%RSD	1.370171	2.176219	22.88843	28.52129	.2293897	5.328505
#1	.0394675	11.42810	.0008105	.0155120	.0376622	-.000810
#2	.0391983	11.62331	.0010762	.0190220	.0377121	-.000808
#3	.0384364	11.93143	.0006920	.0105025	.0378308	-.000886

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	229.7635	.0098526	.0113231	540.2141	-.010564	.2147753
Stddev	3.7570	.0021391	.0007826	7.4250	.000718	.0006562
%RSD	1.635147	21.71136	6.911962	1.374447	6.800647	.3055304
#1	226.8512	.0112003	.0119288	532.1253	-.010486	.2140494
#2	234.0042	.0073861	.0104394	541.7971	-.011317	.2153263
#3	228.4351	.0109715	.0116010	546.7200	-.009887	.2149503

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2033-01DUP Acquired: 5/19/2025 18:29:47 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.009145	-.011719	7.498622	.0329539	F 192.8063	.0702364
Stddev	.001556	.000695	.125747	.0027061	.0920	.0016113
%RSD	17.01629	5.929838	1.676939	8.211900	.0477157	2.294047
#1	-.010060	-.012218	7.411542	.0329931	192.7103	.0718766
#2	-.010027	-.012013	7.441537	.0356402	192.8937	.0701768
#3	-.007348	-.010925	7.642786	.0302284	192.8151	.0686558

Elem	Sr4077
Units	ppm
Avg	9.582965
Stddev	.140134
%RSD	1.462319
#1	9.739779
#2	9.539119
#3	9.469998

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2497.897	61571.39	17343.62	1708.787	3470.872
Stddev	4.096	255.34	162.03	30.227	6.404
%RSD	.1639932	.4147009	.9342541	1.768936	.1845119
#1	2493.506	61779.93	17199.16	1719.737	3465.620
#2	2498.570	61647.61	17312.86	1732.015	3478.007
#3	2501.615	61286.61	17518.82	1674.611	3468.991

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2033-01LX5 Acquired: 5/19/2025 18:34:35 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002180	-.001111	.0011159	.0004075	-.000672	.0946479
Stddev	.004293	.001111	.0008332	.0074037	.000164	.0023154
%RSD	196.8850	100.0032	74.66789	1816.924	24.42206	2.446334
#1	-.006241	-.001470	.0019241	.0034022	-.000681	.0919932
#2	-.002612	.000135	.0002598	.0058448	-.000503	.0962502
#3	.002312	-.001997	.0011637	-.008025	-.000831	.0957001

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0647528	-.000024	-.000133	99.04155	.0311879	.0007920
Stddev	.0007271	.000010	.000124	.47809	.0004959	.0003575
%RSD	1.122871	41.61688	93.01042	.4827142	1.589869	45.13983
#1	.0650776	-.000023	-.000016	99.54058	.0314162	.0005606
#2	.0639199	-.000015	-.000263	98.99647	.0315284	.0006116
#3	.0652608	-.000035	-.000121	98.58760	.0306190	.0012038

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0074644	2.376104	-.001701	.0027228	.0074389	-.000027
Stddev	.0005149	.006737	.000135	.0055803	.0002628	.000131
%RSD	6.898635	.2835225	7.910994	204.9473	3.532996	476.9943
#1	.0070595	2.380342	-.001547	-.002519	.0077357	-.000152
#2	.0080439	2.379636	-.001794	.008589	.0072360	.000108
#3	.0072897	2.368336	-.001762	.002098	.0073448	-.000038

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	43.45761	.0026777	.0015943	102.4739	-.001133	.0397023
Stddev	.07878	.0013806	.0001714	.1821	.000517	.0006888
%RSD	.1812768	51.55965	10.75230	.1777360	45.61874	1.734806
#1	43.54055	.0019982	.0017763	102.6217	-.001168	.0404526
#2	43.44849	.0017685	.0015707	102.5296	-.000599	.0390988
#3	43.38379	.0042664	.0014359	102.2704	-.001631	.0395554

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2033-01LX5 Acquired: 5/19/2025 18:34:35 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003467	-.001549	1.443149	.0085430	F 35.40467	.0106430
Stddev	.000844	.000211	.006049	.0019350	.41771	.0016068
%RSD	24.33465	13.59011	.4191753	22.64947	1.179806	15.09690
#1	-.003500	-.001780	1.449772	.0096628	35.87431	.0124837
#2	-.004293	-.001367	1.441762	.0096576	35.26504	.0099233
#3	-.002607	-.001502	1.437914	.0063088	35.07467	.0095218

Elem	Sr4077
Units	ppm
Avg	1.880201
Stddev	.004411
%RSD	.2346029
#1	1.884712
#2	1.875897
#3	1.879992

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2758.416	66174.31	19091.94	1874.519	3947.438
Stddev	7.428	72.66	35.78	3.181	13.423
%RSD	.2692928	.1097934	.1874346	.1697232	.3400542
#1	2766.953	66134.45	19050.66	1871.603	3962.933
#2	2754.867	66258.17	19110.93	1874.044	3940.032
#3	2753.429	66130.30	19114.23	1877.912	3939.349

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2033-01MS Acquired: 5/19/2025 18:39:00 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8324704	1.905268	.9619237	2.040520	.8264929	2.570447
Stddev	.0030385	.018843	.0063212	.009109	.0040302	.019040
%RSD	.3649961	.9890113	.6571466	.4464225	.4876223	.7407185
#1	.8298574	1.897903	.9552427	2.048854	.8311046	2.588394
#2	.8317493	1.891221	.9627183	2.030795	.8247269	2.572470
#3	.8358046	1.926682	.9678101	2.041911	.8236472	2.550476

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5286446	.1875957	.1998220	505.7697	.5467095	.2006542
Stddev	.0017664	.0009310	.0009695	2.3734	.0016586	.0015011
%RSD	.3341309	.4962579	.4851813	.4692553	.3033763	.7481211
#1	.5301720	.1876984	.1991443	507.7674	.5451243	.2004632
#2	.5267103	.1866176	.1993892	503.1462	.5465714	.1992577
#3	.5290516	.1884710	.2009325	506.3956	.5484328	.2022417

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3199637	15.42573	.1894343	1.795951	.5224514	.0134958
Stddev	.0003002	.07001	.0006972	.014812	.0043202	.0001422
%RSD	.0938113	.4538591	.3680224	.8247259	.8269164	1.053896
#1	.3202617	15.49270	.1897675	1.812276	.5177568	.0133563
#2	.3196614	15.43146	.1886331	1.783373	.5233377	.0136406
#3	.3199679	15.35303	.1899025	1.792205	.5262598	.0134904

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	247.0806	.3002949	.2149553	574.5564	.2510817	.6220017
Stddev	2.3756	.0019839	.0000953	5.3221	.0005043	.0011114
%RSD	.9614562	.6606611	.0443168	.9262922	.2008309	.1786894
#1	244.9782	.3004165	.2148473	568.7990	.2516141	.6232600
#2	249.6576	.2982530	.2149908	579.2961	.2506114	.6215913
#3	246.6060	.3022152	.2150276	575.5742	.2510195	.6211537

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2033-01MS Acquired: 5/19/2025 18:39:00 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7097975	.1872274	8.807380	6.785389	F 189.6383	.2865951
Stddev	.0030478	.0004478	.058725	.031959	.9636	.0010200
%RSD	.4293929	.2391584	.6667726	.4709911	.5081002	.3559023
#1	.7067899	.1874677	8.860100	6.765561	189.0072	.2856760
#2	.7097185	.1867107	8.817954	6.768350	189.1604	.2876925
#3	.7128840	.1875036	8.744086	6.822256	190.7474	.2864167

Elem	Sr4077
Units	ppm
Avg	9.818268
Stddev	.061458
%RSD	.6259586
#1	9.875527
#2	9.753332
#3	9.825947

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2541.495	60325.75	18079.43	1677.411	3502.938
Stddev	23.859	98.01	48.49	8.022	18.890
%RSD	.9387754	.1624732	.2682174	.4782133	.5392662
#1	2516.999	60338.63	18066.68	1685.028	3482.763
#2	2542.824	60221.94	18133.03	1669.038	3505.844
#3	2564.661	60416.70	18038.59	1678.167	3520.206

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2033-01MSD Acquired: 5/19/2025 18:43:38 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8318701	1.924848	.9677467	2.061679	.8296882	2.561895
Stddev	.0058885	.013434	.0014797	.006140	.0018328	.016420
%RSD	.7078665	.6979028	.1528997	.2978126	.2209055	.6409411
#1	.8253672	1.939832	.9681365	2.055304	.8316894	2.547576
#2	.8334013	1.913882	.9661112	2.062178	.8292840	2.558290
#3	.8368417	1.920829	.9689925	2.067553	.8280912	2.579818

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5085535	.2099941	.2016435	502.4176	.5512472	.2020560
Stddev	.0024501	.0012693	.0003038	4.9614	.0029705	.0003516
%RSD	.4817857	.6044298	.1506475	.9874954	.5388688	.1740218
#1	.5075505	.2108433	.2019524	496.7940	.5536380	.2021240
#2	.5067639	.2106039	.2013452	504.2828	.5521817	.2016753
#3	.5113460	.2085350	.2016330	506.1760	.5479218	.2023687

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3231324	14.02853	.1891340	1.854622	.5268829	.0108296
Stddev	.0002765	.07481	.0013276	.025745	.0012913	.0004651
%RSD	.0855575	.5332819	.7019230	1.388161	.2450842	4.294661
#1	.3234470	14.01658	.1884146	1.831212	.5283566	.0106141
#2	.3229282	13.96041	.1883215	1.882195	.5259497	.0113634
#3	.3230220	14.10859	.1906660	1.850458	.5263424	.0105114

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	222.7477	.2991369	.2161367	525.6504	.2766444	.6286905
Stddev	1.0679	.0016240	.0003552	7.6461	.0013974	.0014104
%RSD	.4794176	.5428833	.1643562	1.454602	.5051276	.2243455
#1	222.6383	.2974067	.2165165	518.0347	.2773063	.6279779
#2	221.7388	.2993760	.2158126	525.5899	.2775879	.6303150
#3	223.8661	.3006281	.2160811	533.3266	.2750390	.6277785

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2033-01MSD Acquired: 5/19/2025 18:43:38 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7136094	.1850081	8.123437	6.887069	F 193.0645	.2928016
Stddev	.0019263	.0001225	.057776	.020620	.4592	.0009836
%RSD	.2699431	.0661971	.7112266	.2994046	.2378467	.3359218
#1	.7153125	.1851486	8.078142	6.905828	193.5050	.2931561
#2	.7115188	.1849237	8.103667	6.864990	192.5887	.2916899
#3	.7139970	.1849521	8.188503	6.890390	193.0997	.2935588

Elem	Sr4077
Units	ppm
Avg	9.648474
Stddev	.082166
%RSD	.8515922
#1	9.611066
#2	9.591668
#3	9.742687

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2525.079	60544.25	16330.80	1706.479	3471.684
Stddev	11.487	277.01	60.25	17.503	15.778
%RSD	.4549020	.4575252	.3689073	1.025676	.4544695
#1	2517.047	60813.69	16400.26	1723.424	3457.339
#2	2519.955	60558.80	16292.77	1707.547	3469.128
#3	2538.236	60260.26	16299.37	1688.467	3488.583

Sample Name: Q2033-01A Acquired: 5/19/2025 18:48:07 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8054662	1.865933	1.043515	1.980168	.8317911	2.541353
Stddev	.0058500	.012713	.003493	.005983	.0021722	.013919
%RSD	.7262827	.6813155	.3347431	.3021706	.2611443	.5477025
#1	.8122097	1.879587	1.046651	1.976008	.8306898	2.553432
#2	.8024347	1.854437	1.044145	1.987025	.8342934	2.526131
#3	.8017542	1.863776	1.039750	1.977471	.8303902	2.544494

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4955035	.2029485	.1951168	493.2506	.5237042	.1951174
Stddev	.0020950	.0013335	.0002137	4.4030	.0018881	.0002377
%RSD	.4227993	.6570589	.1095329	.8926454	.3605207	.1218304
#1	.4942430	.2026960	.1952992	496.7651	.5226927	.1950378
#2	.4943456	.2017593	.1951695	488.3117	.5225373	.1953846
#3	.4979218	.2043902	.1948816	494.6748	.5258825	.1949296

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3163646	12.78122	.1860999	1.879023	.5422992	.0631124
Stddev	.0007058	.03937	.0005221	.010434	.0006465	.0040491
%RSD	.2230845	.3080427	.2805713	.5552847	.1192199	6.415661
#1	.3168095	12.73608	.1866057	1.877840	.5423661	.0632655
#2	.3167333	12.79916	.1855628	1.889998	.5416218	.0589890
#3	.3155508	12.80843	.1861313	1.869231	.5429097	.0670828

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	202.3753	.2900321	1.915888	481.6555	.2730990	.6160590
Stddev	.9784	.0010811	.005603	3.6130	.0016745	.0013573
%RSD	.4834805	.3727585	.2924510	.7501213	.6131334	.2203264
#1	201.8394	.2912770	1.921805	481.6304	.2711677	.6161544
#2	203.5046	.2894897	1.910664	478.0551	.2741448	.6173661
#3	201.7818	.2893295	1.915195	485.2809	.2739845	.6146565

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2033-01A Acquired: 5/19/2025 18:48:07 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7057144	.1856571	7.439613	6.755195	F 185.4200	.2844932
Stddev	.0020238	.0014186	.006177	.018557	.3794	.0023066
%RSD	.2867676	.7641150	.0830317	.2747051	.2046107	.8107798
#1	.7072051	.1850753	7.433700	6.775282	185.8425	.2821523
#2	.7065276	.1846219	7.439116	6.751611	185.3089	.2867639
#3	.7034105	.1872741	7.446024	6.738691	185.1085	.2845635

Elem	Sr4077
Units	ppm
Avg	9.315694
Stddev	.054244
%RSD	.5822887
#1	9.362039
#2	9.256031
#3	9.329011

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2526.838	63332.08	15986.28	1727.799	3484.248
Stddev	4.003	113.61	110.75	8.699	4.893
%RSD	.1584088	.1793823	.6927912	.5034502	.1404247
#1	2523.124	63270.32	15969.07	1717.757	3478.622
#2	2526.313	63463.19	16104.63	1733.008	3486.609
#3	2531.077	63262.74	15885.14	1732.632	3487.513

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2064-01 Acquired: 5/19/2025 18:52:35 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004695	-.002553	.0069754	.0065274	.0022970	.1744543	.0023998
Stddev	.004157	.000429	.0005072	.0011929	.0011689	.0020157	.0013214
%RSD	88.54079	16.78932	7.270851	18.27448	50.88672	1.155406	55.06093
#1	-.007569	-.002120	.0064309	.0076075	.0019977	.1749772	.0014293
#2	-.006586	-.002977	.0070609	.0052471	.0035865	.1761569	.0039047
#3	.000071	-.002563	.0074343	.0067276	.0013069	.1722287	.0018655

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000032	-.000469	4.401878	.0001056	.0063947	.0054689	5.441058
Stddev	.000055	.000118	.019993	.0001365	.0003144	.0003025	.042162
%RSD	168.3751	25.19823	.4541832	129.2411	4.916506	5.531604	.7748937
#1	-.000095	-.000595	4.420778	-.000051	.0067517	.0051243	5.444404
#2	-.000009	-.000360	4.403907	.000167	.0061593	.0055915	5.481447
#3	.000006	-.000453	4.380948	.000200	.0062730	.0056908	5.397322

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0972285	1.737278	.0073386	-.000113	14.14538	.0038682	.0201669
Stddev	.0006561	.003304	.0001511	.000196	.17363	.0008887	.0005915
%RSD	.6747931	.1901546	2.058685	174.0920	1.227455	22.97292	2.932948
#1	.0979789	1.733655	.0071649	-.000315	14.25807	.0030619	.0206885
#2	.0969434	1.738055	.0074395	.000076	14.23263	.0037219	.0195242
#3	.0967632	1.740124	.0074114	-.000099	13.94543	.0048210	.0202880

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.492674	-.003352	.0003248	-.002158	.0024347	6.124991	.0139010
Stddev	.024467	.000447	.0003346	.001091	.0004074	.056527	.0026535
%RSD	1.639113	13.32409	103.0102	50.54998	16.73493	.9228863	19.08859
#1	1.509024	-.002881	.0000982	-.001559	.0024519	6.126582	.0123201
#2	1.464546	-.003769	.0007090	-.003417	.0020189	6.180705	.0169645
#3	1.504452	-.003407	.0001671	-.001498	.0028332	6.067685	.0124185

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2064-01 Acquired: 5/19/2025 18:52:35 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.749771	-.001284	.0435627
Stddev	.037739	.000487	.0001676
%RSD	.7945468	37.90335	.3847425
#1	4.751175	-.000810	.0437471
#2	4.711349	-.001783	.0434195
#3	4.786789	-.001259	.0435215

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2780.456	67001.49	18855.27	1884.951	4195.748
Stddev	6.417	448.55	72.07	9.864	9.683
%RSD	.2307963	.6694558	.3822011	.5233092	.2307803
#1	2773.564	66794.62	18775.18	1886.438	4190.834
#2	2786.258	66693.71	18914.87	1874.428	4206.902
#3	2781.546	67516.14	18875.77	1893.987	4189.507

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2064-04 Acquired: 5/19/2025 18:56:51 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0050774	-.005627	.0029316	.0063333	.0030051	.0151512
Stddev	.0024696	.001299	.0002159	.0020697	.0024077	.0028680
%RSD	48.63864	23.08206	7.365680	32.67910	80.12153	18.92907
#1	.0074741	-.006904	.0027843	.0039509	.0057692	.0165000
#2	.0052174	-.005668	.0028310	.0073614	.0018815	.0170961
#3	.0025408	-.004308	.0031795	.0076877	.0013646	.0118575

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0121346	-.000112	-.000027	1.043005	.0004823	.0013220
Stddev	.0003857	.000020	.000097	.003745	.0002039	.0002753
%RSD	3.178854	17.82690	359.2697	.3591047	42.28075	20.82155
#1	.0121925	-.000123	-.000006	1.039615	.0006957	.0015520
#2	.0124881	-.000123	-.000132	1.047026	.0004619	.0013971
#3	.0117232	-.000089	.000058	1.042373	.0002894	.0010170

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0064371	.4938559	.0281960	.5505479	.0195238	-.000080
Stddev	.0001645	.0031749	.0002092	.0092952	.0003073	.000120
%RSD	2.556175	.6428744	.7418512	1.688353	1.574024	149.3986
#1	.0064006	.4949136	.0282133	.5602297	.0193638	-.000158
#2	.0066168	.4902871	.0279787	.5416948	.0198782	-.000140
#3	.0062938	.4963668	.0283960	.5497192	.0193296	.000058

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	102.2679	.0023044	.0622790	640.0168	.0293694	.0030097
Stddev	.7401	.0018216	.0006823	1.4068	.0004134	.0004344
%RSD	.7237333	79.04845	1.095619	.2198038	1.407497	14.43363
#1	103.1198	.0024606	.0629473	640.5495	.0297571	.0032405
#2	101.9010	.0004098	.0623063	638.4215	.0289345	.0032800
#3	101.7829	.0040429	.0615834	641.0795	.0294166	.0025086

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2064-04 Acquired: 5/19/2025 18:56:51 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009033	.0010075	F 26.97817	6.705741	20.23409	.0060825
Stddev	.0008559	.0007252	.10450	.034666	.08257	.0010227
%RSD	94.75142	71.98363	.3873651	.5169646	.4080587	16.81430
#1	-.000003	.0001827	26.89867	6.717401	20.25995	.0066093
#2	.001698	.0012942	27.09654	6.666748	20.14169	.0049038
#3	.001016	.0015455	26.93931	6.733074	20.30064	.0067344

Elem	Sr4077
Units	ppm
Avg	.0105333
Stddev	.0000800
%RSD	.7593533
#1	.0106210
#2	.0104644
#3	.0105145

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2642.741	63447.50	18524.42	1774.401	3717.609
Stddev	13.760	167.45	102.94	7.860	10.005
%RSD	.5206885	.2639127	.5556842	.4429847	.2691291
#1	2628.618	63257.52	18429.17	1765.807	3706.940
#2	2643.497	63573.62	18633.62	1776.172	3726.781
#3	2656.108	63511.37	18510.47	1781.226	3719.107

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2064-05 Acquired: 5/19/2025 19:01:14 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004745	-.001931	.0917589	-.000707	.0009689	.0658138	.0012277
Stddev	.003486	.001241	.0002560	.004393	.0004629	.0064039	.0006126
%RSD	73.46967	64.26973	.2789758	621.2288	47.78242	9.730279	49.90137
#1	-.005633	-.001532	.0915722	-.002091	.0004407	.0725953	.0018198
#2	-.007700	-.000939	.0916538	.004211	.0013044	.0649761	.0005964
#3	-.000901	-.003322	.0920508	-.004241	.0011614	.0598700	.0012668

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000085	-.000161	4.164026	-.000214	.0057289	.0472146	2.873183
Stddev	.000013	.000064	.002443	.000195	.0001626	.0007908	.010323
%RSD	15.12875	39.81732	.0586665	90.94785	2.838480	1.674961	.3592794
#1	-.000096	-.000154	4.162786	-.000042	.0058920	.0467791	2.867242
#2	-.000071	-.000228	4.166840	-.000425	.0057281	.0467372	2.867205
#3	-.000087	-.000101	4.162451	-.000174	.0055667	.0481274	2.885103

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0524131	1.592236	.0076959	-.000063	11.79177	.0012048	.2271563
Stddev	.0002768	.015993	.0003022	.000168	.06980	.0008077	.0009030
%RSD	.5281165	1.004465	3.926741	266.4930	.5919532	67.03920	.3975213
#1	.0521978	1.580197	.0075963	.000129	11.86580	.0003012	.2267780
#2	.0527254	1.610384	.0074560	-.000139	11.72715	.0018566	.2265040
#3	.0523162	1.586128	.0080353	-.000179	11.78237	.0014566	.2281869

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.051736	-.000265	.0008718	-.002692	.0015454	5.508562	.0078319
Stddev	.020266	.000543	.0000746	.001155	.0005021	.019921	.0033102
%RSD	1.926880	204.7739	8.554597	42.88613	32.48944	.3616305	42.26590
#1	1.074390	-.000224	.0008353	-.003928	.0013700	5.514115	.0111144
#2	1.045489	-.000828	.0008224	-.001640	.0011545	5.486454	.0044946
#3	1.035330	.000256	.0009576	-.002510	.0021116	5.525116	.0078867

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2064-05 Acquired: 5/19/2025 19:01:14 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.373940	-.002210	.0253371
Stddev	.024819	.000771	.0001555
%RSD	.5674245	34.90461	.6136434
#1	4.367746	-.001725	.0255137
#2	4.352805	-.003099	.0252210
#3	4.401269	-.001805	.0252765

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2873.078	67435.10	17595.77	1874.881	4385.235
Stddev	3.697	114.49	13.63	7.871	7.503
%RSD	.1286764	.1697748	.0774843	.4197977	.1710966
#1	2874.051	67450.33	17584.57	1883.270	4389.872
#2	2876.191	67541.21	17610.95	1873.712	4389.255
#3	2868.992	67313.76	17591.77	1867.659	4376.579

Sample Name: Q2064-08 Acquired: 5/19/2025 19:05:30 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0017137	-.003966	-.001484	.0051321	.0030251	.0196861
Stddev	.0021513	.001958	.001484	.0006720	.0023944	.0019624
%RSD	125.5354	49.35745	100.0420	13.09359	79.15169	9.968509
#1	-.000210	-.003801	-.003170	.0045035	.0012369	.0185208
#2	.004036	-.002096	-.000907	.0050525	.0020930	.0219517
#3	.001315	-.006001	-.000374	.0058403	.0057454	.0185856

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0304144	-.000139	-.000058	1.143265	.0010216	.0011643
Stddev	.0009312	.000046	.000032	.004741	.0004288	.0003121
%RSD	3.061823	33.06124	54.83655	.4146757	41.97034	26.80754
#1	.0314599	-.000109	-.000039	1.148272	.0009175	.0014065
#2	.0301092	-.000116	-.000040	1.138844	.0006544	.0012744
#3	.0296740	-.000191	-.000095	1.142679	.0014928	.0008121

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0017397	.5619847	.0477013	.5670861	.0373968	.0003028
Stddev	.0001986	.0050519	.0002567	.0114452	.0002988	.0001431
%RSD	11.41630	.8989407	.5380966	2.018254	.7988702	47.25567
#1	.0017997	.5564894	.0479205	.5540003	.0377172	.0004614
#2	.0019014	.5630375	.0477644	.5752304	.0371258	.0002638
#3	.0015180	.5664273	.0474190	.5720276	.0373474	.0001833

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	102.8593	.0025513	.0528664	639.0168	.0280732	.0033117
Stddev	.2699	.0004420	.0007083	4.5981	.0008907	.0000720
%RSD	.2623618	17.32438	1.339832	.7195612	3.172887	2.173729
#1	102.6059	.0027904	.0520488	638.7445	.0282630	.0032313
#2	103.1430	.0028221	.0532954	643.7450	.0288537	.0033339
#3	102.8290	.0020412	.0532550	634.5608	.0271028	.0033701

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2064-08 Acquired: 5/19/2025 19:05:30 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000857	.0011921	F 27.08877	6.350092	19.77214	.0061811
Stddev	.001135	.0005867	.08657	.027320	.09474	.0004932
%RSD	132.3399	49.21709	.3195803	.4302328	.4791665	7.978857
#1	-.001615	.0018244	27.01150	6.377122	19.84009	.0062717
#2	-.001405	.0006654	27.18233	6.322490	19.66391	.0056489
#3	.000447	.0010864	27.07249	6.350665	19.81241	.0066227

Elem	Sr4077
Units	ppm
Avg	.0142832
Stddev	.0000716
%RSD	.5009443
#1	.0142933
#2	.0143492
#3	.0142071

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2650.066	63337.79	19069.67	1775.497	3736.795
Stddev	6.838	113.55	17.60	7.508	12.015
%RSD	.2580401	.1792732	.0923027	.4228910	.3215332
#1	2655.435	63468.33	19089.86	1777.283	3746.010
#2	2642.367	63283.14	19057.52	1767.257	3723.206
#3	2652.395	63261.90	19061.64	1781.952	3741.169

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCV08 Acquired: 5/19/2025 19:09:53 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV08 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.989664	5.124678	4.914767	5.063845	4.976901	9.850529	9.661959
Stddev	.013058	.073657	.024058	.011104	.037246	.027480	.119257
%RSD	.2617103	1.437303	.4895107	.2192802	.7483745	.2789669	1.234298
#1	4.974931	5.076887	4.901282	5.051097	4.939189	9.833878	9.643141
#2	4.994250	5.087643	4.900475	5.069030	4.977852	9.835463	9.553230
#3	4.999810	5.209503	4.942543	5.071409	5.013663	9.882247	9.789507

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2577732	2.466508	24.33532	.9854475	2.466129	1.249284	4.836981
Stddev	.0015625	.007290	.03968	.0030761	.008396	.006349	.011115
%RSD	.6061517	.2955441	.1630348	.3121522	.3404518	.5081733	.2297899
#1	.2569404	2.466742	24.32169	.9836283	2.463358	1.242679	4.846757
#2	.2568036	2.459104	24.30426	.9837150	2.459468	1.249835	4.824892
#3	.2595757	2.473677	24.38001	.9889991	2.475560	1.255340	4.839295

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.456164	24.40827	2.465653	1.241057	24.19742	2.441038	2.508540
Stddev	.009171	.03765	.009097	.002089	.07021	.012002	.008103
%RSD	.3733928	.1542702	.3689674	.1683044	.2901511	.4916722	.3230040
#1	2.449060	24.44113	2.465457	1.243468	24.12348	2.434703	2.513169
#2	2.452916	24.36718	2.456656	1.239804	24.20559	2.433530	2.513267
#3	2.466518	24.41650	2.474848	1.239899	24.26318	2.454880	2.499184

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.56349	5.086369	4.967954	4.957760	4.872925	4.810152	5.143920
Stddev	.04229	.024433	.026910	.024664	.018573	.014483	.006738
%RSD	.1721681	.4803707	.5416765	.4974787	.3811511	.3010913	.1309958
#1	24.55966	5.072939	4.944249	4.951912	4.860121	4.811995	5.138479
#2	24.52324	5.071596	4.962409	4.936546	4.864427	4.823626	5.141824
#3	24.60756	5.114572	4.997205	4.984822	4.894227	4.794836	5.151457

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCV08 Acquired: 5/19/2025 19:09:53 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV08 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.025224	4.934913	4.955022
Stddev	.022475	.028722	.055257
%RSD	.4472370	.5820192	1.115175
#1	5.007937	4.909220	4.893731
#2	5.017105	4.929597	4.970310
#3	5.050630	4.965922	5.001026

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2746.789	65448.17	17772.62	1855.370	3946.110
Stddev	23.975	85.08	99.80	4.107	33.036
%RSD	.8728396	.1300000	.5615451	.2213417	.8371819
#1	2768.068	65488.26	17835.92	1851.700	3968.944
#2	2751.487	65505.80	17824.37	1859.805	3961.156
#3	2720.813	65350.45	17657.57	1854.604	3908.229

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCB08 Acquired: 5/19/2025 19:14:05 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB08 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001444	.0027284	-.000229	.0007728	.0011594	.0009062	-.002250
Stddev	.000821	.0014127	.000377	.0018503	.0015599	.0037354	.001254
%RSD	56.83508	51.77630	164.9065	239.4218	134.5437	412.2132	55.73779
#1	-.002332	.0035086	-.000291	.0026077	-.000490	-.002935	-.000802
#2	-.001288	.0035789	-.000571	-.001092	.002611	.001127	-.002957
#3	-.000713	.0010977	.000176	.000803	.001357	.004526	-.002990

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000042	.0001187	-.010653	-.000652	.0002571	-.000038	.0042243
Stddev	.000069	.0000844	.004923	.000232	.0001011	.000065	.0037374
%RSD	164.3459	71.09025	46.21290	35.54968	39.30942	170.5523	88.47310
#1	-.000022	.0000324	-.010403	-.000689	.0001475	-.000091	.0007964
#2	-.000118	.0001227	-.005860	-.000863	.0002770	-.000056	.0082087
#3	.000015	.0002010	-.015697	-.000404	.0003467	.000034	.0036677

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001692	.0057456	-.000019	.0000251	-.081504	.0012794	-.001077
Stddev	.000216	.0092232	.000465	.0003818	.021874	.0006425	.000245
%RSD	12.78570	160.5257	2450.705	1519.094	26.83752	50.22302	22.77923
#1	-.001667	.0163470	.000300	.0001872	-.103806	.0005766	-.001117
#2	-.001920	.0013261	.000196	.0002991	-.060086	.0014248	-.001299
#3	-.001489	-.000436	-.000552	-.000411	-.080619	.0018367	-.000814

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1443012	.0055875	.0004204	.0002751	.0010151	-.009284	-.000624
Stddev	.0178857	.0007348	.0003094	.0003442	.0005686	.008511	.003819
%RSD	12.39471	13.15089	73.60005	125.1104	56.01367	91.67529	611.7643
#1	.1457478	.0049090	.0007685	-.000086	.0016199	-.014047	.000362
#2	.1257361	.0063679	.0003162	.000311	.0009339	.000542	-.004840
#3	.1614197	.0054856	.0001766	.000600	.0004914	-.014346	.002605

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCB08 Acquired: 5/19/2025 19:14:05 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB08 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0016363	.0009943	.0000782
Stddev	.0023583	.0003813	.0000096
%RSD	144.1228	38.35036	12.31091
#1	-.000116	.0010876	.0000875
#2	.000707	.0013203	.0000788
#3	.004318	.0005750	.0000683

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2846.531	68184.69	19168.99	1941.827	4272.015
Stddev	15.513	214.75	86.29	10.056	13.562
%RSD	.5449941	.3149575	.4501742	.5178493	.3174719
#1	2859.543	68243.43	19130.36	1932.986	4285.307
#2	2850.689	67946.68	19267.85	1939.728	4272.540
#3	2829.363	68363.96	19108.76	1952.766	4258.198

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2062-01 Acquired: 5/19/2025 19:18:23 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6995286	.0138067	.2297004	.0209382	-.005804	109.9516	2.558844
Stddev	.0021734	.0024723	.0014964	.0016841	.003574	.0779	.003147
%RSD	.3106998	17.90682	.6514392	8.042937	61.57685	.0708382	.1229932
#1	.7016591	.0138477	.2297765	.0208788	-.009550	110.0136	2.562421
#2	.6973147	.0162582	.2311572	.0226512	-.005429	109.8642	2.556501
#3	.6996120	.0113141	.2281674	.0192847	-.002432	109.9769	2.557609

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0131507	-.005010	31.06866	.3023235	.1604771	.3036291	304.1691
Stddev	.0000157	.000166	.01241	.0005536	.0002485	.0012099	.6402
%RSD	.1193251	3.317204	.0399370	.1831014	.1548558	.3984884	.2104764
#1	.0131352	-.004819	31.05477	.3025372	.1602168	.3022731	303.4645
#2	.0131666	-.005123	31.07864	.3016949	.1605027	.3040158	304.3280
#3	.0131505	-.005088	31.07258	.3027383	.1607118	.3045985	304.7149

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.776736	60.09770	.3256751	-.003983	9.711801	.4002674	.8767811
Stddev	.003422	.17090	.0013932	.000370	.013044	.0010245	.0026780
%RSD	.0439976	.2843722	.4277919	9.279072	.1343071	.2559594	.3054364
#1	7.776890	59.90169	.3262902	-.004072	9.714839	.3991494	.8756126
#2	7.780078	60.21546	.3240802	-.004301	9.697507	.4011613	.8748859
#3	7.773240	60.17597	.3266548	-.003578	9.723058	.4004916	.8798448

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.20915	-.639798	.0120749	.0091168	3.386491	4.140189	7.418546
Stddev	.04324	.002476	.0004397	.0008722	.002485	.018177	.019022
%RSD	.2843107	.3870415	3.641857	9.567276	.0733765	.4390498	.2564059
#1	15.22906	-.638725	.0118413	.0099296	3.387482	4.120234	7.414953
#2	15.15955	-.642629	.0118012	.0081953	3.388327	4.144531	7.401577
#3	15.23886	-.638039	.0125821	.0092254	3.383663	4.155802	7.439107

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2062-01 Acquired: 5/19/2025 19:18:23 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.082324	.3758491	-.083785
Stddev	.001435	.0006137	.000789
%RSD	.1325843	.1632953	.9412818
#1	1.081251	.3765576	-.082904
#2	1.083954	.3754806	-.084025
#3	1.081767	.3755092	-.084425

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3320.328	78091.56	22219.77	2204.223	3854.623
Stddev	11.910	326.11	78.26	18.673	6.849
%RSD	.3586942	.4176012	.3522082	.8471610	.1776850
#1	3332.135	78000.77	22161.86	2196.043	3862.489
#2	3308.318	78453.45	22308.80	2225.591	3851.400
#3	3320.532	77820.47	22188.65	2191.036	3849.980

Sample Name: Q2062-05 Acquired: 5/19/2025 19:22:29 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.735444	.0200851	.6981569	.0289188	-.002105	192.5128
Stddev	.007420	.0007483	.0041159	.0078528	.002021	.3937
%RSD	.1101665	3.725680	.5895372	27.15455	96.00564	.2044887
#1	6.738362	.0195339	.7006468	.0244346	.000192	192.9565
#2	6.740962	.0197843	.6934061	.0243356	-.003609	192.2053
#3	6.727009	.0209369	.7004179	.0379862	-.002898	192.3767

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.236203	.0155886	-.004535	31.07339	.4105848	.1649954
Stddev	.000914	.0000505	.000120	.08443	.0006110	.0004674
%RSD	.0739001	.3241442	2.648564	.2716981	.1488199	.2832796
#1	1.237050	.0156385	-.004415	31.11606	.4098850	.1650836
#2	1.236324	.0155898	-.004535	31.12796	.4110130	.1644901
#3	1.235235	.0155375	-.004656	30.97614	.4108562	.1654123

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4533401	424.7034	13.88496	70.13461	.3278131	-.010976
Stddev	.0007362	.5154	.02323	.24661	.0015999	.000584
%RSD	.1623852	.1213486	.1673101	.3516173	.4880600	5.318892
#1	.4525329	424.1419	13.90038	70.41912	.3272816	-.011487
#2	.4535128	424.8136	13.89626	70.00257	.3265466	-.010339
#3	.4539745	425.1548	13.85824	69.98213	.3296112	-.011101

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.377821	.6255131	.9342793	21.10329	F -1.13325	.0054595
Stddev	.020987	.0013203	.0023331	.05247	.00261	.0008374
%RSD	.3290646	.2110675	.2497166	.2486470	.2303940	15.33771
#1	6.355879	.6243996	.9369300	21.04371	-1.13565	.0053243
#2	6.379883	.6251682	.9333709	21.12353	-1.13363	.0046980
#3	6.397701	.6269716	.9325372	21.14263	-1.13047	.0063562

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2062-05 Acquired: 5/19/2025 19:22:29 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0179534	4.237931	5.260459	6.886518	1.806559	.5347643
Stddev	.0016052	.008302	.026627	.006733	.008519	.0002155
%RSD	8.940606	.1959069	.5061790	.0977772	.4715459	.0403037
#1	.0162372	4.247293	5.231405	6.892135	1.802811	.5345394
#2	.0182055	4.235037	5.266274	6.879054	1.800556	.5347845
#3	.0194177	4.231462	5.283699	6.888364	1.816309	.5349690

Elem	Sr4077
Units	ppm
Avg	-.079855
Stddev	.000542
%RSD	.6789717
#1	-.079415
#2	-.079689
#3	-.080461

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2897.988	72094.54	19453.88	1983.087	3611.789
Stddev	8.921	67.44	47.49	5.496	4.473
%RSD	.3078392	.0935449	.2441396	.2771596	.1238363
#1	2892.400	72037.55	19399.09	1978.615	3606.755
#2	2893.287	72169.00	19479.20	1989.223	3615.305
#3	2908.276	72077.09	19483.35	1981.424	3613.308

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2062-09 Acquired: 5/19/2025 19:26:32 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2199878	-.006445	.7429324	.0237288	-.003857	128.4383	1.895129
Stddev	.0074401	.003837	.0011945	.0018778	.002388	.1470	.003177
%RSD	3.382069	59.53200	.1607789	7.913475	61.92489	.1144175	.1676365
#1	.2197416	-.007608	.7417893	.0252421	-.002661	128.3087	1.898692
#2	.2126738	-.009564	.7441724	.0243168	-.002303	128.5980	1.892593
#3	.2275480	-.002161	.7428355	.0216273	-.006606	128.4083	1.894102

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0121032	-.000708	36.52571	.2869661	.1365908	.4038105	254.8217
Stddev	.0000204	.000092	.07259	.0010121	.0002388	.0003664	.7409
%RSD	.1682422	12.98456	.1987425	.3526890	.1748421	.0907270	.2907641
#1	.0121176	-.000801	36.57705	.2878684	.1368493	.4035671	255.6543
#2	.0121120	-.000617	36.55741	.2871583	.1363784	.4036326	254.2350
#3	.0120799	-.000705	36.44265	.2858717	.1365447	.4042319	254.5758

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.177244	68.88785	.3115821	-.001929	7.516403	.4213669	1.267170
Stddev	.018168	.13427	.0004551	.000577	.007649	.0014782	.004285
%RSD	.2531361	.1949105	.1460646	29.91472	.1017637	.3508164	.3381733
#1	7.197488	68.83776	.3114605	-.001947	7.509367	.4196602	1.272102
#2	7.171889	69.03996	.3112001	-.002496	7.515298	.4222406	1.265051
#3	7.162355	68.78582	.3120856	-.001342	7.524545	.4221999	1.264357

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.26208	-.533618	.0073121	.0106464	6.888401	11.84174	15.04467
Stddev	.04314	.001530	.0003569	.0005694	.007349	.12728	.00969
%RSD	.1642591	.2867181	4.881630	5.347976	.1066859	1.074837	.0643904
#1	26.30192	-.534856	.0069217	.0103686	6.896882	11.70288	15.05299
#2	26.21627	-.534090	.0076218	.0102692	6.884404	11.86949	15.03404
#3	26.26805	-.531908	.0073929	.0113013	6.883916	11.95286	15.04699

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2062-09 Acquired: 5/19/2025 19:26:32 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.6882602	.3557929	.0297485
Stddev	.0109869	.0006142	.0003232
%RSD	1.596325	.1726222	1.086302
#1	.6776092	.3563921	.0295473
#2	.6876168	.3551647	.0301212
#3	.6995547	.3558218	.0295769

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3381.033	78517.97	22821.17	2211.888	3817.580
Stddev	11.973	142.64	58.08	5.247	12.808
%RSD	.3541284	.1816603	.2545045	.2372401	.3355079
#1	3387.556	78359.94	22770.38	2206.164	3825.705
#2	3388.328	78556.78	22808.63	2216.471	3824.220
#3	3367.215	78637.18	22884.49	2213.028	3802.815

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2062-13 Acquired: 5/19/2025 19:30:37 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1286628	-.010187	.8276546	.0186403	-.003211	100.0301	.7838585
Stddev	.0034306	.001288	.0061534	.0039071	.002025	.2159	.0035270
%RSD	2.666372	12.64845	.7434796	20.96040	63.07895	.2157966	.4499574
#1	.1322957	-.010674	.8264574	.0186877	-.003843	99.8113	.7826599
#2	.1254786	-.011161	.8221877	.0225234	-.004845	100.2429	.7878286
#3	.1282141	-.008726	.8343187	.0147097	-.000945	100.0362	.7810870

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0116387	-.000880	21.51661	.2151409	.1255660	.4518562	198.0613
Stddev	.0000336	.000472	.03391	.0007653	.0006256	.0020644	.4490
%RSD	.2890583	53.61310	.1575950	.3557317	.4981993	.4568744	.2266757
#1	.0116595	-.001152	21.48316	.2150519	.1249926	.4503952	198.0063
#2	.0115999	-.001152	21.55096	.2159468	.1254723	.4509556	198.5351
#3	.0116567	-.000335	21.51571	.2144239	.1262332	.4542179	197.6423

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.507207	56.56879	.2077882	-.000659	3.928123	.3762705	2.082545
Stddev	.023684	.15683	.0010895	.000256	.005325	.0007761	.009564
%RSD	.3639606	.2772365	.5243486	38.85294	.1355640	.2062702	.4592320
#1	6.518605	56.44758	.2071567	-.000487	3.923484	.3757596	2.093427
#2	6.523038	56.51288	.2071616	-.000536	3.926947	.3758884	2.075474
#3	6.479980	56.74592	.2090463	-.000953	3.933938	.3771636	2.078735

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.60289	-.395897	.0043815	.0066869	6.601759	4.437935	9.952599
Stddev	.06412	.003849	.0003315	.0004818	.021275	.019474	.047210
%RSD	.2967944	.9721883	7.566967	7.205510	.3222666	.4388047	.4743441
#1	21.57279	-.398486	.0047129	.0067325	6.600946	4.423569	9.962481
#2	21.67651	-.397732	.0043817	.0071443	6.623430	4.460100	9.901231
#3	21.55935	-.391474	.0040498	.0061839	6.580902	4.430137	9.994086

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2062-13 Acquired: 5/19/2025 19:30:37 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.3326133	.2536744	-.075023
Stddev	.0055490	.0004962	.000146
%RSD	1.668316	.1956139	.1950297
#1	.3361293	.2532077	-.074868
#2	.3262163	.2541957	-.075159
#3	.3354944	.2536198	-.075042

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3296.588	77100.92	22907.54	2179.360	3828.647
Stddev	11.922	187.70	55.39	7.248	20.205
%RSD	.3616483	.2434500	.2418045	.3325546	.5277327
#1	3306.367	77068.92	22889.02	2173.169	3844.010
#2	3300.088	76931.27	22863.79	2187.332	3836.172
#3	3283.307	77302.56	22969.82	2177.578	3805.759

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2062-17 Acquired: 5/19/2025 19:34:42 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1108122	-.007865	1.030520	.0119056	-.003186	120.9495	.6125246
Stddev	.0047612	.004267	.001802	.0014903	.002812	.1590	.0003965
%RSD	4.296625	54.25070	.1748243	12.51752	88.24817	.1314827	.0647343
#1	.1060106	-.003656	1.030710	.0118121	-.006226	121.0510	.6129299
#2	.1155319	-.012187	1.032219	.0104642	-.000679	120.7662	.6125065
#3	.1108940	-.007752	1.028631	.0134404	-.002654	121.0314	.6121375

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0132868	.0015719	14.66395	.2567503	.1116901	.5274058	198.8696
Stddev	.0000493	.0001420	.04101	.0009728	.0006908	.0019553	.2735
%RSD	.3707772	9.030714	.2796409	.3788804	.6184650	.3707435	.1375126
#1	.0132384	.0014349	14.66960	.2561718	.1110055	.5254568	198.6766
#2	.0132851	.0015626	14.62041	.2562058	.1116779	.5273931	199.1825
#3	.0133369	.0017184	14.70183	.2578734	.1123868	.5293674	198.7495

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.203692	55.08394	.2398534	-.003654	1.081044	.4188463	1.261193
Stddev	.003812	.09953	.0007731	.000277	.003424	.0028037	.003127
%RSD	.0906727	.1806962	.3223312	7.582854	.3167730	.6693869	.2479052
#1	4.203494	55.07631	.2390801	-.003963	1.084743	.4184612	1.261351
#2	4.199983	54.98843	.2398539	-.003572	1.080404	.4162551	1.264238
#3	4.207598	55.18706	.2406263	-.003427	1.077984	.4218227	1.257991

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.87873	-.540339	.0036386	.0518295	6.279736	4.274311	8.159878
Stddev	.08801	.001668	.0002273	.0008491	.009758	.003745	.039255
%RSD	.4022793	.3086319	6.245997	1.638336	.1553809	.0876094	.4810744
#1	21.87612	-.541622	.0036227	.0525960	6.289896	4.275751	8.117002
#2	21.96803	-.538454	.0034197	.0509167	6.278874	4.270060	8.168580
#3	21.79206	-.540941	.0038734	.0519759	6.270438	4.277121	8.194052

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2062-17 Acquired: 5/19/2025 19:34:42 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.7221273	.2862424	-.093066
Stddev	.0052593	.0004453	.000222
%RSD	.7283091	.1555826	.2389216
#1	.7192745	.2866156	-.092813
#2	.7189108	.2863620	-.093230
#3	.7281966	.2857494	-.093155

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3330.005	78447.59	21110.44	2178.305	3920.931
Stddev	13.296	59.61	55.95	4.138	15.279
%RSD	.3992832	.0759847	.2650522	.1899847	.3896742
#1	3344.582	78411.22	21087.63	2177.844	3938.288
#2	3318.543	78516.38	21174.20	2174.416	3914.990
#3	3326.890	78415.16	21069.50	2182.654	3909.515

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2062-17DUP Acquired: 5/19/2025 19:38:48 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1411172	-.006951	1.411768	.0119708	-.002906	116.1554	.6127507
Stddev	.0036804	.001456	.007874	.0026584	.001670	.0576	.0011872
%RSD	2.608074	20.93847	.5577487	22.20763	57.44833	.0496161	.1937427
#1	.1419267	-.006556	1.406414	.0150378	-.002434	116.1925	.6134494
#2	.1443256	-.008564	1.420809	.0103266	-.004761	116.0891	.6113800
#3	.1370994	-.005734	1.408081	.0105479	-.001524	116.1848	.6134228

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0112321	.0022577	15.33512	.2504404	.1175524	.4664514	186.9592
Stddev	.0001144	.0001592	.01549	.0012116	.0012924	.0027305	1.2034
%RSD	1.018291	7.051339	.1010180	.4837750	1.099379	.5853820	.6436434
#1	.0113537	.0021973	15.31769	.2495718	.1165399	.4650594	185.5702
#2	.0112157	.0024383	15.34732	.2518245	.1190080	.4695974	187.6875
#3	.0111267	.0021376	15.34035	.2499250	.1171092	.4646974	187.6198

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.817926	53.09186	.2351839	-.003529	1.027462	.4033985	1.057918
Stddev	.010299	.11794	.0011844	.000309	.007393	.0022641	.005441
%RSD	.2697594	.2221462	.5036000	8.761848	.7195182	.5612667	.5143192
#1	3.823041	53.05084	.2340777	-.003776	1.018926	.4021000	1.051842
#2	3.806071	53.22483	.2364334	-.003627	1.031774	.4020826	1.059569
#3	3.824667	52.99990	.2350407	-.003182	1.031687	.4060129	1.062342

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.90988	-.536004	.0031853	.0210890	5.457386	3.676818	8.186696
Stddev	.13955	.006387	.0004917	.0012578	.011706	.027146	.063469
%RSD	.6369376	1.191569	15.43705	5.964022	.2145038	.7382903	.7752697
#1	21.74889	-.543301	.0030633	.0219786	5.460099	3.649119	8.121285
#2	21.98435	-.531430	.0027660	.0196500	5.444561	3.677962	8.248026
#3	21.99641	-.533282	.0037265	.0216384	5.467498	3.703374	8.190778

Sample Name: Q2062-17DUP Acquired: 5/19/2025 19:38:48 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.7053551	.2655619	-.087491
Stddev	.0081329	.0010456	.001329
%RSD	1.153018	.3937167	1.518488
#1	.6988506	.2646006	-.086023
#2	.7144735	.2654101	-.088611
#3	.7027412	.2666751	-.087840

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3280.285	80126.89	20934.04	2211.998	3860.077
Stddev	20.837	410.52	74.99	13.236	30.842
%RSD	.6352141	.5123424	.3582390	.5983664	.7989906
#1	3296.085	80600.91	20863.75	2227.184	3885.409
#2	3256.671	79893.19	21012.99	2205.901	3825.733
#3	3288.099	79886.57	20925.38	2202.910	3869.087

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2062-17LX5 Acquired: 5/19/2025 19:42:54 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0268526	.0007941	.2075957	.0032943	-.000210	28.23787	.1442740
Stddev	.0012905	.0005804	.0014867	.0010802	.001386	.13496	.0017385
%RSD	4.805706	73.08882	.7161545	32.79118	661.7160	.4779348	1.205017
#1	.0262438	.0012407	.2087212	.0029482	.001357	28.39341	.1460036
#2	.0283348	.0001380	.2081556	.0045052	-.001280	28.16830	.1442915
#3	.0259792	.0010036	.2059104	.0024295	-.000705	28.15188	.1425267

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0032571	-.001796	3.564709	.0589880	.0215645	.1277528	47.67754
Stddev	.0000162	.000163	.011522	.0001677	.0003011	.0007884	.27239
%RSD	.4990594	9.078110	.3232343	.2842639	1.396527	.6171343	.5713198
#1	.0032759	-.001978	3.576302	.0589633	.0213310	.1286630	47.93617
#2	.0032472	-.001746	3.553259	.0588340	.0214580	.1272846	47.70325
#3	.0032482	-.001663	3.564564	.0591666	.0219044	.1273107	47.39321

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.028485	12.91549	.0477457	-.000570	.1026442	.0998125	.3066290
Stddev	.003332	.08379	.0002123	.000278	.0181443	.0014012	.0007606
%RSD	.3239285	.6487942	.4446166	48.83867	17.67685	1.403881	.2480677
#1	1.032177	13.00363	.0478795	-.000558	.1144463	.0992537	.3070324
#2	1.027577	12.83685	.0478567	-.000298	.1117348	.0987769	.3057516
#3	1.025702	12.90598	.0475009	-.000855	.0817516	.1014070	.3071029

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.040371	-.125283	.0003286	.0091735	1.509255	.9922846	1.605720
Stddev	.030104	.001103	.0001791	.0004617	.006619	.0089689	.010131
%RSD	.5972609	.8803323	54.52353	5.032566	.4385602	.9038605	.6309124
#1	5.066364	-.126449	.0003886	.0096940	1.516795	1.001584	1.609495
#2	5.047361	-.124257	.0001271	.0088136	1.506572	.983687	1.594244
#3	5.007386	-.125142	.0004700	.0090128	1.504400	.991583	1.613421

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2062-17LX5 Acquired: 5/19/2025 19:42:54 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1421721	.0665465	-.022079
Stddev	.0013682	.0002826	.000111
%RSD	.9623204	.4246782	.5011330
#1	.1414557	.0666878	-.022181
#2	.1413110	.0662211	-.022095
#3	.1437497	.0667306	-.021961

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2916.602	67911.54	18045.61	1934.859	4133.122
Stddev	4.243	321.67	124.62	12.860	11.314
%RSD	.1454700	.4736586	.6905965	.6646333	.2737326
#1	2920.627	67777.87	18020.03	1938.701	4143.020
#2	2917.008	68278.49	18181.03	1945.360	4135.557
#3	2912.170	67678.26	17935.75	1920.517	4120.789

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2062-17MS Acquired: 5/19/2025 19:47:07 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7420198	1.929496	1.933614	1.488239	.2631207	119.7402	.9009758
Stddev	.0027239	.003622	.002385	.004252	.0032377	.2081	.0036115
%RSD	.3670931	.1877296	.1233422	.2857359	1.230517	.1738025	.4008492
#1	.7443885	1.925329	1.936194	1.491925	.2663469	119.5651	.8976179
#2	.7426277	1.931265	1.933160	1.489206	.2598715	119.6853	.9047964
#3	.7390434	1.931894	1.931489	1.483587	.2631436	119.9703	.9005132

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1624697	.1886136	16.90134	.5713376	.3092243	.7164939	211.8469
Stddev	.0006134	.0007386	.07396	.0002354	.0006024	.0019596	2.1840
%RSD	.3775282	.3915786	.4376045	.0412017	.1948074	.2734994	1.030953
#1	.1629285	.1894540	16.81933	.5710694	.3097182	.7185465	209.4332
#2	.1627076	.1883187	16.96298	.5714330	.3085532	.7146429	212.4209
#3	.1617731	.1880680	16.92171	.5715103	.3094015	.7162924	213.6866

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.295065	51.45487	.7138686	.0581229	3.601245	.5943175	1.266658
Stddev	.027498	.19940	.0013356	.0006235	.060459	.0027718	.002225
%RSD	.6402279	.3875210	.1870986	1.072681	1.678831	.4663790	.1756258
#1	4.264238	51.24459	.7153888	.0574229	3.531846	.5911298	1.268050
#2	4.317067	51.47878	.7128836	.0586186	3.629377	.5956640	1.264093
#3	4.303890	51.64123	.7133332	.0583272	3.642512	.5961589	1.267832

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	29.10487	-.247807	.3198720	.6757201	5.710688	5.623580	14.51280
Stddev	.25422	.005822	.0003880	.0040338	.018071	.048088	.01293
%RSD	.8734649	2.349272	.1212849	.5969557	.3164463	.8551101	.0890603
#1	28.83903	-.249813	.3199422	.6803380	5.693419	5.594447	14.49789
#2	29.12997	-.252361	.3194538	.6739383	5.729467	5.597208	14.51974
#3	29.34561	-.241248	.3202201	.6728842	5.709179	5.679084	14.52078

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2062-17MS Acquired: 5/19/2025 19:47:07 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.7716254	.4615933	.0562597
Stddev	.0028099	.0025038	.0016113
%RSD	.3641476	.5424254	2.864059
#1	.7744883	.4587112	.0574505
#2	.7688717	.4628375	.0569023
#3	.7715163	.4632314	.0544262

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3308.400	77264.52	22547.12	2202.410	3879.082
Stddev	4.653	267.32	81.93	4.293	6.332
%RSD	.1406369	.3459830	.3633519	.1949170	.1632259
#1	3311.302	77567.73	22531.59	2206.843	3874.186
#2	3310.865	77163.00	22474.07	2202.114	3886.232
#3	3303.033	77062.82	22635.70	2198.272	3876.828

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2062-17MSD Acquired: 5/19/2025 19:51:08 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6988644	1.783831	1.644616	1.437547	.2362054	116.3814	.7221133
Stddev	.0034207	.021944	.004179	.003944	.0015722	.0889	.0020207
%RSD	.4894716	1.230170	.2541016	.2743424	.6656082	.0763466	.2798303
#1	.6968146	1.778410	1.640437	1.441941	.2370128	116.4840	.7239366
#2	.6969653	1.765106	1.644617	1.434315	.2372099	116.3311	.7199408
#3	.7028134	1.807978	1.648795	1.436384	.2343935	116.3291	.7224627

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1614147	.1744426	14.52021	.5227742	.2882900	.6427412	197.2061
Stddev	.0004139	.0007467	.03005	.0009736	.0002988	.0003793	.5445
%RSD	.2563880	.4280511	.2069569	.1862335	.1036334	.0590075	.2761095
#1	.1618926	.1736260	14.55491	.5237265	.2881534	.6425455	196.8761
#2	.1611775	.1746112	14.50318	.5217806	.2880838	.6431784	196.9076
#3	.1611740	.1750906	14.50254	.5228155	.2886326	.6424998	197.8346

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.213302	47.56383	.6527638	.0533403	3.248413	.5544896	1.191477
Stddev	.011045	.07121	.0016194	.0004649	.004886	.0009379	.004974
%RSD	.2621437	.1497211	.2480791	.8715716	.1504011	.1691512	.4174757
#1	4.224430	47.61670	.6516290	.0533370	3.242864	.5542019	1.186153
#2	4.202342	47.48285	.6520440	.0528770	3.250306	.5555377	1.196005
#3	4.213134	47.59192	.6546182	.0538068	3.252068	.5537292	1.192273

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.44101	-.278576	.3067227	.6280583	4.793018	5.229752	13.25888
Stddev	.04460	.003089	.0006042	.0013057	.004416	.035655	.07166
%RSD	.1902660	1.108753	.1969796	.2078978	.0921286	.6817665	.5404554
#1	23.39334	-.280414	.3073678	.6295480	4.796986	5.227570	13.21148
#2	23.44797	-.280304	.3066304	.6271126	4.788261	5.195237	13.22385
#3	23.48173	-.275010	.3061700	.6275142	4.793807	5.266447	13.34132

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2062-17MSD Acquired: 5/19/2025 19:51:08 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.105693	.4134190	.0439574
Stddev	.009071	.0020834	.0012368
%RSD	.8204302	.5039502	2.813543
#1	1.098771	.4130409	.0453366
#2	1.102345	.4115506	.0435886
#3	1.115962	.4156656	.0429469

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3105.347	74291.19	20589.27	2102.966	3801.390
Stddev	5.325	136.63	79.53	6.537	6.440
%RSD	.1714922	.1839176	.3862730	.3108567	.1694045
#1	3099.915	74266.10	20510.96	2107.401	3799.224
#2	3110.559	74168.84	20586.88	2095.459	3808.633
#3	3105.566	74438.63	20669.96	2106.039	3796.312

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCV09 Acquired: 5/19/2025 19:55:10 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV09 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.934610	5.053913	4.872991	4.948109	4.936097	9.590037	9.568839
Stddev	.021711	.043824	.015840	.008170	.017127	.015639	.031210
%RSD	.4399817	.8671355	.3250621	.1651112	.3469758	.1630730	.3261582
#1	4.921937	5.099508	4.878150	4.944573	4.926378	9.579553	9.602234
#2	4.922214	5.012106	4.855214	4.942303	4.926041	9.608012	9.540410
#3	4.959680	5.050124	4.885608	4.957451	4.955873	9.582545	9.563875

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2394576	2.430231	23.85515	.9978828	2.423781	1.233486	5.007354
Stddev	.0014691	.007613	.08278	.0012946	.005663	.005147	.042151
%RSD	.6135200	.3132543	.3469904	.1297362	.2336448	.4172959	.8417744
#1	.2392450	2.428636	23.75961	.9966430	2.423701	1.229484	5.015211
#2	.2410214	2.423542	23.90053	.9977794	2.418158	1.231682	4.961828
#3	.2381063	2.438515	23.90530	.9992261	2.429483	1.239293	5.045024

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.365877	23.77193	2.433711	1.236855	24.51817	2.400508	2.481611
Stddev	.004896	.16969	.006945	.000656	.21719	.007594	.008975
%RSD	.2069467	.7138197	.2853511	.0530609	.8858222	.3163317	.3616518
#1	2.360510	23.65294	2.432084	1.237575	24.49675	2.396984	2.487950
#2	2.367020	23.96624	2.427724	1.236701	24.31248	2.409224	2.485541
#3	2.370100	23.69661	2.441324	1.236290	24.74527	2.395318	2.471342

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.84344	4.684370	4.976497	4.898481	4.779368	5.010374	5.087803
Stddev	.16462	.037343	.010893	.014895	.008330	.035533	.017213
%RSD	.6626421	.7971735	.2188957	.3040761	.1742976	.7091873	.3383246
#1	24.76672	4.685661	4.968055	4.900834	4.769810	4.991065	5.104538
#2	24.73118	4.721051	4.972643	4.882549	4.785086	4.988677	5.070148
#3	25.03242	4.646399	4.988794	4.912059	4.783207	5.051381	5.088723

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCV09 Acquired: 5/19/2025 19:55:10 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV09 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.842817	4.660637	4.832888
Stddev	.007515	.002237	.052522
%RSD	.1551861	.0479871	1.086767
#1	4.836547	4.660551	4.804437
#2	4.840756	4.658446	4.800729
#3	4.851148	4.662916	4.893497

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2742.032	64804.94	18930.76	1815.268	3989.946
Stddev	5.251	213.58	64.05	4.662	9.380
%RSD	.1915046	.3295709	.3383505	.2568146	.2351009
#1	2745.530	64728.83	18900.90	1810.026	3983.235
#2	2744.571	65046.14	18887.09	1818.948	4000.664
#3	2735.993	64639.84	19004.29	1816.831	3985.938

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCB09 Acquired: 5/19/2025 19:59:22 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB09 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001678	.0029886	-.000317	-.000695	-.001308	.0015398	-.003320
Stddev	.001863	.0034480	.001128	.000687	.001892	.0045134	.001129
%RSD	111.0559	115.3717	356.3693	98.86726	144.6348	293.1056	34.00045
#1	-.003236	.0021816	-.001453	-.001226	-.001705	.0047513	-.002739
#2	-.002183	.0067686	.000803	-.000941	-.002971	-.003621	-.004621
#3	.000386	.0000157	-.000299	.000081	.000751	.003489	-.002600

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000032	.0001046	-.001691	-.000424	.0001292	-.000318	.0017534
Stddev	.0000244	.0000517	.010197	.000308	.0002112	.000150	.0030043
%RSD	767.8623	49.48155	603.1184	72.64070	163.4342	47.20487	171.3410
#1	.0000266	.0000861	-.007198	-.000765	-.000081	-.000482	.0008930
#2	-.000022	.0000646	-.007950	-.000340	.000341	-.000287	-.000727
#3	.000005	.0001630	.010076	-.000167	.000128	-.000186	.005094

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001592	.0046281	-.000193	.0002322	-.244976	.0015315	-.000871
Stddev	.000361	.0065700	.000206	.0003796	.001717	.0015006	.000215
%RSD	22.66272	141.9595	106.6308	163.5310	.7010087	97.98431	24.70265
#1	-.001311	.0019069	-.000330	-.000204	-.244354	.0029776	-.000908
#2	-.001467	.0121215	-.000294	.000490	-.246918	-.000018	-.000640
#3	-.001999	-.000144	.000044	.000410	-.243656	.001635	-.001065

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0109073	.0048243	.0004481	.0004451	.0015533	-.010430	-.003969
Stddev	.0093686	.0004334	.0002972	.0000897	.0003925	.005927	.004632
%RSD	85.89291	8.983904	66.31449	20.15692	25.26829	56.82995	116.7018
#1	.0010868	.0044929	.0007834	.0003763	.0016719	-.003613	-.001962
#2	.0118884	.0053148	.0002172	.0005466	.0018727	-.014371	-.009266
#3	.0197467	.0046653	.0003438	.0004125	.0011152	-.013306	-.000679

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCB09 Acquired: 5/19/2025 19:59:22 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB09 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0018830	-.001461	.0000694
Stddev	.0025407	.000104	.0000058
%RSD	134.9336	7.135967	8.311654
#1	.0042242	-.001437	.0000637
#2	.0022434	-.001575	.0000752
#3	-.000819	-.001371	.0000694

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2803.700	66023.69	19151.28	1839.448	4257.678
Stddev	9.942	168.10	37.98	13.076	8.717
%RSD	.3545883	.2545982	.1983194	.7108609	.2047393
#1	2808.657	66017.76	19167.90	1836.176	4259.485
#2	2810.188	65858.64	19107.82	1828.318	4265.350
#3	2792.255	66194.68	19178.11	1853.849	4248.199

Sample Name: Q2062-17A Acquired: 5/19/2025 20:03:41 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7525590	1.912464	1.947359	1.564129	.6326404	120.0045	.7875968
Stddev	.0031708	.005898	.005476	.002246	.0017141	.0834	.0014005
%RSD	.4213292	.3083735	.2811772	.1435633	.2709456	.0694659	.1778220
#1	.7560089	1.918355	1.942556	1.561558	.6307311	119.9304	.7883638
#2	.7497723	1.906560	1.946200	1.565119	.6331431	119.9883	.7884463
#3	.7518958	1.912476	1.953321	1.565709	.6340469	120.0947	.7859803

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1660617	.1911876	15.31545	.5755903	.3004458	.7418544	219.7249
Stddev	.0005483	.0004738	.04572	.0020196	.0009510	.0024664	.8118
%RSD	.3301769	.2478147	.2985508	.3508788	.3165404	.3324664	.3694715
#1	.1656460	.1909330	15.27367	.5774112	.3000664	.7406396	220.5341
#2	.1658559	.1908957	15.36430	.5734181	.2997431	.7402311	219.7301
#3	.1666831	.1917343	15.30838	.5759416	.3015280	.7446926	218.9105

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.384313	54.86511	.7099587	.0611235	3.626926	.6478101	1.421695
Stddev	.008488	.19096	.0014915	.0003620	.038496	.0049408	.002013
%RSD	.1936062	.3480514	.2100876	.5922496	1.061394	.7626857	.1415744
#1	4.377438	54.69237	.7084011	.0615388	3.644237	.6423354	1.423049
#2	4.393800	54.83281	.7101009	.0608744	3.653728	.6491577	1.422654
#3	4.381700	55.07016	.7113740	.0609574	3.582814	.6519373	1.419382

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	32.17976	-.238823	.3350112	.7363446	6.482420	5.472889	13.79324
Stddev	.23832	.002514	.0002650	.0003932	.009677	.014919	.04127
%RSD	.7405859	1.052836	.0790895	.0534003	.1492881	.2725991	.2992075
#1	32.42634	-.236452	.3351440	.7358927	6.480554	5.487157	13.79753
#2	32.16229	-.238558	.3351835	.7366088	6.492895	5.474115	13.74999
#3	31.95067	-.241460	.3347061	.7365323	6.473812	5.457394	13.83219

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2062-17A Acquired: 5/19/2025 20:03:41 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.6955601	.4577215	.0486021
Stddev	.0082365	.0014090	.0003802
%RSD	1.184158	.3078372	.7821673
#1	.7025483	.4593279	.0482059
#2	.6864790	.4571421	.0489639
#3	.6976529	.4566945	.0486364

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3304.647	76568.48	22596.14	2161.847	3896.324
Stddev	9.377	232.26	80.16	6.208	10.267
%RSD	.2837378	.3033321	.3547581	.2871790	.2634930
#1	3293.837	76347.15	22662.44	2154.707	3884.525
#2	3309.538	76810.31	22618.92	2164.867	3901.232
#3	3310.567	76547.99	22507.05	2165.968	3903.215

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2062-21 Acquired: 5/19/2025 20:07:42 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2594778	-.006206	3.135344	.0189703	-.004078	142.4782	2.162756
Stddev	.0009929	.001898	.006571	.0043035	.002028	.1529	.004359
%RSD	.3826619	30.58924	.2095738	22.68526	49.72310	.1072981	.2015312
#1	.2600894	-.008320	3.132236	.0190803	-.002794	142.3220	2.162864
#2	.2583321	-.004647	3.130903	.0146128	-.003024	142.6275	2.167059
#3	.2600118	-.005650	3.142892	.0232176	-.006415	142.4850	2.158344

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0185307	-.001285	42.51360	.4369857	.1442001	.5173226	300.3906
Stddev	.0001281	.000008	.01085	.0014197	.0003930	.0025910	1.1221
%RSD	.6911378	.6078252	.0255249	.3248869	.2725597	.5008416	.3735527
#1	.0183851	-.001293	42.51580	.4356125	.1437898	.5177700	299.9734
#2	.0186262	-.001279	42.50181	.4368967	.1442373	.5145371	299.5369
#3	.0185807	-.001282	42.52318	.4384477	.1445733	.5196607	301.6616

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.039593	81.61160	.3438947	-.000564	7.794274	.5308175	1.502086
Stddev	.014364	.02176	.0013411	.000236	.011054	.0012847	.002576
%RSD	.2378339	.0266670	.3899848	41.79380	.1418182	.2420150	.1714942
#1	6.052566	81.60923	.3425819	-.000761	7.788638	.5293391	1.499157
#2	6.042057	81.59111	.3438397	-.000628	7.807010	.5316615	1.503997
#3	6.024157	81.63444	.3452625	-.000303	7.787174	.5314519	1.503105

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	46.29955	-.623042	.0087162	.1617671	9.817862	4.915922	8.190973
Stddev	.24433	.005186	.0003482	.0006463	.014278	.027759	.040897
%RSD	.5277184	.8323902	3.995030	.3995537	.1454299	.5646710	.4992986
#1	46.14621	-.619477	.0083141	.1612291	9.826033	4.918820	8.201890
#2	46.17113	-.628992	.0089228	.1615881	9.826177	4.886828	8.145725
#3	46.58131	-.620658	.0089116	.1624841	9.801375	4.942118	8.225304

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: Q2062-21 Acquired: 5/19/2025 20:07:42 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	12.88097	.5837879	.0264392
Stddev	.04790	.0018872	.0014619
%RSD	.3719027	.3232747	5.529235
#1	12.87099	.5824013	.0266988
#2	12.83884	.5859371	.0277539
#3	12.93308	.5830254	.0248649

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3256.852	76735.17	22677.08	2176.421	3777.829
Stddev	3.636	322.18	46.96	6.576	3.598
%RSD	.1116330	.4198573	.2070694	.3021587	.0952275
#1	3255.283	76897.75	22635.17	2174.552	3780.056
#2	3261.009	76943.67	22668.24	2183.730	3779.753
#3	3254.265	76364.10	22727.83	2170.982	3773.679

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCV10 Acquired: 5/19/2025 20:11:45 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV10 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.945213	5.048557	4.882098	4.986812	4.928827	9.738758	9.449722
Stddev	.022508	.026976	.006919	.022638	.023058	.030626	.050481
%RSD	.4551373	.5343316	.1417181	.4539627	.4678209	.3144720	.5342016
#1	4.919494	5.020072	4.877556	4.961286	4.902649	9.756630	9.406357
#2	4.961309	5.051883	4.878676	4.994692	4.937707	9.756249	9.437673
#3	4.954837	5.073715	4.890061	5.004456	4.946125	9.703396	9.505137

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2559031	2.442860	23.95517	.9839920	2.435864	1.238603	4.705272
Stddev	.0007461	.007692	.12001	.0035199	.007031	.005817	.031291
%RSD	.2915569	.3148571	.5009656	.3577164	.2886589	.4696513	.6650225
#1	.2565568	2.436147	24.08709	.9811599	2.429549	1.232204	4.697961
#2	.2550903	2.441180	23.92594	.9879328	2.434603	1.240034	4.739571
#3	.2560622	2.451252	23.85247	.9828833	2.443441	1.243571	4.678282

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.399898	24.28609	2.444516	1.223196	22.80058	2.414348	2.453800
Stddev	.016381	.04209	.006472	.003487	.15041	.009776	.015703
%RSD	.6825889	.1732924	.2647638	.2850660	.6596569	.4049110	.6399364
#1	2.416644	24.33451	2.438340	1.220026	22.78911	2.423385	2.436740
#2	2.399142	24.25824	2.443960	1.226931	22.95640	2.415687	2.467649
#3	2.383908	24.26553	2.451248	1.222631	22.65625	2.403971	2.457011

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.31967	5.029480	4.946834	4.911474	4.798157	4.675623	5.121865
Stddev	.14829	.018082	.020427	.017984	.024825	.026695	.030030
%RSD	.6359064	.3595274	.4129314	.3661565	.5173843	.5709350	.5863057
#1	23.28305	5.048561	4.924416	4.892839	4.820551	4.647913	5.101924
#2	23.48285	5.012597	4.951692	4.912859	4.802456	4.701172	5.107268
#3	23.19313	5.027283	4.964394	4.928726	4.771463	4.677783	5.156403

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCV10 Acquired: 5/19/2025 20:11:45 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV10 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.916092	4.790033	4.805479
Stddev	.015727	.019348	.018335
%RSD	.3198996	.4039283	.3815354
#1	4.898759	4.804963	4.787799
#2	4.920069	4.796962	4.804234
#3	4.929448	4.768175	4.824405

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2747.188	65513.92	17566.97	1844.766	3971.889
Stddev	8.856	204.82	61.91	6.663	11.536
%RSD	.3223707	.3126432	.3524134	.3611607	.2904352
#1	2755.614	65657.33	17495.55	1850.929	3977.119
#2	2747.993	65279.34	17599.99	1837.697	3979.884
#3	2737.957	65605.10	17605.36	1845.671	3958.665

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCB10 Acquired: 5/19/2025 20:15:58 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB10 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000299	.0013951	.0007432	.0001982	.0000382	.0001774	-.002275
Stddev	.002811	.0009530	.0008992	.0013106	.0004527	.0013711	.001249
%RSD	938.8376	68.30787	120.9912	661.1520	1184.463	772.7090	54.92137
#1	.001985	.0013131	.0015793	.0009070	-.000329	.0009375	-.001782
#2	.000555	.0023865	.0008585	.0010019	.000544	-.001405	-.003695
#3	-.003438	.0004858	-.000208	-.001314	-.000100	.001000	-.001347

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000002	.0000599	-.006779	-.000552	-.000041	-.000281	.0067236
Stddev	.000016	.0000304	.004594	.000278	.000103	.000346	.0026281
%RSD	648.9172	50.76469	67.77749	50.44666	253.1420	123.3387	39.08833
#1	-.000018	.0000940	-.008229	-.000583	-.000158	-.000370	.0038976
#2	-.000003	.0000500	-.001634	-.000259	-.000000	.000101	.0090945
#3	.000014	.0000357	-.010472	-.000813	.000036	-.000574	.0071786

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001594	.0129048	.0000306	.0002187	-.271481	.0017554	-.000960
Stddev	.000180	.0137179	.0003120	.0000569	.011008	.0006437	.000162
%RSD	11.27273	106.3006	1019.741	26.00667	4.054610	36.66974	16.85392
#1	-.001788	.0081330	.0000289	.0002816	-.277026	.0010673	-.000797
#2	-.001561	.0283714	.0003434	.0001709	-.278614	.0018561	-.001121
#3	-.001433	.0022101	-.000280	.0002037	-.258804	.0023428	-.000962

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0057955	.0068204	.0004020	.0008956	.0015053	-.009909	-.003061
Stddev	.0187249	.0008900	.0000638	.0006624	.0005638	.003328	.004033
%RSD	323.0942	13.04896	15.87212	73.95974	37.45483	33.58750	131.7676
#1	.0245276	.0074603	.0003283	.0008095	.0021547	-.006553	-.005002
#2	.0057811	.0058040	.0004385	.0015969	.0011416	-.009964	-.005756
#3	-.012922	.0071969	.0004391	.0002805	.0012195	-.013209	.001576

Reviewed By:jaswal
On:5/20/2025 5:19:30 PM
Inst Id :P4
LB :LB135823

Sample Name: CCB10 Acquired: 5/19/2025 20:15:58 Type: Unk
Method: NON EPA-6010-200.7 NEW LR(v50) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB10 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0034197	-.001449	.0000582
Stddev	.0024517	.000533	.0000174
%RSD	71.69418	36.75076	29.86416
#1	.0039546	-.001816	.0000780
#2	.0007447	-.000838	.0000455
#3	.0055598	-.001693	.0000511

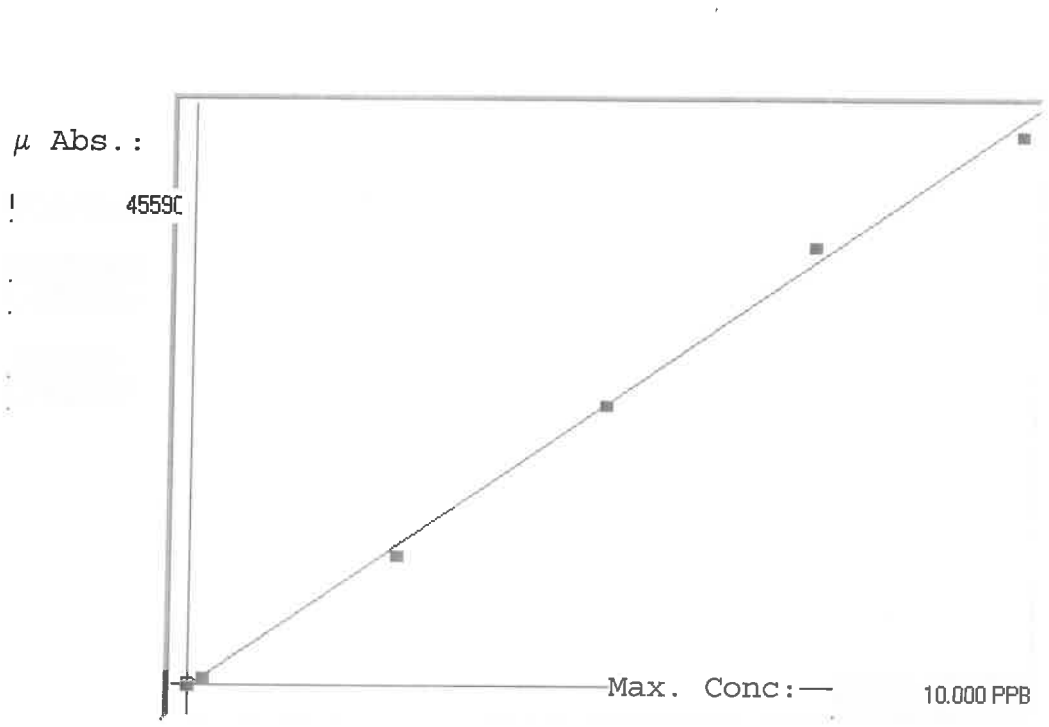
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2843.010	67531.68	18208.20	1883.057	4327.850
Stddev	2.926	17.70	30.65	4.031	5.424
%RSD	.1029222	.0262128	.1683491	.2140555	.1253331
#1	2843.971	67516.53	18242.54	1887.463	4333.442
#2	2839.724	67527.36	18183.61	1879.554	4322.611
#3	2845.334	67551.14	18198.46	1882.154	4327.496

Reviewed By:jaswal
On:5/20/2025 5:35:16 PM
Inst Id :CV1
LB :LB135832

LB135832

7470A

INSTRUMENT ID: CV1



Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	0/0.1)
0.0	0.000	0.030	0.030	-85	0.000	-85	0				-4
0.2	0.200	0.208	0.008	751	0.0 %	751					-6
2.5	2.500	2.349	-0.151	10785	0.0 %	10785					1
5.0	5.000	5.033	0.033	23367	0.0 %	23367					4
7.5	7.500	7.807	0.307	36367	0.0 %	36367					-2
10.0	10.000	9.774	-0.226	45590	0.0 %	45590					

Reviewed By:jaswal
On:5/20/2025 5:35:16 PM
Inst Id :CV1
LB :LB135832

LB135832 INSTRUMENT ID : CV1

Method: 7470A Operator: Admin Date of Analysis: 20 May 2025 08:59:59

Sample ID	Extended ID	µ Abs	Conc	Stnd Conc	Method	Units	Date	Type	Type
0.0 - 1		-85	-	0.00007	470A	PPB	20 May 2025 09:10:11	S	Std
0.2 - 1		751	-	0.20007	470A	PPB	20 May 2025 09:12:28	S	Std
2.5 - 1		10785	-	2.50007	470A	PPB	20 May 2025 09:14:45	S	Std
5.0 - 1		23367	-	5.00007	470A	PPB	20 May 2025 09:20:04	S	Std
7.5 - 1		36367	-	7.50007	470A	PPB	20 May 2025 09:25:00	S	Std
10.0 - 1		45590	-	10.00007	470A	PPB	20 May 2025 09:30:20	S	Std
ICV11 - 1	ICV11	19411	4.1890		-7470A	PPB	20 May 2025 09:36:00	U	SMPL
ICB11 - 1	ICB11	-262	-0.0082		-7470A	PPB	20 May 2025 09:38:15	U	SMPL
CCV40 - 1	CCV40	22963	4.9468		-7470A	PPB	20 May 2025 09:43:19	U	SMPL
CCB40 - 1	CCB40	-360	-0.0291		-7470A	PPB	20 May 2025 09:45:34	U	SMPL
CRA - 1	CRA	687	0.1943		-7470A	PPB	20 May 2025 09:47:52	U	SMPL
HighStd - 1	HighStd	44737	9.5923		-7470A	PPB	20 May 2025 09:50:07	U	SMPL
ChkStd - 1	ChkStd	29522	6.3462		-7470A	PPB	20 May 2025 09:55:02	U	SMPL
PB168062BL - 1	PBW	-362	-0.0295		-7470A	PPB	20 May 2025 09:57:17	U	SMPL
PB168062BS - 1	LCSW	16942	3.6623		-7470A	PPB	20 May 2025 09:59:35	U	SMPL
Q2052-04 - 1	TP-B	-235	-0.0024		-7470A	PPB	20 May 2025 10:01:51	U	SMPL
Q2053-01 - 1	SB-1	-73	0.0321		-7470A	PPB	20 May 2025 10:04:10	U	SMPL
Q2053-02 - 1	SB-2	-15	0.0445		-7470A	PPB	20 May 2025 10:06:26	U	SMPL
Q2053-03 - 1	SB-3	-1	0.0475		-7470A	PPB	20 May 2025 10:08:44	U	SMPL
Q2053-04 - 1	SB-4	-32	0.0409		-7470A	PPB	20 May 2025 10:11:00	U	SMPL
CCV41 - 1	CCV41	21695	4.6763		-7470A	PPB	20 May 2025 10:13:15	U	SMPL
CCB41 - 1	CCB41	-377	-0.0327		-7470A	PPB	20 May 2025 10:15:30	U	SMPL
Q2053-05 - 1	SB-5	29	0.0539		-7470A	PPB	20 May 2025 10:17:49	U	SMPL
Q2053-06 - 1	SB-6	7	0.0492		-7470A	PPB	20 May 2025 10:20:04	U	SMPL
Q2053-07 - 1	SB-7	2	0.0481		-7470A	PPB	20 May 2025 10:22:19	U	SMPL
Q2053-08 - 1	SB-8	-10	0.0456		-7470A	PPB	20 May 2025 10:24:35	U	SMPL
Q2053-09 - 1	SB-9	22	0.0524		-7470A	PPB	20 May 2025 10:26:50	U	SMPL
Q2053-10 - 1	SB-10	-26	0.0422		-7470A	PPB	20 May 2025 10:29:06	U	SMPL
Q2053-11 - 1	SB-11	-5	0.0466		-7470A	PPB	20 May 2025 10:31:23	U	SMPL
Q2057-04 - 1	MH-L	-131	0.0198		-7470A	PPB	20 May 2025 10:33:40	U	SMPL
Q2062-04 - 1	L1-WC-1	-96	0.0272		-7470A	PPB	20 May 2025 10:35:57	U	SMPL
Q2062-08 - 1	L1-WC-2	-58	0.0353		-7470A	PPB	20 May 2025 10:38:13	U	SMPL
CCV42 - 1	CCV42	22848	4.9223		-7470A	PPB	20 May 2025 10:42:05	U	SMPL
CCB42 - 1	CCB42	-253	-0.0063		-7470A	PPB	20 May 2025 10:44:20	U	SMPL
Q2062-12 - 1	L1-WC-3	-46	0.0379		-7470A	PPB	20 May 2025 10:46:37	U	SMPL
Q2062-16 - 1	L1-WC-4	174	0.0848		-7470A	PPB	20 May 2025 10:48:53	U	SMPL
Q2062-20 - 1	L1-WC-5	-26	0.0422		-7470A	PPB	20 May 2025 10:51:08	U	SMPL
Q2062-24 - 1	L1-WC-6	-4	0.0468		-7470A	PPB	20 May 2025 10:53:24	U	SMPL
Q2062-24DUP - 1	L1-WC-6DUP	-51	0.0368		-7470A	PPB	20 May 2025 10:55:40	U	SMPL
Q2062-24MS - 1	L1-WC-6MS	20199	4.3571		-7470A	PPB	20 May 2025 10:57:56	U	SMPL
Q2062-24MSD - 1	L1-WC-6MSD	19325	4.1707		-7470A	PPB	20 May 2025 11:00:12	U	SMPL
PB168071BL - 1	PBW	-214	0.0020		-7470A	PPB	20 May 2025 11:02:32	U	SMPL
PB168071BS - 1	LCSW	16686	3.6076		-7470A	PPB	20 May 2025 11:04:50	U	SMPL
Q2033-01 - 1	TW-WTS-08	-135	0.0189		-7470A	PPB	20 May 2025 11:07:06	U	SMPL
CCV43 - 1	CCV43	24825	5.3441		-7470A	PPB	20 May 2025 11:09:23	U	SMPL
CCB43 - 1	CCB43	-368	-0.0308		-7470A	PPB	20 May 2025 11:11:38	U	SMPL
Q2064-01 - 1	RW8-SP100-70-20250514	-165	0.0125		-7470A	PPB	20 May 2025 11:13:56	U	SMPL
Q2064-01DUP - 1	RW8-SP100-70-20250514DUP	-83	0.0300		-7470A	PPB	20 May 2025 11:16:11	U	SMPL
Q2064-01MS - 1	RW8-SP100-70-20250514MS	15001	3.2481		-7470A	PPB	20 May 2025 11:18:27	U	SMPL
Q2064-01MSD - 1	RW8-SP100-70-20250514MSD	17187	3.7145		-7470A	PPB	20 May 2025 11:20:43	U	SMPL
Q2064-04 - 1	RW8-SP303-70-20250514	-201	0.0048		-7470A	PPB	20 May 2025 11:23:01	U	SMPL
Q2064-05 - 1	RW8-SP100-90-20250514	-25	0.0424		-7470A	PPB	20 May 2025 11:25:19	U	SMPL
Q2064-08 - 1	RW8-SP303-90-20250514	-40	0.0392		-7470A	PPB	20 May 2025 11:27:35	U	SMPL
Q2065-01 - 1	VACTRUCK-728068	10765	2.3444		-7470A	PPB	20 May 2025 11:29:52	U	SMPL
Q2067-01 - 1	303-PPR-FRAC	-347	-0.0263		-7470A	PPB	20 May 2025 11:32:10	U	SMPL
Q2068-03 - 1	LAW-25-0074	101551	21.7135		-7470A	PPB	20 May 2025 11:34:28	U	SMPL
CCV44 - 1	CCV44	22406	4.8280		-7470A	PPB	20 May 2025 11:36:44	U	SMPL
CCB44 - 1	CCB44	-323	-0.0212		-7470A	PPB	20 May 2025 11:39:22	U	SMPL
PB168033TB - 1	PB168033TB	-36	0.0400		-7470A	PPB	20 May 2025 11:41:39	U	SMPL
Q2062-24LX5 - 1		16	0.0511		-7470A	PPB	20 May 2025 11:43:55	U	SMPL
Q2062-24A - 1		18726	4.0429		-7470A	PPB	20 May 2025 11:46:11	U	SMPL
Q2064-01LX5 - 1		-187	0.0078		-7470A	PPB	20 May 2025 11:48:26	U	SMPL
Q2064-01A - 1		18438	3.9814		-7470A	PPB	20 May 2025 11:50:44	U	SMPL
Q2068-03DLX5 - 1		21685	4.6742		-7470A	PPB	20 May 2025 11:53:01	U	SMPL
CCV45 - 1	CCV45	22452	4.8378		-7470A	PPB	20 May 2025 11:55:19	U	SMPL
CCB45 - 1	CCB45	-268	-0.0095		-7470A	PPB	20 May 2025 11:57:39	U	SMPL

Alliance TECHNICAL GROUP

Water Metals Preparation Sheet

PB168036

SOP ID : M3010A-Digestion-17

SDG No : N/A

Matrix : WATER

Pippete ID: ICP A

Balance ID : N/A

Filter paper ID : N/A

pH Strip ID : M6069

Hood ID : #3

Block ID: 1. HOT BLOCK #1 2. N/A

Start Digest Date: 05/16/2025 **Time :** 10:30 **Temp :** 96 °C

End Digest Date: 05/16/2025 **Time :** 13:33 **Temp :** 96 °C

Digestion tube ID: M5595

Block thermometer ID: MET-DIG. #1

Dig Technician Signature: SLS.

Supervisor Signature: JGP

Temp : 1. 96°C 2. N/A

Standared Name	MLS USED	STD REF. # FROM LOG
LFS-1	0.25	M6005
LFS-2	0.25	M6016
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
Conc. HNO3	3.00	M6158
1:1 HCL	5.00	MP85156
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

HOT BLOCK#1CELL#50 96 C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
05/16/25 14:33	SLS. met. dig	JGP / Met Lab
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Water Metals Preparation Sheet

PB168036

Lab Sample ID	Client Sample ID	pH	Initial Vol (ml)	Final Vol (ml)	Color Before	Color After	Clarity Before	Clarity After	Comment	Prep Pos
PB168036BL	PBW036	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	8
PB168036BS	LCS036	<2	50	25	Colorless	Colorless	Clear	Clear	M6005,M6016	9
Q2032-11	FB-05132025	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	10
Q2033-01	TW-WTS-08	<2	50	25	Brown	Colorless	Clear	Clear	N/A	11
Q2033-01MS	TW-WTS-08MS	<2	50	25	Colorless	Colorless	Clear	Clear	M6005,M6016	13
Q2033-01MSD	TW-WTS-08MSD	<2	50	25	Colorless	Colorless	Clear	Clear	M6005,M6016	14
Q2033-01DUP	TW-WTS-08DUP	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	12
Q2064-01	RW8-SP100-70-20250514	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	15
Q2064-04	RW8-SP303-70-20250514	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	16
Q2064-05	RW8-SP100-90-20250514	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	17
Q2064-08	RW8-SP303-90-20250514	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	18

WORKLIST(Hardcopy Internal Chain)

WorkList Name : PB168036 **WorkList ID :** 189560 **Department :** Digestion **Date :** 05-16-2025 09:43:43

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q2032-11	FB-05132025	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	CAMP02	L41	05/13/2025	6010D
Q2033-01	TW-WTS-08	Water	Metals Group4	1:1 HNO3 to pH < 2	ENTA05	L41	05/12/2025	6010D
Q2064-01	RW8-SP100-70-20250514	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	TETR06	L41	05/14/2025	6010D
Q2064-04	RW8-SP303-70-20250514	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	TETR06	L41	05/14/2025	6010D
Q2064-05	RW8-SP100-90-20250514	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	TETR06	L41	05/14/2025	6010D
Q2064-08	RW8-SP303-90-20250514	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	TETR06	L41	05/14/2025	6010D

Date/Time 05/16/25 10:10
Raw Sample Received by: SLDS.METHOD
Raw Sample Relinquished by: [signature]

Date/Time 05/16/25 11:50
Raw Sample Received by: [signature]
Raw Sample Relinquished by: SLDS.METHOD

Alliance TECHNICAL GROUP

Water Mercury Preparation Sheet

PB168071

SOP ID : M7470A-Mercury-19

SDG No : NA

Matrix : WATER

Pippete ID: HG A

Balance ID : N/A

Filter paper ID : NA

pH Strip ID : M6069

Hood ID : #1

Block ID: 1. HG HOT BLOCK#3 2. N/A

Start Digest Date: 05/16/2025 **Time :** 14:20 **Temp :** 94 °C

End Digest Date: 05/16/2025 **Time :** 16:20 **Temp :** 95 °C

Digestion tube ID: M5595

Block thermometer ID: HG-DIG#3

Dig Technician Signature: [signature]

Supervisor Signature: [signature]

Temp : 1. 94°C 2. N/A

Standared Name	MLS USED	STD REF. # FROM LOG
ICV	30mL	MP85689
CCV	30mL	MP85691
CRA	30mL	MP85693
Blank Spike	0.48mL	MP85682
Matrix Spike	0.48mL	MP85682

Chemical Used	ML/SAMPLE USED	Lot Number
HNO3/H2SO4(1:2)	2.25mL	MP85240
KMnO4 (5%)	4.5mL	MP85241
K2S2O8 (5%)	2.4mL	MP85242
Hydroxylamine HCL (12%)	1.8mL	MP85243
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

LAB SAMPLE ID	CLIENT SAMPLE ID	Wt(g)/Vol(ml)	Comment
0.0 ppb	S0	30mL	MP85683
0.05 ppb	S0.05	N/A	N/A
0.2 ppb	S0.2	30mL	MP85684
2.5 ppb	S2.5	30mL	MP85685
5.0 ppb	S5.0	30mL	MP85686
7.5 ppb	S7.5	30mL	MP85687
10.0 ppb	S10.0	30mL	MP85688
ICV	ICV	30mL	MP85689
ICB	ICB	30mL	MP85690
CCV	CCV	30mL	MP85691
CCB	CCB	30mL	MP85692
CRI	CRI	30mL	MP85693
CHK STD	CHK STD	30mL	MP85694

Extraction Conformance/Non-Conformance Comments:

N/A

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
5/16/25 @ 16:30	[illegible]	[illegible]
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Water Mercury Preparation Sheet

PB168071

Lab Sample ID	Client Sample ID	Initial Vol (ml)	Final Vol (ml)	pH	Comment	Prep Pos
PB168071BL	PBW071	30	30	<2	N/A	3-26
PB168071BS	LCS071	30	30	<2	MP85700	27
Q2033-01	TW-WTS-08	30	30	<2	N/A	28
Q2064-01	RW8-SP100-70-20250514	30	30	<2	N/A	29
Q2064-01DUP	RW8-SP100-70-20250514DUP	30	30	<2	N/A	30
Q2064-01MS	RW8-SP100-70-20250514MS	30	30	<2	MP85700	31
Q2064-01MSD	RW8-SP100-70-20250514MSD	30	30	<2	MP85700	32
Q2064-04	RW8-SP303-70-20250514	30	30	<2	N/A	33
Q2064-05	RW8-SP100-90-20250514	30	30	<2	N/A	34
Q2064-08	RW8-SP303-90-20250514	30	30	<2	N/A	35
Q2065-01	VACTRUCK-728068	30	30	<2	N/A	36
Q2067-01	303-PPR-FRAC	30	30	<2	N/A	37
Q2068-03	LAW-25-0074	30	30	<2	N/A	38

WORKLIST(Hardcopy Internal Chain)

WorkList Name : 051925_7470 **WorkList ID :** 189604 **Department :** Digestion **Date :** 05-16-2025 12:32:49

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q2064-01	RW8-SP100-70-20250514	Water	Mercury	1:1 HNO3 to pH < 2	TETR06	L41	05/14/2025	7470A
Q2064-04	RW8-SP303-70-20250514	Water	Mercury	1:1 HNO3 to pH < 2	TETR06	L41	05/14/2025	7470A
Q2064-05	RW8-SP100-90-20250514	Water	Mercury	1:1 HNO3 to pH < 2	TETR06	L41	05/14/2025	7470A
Q2064-08	RW8-SP303-90-20250514	Water	Mercury	1:1 HNO3 to pH < 2	TETR06	L41	05/14/2025	7470A
Q2065-01	VACTRUCK-728068	Water	Mercury	1:1 HNO3 to pH < 2	TETR06	L41	05/14/2025	7470A
Q2067-01	303-PPR-FRAC	Water	Mercury	1:1 HNO3 to pH < 2	PSEG03	L41	05/16/2025	7470A
Q2068-03	LAW-25-0074	Water	Mercury	1:1 HNO3 to pH < 2	PSEG03	L41	05/16/2025	7470A
Q2033-01	TW-WTS-08	Water	Mercury	1:1 HNO3 to pH < 2	ENTA05	L41	05/12/2025	7470A

Date/Time 5/16/25 @ 13:50
Raw Sample Received by: MB - DLG - Lms
Raw Sample Relinquished by: MB - DLG - Lms

Date/Time 5/16/25 @ 14:40
Raw Sample Received by: MB - DLG - Lms
Raw Sample Relinquished by: MB - DLG - Lms

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB135823

Review By	Janvi	Review On	5/20/2025 10:37:19 AM
Supervise By	jaswal	Supervise On	5/20/2025 5:19:30 PM

STD. NAME	STD REF.#
ICAL Standard	MP85545,MP85546,MP85547,MP85548,MP85549,MP85552
ICV Standard	MP85553
CCV Standard	MP85556
ICSA Standard	MP85554,MP85555
CRI Standard	MP85552
LCS Standard	
Chk Standard	MP85557,MP85558

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	05/19/25 12:02		Kareem	OK
2	S1	S1	CAL2	05/19/25 12:06		Kareem	OK
3	S2	S2	CAL3	05/19/25 12:11		Kareem	OK
4	S3	S3	CAL4	05/19/25 12:15		Kareem	OK
5	S4	S4	CAL5	05/19/25 12:19		Kareem	OK
6	S5	S5	CAL6	05/19/25 12:23		Kareem	OK
7	ICV01	ICV01	ICV	05/19/25 12:28		Kareem	OK
8	LLICV01	LLICV01	LLICV	05/19/25 12:38		Kareem	OK
9	ICB01	ICB01	ICB	05/19/25 12:44		Kareem	OK
10	CRI01	CRI01	CRDL	05/19/25 12:48		Kareem	OK
11	ICSA01	ICSA01	ICSA	05/19/25 12:52		Kareem	OK
12	ICSAB01	ICSAB01	ICSAB	05/19/25 12:57		Kareem	OK
13	ICSADL	ICSADL	ICSA	05/19/25 13:03		Kareem	OK
14	ICSABDL	ICSABDL	ICSAB	05/19/25 13:08		Kareem	OK
15	CCV01	CCV01	CCV	05/19/25 13:15		Kareem	OK
16	CCB01	CCB01	CCB	05/19/25 13:23		Kareem	OK
17	Q2038-02	72-11991	SAM	05/19/25 13:27		Kareem	OK
18	Q2017-04	MH-I	SAM	05/19/25 13:32		Kareem	OK

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB135823

Review By	Janvi	Review On	5/20/2025 10:37:19 AM
Supervise By	jaswal	Supervise On	5/20/2025 5:19:30 PM

STD. NAME	STD REF.#
ICAL Standard	MP85545,MP85546,MP85547,MP85548,MP85549,MP85552
ICV Standard	MP85553
CCV Standard	MP85556
ICSA Standard	MP85554,MP85555
CRI Standard	MP85552
LCS Standard	
Chk Standard	MP85557,MP85558

19	Q2017-08	MH-J	SAM	05/19/25 13:36		Kareem	OK
20	Q2035-01	SOIL-2	SAM	05/19/25 13:41		Kareem	OK
21	Q2043-03DL	72-12000DL	SAM	05/19/25 13:45	2x for Pb	Kareem	Confirms
22	Q2035-01DUP	SOIL-2DUP	DUP	05/19/25 13:49		Kareem	OK
23	Q2035-01L	SOIL-2L	SD	05/19/25 13:54		Kareem	OK
24	Q2035-01MS	SOIL-2MS	MS	05/19/25 13:58		Kareem	OK
25	Q2035-01MSD	SOIL-2MSD	MSD	05/19/25 14:02		Kareem	OK
26	Q2035-01A	SOIL-2A	PS	05/19/25 14:06		Kareem	OK
27	CCV02	CCV02	CCV	05/19/25 14:13		Kareem	OK
28	CCB02	CCB02	CCB	05/19/25 14:24		Kareem	OK
29	PB168044TB	PB168044TB	MB	05/19/25 14:29		Kareem	OK
30	PB168044BL	PB168044BL	MB	05/19/25 14:33		Kareem	OK
31	PB168044BS	PB168044BS	LCS	05/19/25 14:41		Kareem	OK
32	PB168025BL	PB168025BL	MB	05/19/25 14:45		Kareem	OK
33	PB168025BS	PB168025BS	LCS	05/19/25 14:57		Kareem	OK
34	PB168038BL	PB168038BL	MB	05/19/25 15:01		Kareem	OK
35	PB168038BS	PB168038BS	LCS	05/19/25 15:05		Kareem	OK
36	PB168036BL	PB168036BL	MB	05/19/25 15:09		Kareem	OK
37	CCV03	CCV03	CCV	05/19/25 15:14		Kareem	OK
38	CCB03	CCB03	CCB	05/19/25 15:19		Kareem	OK

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB135823

Review By	Janvi	Review On	5/20/2025 10:37:19 AM
Supervise By	jaswal	Supervise On	5/20/2025 5:19:30 PM

STD. NAME	STD REF.#
ICAL Standard	MP85545,MP85546,MP85547,MP85548,MP85549,MP85552
ICV Standard	MP85553
CCV Standard	MP85556
ICSA Standard	MP85554,MP85555
CRI Standard	MP85552
LCS Standard	
Chk Standard	MP85557,MP85558

39	PB168036BS	PB168036BS	LCS	05/19/25 15:24		Kareem	OK
40	PB168046BL	PB168046BL	MB	05/19/25 15:28		Kareem	OK
41	PB168046BS	PB168046BS	LCS	05/19/25 15:32		Kareem	OK
42	PB167994TB	PB167994TB	MB	05/19/25 15:36		Kareem	OK
43	Q2019-04	MH-K	SAM	05/19/25 15:41		Kareem	OK
44	Q2020-04	TP-A	SAM	05/19/25 15:45		Kareem	OK
45	Q2023-02	HEATER-PAD	SAM	05/19/25 15:50		Kareem	OK
46	Q2027-03	B27-SOIL-SAMPLE	SAM	05/19/25 15:54		Kareem	OK
47	Q2027-04	B28-SOIL-SAMPLE	SAM	05/19/25 15:59		Kareem	OK
48	CCV04	CCV04	CCV	05/19/25 16:03		Kareem	OK
49	CCB04	CCB04	CCB	05/19/25 16:07		Kareem	OK
50	Q2032-09	COMP-1	SAM	05/19/25 16:11		Kareem	OK
51	Q2034-04	L3-WC-1	SAM	05/19/25 16:16		Kareem	OK
52	Q2034-08	L3-WC-2	SAM	05/19/25 16:20		Kareem	OK
53	Q2034-12	L3-WC-3	SAM	05/19/25 16:25		Kareem	OK
54	Q2034-16	L3-WC-4	SAM	05/19/25 16:29		Kareem	OK
55	Q2034-20	L3-WC-5	SAM	05/19/25 16:34		Kareem	OK
56	Q2034-24	L3-WC-6	SAM	05/19/25 16:38		Kareem	OK
57	Q2048-04	L2-WC-1	SAM	05/19/25 16:42		Kareem	OK
58	CCV05	CCV05	CCV	05/19/25 16:47		Kareem	OK

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB135823

Review By	Janvi	Review On	5/20/2025 10:37:19 AM
Supervise By	jaswal	Supervise On	5/20/2025 5:19:30 PM

STD. NAME	STD REF.#
ICAL Standard	MP85545,MP85546,MP85547,MP85548,MP85549,MP85552
ICV Standard	MP85553
CCV Standard	MP85556
ICSA Standard	MP85554,MP85555
CRI Standard	MP85552
LCS Standard	
Chk Standard	MP85557,MP85558

59	CCB05	CCB05	CCB	05/19/25 16:51		Kareem	OK
60	Q2048-08	L2-WC-2	SAM	05/19/25 16:55		Kareem	OK
61	Q2048-12	L2-WC-3	SAM	05/19/25 17:00		Kareem	OK
62	Q2048-16	L2-WC-4	SAM	05/19/25 17:04		Kareem	OK
63	Q2048-16DUP	L2-WC-4DUP	DUP	05/19/25 17:09		Kareem	OK
64	Q2048-16L	L2-WC-4L	SD	05/19/25 17:13		Kareem	OK
65	Q2048-16MS	L2-WC-4MS	MS	05/19/25 17:18		Kareem	OK
66	Q2048-16MSD	L2-WC-4MSD	MSD	05/19/25 17:22		Kareem	OK
67	Q2048-16A	L2-WC-4A	PS	05/19/25 17:26		Kareem	OK
68	Q2052-01	TP-B	SAM	05/19/25 17:30		Kareem	OK
69	CCV06	CCV06	CCV	05/19/25 17:35		Kareem	OK
70	CCB06	CCB06	CCB	05/19/25 17:39		Kareem	OK
71	Q2055-01	OR-02-051525	SAM	05/19/25 17:43		Kareem	OK
72	Q2057-01	MH-L	SAM	05/19/25 17:47		Kareem	OK
73	Q2057-01DUP	MH-LDUP	DUP	05/19/25 17:51		Kareem	OK
74	Q2057-01L	MH-LL	SD	05/19/25 17:55		Kareem	OK
75	Q2057-01MS	MH-LMS	MS	05/19/25 18:00		Kareem	OK
76	Q2057-01MSD	MH-LMSD	MSD	05/19/25 18:04		Kareem	OK
77	Q2057-01A	MH-LA	PS	05/19/25 18:08		Kareem	OK
78	Q2032-11	FB-05132025	SAM	05/19/25 18:12		Kareem	OK

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB135823

Review By	Janvi	Review On	5/20/2025 10:37:19 AM
Supervise By	jaswal	Supervise On	5/20/2025 5:19:30 PM

STD. NAME	STD REF.#
ICAL Standard	MP85545,MP85546,MP85547,MP85548,MP85549,MP85552
ICV Standard	MP85553
CCV Standard	MP85556
ICSA Standard	MP85554,MP85555
CRI Standard	MP85552
LCS Standard	
Chk Standard	MP85557,MP85558

79	Q2033-01	TW-WTS-08	SAM	05/19/25 18:16		Kareem	OK
80	CCV07	CCV07	CCV	05/19/25 18:21		Kareem	OK
81	CCB07	CCB07	CCB	05/19/25 18:25		Kareem	OK
82	Q2033-01DUP	TW-WTS-08DUP	DUP	05/19/25 18:29		Kareem	OK
83	Q2033-01L	TW-WTS-08L	SD	05/19/25 18:34		Kareem	OK
84	Q2033-01MS	TW-WTS-08MS	MS	05/19/25 18:39		Kareem	OK
85	Q2033-01MSD	TW-WTS-08MSD	MSD	05/19/25 18:43		Kareem	OK
86	Q2033-01A	TW-WTS-08A	PS	05/19/25 18:48		Kareem	OK
87	Q2064-01	RW8-SP100-70-2025(	SAM	05/19/25 18:52		Kareem	OK
88	Q2064-04	RW8-SP303-70-2025(	SAM	05/19/25 18:56		Kareem	OK
89	Q2064-05	RW8-SP100-90-2025(	SAM	05/19/25 19:01		Kareem	OK
90	Q2064-08	RW8-SP303-90-2025(	SAM	05/19/25 19:05		Kareem	OK
91	CCV08	CCV08	CCV	05/19/25 19:09		Kareem	OK
92	CCB08	CCB08	CCB	05/19/25 19:14		Kareem	OK
93	Q2062-01	L1-WC-1	SAM	05/19/25 19:18		Kareem	OK
94	Q2062-05	L1-WC-2	SAM	05/19/25 19:22		Kareem	OK
95	Q2062-09	L1-WC-3	SAM	05/19/25 19:26		Kareem	OK
96	Q2062-13	L1-WC-4	SAM	05/19/25 19:30		Kareem	OK
97	Q2062-17	L1-WC-5	SAM	05/19/25 19:34		Kareem	OK
98	Q2062-17DUP	L1-WC-5DUP	DUP	05/19/25 19:38		Kareem	OK

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB135823

Review By	Janvi	Review On	5/20/2025 10:37:19 AM
Supervise By	jaswal	Supervise On	5/20/2025 5:19:30 PM

STD. NAME	STD REF.#
ICAL Standard	MP85545,MP85546,MP85547,MP85548,MP85549,MP85552
ICV Standard	MP85553
CCV Standard	MP85556
ICSA Standard	MP85554,MP85555
CRI Standard	MP85552
LCS Standard	
Chk Standard	MP85557,MP85558

99	Q2062-17L	L1-WC-5L	SD	05/19/25 19:42		Kareem	OK
100	Q2062-17MS	L1-WC-5MS	MS	05/19/25 19:47		Kareem	OK
101	Q2062-17MSD	L1-WC-5MSD	MSD	05/19/25 19:51		Kareem	OK
102	CCV09	CCV09	CCV	05/19/25 19:55		Kareem	OK
103	CCB09	CCB09	CCB	05/19/25 19:59		Kareem	OK
104	Q2062-17A	L1-WC-5A	PS	05/19/25 20:03		Kareem	OK
105	Q2062-21	L1-WC-6	SAM	05/19/25 20:07		Kareem	OK
106	CCV10	CCV10	CCV	05/19/25 20:11		Kareem	OK
107	CCB10	CCB10	CCB	05/19/25 20:15		Kareem	OK

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB135832

Review By	MOHAN	Review On	5/20/2025 5:28:52 PM
Supervise By	jaswal	Supervise On	5/20/2025 5:35:16 PM

STD. NAME	STD REF.#
ICAL Standard	MP85701,MP85702,MP85703,MP85704,MP85705,MP85706
ICV Standard	MP85707
CCV Standard	MP85709
ICSA Standard	
CRI Standard	MP85711
LCS Standard	
Chk Standard	MP85708,MP85710,MP85712,MP85714

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	05/20/25 09:10		MOHAN	OK
2	S0.2	S0.2	CAL2	05/20/25 09:12		MOHAN	OK
3	S2.5	S2.5	CAL3	05/20/25 09:14		MOHAN	OK
4	S5	S5	CAL4	05/20/25 09:20		MOHAN	OK
5	S7.5	S7.5	CAL5	05/20/25 09:25		MOHAN	OK
6	S10	S10	CAL6	05/20/25 09:30		MOHAN	OK
7	ICV11	ICV11	ICV	05/20/25 09:36		MOHAN	OK
8	ICB11	ICB11	ICB	05/20/25 09:38		MOHAN	OK
9	CCV40	CCV40	CCV	05/20/25 09:43		MOHAN	OK
10	CCB40	CCB40	CCB	05/20/25 09:45		MOHAN	OK
11	CRA	CRA	CRDL	05/20/25 09:47		MOHAN	OK
12	HighStd	HighStd	HIGH STD	05/20/25 09:50		MOHAN	OK
13	ChkStd	ChkStd	SAM	05/20/25 09:55		MOHAN	OK
14	PB168062BL	PB168062BL	MB	05/20/25 09:57		MOHAN	OK
15	PB168062BS	PB168062BS	LCS	05/20/25 09:59		MOHAN	OK
16	Q2052-04	TP-B	SAM	05/20/25 10:01		MOHAN	OK
17	Q2053-01	SB-1	SAM	05/20/25 10:04		MOHAN	OK
18	Q2053-02	SB-2	SAM	05/20/25 10:06		MOHAN	OK

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB135832

Review By	MOHAN	Review On	5/20/2025 5:28:52 PM
Supervise By	jaswal	Supervise On	5/20/2025 5:35:16 PM

STD. NAME	STD REF.#
ICAL Standard	MP85701,MP85702,MP85703,MP85704,MP85705,MP85706
ICV Standard	MP85707
CCV Standard	MP85709
ICSA Standard	
CRI Standard	MP85711
LCS Standard	
Chk Standard	MP85708,MP85710,MP85712,MP85714

19	Q2053-03	SB-3	SAM	05/20/25 10:08		MOHAN	OK
20	Q2053-04	SB-4	SAM	05/20/25 10:11		MOHAN	OK
21	CCV41	CCV41	CCV	05/20/25 10:13		MOHAN	OK
22	CCB41	CCB41	CCB	05/20/25 10:15		MOHAN	OK
23	Q2053-05	SB-5	SAM	05/20/25 10:17		MOHAN	OK
24	Q2053-06	SB-6	SAM	05/20/25 10:20		MOHAN	OK
25	Q2053-07	SB-7	SAM	05/20/25 10:22		MOHAN	OK
26	Q2053-08	SB-8	SAM	05/20/25 10:24		MOHAN	OK
27	Q2053-09	SB-9	SAM	05/20/25 10:26		MOHAN	OK
28	Q2053-10	SB-10	SAM	05/20/25 10:29		MOHAN	OK
29	Q2053-11	SB-11	SAM	05/20/25 10:31		MOHAN	OK
30	Q2057-04	MH-L	SAM	05/20/25 10:33		MOHAN	OK
31	Q2062-04	L1-WC-1	SAM	05/20/25 10:35		MOHAN	OK
32	Q2062-08	L1-WC-2	SAM	05/20/25 10:38		MOHAN	OK
33	CCV42	CCV42	CCV	05/20/25 10:42		MOHAN	OK
34	CCB42	CCB42	CCB	05/20/25 10:44		MOHAN	OK
35	Q2062-12	L1-WC-3	SAM	05/20/25 10:46		MOHAN	OK
36	Q2062-16	L1-WC-4	SAM	05/20/25 10:48		MOHAN	OK
37	Q2062-20	L1-WC-5	SAM	05/20/25 10:51		MOHAN	OK
38	Q2062-24	L1-WC-6	SAM	05/20/25 10:53		MOHAN	OK

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB135832

Review By	MOHAN	Review On	5/20/2025 5:28:52 PM
Supervise By	jaswal	Supervise On	5/20/2025 5:35:16 PM

STD. NAME	STD REF.#
ICAL Standard	MP85701,MP85702,MP85703,MP85704,MP85705,MP85706
ICV Standard	MP85707
CCV Standard	MP85709
ICSA Standard	
CRI Standard	MP85711
LCS Standard	
Chk Standard	MP85708,MP85710,MP85712,MP85714

39	Q2062-24DUP	L1-WC-6DUP	DUP	05/20/25 10:55		MOHAN	OK
40	Q2062-24MS	L1-WC-6MS	MS	05/20/25 10:57		MOHAN	OK
41	Q2062-24MSD	L1-WC-6MSD	MSD	05/20/25 11:00		MOHAN	OK
42	PB168071BL	PB168071BL	MB	05/20/25 11:02		MOHAN	OK
43	PB168071BS	PB168071BS	LCS	05/20/25 11:04		MOHAN	OK
44	Q2033-01	TW-WTS-08	SAM	05/20/25 11:07		MOHAN	OK
45	CCV43	CCV43	CCV	05/20/25 11:09		MOHAN	OK
46	CCB43	CCB43	CCB	05/20/25 11:11		MOHAN	OK
47	Q2064-01	RW8-SP100-70-2025(	SAM	05/20/25 11:13		MOHAN	OK
48	Q2064-01DUP	RW8-SP100-70-2025(	DUP	05/20/25 11:16		MOHAN	OK
49	Q2064-01MS	RW8-SP100-70-2025(	MS	05/20/25 11:18		MOHAN	OK
50	Q2064-01MSD	RW8-SP100-70-2025(	MSD	05/20/25 11:20		MOHAN	OK
51	Q2064-04	RW8-SP303-70-2025(	SAM	05/20/25 11:23		MOHAN	OK
52	Q2064-05	RW8-SP100-90-2025(	SAM	05/20/25 11:25		MOHAN	OK
53	Q2064-08	RW8-SP303-90-2025(	SAM	05/20/25 11:27		MOHAN	OK
54	Q2065-01	VACTRUCK-728068	SAM	05/20/25 11:29		MOHAN	OK
55	Q2067-01	303-PPR-FRAC	SAM	05/20/25 11:32		MOHAN	OK
56	Q2068-03	LAW-25-0074	SAM	05/20/25 11:34	Hg High	MOHAN	Dilution
57	CCV44	CCV44	CCV	05/20/25 11:36		MOHAN	OK
58	CCB44	CCB44	CCB	05/20/25 11:39		MOHAN	OK

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB135832

Review By	MOHAN	Review On	5/20/2025 5:28:52 PM
Supervise By	jaswal	Supervise On	5/20/2025 5:35:16 PM

STD. NAME	STD REF.#
ICAL Standard	MP85701,MP85702,MP85703,MP85704,MP85705,MP85706
ICV Standard	MP85707
CCV Standard	MP85709
ICSA Standard	
CRI Standard	MP85711
LCS Standard	
Chk Standard	MP85708,MP85710,MP85712,MP85714

59	PB168033TB	PB168033TB	MB	05/20/25 11:41		MOHAN	OK
60	Q2062-24L	L1-WC-6L	SD	05/20/25 11:43		MOHAN	OK
61	Q2062-24A	L1-WC-6A	PS	05/20/25 11:46		MOHAN	OK
62	Q2064-01L	RW8-SP100-70-2025(	SD	05/20/25 11:48		MOHAN	OK
63	Q2064-01A	RW8-SP100-70-2025(	PS	05/20/25 11:50		MOHAN	OK
64	Q2068-03DL	LAW-25-0074DL	SAM	05/20/25 11:53	5x for Hg	MOHAN	Confirms
65	CCV45	CCV45	CCV	05/20/25 11:55		MOHAN	OK
66	CCB45	CCB45	CCB	05/20/25 11:57		MOHAN	OK

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900, Fax : 908 789 8922

Prep Standard - Chemical Standard Summary

Order ID : Q2064

Test : Mercury,Metals ICP-TAL

Prepbatch ID : PB168036,PB168071,

Sequence ID/Qc Batch ID: LB135823,LB135823,LB135832,

Standard ID :
MP85156,MP85545,MP85546,MP85547,MP85548,MP85549,MP85551,MP85552,MP85553,MP85554,MP85555,MP85556,MP85557,MP85558,MP85700,MP85701,MP85702,MP85703,MP85704,MP85705,MP85706,MP85707,MP85708,MP85709,MP85710,MP85711,MP85712,MP85714,

Chemical ID :
M5062,M5429,M5466,M5467,M5470,M5471,M5658,M5747,M5748,M5751,M5798,M5799,M5800,M5801,M 5811,M5814,M5815,M5816,M5817,M5820,M5875,M5882,M5942,M5959,M5962,M5970,M5985,M5997,M6005,M6016,M6021,M6023,M6028,M6030,M6032,M6058,M6076,M6077,M6127,M6128,M6137,M6138,M6142,M6144,M6145,M6146,M6150,M6151,M6152,M6155,M6158,M6159,M6161,W3112,

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
170	1:1HCL	MP85156	04/07/2025	08/18/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 04/07/2025

FROM 1250.00000ml of M6151 + 1250.00000ml of W3112 = Final Quantity: 2500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
902	ICP AES CAL BLK (SO/ICB/CCB)	MP85545	05/02/2025	06/02/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/07/2025

FROM 125.00000ml of M6151 + 2350.00000ml of W3112 + 25.00000ml of M6158 = Final Quantity: 2500.000 ml

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
907	ICP AES STD S (S5)	MP85546	05/02/2025	06/02/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/07/2025

FROM 5.00000ml of M5466 + 5.00000ml of M5471 + 5.00000ml of M5816 + 5.00000ml of M5820 + 5.00000ml of M5875 + 5.00000ml of M5970 + 5.00000ml of M5997 + 5.00000ml of M6076 + 5.00000ml of M6146 + 455.00000ml of MP85545 = Final Quantity: 500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
910	ICP AES STD S4	MP85547	05/02/2025	06/02/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/07/2025

FROM 50.00000ml of MP85545 + 50.00000ml of MP85546 = Final Quantity: 100.000 ml

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
909	ICP AES STD S3	MP85548	05/02/2025	06/02/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/07/2025

FROM 25.00000ml of MP85546 + 75.00000ml of MP85545 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3913	ICP AES STD S2	MP85549	05/02/2025	06/02/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/07/2025

FROM 16.00000ml of MP85546 + 184.00000ml of MP85545 = Final Quantity: 200.000 ml

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2950	ICP AES S1/CRI STOCK STD	MP85551	05/02/2025	06/02/2025	Janvi Patel	METALS_SCALE_2 (M SC-2)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/07/2025

FROM 0.03000ml of M5798 + 0.03000ml of M6028 + 0.04000ml of M6137 + 0.05000ml of M5658 + 0.05000ml of M5811 + 0.05000ml of M6030 + 0.05000ml of M6159 + 0.06000ml of M5747 + 0.10000ml of M5471 + 0.10000ml of M5751 + 0.10000ml of M5801 + 0.10000ml of M5820 + 0.10000ml of M5962 + 0.10000ml of M5970 + 0.10000ml of M6128 + 0.15000ml of M5800 + 0.20000ml of M5748 + 0.20000ml of M5799 + 0.20000ml of M6021 + 0.20000ml of M6023 + 0.20000ml of M6145 + 0.25000ml of M5466 + 0.25000ml of M6146 + 0.50000ml of M5814 + 0.50000ml of M6032 + 1.00000ml of M5942 + 1.00000ml of M6127 + 1.00000ml of M6138 + 1.00000ml of M6142 + 1.00000ml of M6144 + 2.00000ml of M5816 + 89.29000ml of MP85545 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2951	ICP AES S1/CRI WORK STD	MP85552	05/02/2025	06/02/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/07/2025

FROM 2.00000ml of MP85551 + 98.00000ml of MP85545 = Final Quantity: 100.000 ml

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
912	ICP AES ICV SOLN	MP85553	05/02/2025	06/02/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/07/2025

FROM 0.02500ml of M5429 + 0.02500ml of M5815 + 0.02500ml of M5817 + 0.10000ml of M5467 + 0.25000ml of M5470 + 0.25000ml of M6058 + 10.00000ml of M6150 + 89.32500ml of MP85545 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
904	ICP AES ICSA SOLN	MP85554	05/02/2025	06/02/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/07/2025

FROM 25.00000ml of M6152 + 225.00000ml of MP85545 = Final Quantity: 250.000 ml

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3494	ICP AES ICSAB SOLN-1	MP85555	05/02/2025	06/02/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/07/2025

FROM 0.01000ml of M5815 + 0.01000ml of M5817 + 0.10000ml of M5470 + 0.10000ml of M5970 + 0.10000ml of M6077 + 10.00000ml of M6152 + 10.00000ml of M6155 + 79.68000ml of MP85545 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
911	ICP AES CCV SOLN	MP85556	05/02/2025	06/02/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/07/2025

FROM 50.00000ml of MP85545 + 50.00000ml of MP85546 = Final Quantity: 100.000 ml

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
919	ICP AES INTERNAL STD	MP85557	05/02/2025	06/02/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/07/2025

FROM 1.00000ml of M5959 + 10.00000ml of M5985 + 1969.00000ml of W3112 + 20.00000ml of M6158 = Final Quantity: 2000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
903	ICP AES RINSE SOLN	MP85558	05/02/2025	06/02/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 05/07/2025

FROM 200.00000ml of M6158 + 9800.00000ml of W3112 = Final Quantity: 10000.000 ml

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
871	MERCURY INTERMEDIATE B 250PPB WORKING STD.	MP85700	05/19/2025	05/20/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 05/22/2025

FROM 1.00000ml of M6158 + 2.50000ml of M5062 + 96.50000ml of W3112 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1340	Hg 0.00 PPB STD	MP85701	05/19/2025	05/20/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 05/22/2025

FROM 2.50000ml of M6158 + 247.50000ml of W3112 = Final Quantity: 250.000 ml

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1341	Hg 0.2 PPB STD	MP85702	05/19/2025	05/20/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 05/22/2025

FROM 2.50000ml of M6158 + 247.30000ml of W3112 + 0.20000ml of MP85700 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1342	Hg 2.5 PPB STD	MP85703	05/19/2025	05/20/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 05/22/2025

FROM 2.50000ml of M6158 + 245.00000ml of W3112 + 2.50000ml of MP85700 = Final Quantity: 250.000 ml

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1343	Hg 5.0 PPB STD	MP85704	05/19/2025	05/20/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 05/22/2025

FROM 2.50000ml of M6158 + 242.50000ml of W3112 + 5.00000ml of MP85700 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1344	Hg 7.5 PPB STD	MP85705	05/19/2025	05/20/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 05/22/2025

FROM 2.50000ml of M6158 + 245.00000ml of W3112 + 2.50000ml of MP85700 = Final Quantity: 250.000 ml

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1345	Hg 10.0 PPB STD	MP85706	05/19/2025	05/20/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 05/22/2025

FROM 2.50000ml of M6158 + 237.50000ml of W3112 + 10.00000ml of MP85700 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1346	Hg ICV SOLUTION	MP85707	05/19/2025	05/20/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 05/22/2025

FROM 2.50000ml of M6158 + 2.50000ml of M6161 + 245.00000ml of W3112 = Final Quantity: 250.000 ml

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1351	ICB (Hg 0.00 PPB SOLUTION)	MP85708	05/19/2025	05/20/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 05/22/2025

FROM 2.50000ml of M6158 + 247.50000ml of W3112 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1358	CCV (Hg 5.0 PPB SOLUTION)	MP85709	05/19/2025	05/20/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 05/22/2025

FROM 485.00000ml of W3112 + 5.00000ml of M6158 + 10.00000ml of MP85700 = Final Quantity: 500.000 ml

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1352	CCB (Hg 0.00 PPB SOLUTION)	MP85710	05/19/2025	05/20/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 05/22/2025

FROM 495.00000ml of W3112 + 5.00000ml of M6158 = Final Quantity: 500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1349	CRA/CRI (Hg 0.2 PPB SOLUTION)	MP85711	05/19/2025	05/20/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 05/22/2025

FROM 2.50000ml of M6158 + 247.30000ml of W3112 + 0.20000ml of MP85700 = Final Quantity: 250.000 ml

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1350	CHK STD (Hg 7.0 PPB SOLUTION)	MP85712	05/19/2025	05/20/2025	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 05/22/2025

FROM 2.50000ml of M6158 + 240.50000ml of W3112 + 7.00000ml of MP85700 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
68	STANNOUS CHLORIDE SOLUTION	MP85714	05/20/2025	05/21/2025	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal 05/22/2025

FROM 450.00000ml of W3112 + 50.00000gram of M5882 + 50.00000ml of M6151 = Final Quantity: 500.000 ml

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	MSHG-10PPM / MERCURY HCl 125mL 10ug/mL	S2-HG709270	09/22/2026	05/28/2022 / mohan	01/27/2022 / mohan	M5062

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57103 / Li, 10000 PPM, 125 ml	070622	07/06/2025	01/30/2023 / bin	01/26/2023 / bin	M5429

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57058 / Cerium, 1000PPM, 100ML	061322	06/13/2025	03/06/2023 / bin	03/01/2023 / bin	M5466

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57058 / Cerium, 1000PPM, 100ML	020623	02/06/2026	03/06/2023 / bin	03/01/2023 / bin	M5467

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57038 / Sr, 1000 PPM, 125 ml	082922	08/29/2025	04/14/2025 / jaswal	03/16/2023 / jaswal	M5470

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57038 / Sr, 1000 PPM, 125 ml	082922	08/29/2025	04/14/2025 / jaswal	03/16/2023 / jaswal	M5471

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58024 / Chromium, Cr, 500 ml, 1000 PPM	060523	06/05/2026	08/28/2023 / jaswal	08/25/2023 / jaswal	M5658

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ Lead (Pb) 1000PPM	100923	10/09/2026	05/20/2024 / Jaswal	12/20/2023 / jaswal	M5747

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ Nickel (Ni) 1000PPM	091223	09/12/2026	01/02/2024 / bin	12/20/2023 / jaswal	M5748

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58029 / Cu, 1000 PPM, 500 ml	071723	07/17/2026	10/01/2024 / Jaswal	08/25/2023 / jaswal	M5751

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57004 / Be, 1000 PPM, 125 ml	102523	10/25/2026	02/09/2024 / bin	02/09/2024 / bin	M5798

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57050 / Sn, 1000 PPM, 125 ml	071123	07/11/2026	02/09/2024 / bin	02/09/2024 / bin	M5799

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57027 / CO, 1000 PPM, 125 ml	091923	09/19/2026	05/31/2024 / bin	02/09/2024 / bin	M5800

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57033 / As, 1000 PPM, 125 ml	111323	11/13/2026	02/09/2024 / bin	02/09/2024 / bin	M5801

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58126 / Fe, 10000 PPM, 500 ml	051523	05/15/2026	02/06/2025 / kareem	01/03/2024 / jaswal	M5811

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57005 / B, 1000 PPM, 125 ml	071123	07/11/2026	03/26/2024 / Sohil	01/03/2024 / jaswal	M5814

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57115 / P, 10000 PPM, 125 ml	041723	04/17/2026	05/21/2024 / Jaswal	02/09/2024 / jaswal	M5815

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57016 / S, 1000 PPM, 125 ml	122923	12/29/2026	05/20/2024 / Jaswal	02/09/2024 / jaswal	M5816

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57116 / S, 10000 PPM, 125 ml	071123	07/11/2026	03/01/2024 / jaswal	02/09/2024 / jaswal	M5817

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57015 / P, 1000 PPM, 125 ml	091123	09/11/2026	05/01/2024 / jaswal	02/09/2024 / jaswal	M5820

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-CAL-1 / CLP CAL SOLUTION #1, 125mL	T2-MEB714417	01/27/2027	04/19/2024 / jaswal	02/22/2024 / jaswal	M5875

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3980-01 / Stannous Chloride (cs/4x500g)	232820	08/31/2028	04/30/2024 / mohan	04/25/2024 / mohan	M5882

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGTI1-1 / TITANIUM 125mL 1000ug/mL	T2-TI719972	06/17/2027	06/18/2024 / Jaswal	02/22/2024 / Jaswal	M5942

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGY10-1 / YTTRIUM 125mL 10,000ug/mL	V2-Y740548	02/20/2029	07/01/2024 / Jaswal	06/14/2024 / Jaswal	M5959

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57034 / Se, 1000 PPM, 125 ml	060624	06/06/2027	07/02/2024 / Jaswal	06/14/2024 / Jaswal	M5962

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57003 / Li, 1000 PPM, 125 ml	061224	06/21/2027	07/01/2024 / Jaswal	07/01/2024 / Jaswal	M5970

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGIN10-5 / INDIUM 1 x 500 ml	U2-IN729349	02/21/2028	10/08/2024 / Jaswal	06/14/2024 / Jaswal	M5985

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-CAL-3 / CLP CAL SOLUTION #3, 125mL	T2-MEB727800	12/21/2027	02/03/2025 / JANVI	02/22/2024 / kareem	M5997

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	WW-LFS-1 / Laboratory Fortified Stock Solution 1, 125 ml	T2-MEB723367	08/30/2026	04/15/2025 / JANVI	05/14/2024 / Jaswal	M6005

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	WW-LFS-2 / Laboratory Fortified Stock Solution 2, 125 ml	U2-MEB731108	10/30/2025	04/30/2025 / mohan	05/14/2024 / Jaswal	M6016

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57023 / V, 1000 PPM, 125 ml	062424	06/24/2027	09/28/2024 / jaswal	08/05/2024 / Jaswal	M6021

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57081 / Tl, 1000 PPM, 125 ml	0624724	06/27/2027	08/05/2024 / kareem	08/05/2024 / Jaswal	M6023

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57048 / Cd, 1000 PPM, 125 ml	070124	07/01/2027	08/05/2024 / kareem	08/05/2024 / Jaswal	M6028

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57047 / Ag, 1000 PPM, 125 ml	122823	12/28/2026	08/05/2024 / kareem	08/05/2024 / Jaswal	M6030

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57056 / Ba, 1000 PPM, 125 ml	010924	01/09/2027	01/14/2025 / Jaswal	08/05/2024 / Jaswal	M6032

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CHEM-QC-4 / CHEM-QC-4, Second Source, 1000 ug/ml, B, Mo, Si, Sn, Ti	V2-MEB746173	01/29/2026	01/29/2025 / JANVI	08/22/2024 / Jaswal	M6058

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	Z9651Q / CHEM-CLP-4/.25L	V2-MEB746762	01/01/2026	01/01/2025 / kareem	09/19/2024 / kareem	M6076

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	Z9651Q / CHEM-CLP-4/.25L	V2-MEB746762	09/06/2029	01/23/2025 / kareem	09/19/2024 / kareem	M6077

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58112 / Mg, 10000 PPM, 500 ml	112124	11/21/2027	01/13/2025 / kareem	01/13/2025 / kareem	M6127

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58025 / Mn, 1000 PPM, 500 ml	101124	10/11/2027	01/13/2025 / kareem	01/13/2025 / kareem	M6128

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGSI1-1 / SILICON 125mL 1000ug/mL	V2-SI744713	07/10/2029	01/14/2025 / Jaswal	10/03/2024 / Jaswal	M6137

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58120 / Ca, 10000 PPM, 500 ml	121824	12/18/2027	04/17/2025 / Janvi	01/13/2025 / Jaswal	M6138

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58119 / K, 10000 PPM, 500 ml	103024	10/30/2027	05/06/2025 / JANVI	01/13/2025 / Jaswal	M6142

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58111 / Na, 10000 PPM, 500 ml	072424	07/24/2027	01/23/2025 / kareem	01/13/2025 / Jaswal	M6144

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58030 / Zinc, Zn, 500 ml, 1000 PPM	121724	12/17/2027	02/04/2025 / jaswal	01/13/2025 / Jaswal	M6145

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57051 / Sb, 1000 PPM, 125 ml	071724	07/17/2027	01/31/2025 / kareem	10/18/2024 / kareem	M6146

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	ICV-1 / ICV (ICP/ICPMS) STOCK SOLN	ICV1-1014	07/07/2025	02/07/2025 / JANVI	04/20/2021 / JANVI	M6150

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	22G2862015	08/18/2025	02/18/2025 / Sagar	01/15/2025 / Sagar	M6151

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART A / ICSA (ICP) STOCK SOLN	ICSA-1211	08/24/2025	02/24/2025 / kareem	04/20/2021 / kareem	M6152

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART B / ICSAB (ICP) STOCK SOLN	ICSB-0710	06/20/2025	02/10/2025 / kareem	02/09/2024 / kareem	M6155

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	03/25/2029	03/10/2025 / Eman	02/02/2025 / Sagar	M6158

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58113 / Al, 10000 PPM, 500 ml	011325	03/18/2026	03/18/2025 / kareem	02/09/2025 / kareem	M6159

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	ICV-5 / ICV (HG) STOCK SOLN	ICV 5 0415	07/31/2025	05/01/2025 / mohan	03/30/2024 / mohan	M6161

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	07/03/2029	07/03/2024 / Iwona	07/03/2024 / Iwona	W3112

ThermoFisher SCIENTIFIC

M5882 M3

Certificate of Analysis

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120633

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the final formulator and end user to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

Catalog Number	T142	Quality Test / Release Date	08/17/2023
Lot Number	232820		
Description	STANNOUS CHLORIDE, DIHYDRATE CERTIFIED ACS (Suitable for Mercury Determination)		
Country of Origin	United States	Suggested Retest Date	Aug/2028
Chemical Origin	Inorganic-non animal		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Clear crystals
ASSAY	%	Inclusive Between 98 - 103	100.65
CALCIUM	%	<= 0.005	0.0017
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
IRON (Fe)	%	<= 0.003	0.0011
LEAD (Pb)	%	<= 0.01	0.0006
MERCURY (Hg)	ppm	<= 0.05	<0.05
POTASSIUM (K)	%	<= 0.005	0.0001
SODIUM (Na)	%	<= 0.01	<0.01
SOLUBILITY IN HCL	PASS/FAIL	= PASS TEST	PASS TEST
SULFATE (SO4)	PASS/FAIL	= P.T. (ABOUT 0.003%)	P.T. (ABOUT 0.003%)

Harout Sahagian - Quality Control Supervisor - Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.
If there are any questions with this certificate, please call at (800) 227-6701.
*Based on suggested storage condition.

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M6032

R: 8/5/24

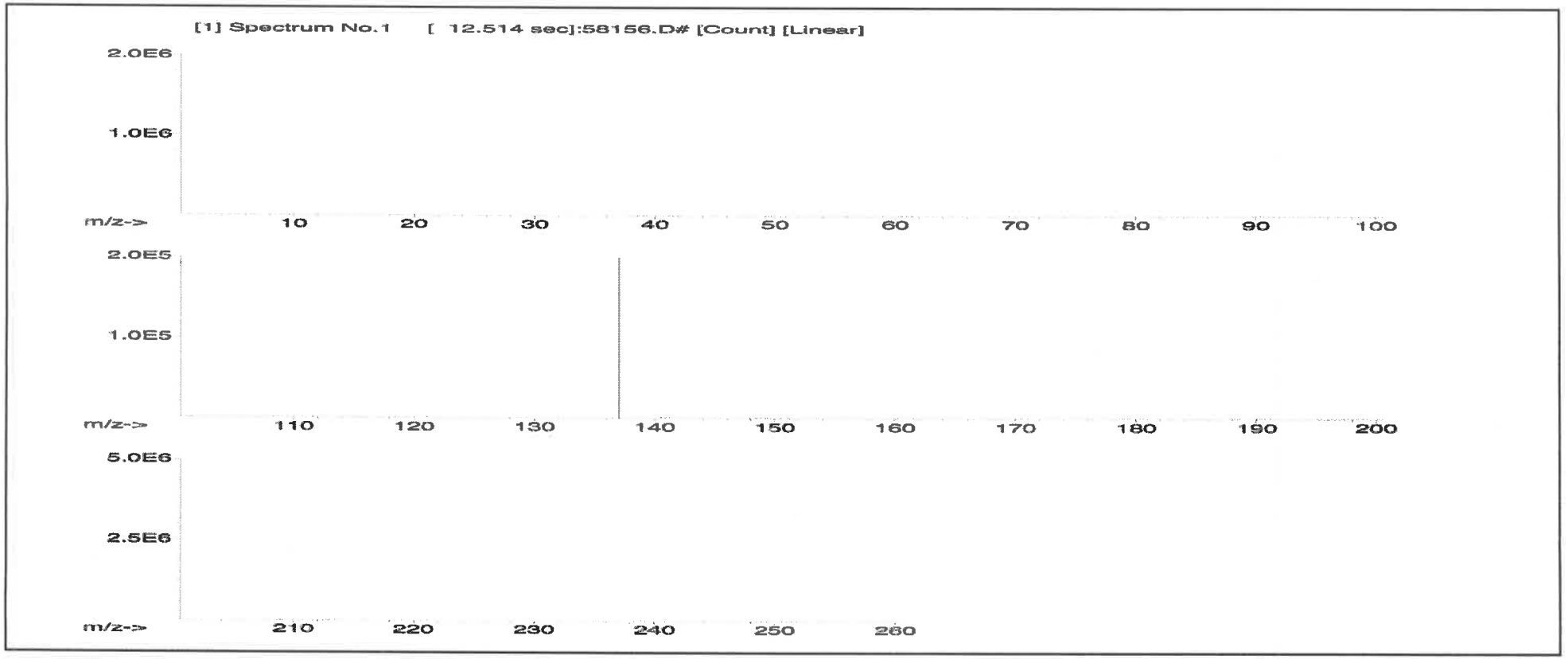
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number:	**57056**		**Lot #**		
Lot Number:	**010924**	**Solvent:**	24002546	Nitric Acid	
Description:	**Barium (Ba)**				
		2%	40.0 (mL)	Nitric Acid	
Expiration Date:	010927				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

Giovanni Esposito		
Formulated By:	Giovanni Esposito	010924
Pedro Rentas		
Reviewed By:	Pedro L. Rentas	010924

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Barium nitrate (Ba)	IN023	BAD022019A1	1000	99.999	0.10	52.3	3.82417	3.82441	**1000.1**	**2.0**	10022-31-8	0.5 mg/m3	orl-rat 355 mg/kg	3104a



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	T	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:



* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M6028

R 8/5/24

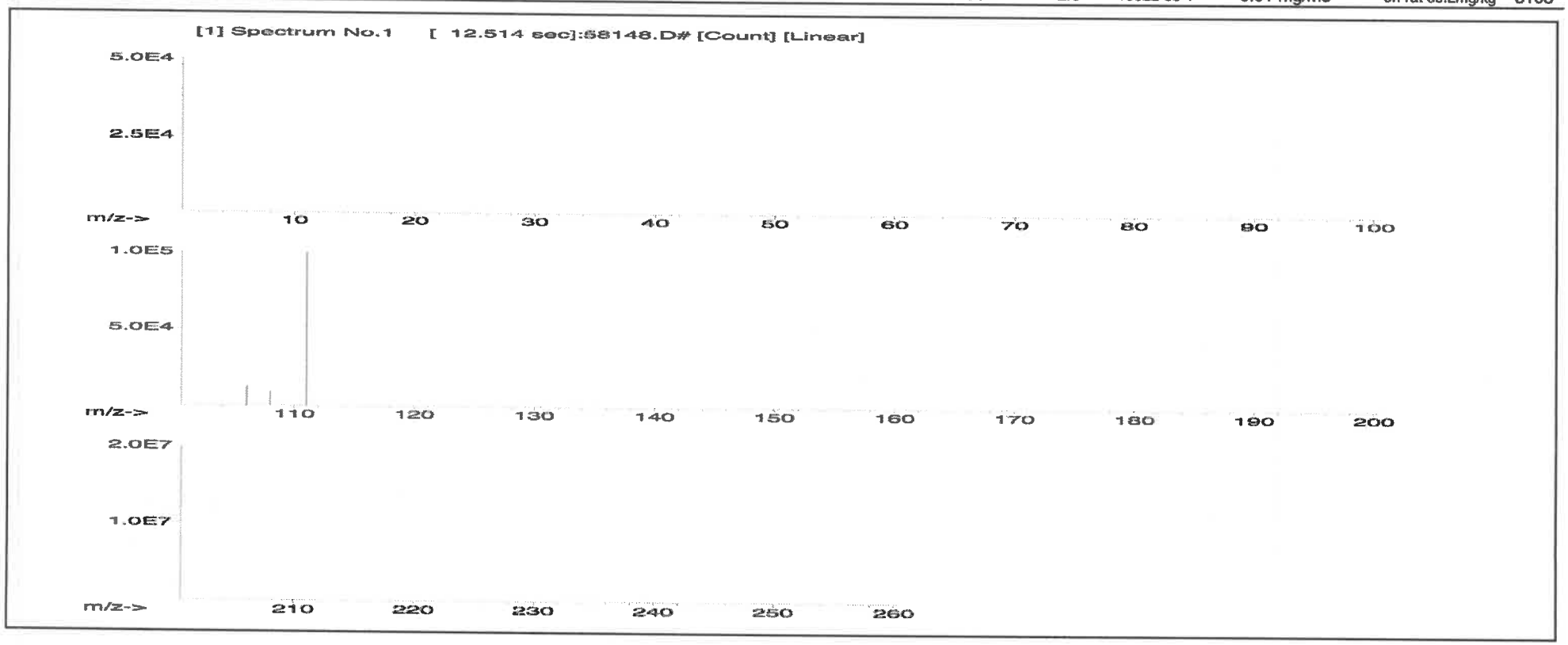
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number:	**57048**		**Lot #**		
Lot Number:	**070124**	**Solvent:**	24002546	Nitric Acid	
Description:	**Cadmium (Cd)**				
		2%	40.0 (mL)	Nitric Acid	
Expiration Date:	070127				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.07	0.100	Flask Uncertainty		

Aleah O'Brady		
Formulated By:	Aleah O'Brady	070124
Pedro Rentas		
Reviewed By:	Pedro L. Rentas	070124

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cadmium nitrate tetrahydrate (Cd)	IN024	CDM092021A1	1000	99.999	0.10	36.5	5.4797	5.4804	**1000.1**	**2.0**	10022-68-1	0.01 mg/m3	orl-rat 60.2mg/kg	3108



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	T	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:



* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

INORGANIC VENTURES
Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-CAL-1
Lot Number:	T2-MEB714417
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	5 000 µg/mL ea: Calcium, Potassium, Magnesium, Sodium, 2 000 µg/mL ea: Aluminum, Barium, 1 000 µg/mL ea: Iron, 500 µg/mL ea: Nickel, Vanadium, Zinc, Cobalt, Manganese, 250 µg/mL ea: Silver, Copper, 200 µg/mL ea: Chromium, 50 µg/mL ea: Beryllium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	2 000 ± 7 µg/mL	Barium, Ba	2 000 ± 9 µg/mL
Beryllium, Be	50.00 ± 0.26 µg/mL	Calcium, Ca	5 000 ± 22 µg/mL
Chromium, Cr	200.0 ± 1.0 µg/mL	Cobalt, Co	500.0 ± 2.4 µg/mL
Copper, Cu	250.0 ± 1.0 µg/mL	Iron, Fe	1 000 ± 4 µg/mL
Magnesium, Mg	5 000 ± 20 µg/mL	Manganese, Mn	500.0 ± 2.0 µg/mL
Nickel, Ni	500.0 ± 2.2 µg/mL	Potassium, K	5 000 ± 19 µg/mL
Silver, Ag	250.0 ± 1.1 µg/mL	Sodium, Na	5 000 ± 18 µg/mL
Vanadium, V	499.7 ± 2.2 µg/mL	Zinc, Zn	500.0 ± 2.2 µg/mL

Density: 1.118 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cr	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
V	IC Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

$CRM/RM\ Expanded\ Uncertainty\ (\pm) = U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

$CRM/RM\ Expanded\ Uncertainty\ (\pm) = U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Note: This solution contains Silver (Ag), please refer to our Sample Preparation Guide for more information.

https://www.inorganicventures.com/sample-preparation-guide/samples-containing-silver

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 27, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **January 27, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

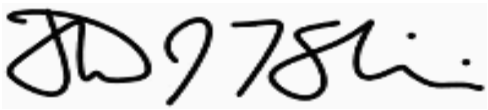
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R : 01/03/24. M5810, M5811

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

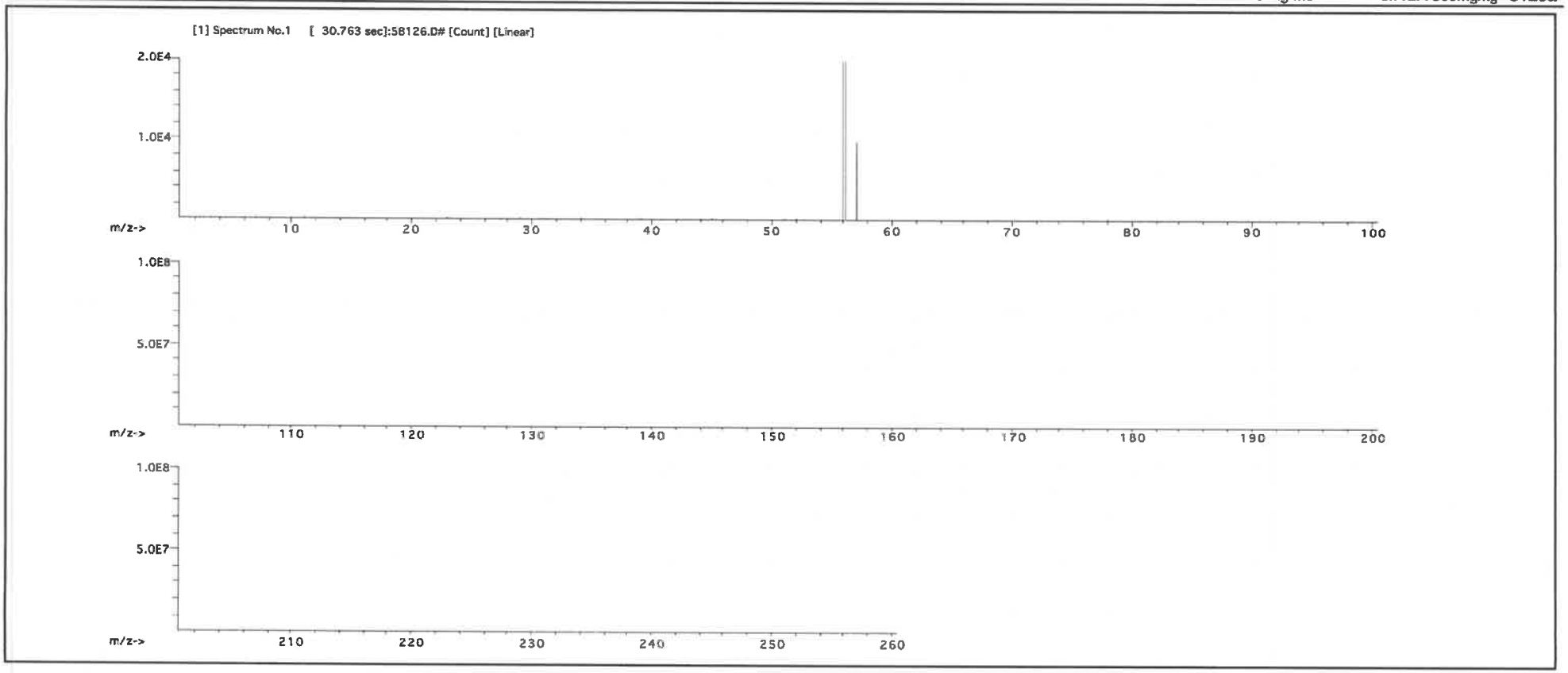
CERTIFIED WEIGHT REPORT:

		Lot #		
Part Number:	**58126**	**Solvent:**	21110221	Nitric Acid
Lot Number:	**051523**			
Description:	**Iron (Fe)**	5.0%	250.0 (mL)	Nitric Acid
Expiration Date:	051526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**10000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	5000.1	0.12	Flask Uncertainty	

Giovanni Esposito

Formulated By:	Giovanni Esposito	051523
Reviewed By:	Pedro L. Rentas	051523

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Iron (Fe)	IN346	2302010-500	10000	99.995	0.10	100.0	50.0034	50.0111	**10001.5**	**20.0**	7439-89-6	5 mg/m3	orl-rat 7500mg/kg	3126a



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.10	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.10	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.05	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.10	Ge	<0.10	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.10
B	<0.02	Cu	<0.10	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

INORGANIC VENTURES

Refine your results. Redefine your industry.

Certificate of Analysis

RD:05/14/2024

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01

ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	WW-LFS-1
Lot Number:	T2-MEB723367
Matrix:	5% (v/v) HNO3

Value / Analyte(s):	1 000 µg/mL ea: Potassium,	
	600 µg/mL ea: Phosphorus,	
	300 µg/mL ea: Sodium,	Iron,
	200 µg/mL ea: Magnesium, Cerium, Thallium,	Aluminum, Selenium,
	100 µg/mL ea: Lead,	Calcium,
	80 µg/mL ea: Arsenic,	
	70 µg/mL ea: Mercury,	
	50 µg/mL ea: Nickel,	
	40 µg/mL ea: Chromium,	
	30 µg/mL ea: Copper, Vanadium,	Boron,
	20 µg/mL ea: Zinc, Barium, Cadmium, Manganese,	Strontium, Beryllium, Cobalt, Lithium,
	7.5 µg/mL ea: Silver	

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	200.0 ± 0.7 µg/mL	Arsenic, As	80.0 ± 0.7 µg/mL
Barium, Ba	20.00 ± 0.09 µg/mL	Beryllium, Be	20.00 ± 0.13 µg/mL
Boron, B	30.00 ± 0.18 µg/mL	Cadmium, Cd	20.00 ± 0.09 µg/mL
Calcium, Ca	100.0 ± 0.4 µg/mL	Cerium, Ce	200.0 ± 0.8 µg/mL
Chromium, Cr	40.00 ± 0.30 µg/mL	Cobalt, Co	20.00 ± 0.10 µg/mL
Copper, Cu	30.00 ± 0.13 µg/mL	Iron, Fe	300.0 ± 1.3 µg/mL
Lead, Pb	100.0 ± 0.4 µg/mL	Lithium, Li	20.00 ± 0.08 µg/mL
Magnesium, Mg	200.0 ± 0.8 µg/mL	Manganese, Mn	20.00 ± 0.08 µg/mL
Mercury, Hg	70.0 ± 0.3 µg/mL	Nickel, Ni	50.00 ± 0.22 µg/mL
Phosphorus, P	600.0 ± 2.7 µg/mL	Potassium, K	1 000 ± 4 µg/mL
Selenium, Se	200.0 ± 1.3 µg/mL	Silver, Ag	7.50 ± 0.03 µg/mL
Sodium, Na	300.0 ± 1.4 µg/mL	Strontium, Sr	20.01 ± 0.08 µg/mL
Thallium, Tl	200.0 ± 1.4 µg/mL	Vanadium, V	30.00 ± 0.13 µg/mL
Zinc, Zn	20.00 ± 0.09 µg/mL		

Density: 1.034 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Ag	Calculated		See Sec. 4.2
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
B	ICP Assay	3107	190605
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Ce	ICP Assay	3110	090504
Ce	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
Hg	ICP Assay	3133	160921
Hg	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	Traceable to 3152A	S2-NA700842
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Sr	EDTA	928	928
Sr	ICP Assay	Traceable to 3153a	K2-SR650985
Tl	ICP Assay	3158	151215
V	IC Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 30, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **August 30, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



INORGANIC VENTURES

Refine your results. Redefine your industry.

Certificate of Analysis

RD:05/14/2024

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 863.01 ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	WW-LFS-2
Lot Number:	U2-MEB731108
Matrix:	5% (v/v) HNO3 tr. HF
Value / Analyte(s):	200 µg/mL ea: Silica, 80 µg/mL ea: Antimony, 70 µg/mL ea: Tin, 40 µg/mL ea: Molybdenum, 20 µg/mL ea: Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	80.1 ± 0.6 µg/mL	Molybdenum, Mo	40.03 ± 0.18 µg/mL
Silica, SiO2	200.2 ± 1.3 µg/mL	Tin, Sn	70.0 ± 0.4 µg/mL
Titanium, Ti	20.01 ± 0.13 µg/mL		

Density: 1.025 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	130418
Mo	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	140911
SiO2	ICP Assay	3150	130912
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	3162a	130925
Ti	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 17, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- March 17, 2028

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



INORGANIC VENTURES
Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

M5062
M5063
M3

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Mass Spec Solution
Catalog Number:	MSHG-10PPM
Lot Number:	S2-HG709270
Matrix:	10% (v/v) HCl
Value / Analyte(s):	10 µg/mL ea: Mercury
Starting Material:	Hg metal
Starting Material Lot#:	1959
Starting Material Purity:	99.9994%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10.001 ± 0.053 µg/mL

Density: 1.020 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Hg	ICP Assay	3133	160921
Hg	EDTA	928	928
Hg	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \Sigma(w_i)(X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance.

$$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$$

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2 (u_{char\ i})^2)]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$$X_{CRM/RM} = (X_a)(u_{char\ a})$$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/4}$$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Ag		0.000011	M	Eu	<	0.000201	O	Na		0.000004	M	Se	<	0.015915	O	Zn	<	0.001510
O	Al		0.000001	O	Fe		0.000001	M	Nb	<	0.000201	O	Si		0.000005	M	Zr	<	0.000201
M	As	<	0.000402	M	Ga	<	0.000201	M	Nd	<	0.000201	M	Sm	<	0.000201				
M	Au	<	0.003631	M	Gd	<	0.000201	M	Ni	<	0.000402	M	Sn	<	0.001007				
M	B	<	0.001208	M	Ge	<	0.000201	M	Os	<	0.000605	M	Sr	<	0.000201				
M	Ba	<	0.000201	M	Hf	<	0.000201	O	P	<	0.032370	M	Ta	<	0.000201				
M	Be	<	0.000201	s	Hg	<		M	Pb	<	0.000201	M	Tb	<	0.000201				
M	Bi	<	0.000201	M	Ho	<	0.000201	M	Pd	<	0.000403	M	Te	<	0.002216				
O	Ca		0.000007	M	In	<	0.000201	M	Pr	<	0.000201	M	Th	<	0.000201				
M	Cd	<	0.000201	M	Ir	<	0.000201	M	Pt	<	0.000402	M	Ti	<	0.000402				
M	Ce	<	0.000201	O	K		0.000020	M	Rb	<	0.000201	O	Tl	<	0.016508				
M	Co	<	0.000201	M	La	<	0.000201	M	Re	<	0.000201	M	Tm	<	0.000201				
O	Cr	<	0.003021	O	Li	<	0.000107	M	Rh	<	0.000201	M	U	<	0.008058				
M	Cs	<	0.001208	M	Lu	<	0.000201	M	Ru	<	0.000201	M	V	<	0.000201				
M	Cu	<	0.000402	O	Mg		0.000001	O	S	<	0.053950	M	W	<	0.000604				
M	Dy	<	0.000201	M	Mn	<	0.000604	M	Sb	<	0.001208	M	Y	<	0.000201				
M	Er	<	0.000201	M	Mo		0.000009	M	Sc	<	0.000201	M	Yb	<	0.000201				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 200.59 +2 4 Hg(OH)(aq) 1+

Chemical Compatibility - Stable in HNO_3. Avoid basic media forming insoluble carbonate. The sulfide, basic carbonate, oxalate, phosphate, arsenite, arsenate and iodide are insoluble in water.

Stability - 2-100 ppb levels not stable in 1% HNO_3 / LDPE container, stable in 10% HNO_3 packaged in borosilicate glass. 1-100 ppm levels stable in 7% HNO_3 packaged in borosilicate glass. 1000-10,000 ppm solutions are chemically stable for years in 5-10% HNO_3 / LDPE container.

Hg Containing Samples (Preparation and Solution) - Metal (soluble in HNO_3); Oxide (Soluble in HNO_3); Ores and Organic based (The literature has more references to the preparation of Hg containing samples than any other element. Please consult the literature for your specific sample type, since such preparations are prone to error. Or e-mail our technical staff and we will contact you to discuss your particular sample preparation questions in further detail.).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 202 amu	9 ppt	n/a	186W16O
ICP-OES 184.950 nm	0.03 / 0.005 µg/mL	1	
ICP-OES 194.227 nm	0.03 / 0.005 µg/mL	1	V
ICP-OES 253.652 nm	0.1 / 0.03 µg/mL	1	Ta, Co, Th ,Rh , Fe, U

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 22, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- September 22, 2026

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Supervisor, Product Documentation



Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M5429 R1 01/26/23 BH

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 57103
Lot Number: 070622
Description: Lithium (Li)

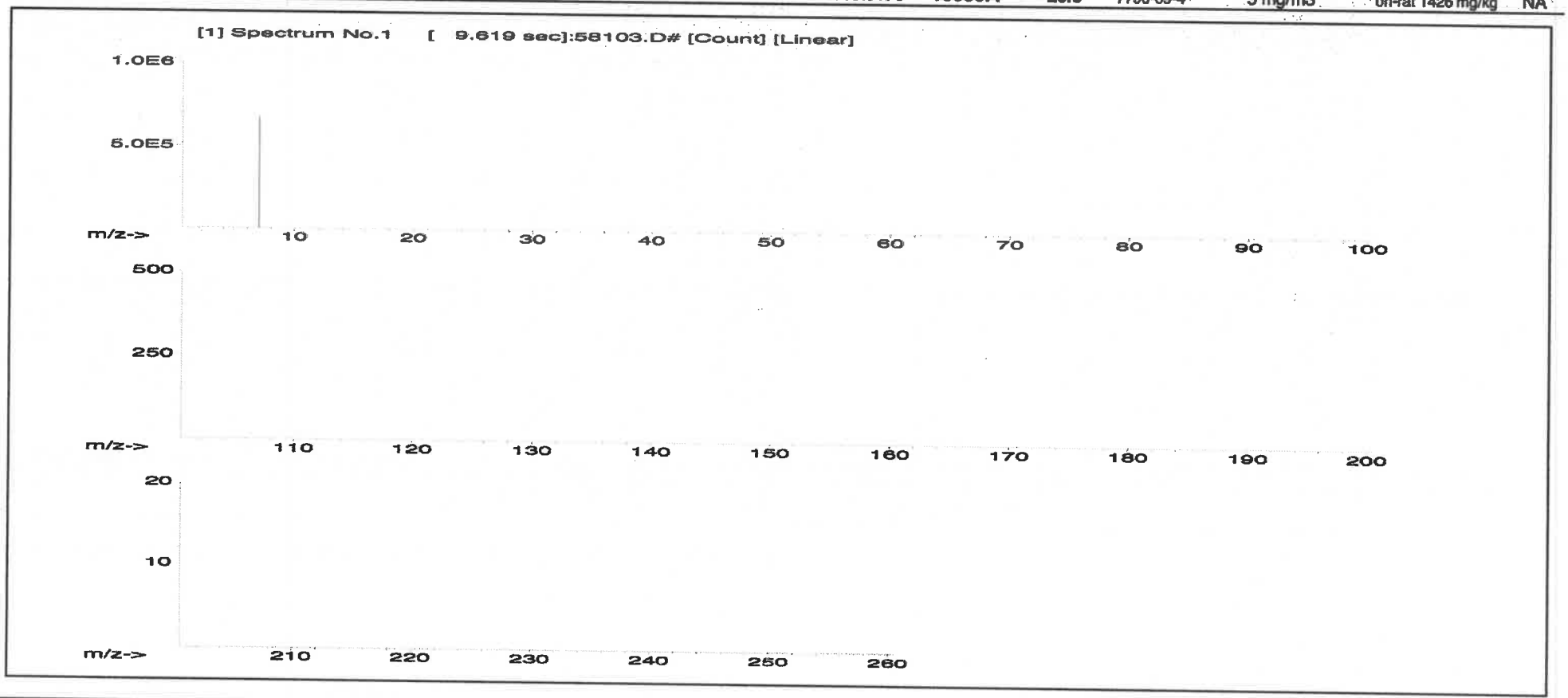
Expiration Date: 070625
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 1000.12

	Lot #			
Solvent:	20510011	Nitric Acid		
2%	20.0 (mL)	Nitric Acid		

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By:	Lawrence Barry	070622
Reviewed By:	Pedro L. Rentas	070622

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lithium nitrate (Li)	IN019	LIZ042018A1	10000	99.999	0.10	10.0	100.0134	100.0173	**10000.4**	**20.0**	7790-69-4	5 mg/m3	orl-rat 1426 mg/kg	NA



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com



Certified Reference Material CRM



ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	T	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

M 5466

Certified Reference Material CRM

R: 03/01/23 BH

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

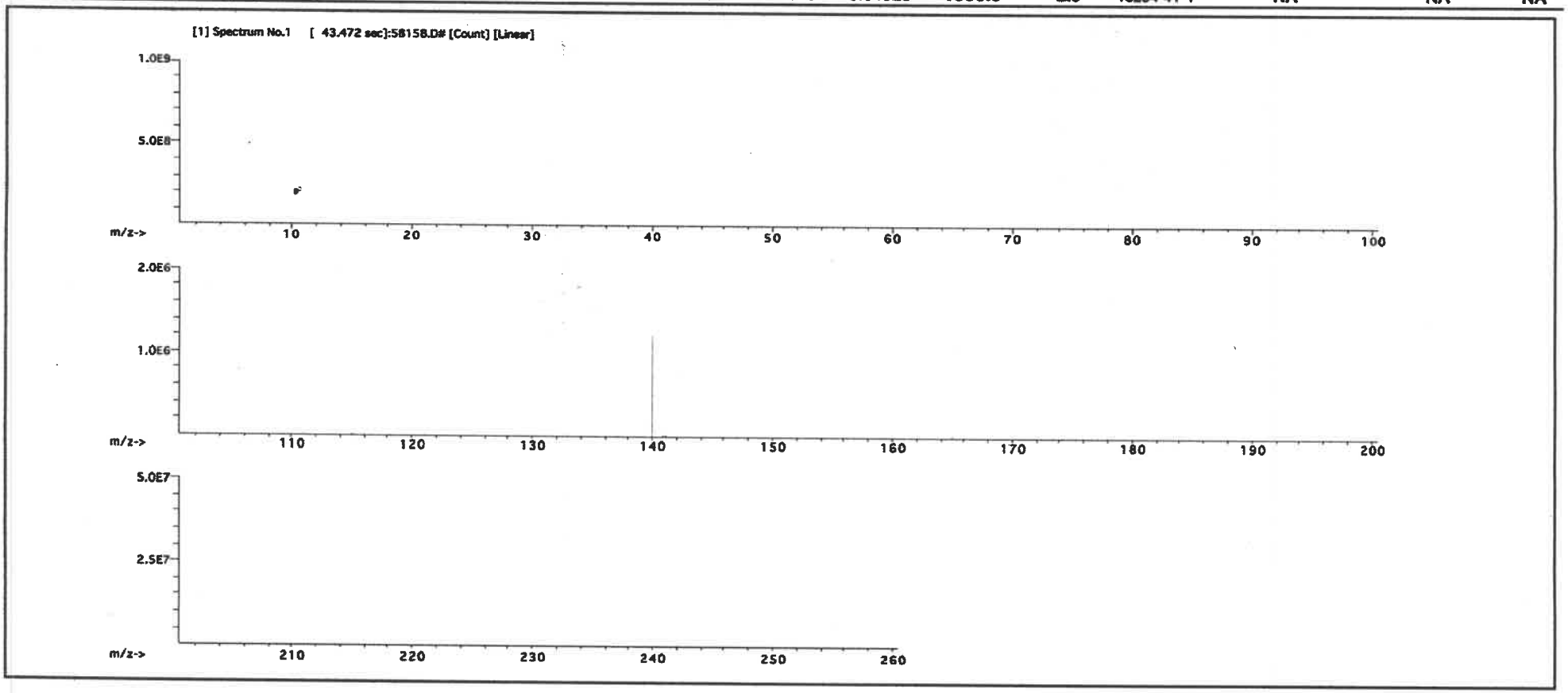
Part Number: 57058
Lot Number: 061322
Description: Cerium (Ce)

Expiration Date: 061325
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 1000.12

	Lot #			
Solvent:	20510011	Nitric Acid		
2%	20.0 (mL)	Nitric Acid		
	5E-05	Balance Uncertainty		
	0.058	Flask Uncertainty		

Formulated By:	Lawrence Barry	061322
Reviewed By:	Pedro L. Rentas	061322

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cerium nitrate hexahydrate (Ce)	IN146	Z512CEB1	1000	99.999	0.10	32.8	3.04919	3.04923	1000.0	2.0	10294-41-4	NA	NA	NA



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	T	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M5467 R: 03/01/23 (LA)

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 57058
Lot Number: 020623
Description: Cerium (Ce)

Expiration Date: 020626
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

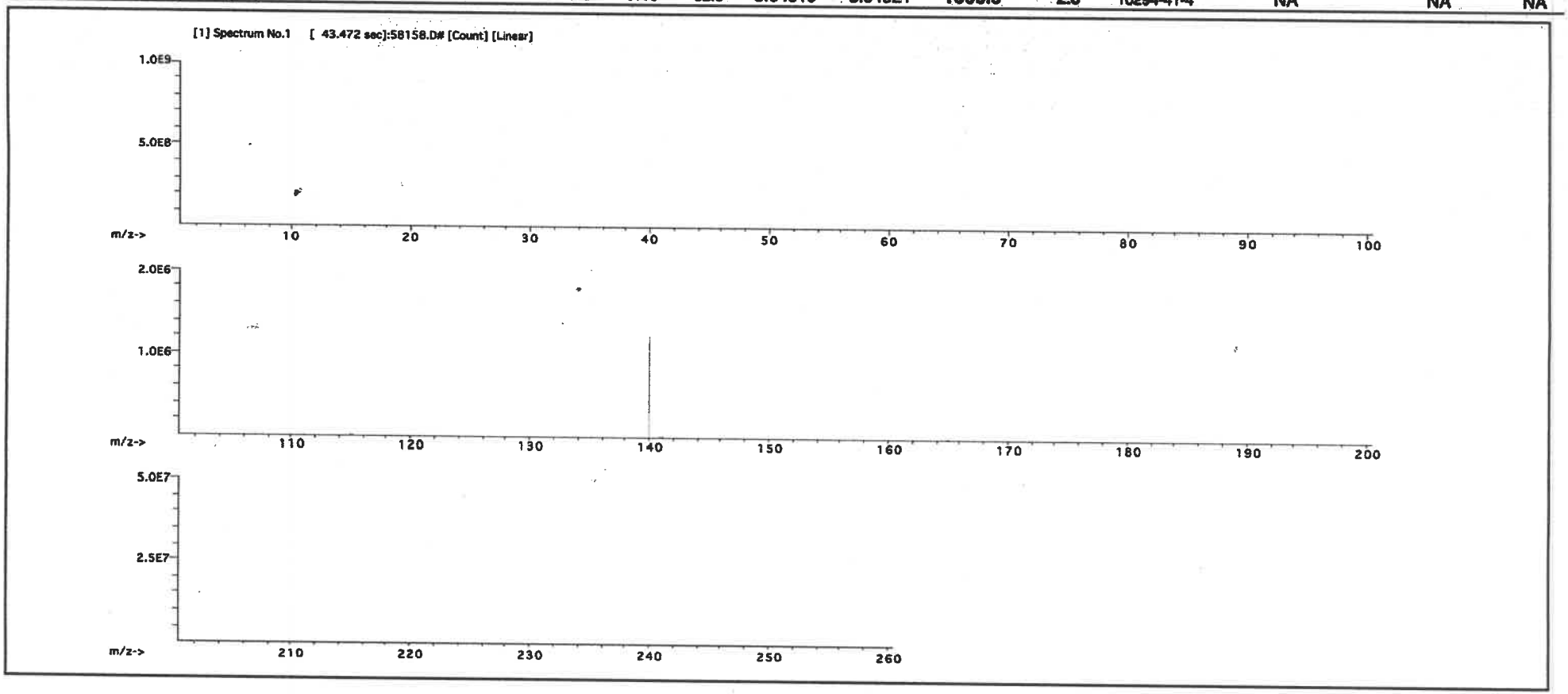
Weight shown below was diluted to (mL): 1000.12 0.058 Flask Uncertainty

		Lot #	
Solvent:	21110221	Nitric Acid	
2%	20.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Formulated By:	Lawrence Barry	020623
Reviewed By:	Pedro L. Rentas	020623

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cerium nitrate hexahydrate (Ce)	IN146	Z512CEB1	1000	99.999	0.10	32.8	3.04919	3.04921	**1000.0**	**2.0**	10294-41-4	NA	NA	NA



ICP-METALS

Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	T	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M5658 R ! 8/25/23

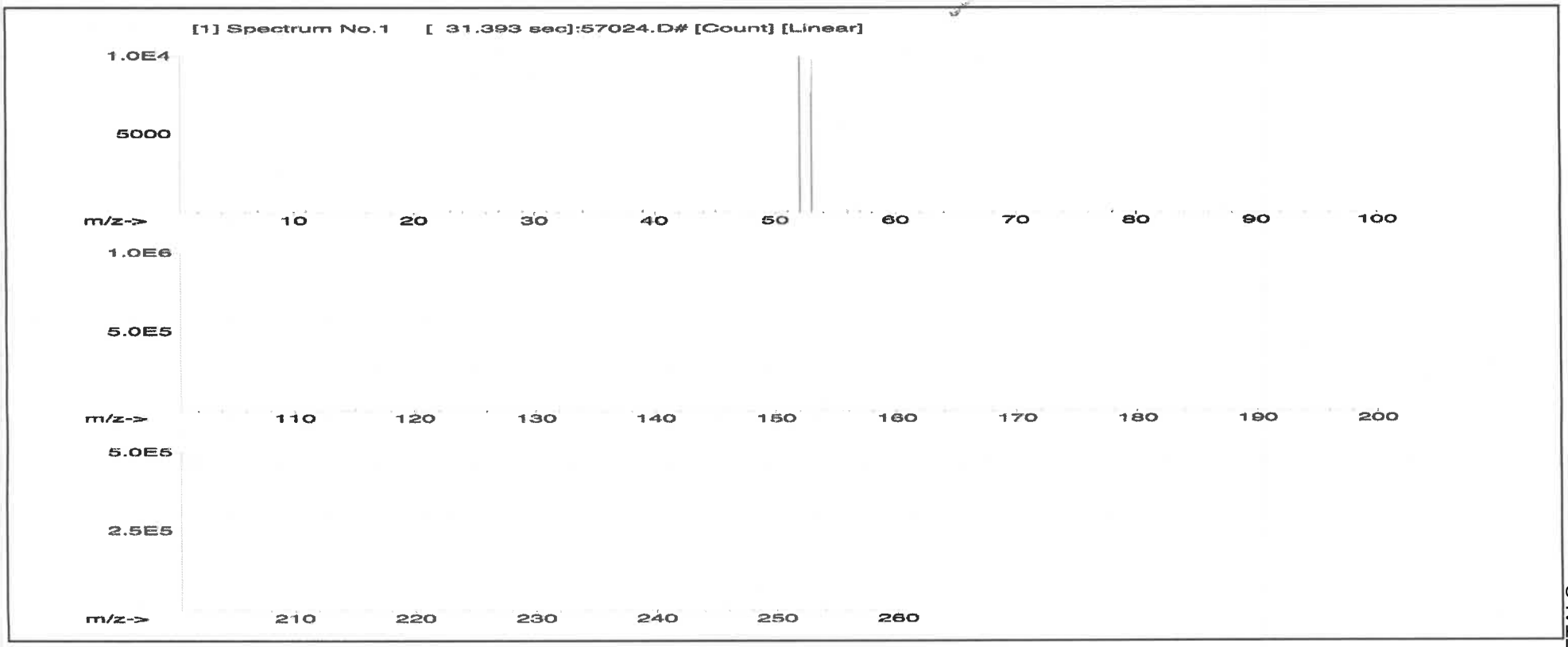
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**58024**	21110221	Nitric Acid	
Lot Number:	**060523**			
Description:	**Chromium (Cr)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	060526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	060523
Reviewed By:	Pedro L. Rentas	060523

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Chromium(III) nitrate nonahydrate (Cr)	58124	071122	0.1000	200.0	0.084	1000	10000.1	**1000.0**	**2.2**	7789-02-8	0.5 mg(Cr)/m3	orl-rat 3250 mg/kg	3112a



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	T	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R: 12/20/23 M5747

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 57082
Lot Number: 100923
Description: Lead (Pb)

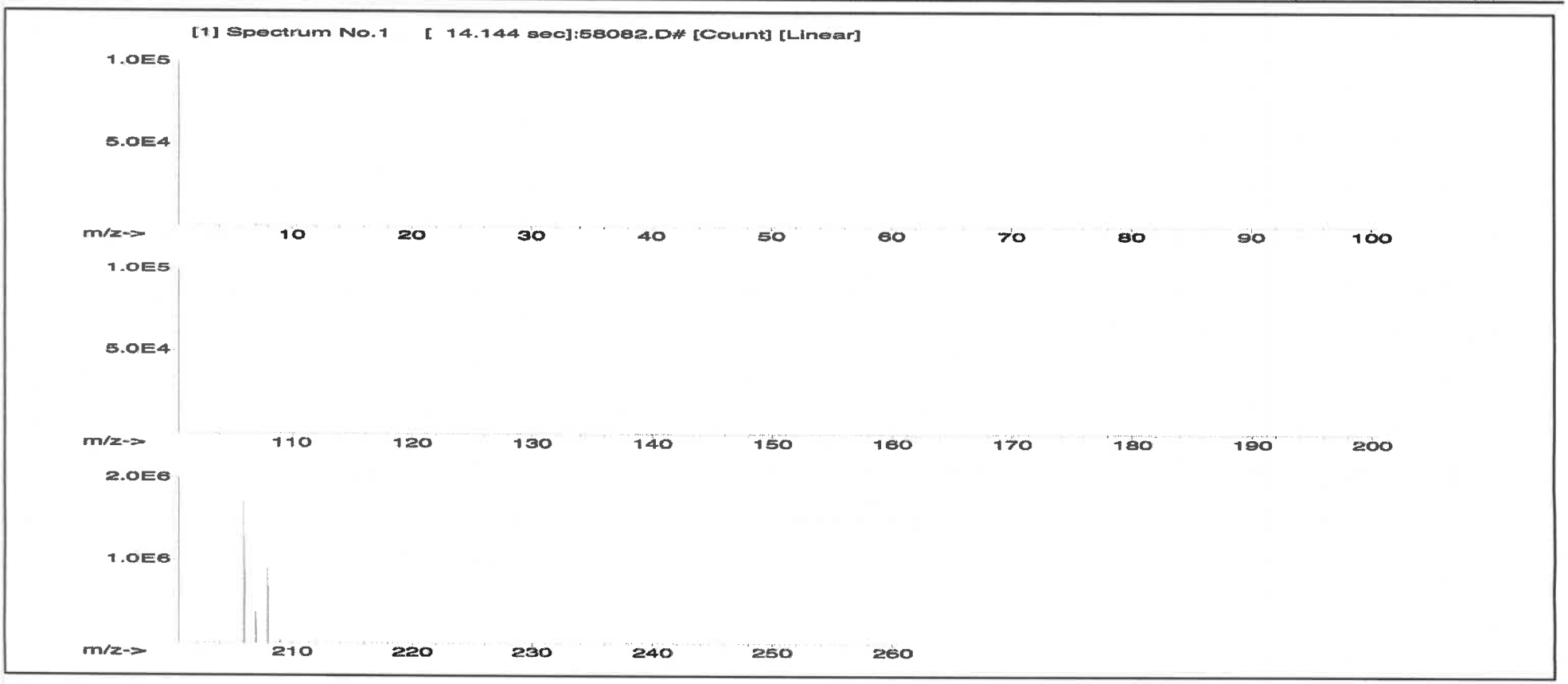
Expiration Date: 100926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.41 0.06 Flask Uncertainty

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Formulated By:	Lawrence Barry	100923
Reviewed By:	Pedro L. Rentas	100923

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lead(II) nitrate (Pb)	IN029	PBD122016A1	1000	99.999	0.10	62.5	4.80071	4.80077	**1000.0**	**2.0**	10099-74-8	0.05 mg/m3	intrvns-rat 93 mg/kg	3128



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	T	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R: 12/20/23 M5748

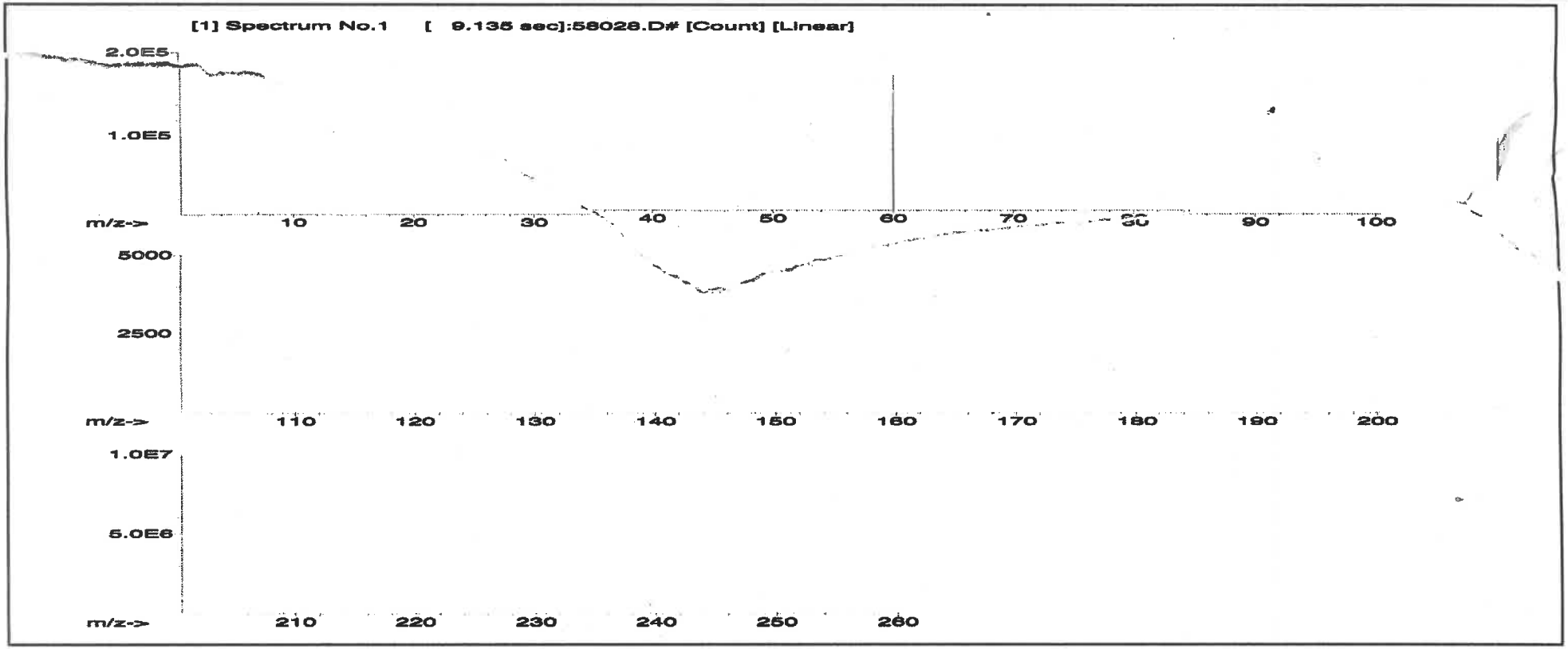
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57028**	24002546	Nitric Acid	
Lot Number:	**091223**			
Description:	**Nickel (Ni)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	091226			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	091223
Reviewed By:	Pedro L. Rentas	091223

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Nickel(II) nitrate hexahydrate (Ni)	58128	062023	0.1000	200.0	0.084	1000	10000.4	**1000.0**	2.2	13478-00-7	1 mg/m3	orl-rat 1620 mg/kg	3136



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	T	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R: 8/25/23 M5751

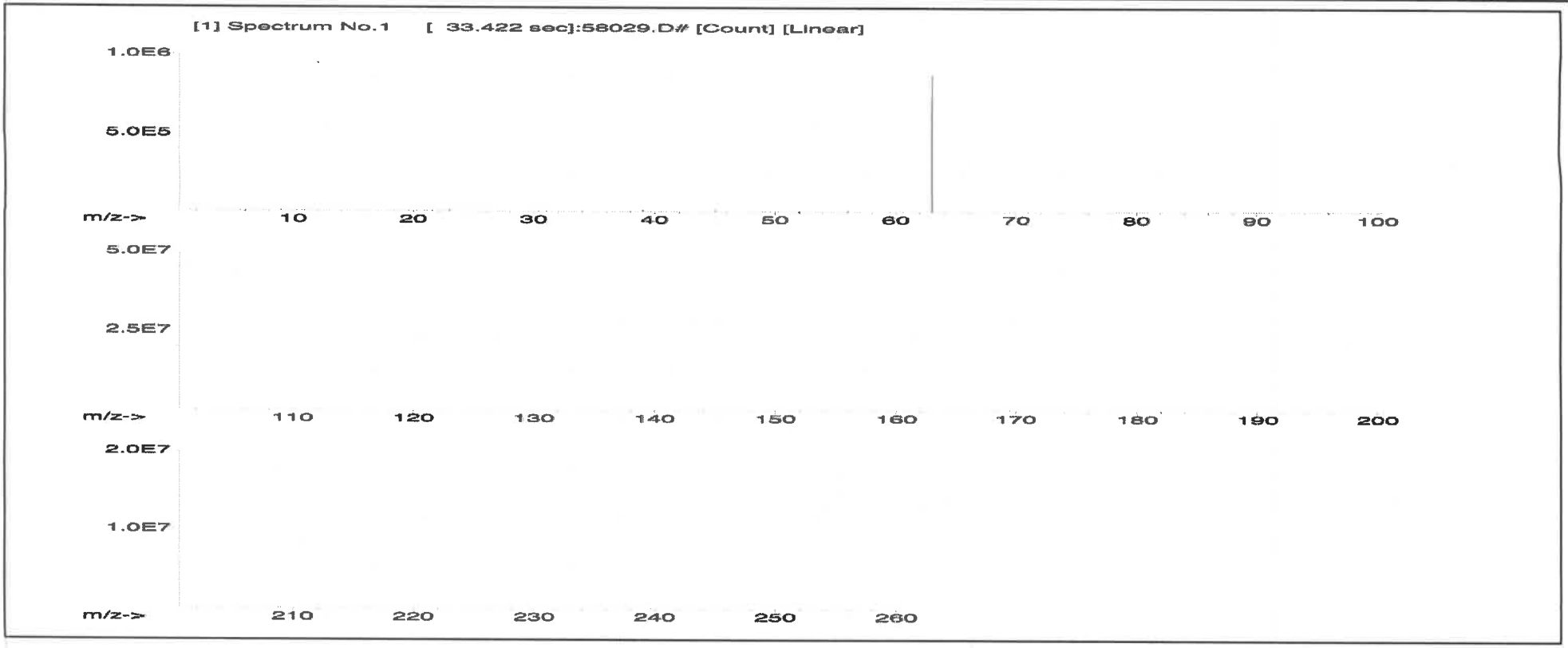
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**58029**	21110221	Nitric Acid	
Lot Number:	**071723**			
Description:	**Copper (Cu)**	2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	071726			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Benson Chan	071723
Reviewed By:	Pedro L. Rentas	071723

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Copper(II) nitrate trihydrate (Cu)	58129	022723	0.1000	200.0	0.084	1000	10000.5	**1000.0**	**2.2**	10031-43-3	1 mg/m3	orl-rat 794 mg/kg	3114



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	T	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R: 02/09/24 M5798

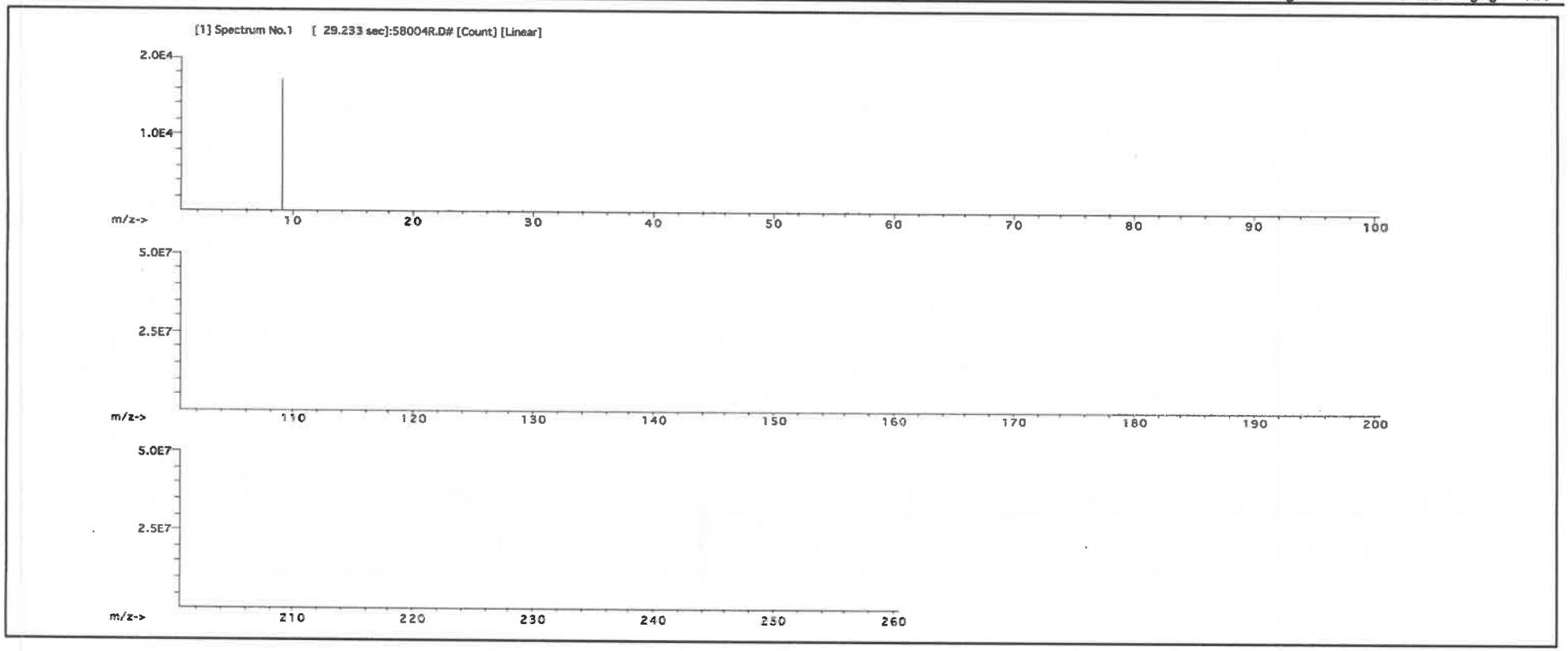
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57004**	24002546	Nitric Acid	
Lot Number:	**102523**			
Description:	**Beryllium (Be)**	2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	102526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Benson Chan	102523
Reviewed By:	Pedro L. Rentas	102523

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Beryllium nitrate (Be)	58104	091423	0.1000	200.0	0.084	1000	10001.5	**1000.0**	**2.2**	13597-99-4	0.2ug/m3	intrvns-rat 3.16mg/kg	NA



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																		
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	T	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R? 02/09/24 IV15799

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 57050
Lot Number: 071123
Description: Tin (Sn)

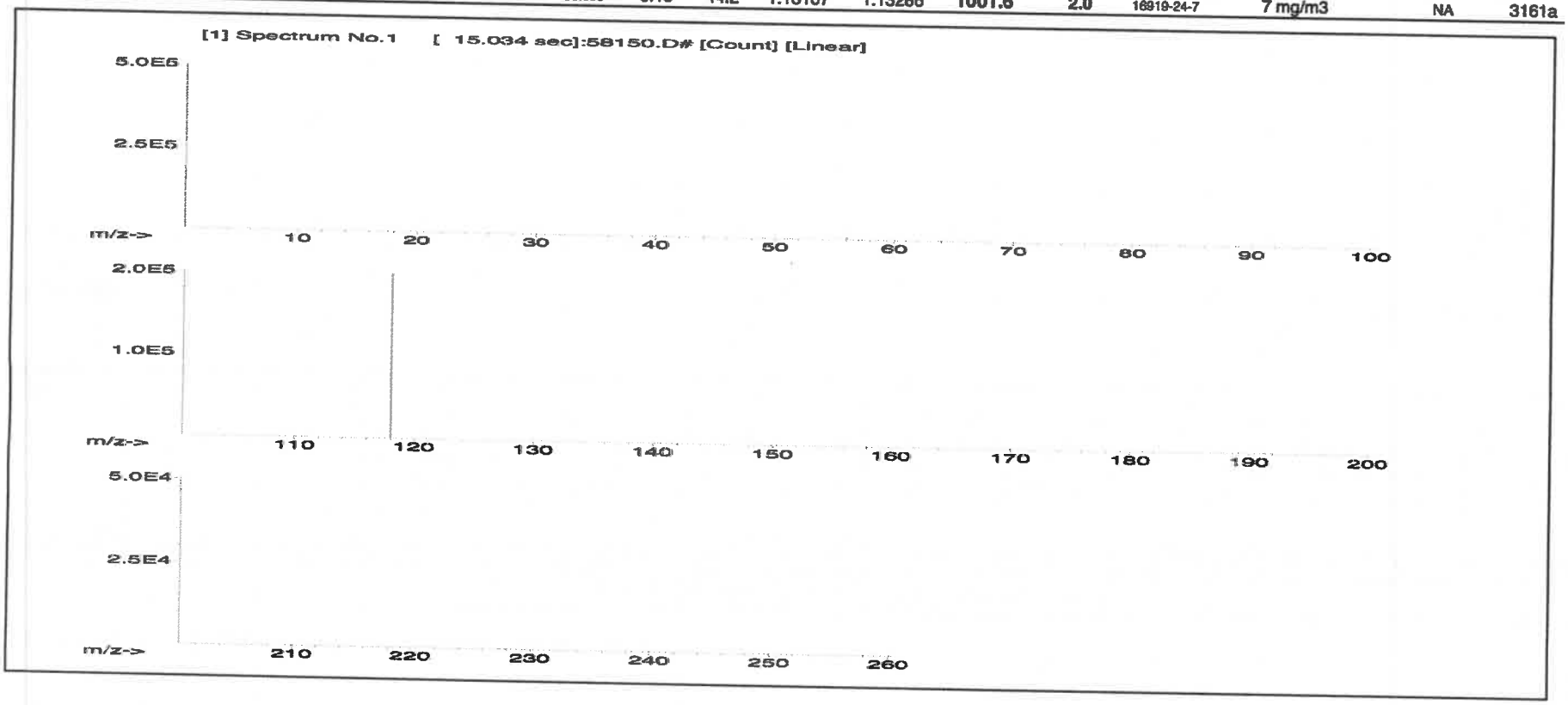
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 499.93

	Lot #	
Solvents:	21110221	Nitric Acid
	22D0562008	Hydrochloric acid
2%	10.0	Nitric Acid
6%	30.0	Hydrochloric acid
	(mL)	

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By:	Benson Chan	071123
Reviewed By:	Pedro L. Rentas	071123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium hexafluorostannate(IV) (Sn)	IN010	SND042023A1	1000	99.999	0.10	44.2	1.13107	1.13286	**1001.6**	**2.0**	16919-24-7	7 mg/m3	NA	3161a



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<500	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	T	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R: 02/09/24 IM5800 BH

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

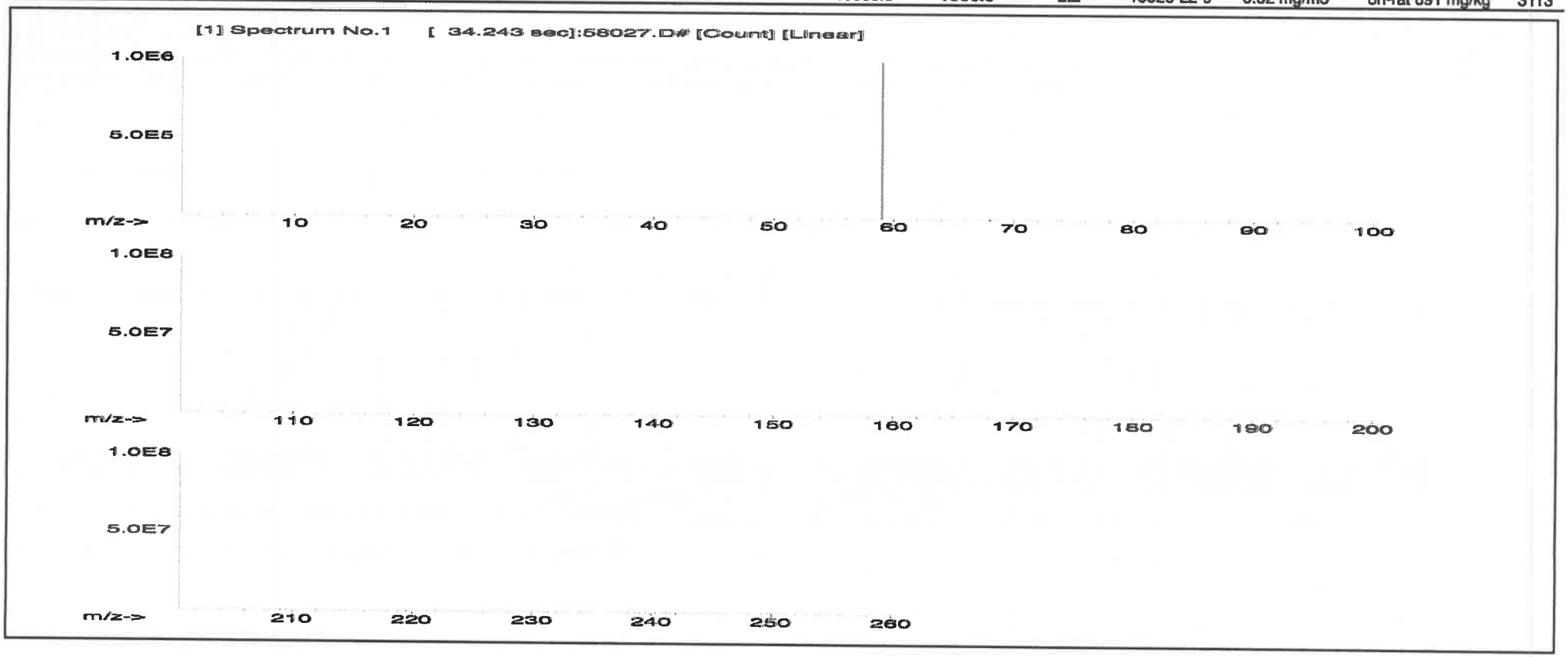
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:		
Part Number:	**57027**	24002546	Nitric Acid		
Lot Number:	**091923**				
Description:	**Cobalt (Co)**	2.0%	40.0 (mL)	Nitric Acid	
Expiration Date:	091926				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

Formulated By: Lawrence Barry 091923

Reviewed By: Pedro L. Rentas 091923

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cobalt(II) nitrate hexahydrate (Co)	58127	050923	0.1000	200.0	0.084	1000	10000.0	**1000.0**	2.2	10026-22-9	0.02 mg/m3	orl-rat 691 mg/kg	3113



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	T	Gé	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R: 02/09/24 M5801 BH

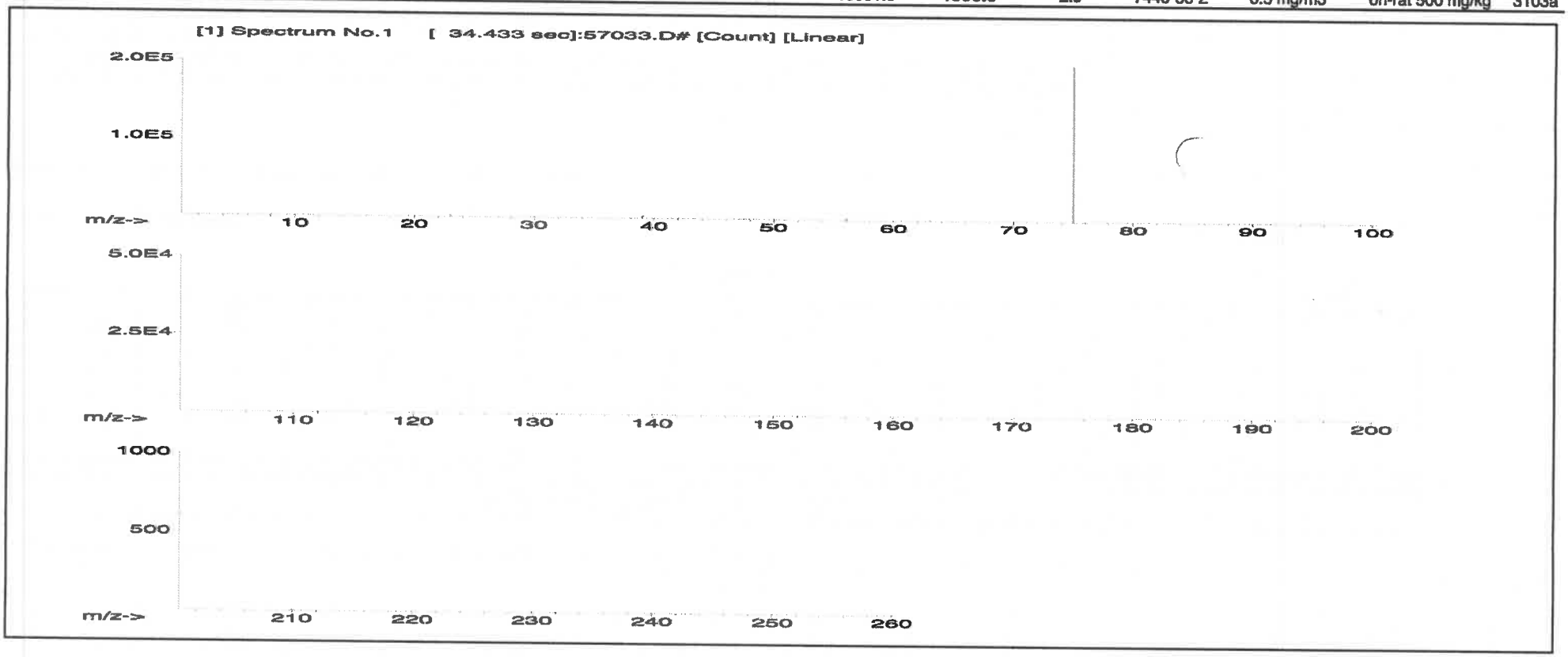
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED **WEIGHT** REPORT:

		Lot #	Solvent:		
Part Number:	**57033**				
Lot Number:	**111323**	24002546	Nitric Acid		
Description:	**Arsenic (As)**				
		2.0%	80.0 (mL)	Nitric Acid	
Expiration Date:	111326				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Volume shown below was diluted to (mL):	4000.0	0.06	Flask Uncertainty		

Formulated By:	Lawrence Barry	111323
Reviewed By:	Pedro L. Rentas	111323

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Arsenic (As)	58133	020522	0.1000	400.0	0.084	1000	10001.0	**1000.0**	**2.0**	7440-38-2	0.5 mg/m3	orl-rat 500 mg/kg	3103a



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	T	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge*	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

A: 02/09/24 M.5814

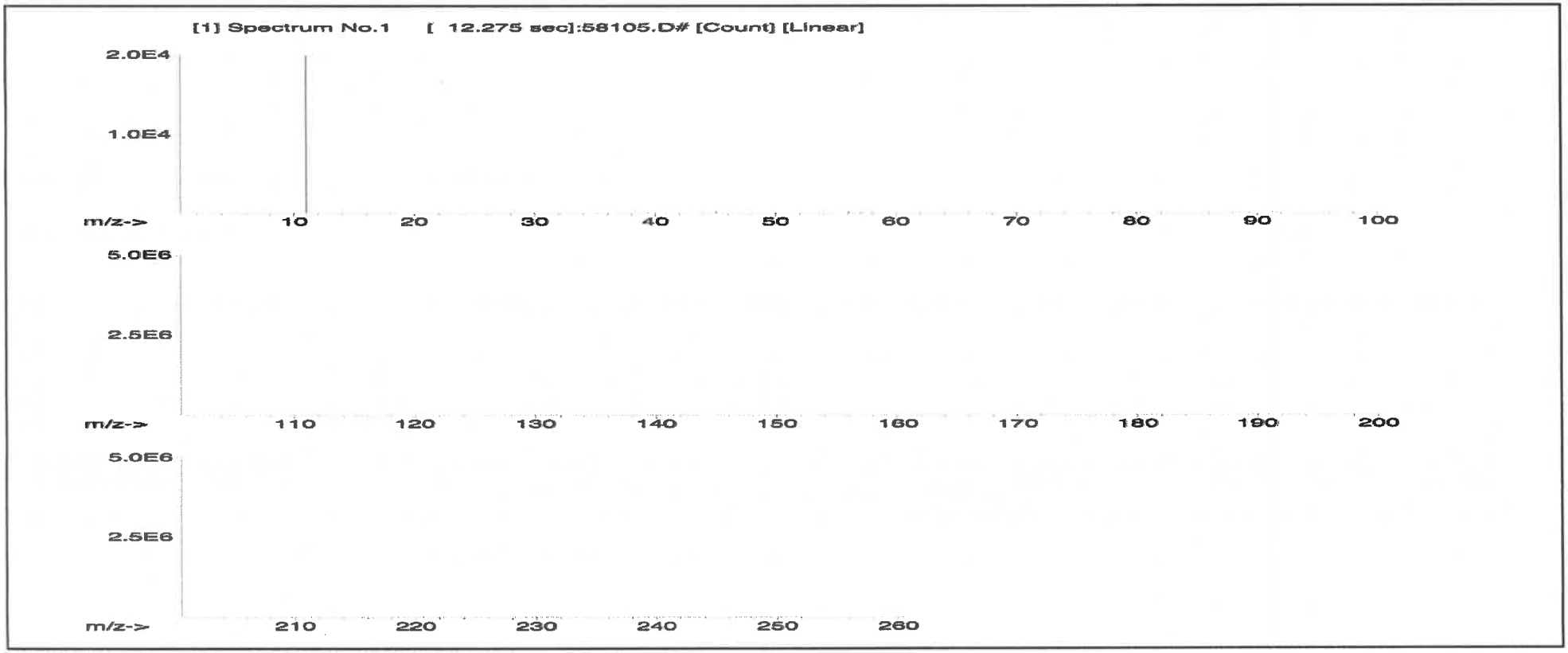
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number:	**57005**		**Lot #**		
Lot Number:	**071123**	**Solvent:**	MKBQ8597V	Ammonium hydroxide	
Description:	**Boron (B)**	2.0%	40.0 (mL)	Ammonium hydroxide	
Expiration Date:	071126				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	1999.48	0.058	Flask Uncertainty		

Formulated By:	Benson Chan	071123
Reviewed By:	Pedro L. Rentas	071123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Boric acid (B)	IN018	BV092016A1	1000	99.9999	0.10	17.3	11.55772	11.56201	**1000.4**	**2.0**	10043-35-3	2 mg/m3	orl-rat 2660 mg/kg	3107



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	T	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R1 02/09/24. M58165

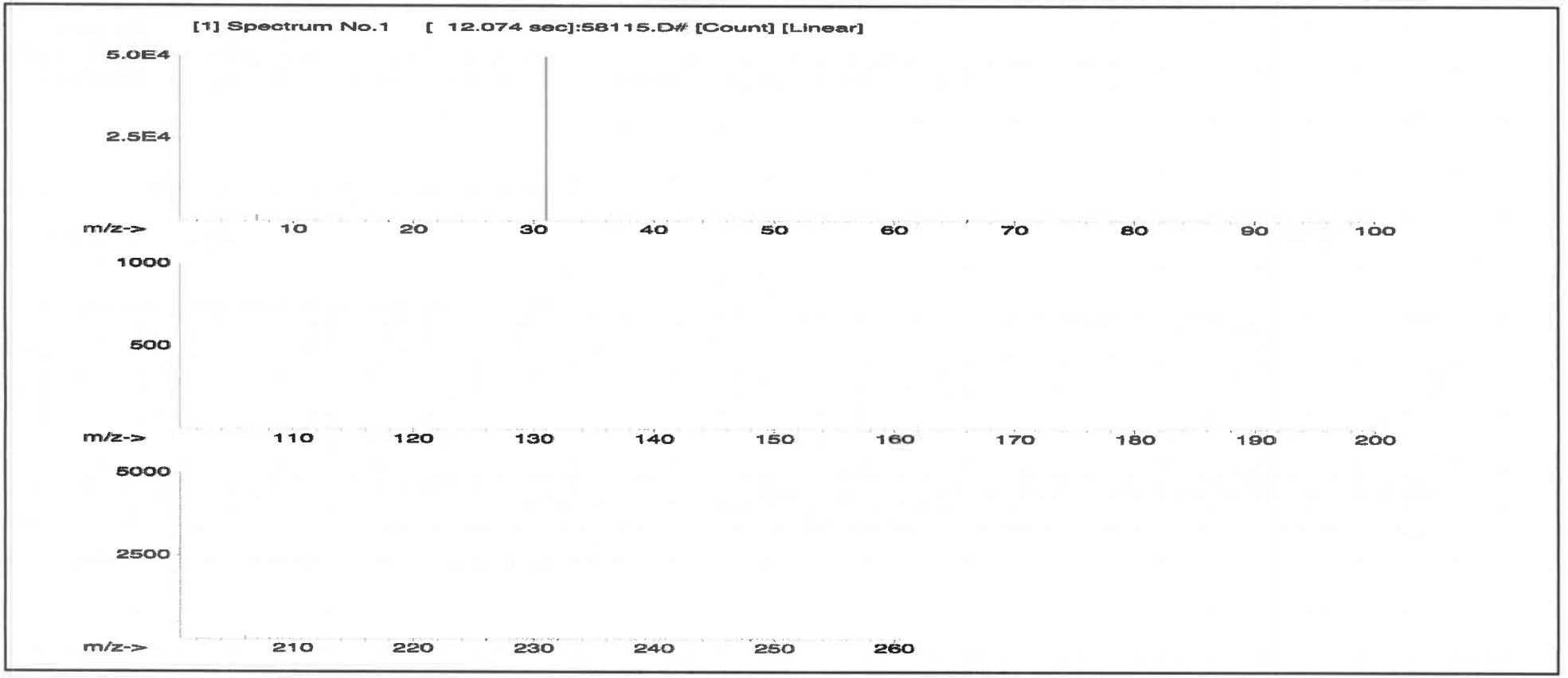
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

			Lot #	
Part Number:	**57115**	**Solvent:**	21110221	Nitric Acid
Lot Number:	**041723**			
Description:	**Phosphorous (P)**	2%	40.0 (mL)	Nitric Acid
Expiration Date:	041726			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**10000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	041723
Reviewed By:	Pedro L. Rentas	041723

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium dihydrogen phosphate (P)	IN008	PV082019A1	10000	99.999	0.10	27.5	72.7287	72.7289	**10000.0**	**20.0**	7722-76-1	5 mg/m3	orl-rat >2000mg/kg	3186



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	T	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R: 02/09/24 M5816

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 57016
Lot Number: 122923
Description: Sulfur (S)

Expiration Date: 122926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

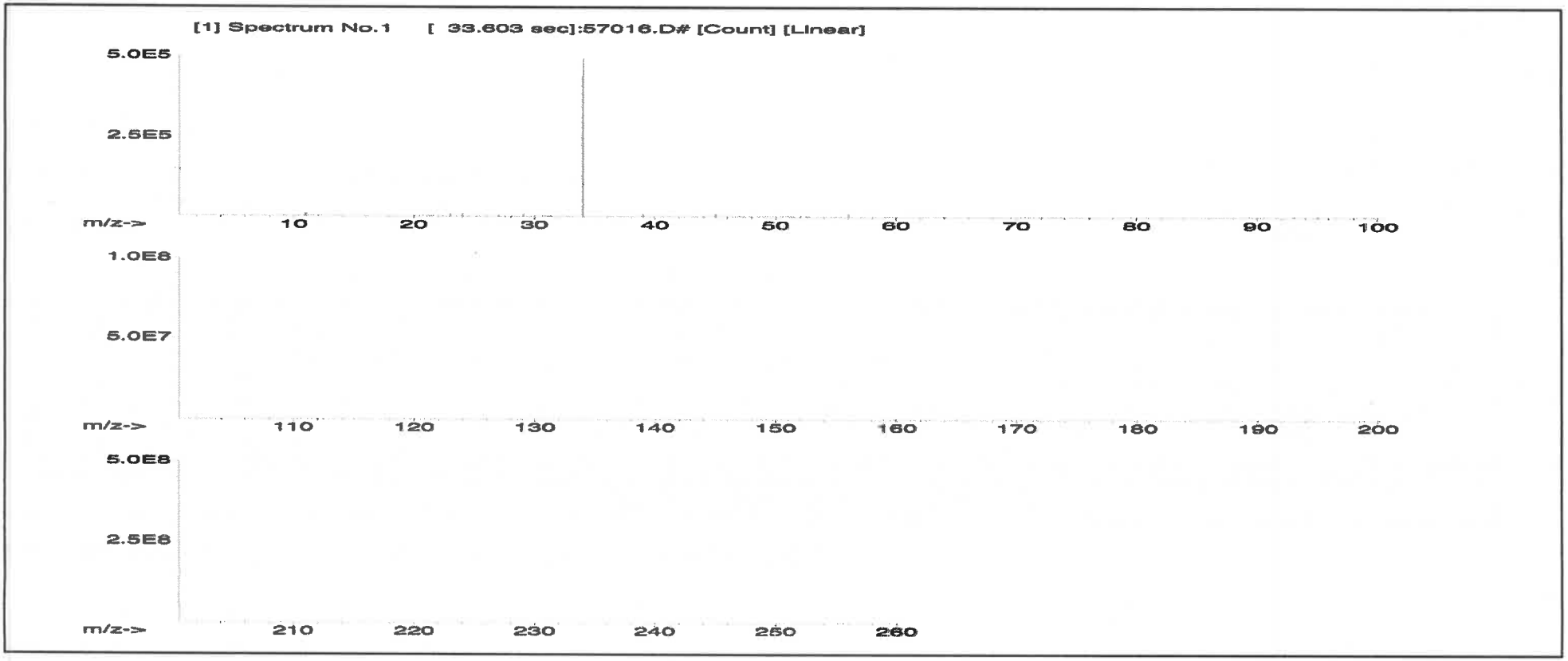
Weight shown below was diluted to (mL): 4000.0 ± 0.06 Flask Uncertainty

	Lot #	
Solvent:	122923	ASTM Type 1 Water

5E-05 Balance Uncertainty

Formulated By:	Benson Chan	122923
Reviewed By:	Pedro L. Rentas	122923

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium sulfate (S)	IN117	SLBR7225V	1000	99.9	0.10	24.3	16.4979	16.4980	**1000.0**	**2.0**	7783-20-2	NA	orl-rat 4250mg/kg	3181



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	T	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R: 02/09/24 M5817

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

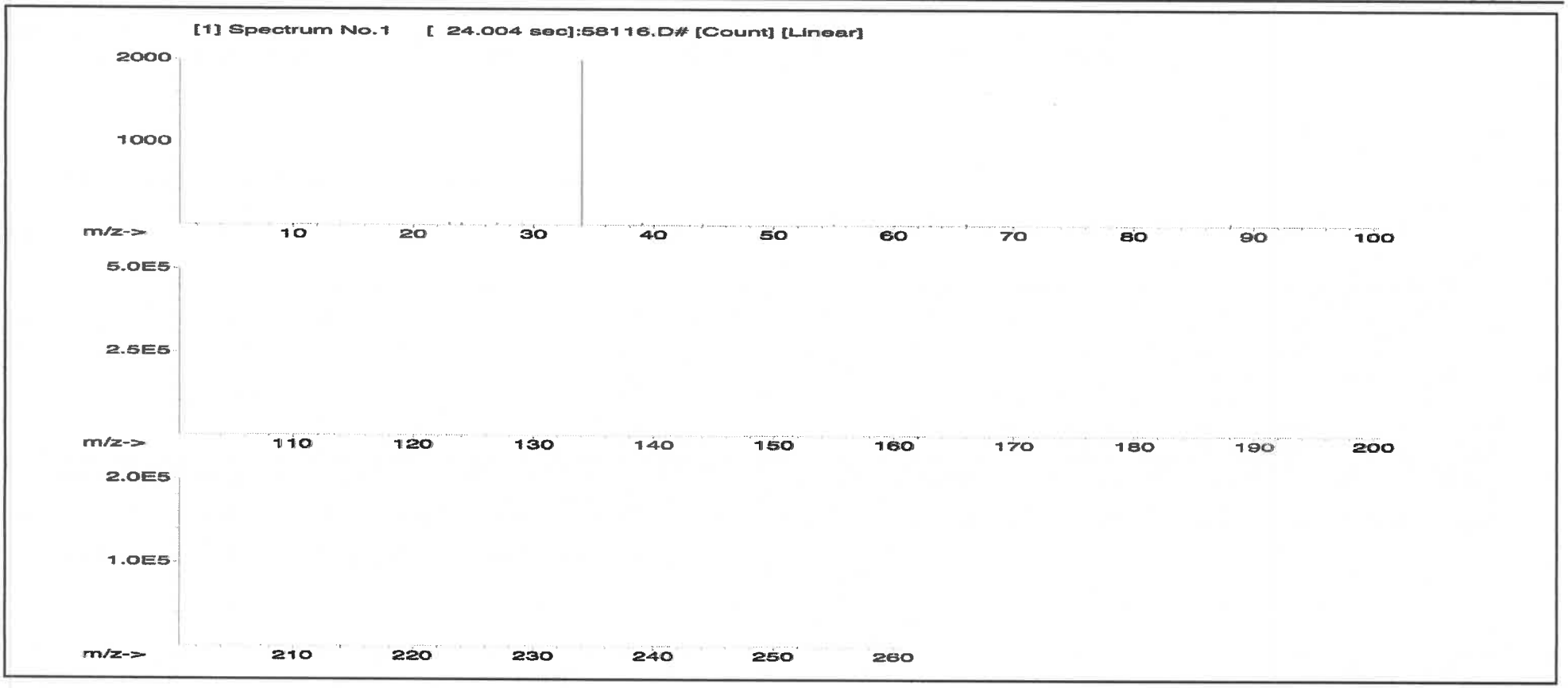
Part Number: 57116
Lot Number: 071123
Description: Sulfur (S)

Lot #
Solvent: 071123 ASTM Type 1 Water

Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB 5E-05 Balance Uncertainty
Weight shown below was diluted to (mL): 1999.48 0.058 Flask Uncertainty

Formulated By:	Lawrence Barry	071123
Reviewed By:	Pedro L. Rentas	071123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium sulfate (S)	IN117	SLBR7225V	10000	99.9	0.10	24.3	82.4675	82.4682	**10000.1**	**20.0**	7783-20-2	NA	ori-rat 4250mg/kg	3181



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	T	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R: 02/09/24 M5820

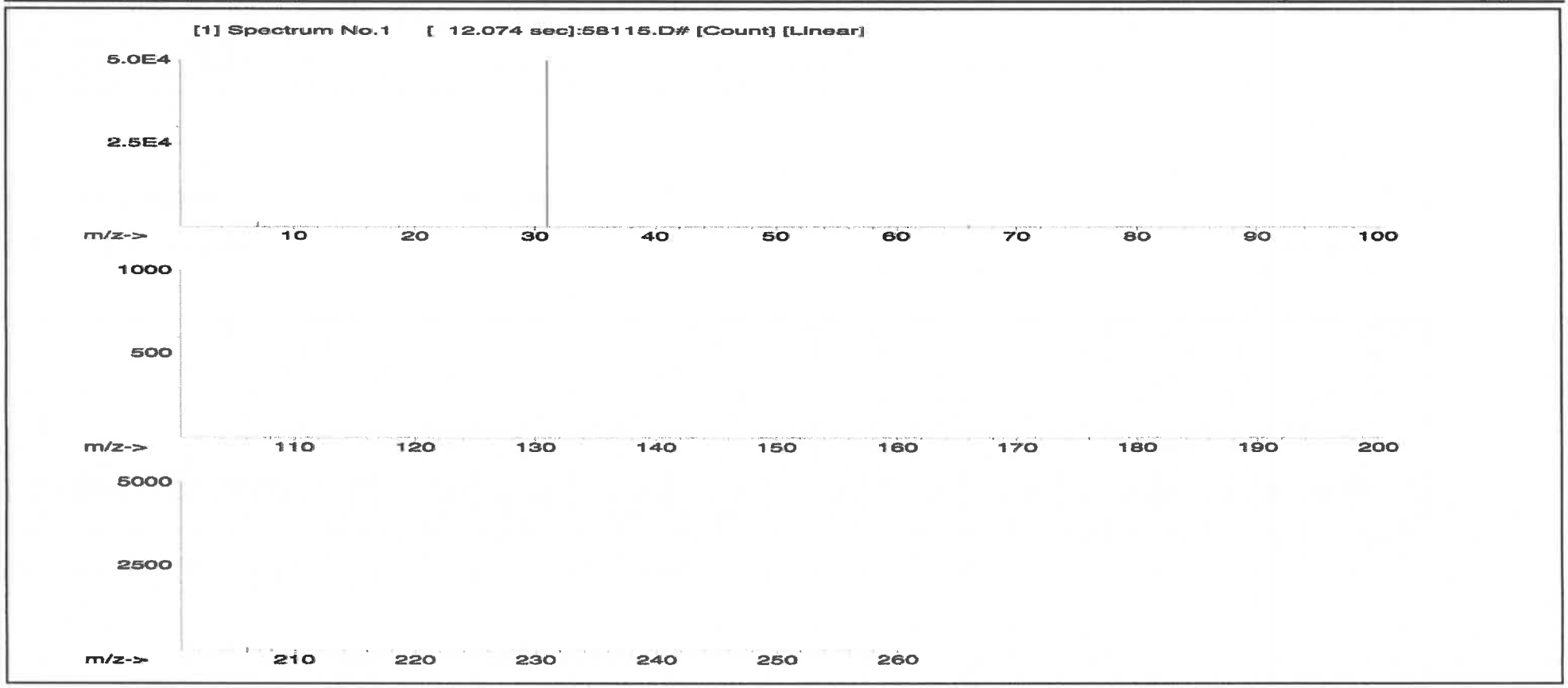
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number:	**57015**		**Solvent:**	24002546	Nitric Acid
Lot Number:	**091123**				
Description:	**Phosphorous (P)**		2%	40.0 (mL)	Nitric Acid
Expiration Date:	091126				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

Formulated By:	Lawrence Barry 091123
Reviewed By:	Pedro L. Rentas 091123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium dihydrogen phosphate (P)	IN008	PV082019A1	1000	99.999	0.10	27.5	7.2729	7.2730	**1000.0**	**2.0**	7722-76-1	5 mg/m3	orl-rat >2000mg/k	3186



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	T	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

R: 02/22/24 M5942

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGTI1
Lot Number:	T2-TI719972
Matrix:	2% (v/v) HNO3 tr. HF
Value / Analyte(s):	1 000 µg/mL ea: Titanium
Starting Material:	Ti Metal
Starting Material Lot#:	2094
Starting Material Purity:	99.9975%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 5 µg/mL

Density: 1.012 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **1002 ± 4 µg/mL**
ICP Assay NIST SRM 3162a Lot Number: 130925

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000536	M	Eu	<	0.000268	O	Na	<	0.032670	M	Se		0.001204	O	Zn	<	0.003267
O	Al		0.000872	O	Fe		0.003225	O	Nb	<	0.043560	O	Si		0.004735	O	Zr	<	0.043560
M	As	<	0.008586	M	Ga	<	0.000268	M	Nd	<	0.000268	M	Sm	<	0.000268				
M	Au	<	0.004577	M	Gd	<	0.000268	O	Ni	<	0.010890	M	Sn		0.000096				
O	B	<	0.008929	M	Ge	<	0.002146	M	Os	<	0.000269	O	Sr		0.000096				
M	Ba	<	0.002683	M	Hf		0.002161	O	P	<	0.054450	M	Ta		0.010560				
M	Be	<	0.005366	M	Hg	<	0.003231	M	Pb	<	0.001073	M	Tb	<	0.000268				
M	Bi	<	0.001609	M	Ho	<	0.000268	M	Pd	<	0.000268	M	Te	<	0.001341				
O	Ca		0.000676	M	In	<	0.002683	M	Pr	<	0.000268	M	Th	<	0.053663				
M	Cd	<	0.000268	M	Ir	<	0.000269	M	Pt	<	0.000536	s	Ti	<					
M	Ce	<	0.000268	M	K		0.001172	M	Rb	<	0.000268	M	Tl	<	0.000268				
M	Co	<	0.004293	M	La	<	0.000268	M	Re	<	0.000268	M	Tm	<	0.000268				
M	Cr		0.000752	O	Li	<	0.027225	M	Rh	<	0.000268	M	U	<	0.000268				
M	Cs	<	0.000268	M	Lu	<	0.000268	M	Ru	<	0.000269	M	V	<	0.019855				
O	Cu	<	0.010890	O	Mg	<	0.005445	i	S	<		M	W		0.000473				
M	Dy	<	0.000268	O	Mn	<	0.003267	M	Sb	<	0.006976	M	Y	<	0.002146				
M	Er	<	0.000268	M	Mo		0.000774	O	Sc	<	0.004900	M	Yb	<	0.000536				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 47.87 +4 6 Ti(F)6-2

Chemical Compatibility - Soluble in concentrated HCl, HF, H3PO4 H2SO4 and HNO3. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away (i.e. Do not mix with Alkaline or Rare Earths or high levels of transition elements unless they are fluorinated). Stable with most inorganic anions with a tendency to hydrolyze forming the hydrated oxide in all dilute acids except HF.

Stability - 2-100 ppb levels stable (Alone or mixed with all other metals) as the Ti(F)6-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the Ti(F)6-2 chemically stable for years in 2-5% HNO3 / trace HF in an LDPE container.

Ti Containing Samples (Preparation and Solution) - Metal (Soluble in H2O / HF caution -powder reacts violently); Oxide - low temperature history anatase or rutile (Dissolved by heating in 1:1:1 H2O / HF / H2SO4); Oxide - high temperature history (~800EC) brookite (fuse in Pt0 with K2S2O7); Ores (fuse in Pt0 with KF + K2S2O7 - no KF if silica not present); Organic Matrices (Dry ash at 450EC in Pt0 and dissolve by heating with 1:1:1 H2O / HF / H2SO4 or fuse ash with pyrosulfate if oxide is as plastic pigment and likely in brookite crystalline form).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 48 amu	14 ppt	N/A	32S16O, 32S14N, 14N16O18O, 14N17N2, 36Ar12C, 48Ca, [96X=2 (where X = Zr, Mo, Ru)]
ICP-OES 323.452 nm	0.0054 / 0.00092 µg/mL	1	Ce, Ar, Ni
ICP-OES 334.941 nm	0.0038 / 0.000028 µg/mL	1	Nb, Ta, Cr, U
ICP-OES 336.121 nm	0.0053 / 0.000034 µg/mL	1	W, Mo, Co

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 17, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **June 17, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



INORGANIC VENTURES
Refine your results. Redefine your industry.

Certificate of Analysis

M5959 R: 6/14/24.

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 863.01 ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGY10
Lot Number:	V2-Y740548
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Yttrium
Starting Material:	Yttrium Oxide
Starting Material Lot#:	2661 and 06230520YL
Starting Material Purity:	99.9984%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10000 ± 30 µg/mL

Density: 1.032 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	**10011 ± 25 µg/mL** EDTA NIST SRM 928 Lot Number: 928
Assay Method #2	**9997 ± 50 µg/mL** ICP Assay NIST SRM 3167a Lot Number: 190730
Assay Method #3	**9984 ± 31 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.004600	M	Eu		0.009037	M	Na		0.086360	M	Se	<	0.005200	M	Zn		0.030125
M	Al		0.014862	O	Fe		0.002410	M	Nb	<	0.000570	O	Si		0.024100	O	Zr	<	0.002600
M	As	<	0.003500	M	Ga	<	0.000570	M	Nd		0.000923	M	Sm		0.000461				
M	Au	<	0.001700	M	Gd	<	0.003500	M	Ni	<	0.005700	M	Sn	<	0.002300				
O	B		0.002209	M	Ge	<	0.005200	M	Os	<	0.001200	M	Sr	<	0.004600				
O	Ba	<	0.002500	M	Hf	<	0.000570	n	P	<		M	Ta	<	0.000570				
O	Be	<	0.001400	M	Hg	<	0.000570	M	Pb		0.005020	M	Tb		0.001044				
M	Bi	<	0.003500	M	Ho		0.009037	M	Pd	<	0.005100	M	Te	<	0.002300				
O	Ca		0.009841	M	In	<	0.002300	M	Pr	<	0.002300	M	Th	<	0.000570				
M	Cd	<	0.000570	M	Ir	<	0.000570	M	Pt	<	0.000570	M	Ti	<	0.003500				
M	Ce	<	0.002300	O	K		0.018677	M	Rb	<	0.000570	M	Tl	<	0.000570				
M	Co	<	0.000570	M	La		0.000461	M	Re	<	0.000570	M	Tm	<	0.003500				
M	Cr	<	0.004000	O	Li	<	0.009300	M	Rh	<	0.008000	M	U	<	0.000570				
M	Cs	<	0.000570	M	Lu		0.000582	M	Ru	<	0.000570	M	V		0.001265				
M	Cu		0.002610	O	Mg		0.001486	n	S	<		M	W	<	0.002300				
M	Dy		0.003815	M	Mn		0.000582	M	Sb		0.005422	s	Y	<					
M	Er		0.003615	M	Mo	<	0.005700	M	Sc	<	0.001200	M	Yb		0.001827				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 88.91 +3 6 Y(OH)(H2O)x+2

Chemical Compatibility -Soluble in HCl, H2SO4 and HNO3. Avoid HF, H3PO4 and neutral to basic media. Stable with most metals and inorganic anions forming an insoluble carbonate, oxide, oxalate, and fluoride. Avoid mixing with elements / solutions containing moderate amounts of fluoride.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.

Y Containing Samples (Preparation and Solution) - Metal (Soluble in acids); Oxide (Dissolve by heating in H2O/ HNO3); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Dry ash and dissolve in 1:1 H2O / HCl or HNO3).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 89 amu	0.8 ppt	N/A	73Ge16O, 178Hf+2
ICP-OES 360.073 nm	0.005 / 0.000036 µg/mL	1	Ce, Th
ICP-OES 371.030 nm	0.004 / 0.00007 µg/mL	1	Ce
ICP-OES 377.433 nm	0.005 / 0.0009 µg/mL	1	Ta, Th

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 20, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- February 20, 2029

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Custom Processing Supervisor



Certificate Approved By:

Muzzammil Khan
Stock Laboratory Supervisor



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M5962 R! 06/14/24.

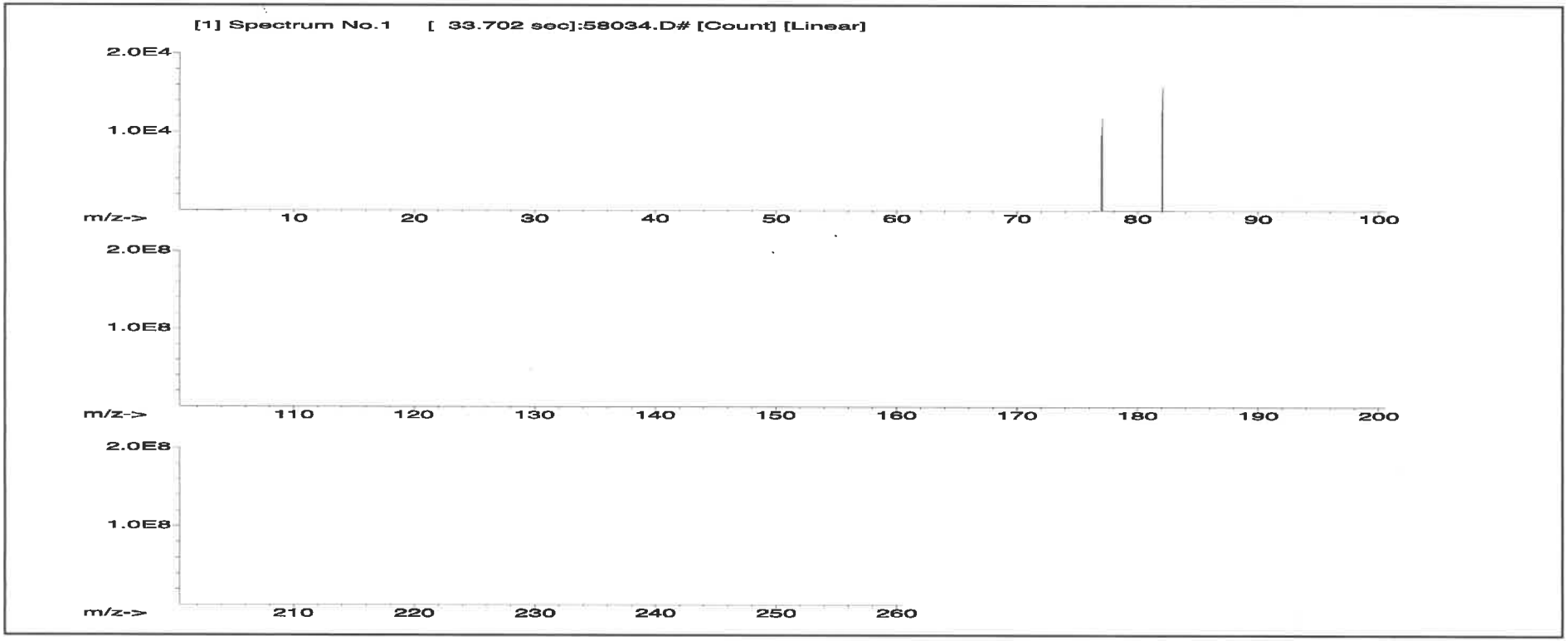
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57034**	24002546	Nitric Acid	
Lot Number:	**060624**			
Description:	**Selenium (Se)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	060627			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.07	0.100	Flask Uncertainty	

Formulated By:	Benson Chan	060624
Reviewed By:	Pedro L. Rentas	060624

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Selenium (Se)	58134	071223	0.1000	200.0	0.084	1000	10002.5	**1000.0**	**2.2**	7782-49-2	0.2 mg/m3	orl-rat 6700 mg/kg	3149



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																		
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	T	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M5970, M5971 R: 7/01/24

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

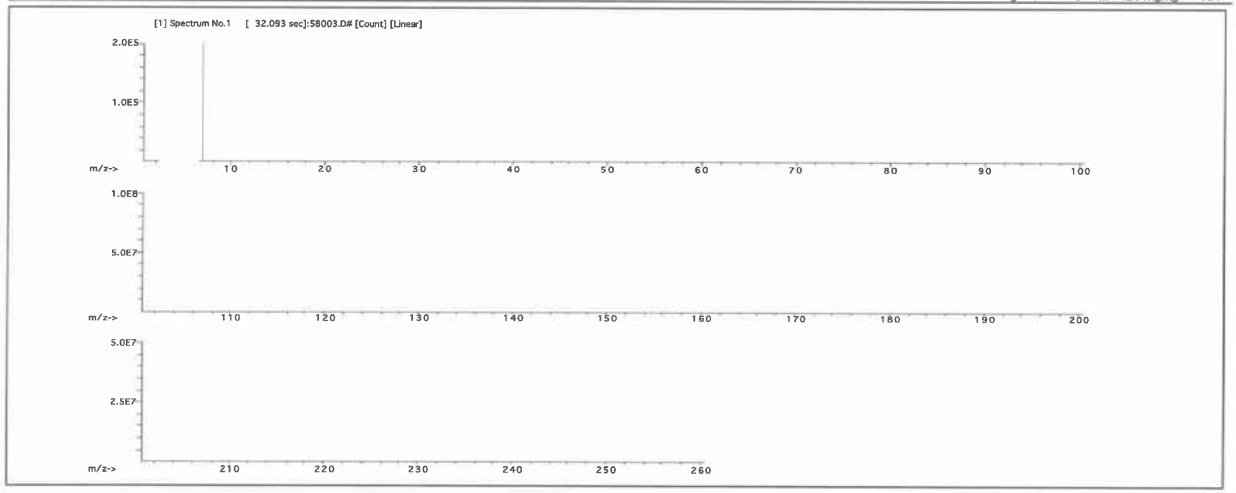
		Lot #	Solvent:		
Part Number:	**57003**	24002546	Nitric Acid		
Lot Number:	**062124**				
Description:	**Lithium (Li)**				
		2.0%	5.0 (mL)	Nitric Acid	
Expiration Date:	062127				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Volume shown below was diluted to (mL):	250.11	0.016	Flask Uncertainty		

Giovanni Esposito

Formulated By: Giovanni Esposito 062124

Reviewed By: Pedro L. Rentas 062124

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lithium nitrate (Li)	58103	070622	0.1000	25.0	0.004	1000	10000.4	**1000.0**	**2.0**	7790-69-4	5 mg/m3	orl-rat 1426 mg/kg	NA



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	T	Ni	<0.02	Pr	<0.02	Sc	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

MS985
R: 6/14/24

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 863.01
ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGIN10
Lot Number:	U2-IN729349
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Indium
Starting Material:	Indium Metal
Starting Material Lot#:	2511
Starting Material Purity:	99.9995%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10022 ± 30 µg/mL

Density: 1.044 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	**10021 ± 56 µg/mL** ICP Assay NIST SRM 3124a Lot Number: 110516
Assay Method #2	**10035 ± 25 µg/mL** EDTA NIST SRM 928 Lot Number: 928
Assay Method #3	**10001 ± 33 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000760	M	Eu	<	0.000760	O	Na		0.012771	M	Se	<	0.023000	M	Zn	<	0.006100
M	Al		0.003385	O	Fe		0.004462	M	Nb	<	0.000760	O	Si		0.024619	M	Zr	<	0.000760
M	As	<	0.004600	M	Ga	<	0.000760	M	Nd	<	0.000760	M	Sm	<	0.000760				
M	Au	<	0.002300	M	Gd	<	0.000760	O	Ni	<	0.005100	M	Sn	<	0.000760				
O	B		0.003692	M	Ge	<	0.001600	M	Os	<	0.000760	O	Sr	<	0.000610				
M	Ba	<	0.001600	M	Hf	<	0.000760	n	P	<		M	Ta	<	0.000760				
O	Be	<	0.000130	M	Hg	<	0.003100	M	Pb		0.001400	M	Tb	<	0.000760				
M	Bi	<	0.000760	M	Ho	<	0.000760	M	Pd	<	0.001600	M	Te	<	0.000760				
O	Ca		0.004616	s	In	<		M	Pr	<	0.000760	M	Th	<	0.000760				
M	Cd	<	0.000760	M	Ir	<	0.000760	M	Pt	<	0.000760	O	Ti	<	0.001100				
M	Ce	<	0.000760	O	K		0.007078	M	Rb	<	0.000760	M	Tl	<	0.000760				
M	Co	<	0.000760	M	La	<	0.000760	M	Re	<	0.000760	M	Tm	<	0.000760				
O	Cr	<	0.001300	O	Li	<	0.000130	M	Rh	<	0.000760	M	U	<	0.000760				
M	Cs	<	0.000760	M	Lu	<	0.000760	M	Ru	<	0.000760	M	V	<	0.001600				
M	Cu	<	0.003800	O	Mg		0.000707	n	S	<		M	W	<	0.001600				
M	Dy	<	0.000760	O	Mn		0.000149	M	Sb	<	0.000760	M	Y	<	0.000760				
M	Er	<	0.000760	M	Mo	<	0.002300	M	Sc	<	0.000760	M	Yb	<	0.000760				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 114.82 +3 6 In(H2O)6+3

Chemical Compatibility -Soluble in HCl, HNO3, and H2SO4. Avoid neutral and basic media. Stable with most metals and inorganic anions. The oxalate, sulfide, carbonate, hydroxide and phosphate are insoluble in water.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.

In Containing Samples (Preparation and Solution) -Metal (Best dissolved in HCl / HNO3); Oxide (Soluble in mineral acids); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Sulfuric/peroxide digestion or dry ash and dissolution in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 115 amu	1 ppt	n/a	115Sn, 99Ru16O
ICP-OES 158.583 nm	0.05 / 0.002 µg/mL	1	
ICP-OES 230.606 nm	0.1 / 0.03 µg/mL	1	Ni, Os
ICP-OES 325.609 nm	0.2 / 0.05 µg/mL	1	Mn, Mo, Th

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 21, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- February 21, 2028

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



INORGANIC VENTURES
Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

R: 2/22/24
MS-997

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-CAL-3
Lot Number:	T2-MEB727800
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Arsenic, Lead, Selenium, Thallium, 500 µg/mL ea: Cadmium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Arsenic, As	1 000 ± 7 µg/mL	Cadmium, Cd	500.0 ± 2.2 µg/mL
Lead, Pb	1 000 ± 4 µg/mL	Selenium, Se	1 000 ± 6 µg/mL
Thallium, Tl	1 000 ± 7 µg/mL		

Density: 1.042 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
As	ICP Assay	3103a	100818
As	Calculated		See Sec. 4.2
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Tl	ICP Assay	3158	151215

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i}^2) / (\Sigma(1/(u_{char\ i}^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i}^2)]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 21, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- December 21, 2027

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



INORGANIC VENTURES
Refine your results. Redefine your industry.

Certificate of Analysis

R! 08/22/24 M6058, M6059

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CHEM-CLP-4
Lot Number:	V2-MEB746172
Matrix:	3% (v/v) HNO3 3% (v/v) HF
Value / Analyte(s):	1 000 µg/mL ea: Boron, Molybdenum, Silicon, Tin, Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	1 000 ± 5 µg/mL	Molybdenum, Mo	1 000 ± 5 µg/mL
Silicon, Si	1 000 ± 7 µg/mL	Tin, Sn	1 000 ± 5 µg/mL
Titanium, Ti	1 000 ± 6 µg/mL		

Density: 1.032 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	190605
B	Calculated		See Sec. 4.2
Mo	ICP Assay	traceable to 3134	U2-MO739068
Si	ICP Assay	Traceable to 3150	S2-SI702546
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	traceable to 3162a	T2-TI725816

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 12, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- August 12, 2029

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Joseph Burns
Custom VS Manager



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

M6074
M6075
M6076
M6077

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

EXP.: 9/6/2029

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CHEM-CLP-4
Lot Number:	V2-MEB746762
Matrix:	3% (v/v) HNO3 3% (v/v) HF
Value / Analyte(s):	1 000 µg/mL ea: Boron, Molybdenum, Silicon, Tin, Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	1 000 ± 5 µg/mL	Molybdenum, Mo	1 000 ± 5 µg/mL
Silicon, Si	1 000 ± 7 µg/mL	Tin, Sn	1 000 ± 5 µg/mL
Titanium, Ti	1 000 ± 6 µg/mL		

Density: 1.033 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	190605
B	Calculated		See Sec. 4.2
Mo	ICP Assay	traceable to 3134	U2-MO739068
Si	ICP Assay	Traceable to 3150	S2-SI702546
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	traceable to 3162a	T2-TI725816

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 06, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- September 06, 2029

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Joseph Burns
Custom VS Manager



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

M6074
M6075
M6076
M6077

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

EXP.: 9/6/2029

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CHEM-CLP-4
Lot Number:	V2-MEB746762
Matrix:	3% (v/v) HNO3 3% (v/v) HF
Value / Analyte(s):	1 000 µg/mL ea: Boron, Molybdenum, Silicon, Tin, Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	1 000 ± 5 µg/mL	Molybdenum, Mo	1 000 ± 5 µg/mL
Silicon, Si	1 000 ± 7 µg/mL	Tin, Sn	1 000 ± 5 µg/mL
Titanium, Ti	1 000 ± 6 µg/mL		

Density: 1.033 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	190605
B	Calculated		See Sec. 4.2
Mo	ICP Assay	traceable to 3134	U2-MO739068
Si	ICP Assay	Traceable to 3150	S2-SI702546
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	traceable to 3162a	T2-TI725816

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 06, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- September 06, 2029

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Joseph Burns
Custom VS Manager



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

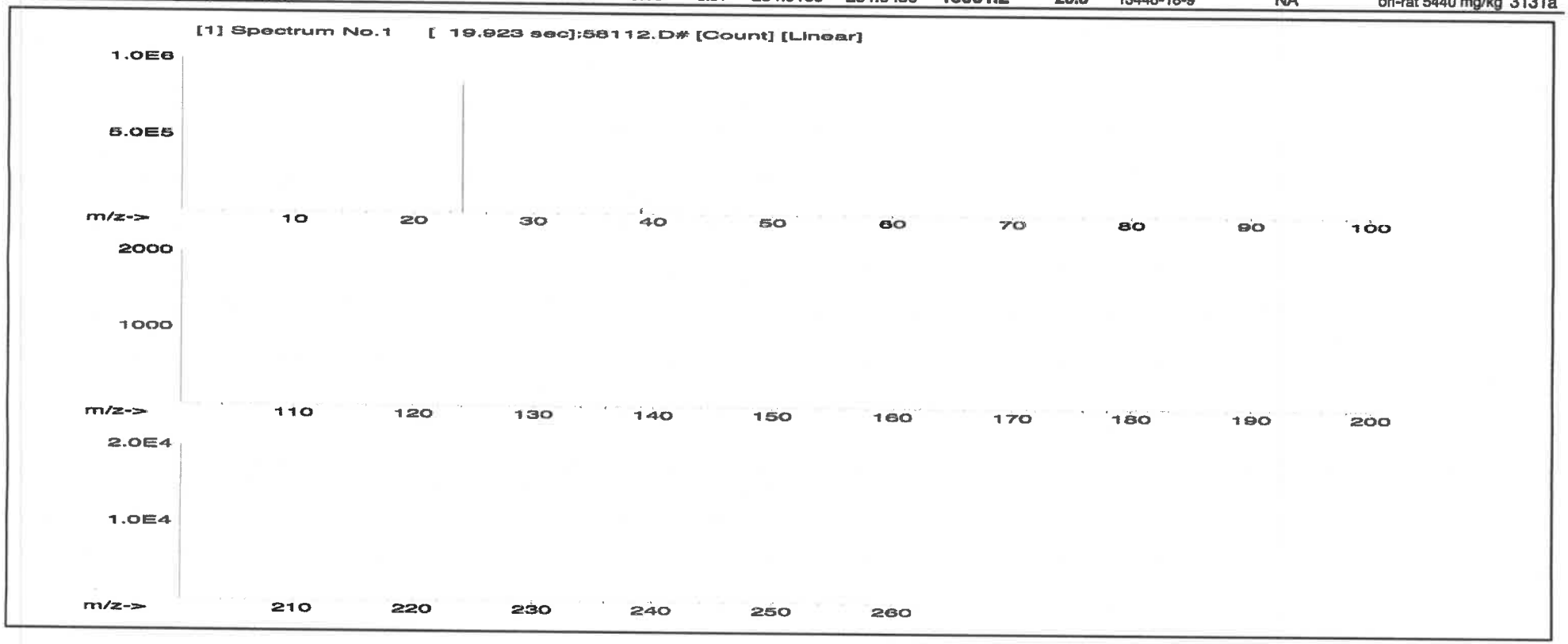
R -> 1/13/25
M 6127

Part Number:	**58112**		**Lot #**	
Lot Number:	**112124**	**Solvent:**	24012496	Nitric Acid
Description:	**Magnesium (Mg)**	2%	40.0 (mL)	Nitric Acid
Expiration Date:	112127			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**10000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	2000.07	0.100	Flask Uncertainty	

Giovanni Esposito

Formulated By:	Giovanni Esposito	112124
Reviewed By:	Pedro L. Rentas	112124

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Magnesium nitrate hexahydrate (Mg)	IN030	MGD052023A1	10000	99.999	0.10	8.51	234.9183	234.9459	**10001.2**	**20.0**	13446-18-9	NA	orl-rat 5440 mg/kg	3131a



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	T	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

R->1/13/25
M6128

Part Number: 58025
Lot Number: 101124
Description: Manganese (Mn)
Expiration Date: 101127
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

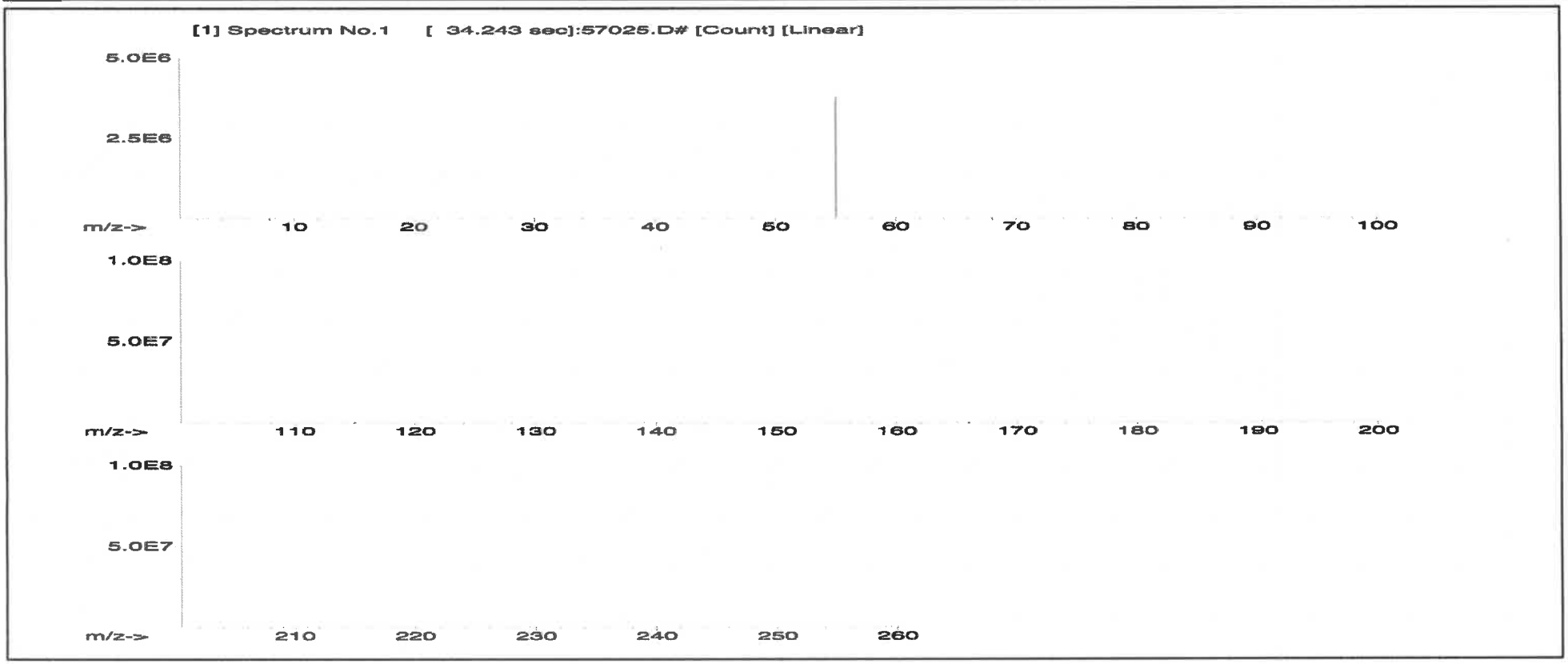
		Lot #	
Solvent:	24002546	Nitric Acid	
	2%	80.0 (mL)	Nitric Acid

5E-05 Balance Uncertainty

Weight shown below was diluted to (mL): 4000.2 0.10 Flask Uncertainty

Giovanni Esposito
Formulated By: Giovanni Esposito 101124
Pedro Rentas
Reviewed By: Pedro L. Rentas 101124

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Manganese(II) nitrate hydrate (Mn)	IN031	MNM092020A1	1000	99.999	0.10	20.8	19.2322	19.2344	**1000.1**	**2.0**	15710-66-4	5 mg/m3	orl-rat >300mg/kg	3132



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	T	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

INORGANIC VENTURES
Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

M6137 R→10/3/24

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSI1
Lot Number:	V2-SI744713
Matrix:	tr. HNO3 tr. HF
Value / Analyte(s):	1 000 µg/mL ea: Silicon
Starting Material:	Silica
Starting Material Lot#:	1771
Starting Material Purity:	99.9981%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 999 ± 6 µg/mL

Density: 1.003 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	**999 ± 5 µg/mL** ICP Assay NIST SRM Traceable to 3150 Lot Number: S2-SI702546
Assay Method #2	**1000 ± 7 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2 (u_{char\ i})^2)]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000310	M	Eu	<	0.000310	O	Na		0.001656	M	Se	<	0.022000	M	Zn	<	0.002500
M	Al		0.010787	M	Fe	<	0.027000	M	Nb	<	0.001300	s	Si	<		O	Zr	<	0.001900
M	As	<	0.001900	M	Ga	<	0.001300	M	Nd	<	0.000310	M	Sm	<	0.000310				
M	Au	<	0.000910	M	Gd	<	0.000310	M	Ni	<	0.005500	M	Sn		0.000096				
M	B		0.016180	M	Ge	<	0.001900	M	Os	<	0.000610	O	Sr		0.000092				
M	Ba		0.000096	M	Hf		0.000423	i	P	<		M	Ta		0.002542				
O	Be	<	0.000570	M	Hg	<	0.000610	M	Pb	<	0.000310	M	Tb	<	0.000310				
M	Bi	<	0.000310	M	Ho	<	0.000610	M	Pd	<	0.000610	M	Te	<	0.000910				
O	Ca		0.011557	M	In	<	0.000310	M	Pr	<	0.000310	M	Th	<	0.001900				
M	Cd	<	0.000310	M	Ir	<	0.000310	M	Pt	<	0.000310	M	Ti		0.001078				
M	Ce	<	0.000610	O	K		0.000577	M	Rb	<	0.009100	M	Tl	<	0.000310				
M	Co	<	0.001600	M	La	<	0.000310	M	Re	<	0.000310	M	Tm	<	0.000310				
M	Cr	<	0.010000	O	Li	<	0.000460	M	Rh	<	0.000310	M	U	<	0.000310				
M	Cs	<	0.000310	M	Lu	<	0.000310	M	Ru	<	0.000310	O	V	<	0.001300				
M	Cu	<	0.002500	O	Mg		0.001348	O	S	<	0.570000	M	W	<	0.001900				
M	Dy	<	0.000310	M	Mn	<	0.002500	M	Sb	<	0.000310	M	Y	<	0.000310				
M	Er	<	0.000310	M	Mo	<	0.000310	O	Sc	<	0.000590	M	Yb	<	0.000310				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 28.09 +4 6 Si(OH)x(F)y2-

Chemical Compatibility -Soluble in HCl, HF, H3PO4 H2SO4 and HNO3 as the Si(OH)x(F)y2-. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away (i.e. Do not mix with Alkaline or Rare Earths, or high levels of transition elements unless they are fluorinated. Stable with most inorganic anions with a tendency to hydrolyze forming silicic acid (silicic acid is soluble up to ∼100 ppm in water) in all dilute acids except HF.

Stability - 2-100 ppb levels - stability unknown - (alone or mixed with all other metals) as the Si(OH)x(F)y2-. 1-10,000 ppm single element solutions as the Si(OH)x(F)y2- chemically stable for years in 2-5 % HNO3 / trace HF in a LDPE container.

Si Containing Samples (Preparation and Solution) -Metal (Soluble in 1:1:1 H2O / HF / HNO3); Oxide - SiO2, amorphic (dissolve by heating in 1:1:1 H2O / HF / HNO3); Oxide - quartz (fuse in Pt0 with Na2CO3); Geological Samples(fuse in Pt0with Na2CO3 followed by HCl solution of the fuseate); Organic Matrices containing silicates and non volatile silicon compounds (dry ash at 4500C in Pt0 and dissolve by gently warming with 1:1:1 H2O / HF / H2SO4 or fuse / ash with Na2CO3 and dissolve fuseate with HCl / H2O); Silicone Oils - dimethyl silicones depolymerize to form volatile monomer units when heated (Measure directly in alcoholic KOH / xylene mixture where sample is treated first with the KOH at 60-1000C to "unzip" the Si- O-Si polymeric structure or digest with conc. H2SO4 / H2O2 followed by cooling and dissolution of the dehydrated silica with HF.) Note that the direct analysis of silicone oils in an organic solvent will result in false high results due to high vapor pressure of volatile monomer units like hexamethylcyclotrisiloxane. The KOH forms the K2+Si(CH3)2O= salt which is not volatile at room temperature.

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 28 amu	4000 - 8000 ppt	N/A	N2, 12C16O
ICP-OES 212.412 nm	0.02/0.01 µg/mL	1	Hf, Os, Mo, Ta
ICP-OES 251.611 nm	0.012/0.003 µg/mL	1	Ta, U, Zn, Th
ICP-OES 288.158 nm	0.03/0.004 µg/mL	1	Ta, Ce, Cr, Cd, Th

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 10, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **July 10, 2029**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Custom Processing Supervisor



Certificate Approved By:

Muzzammil Khan
Stock Laboratory Supervisor



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

M6138
R->1/13/25

CERTIFIED WEIGHT REPORT:

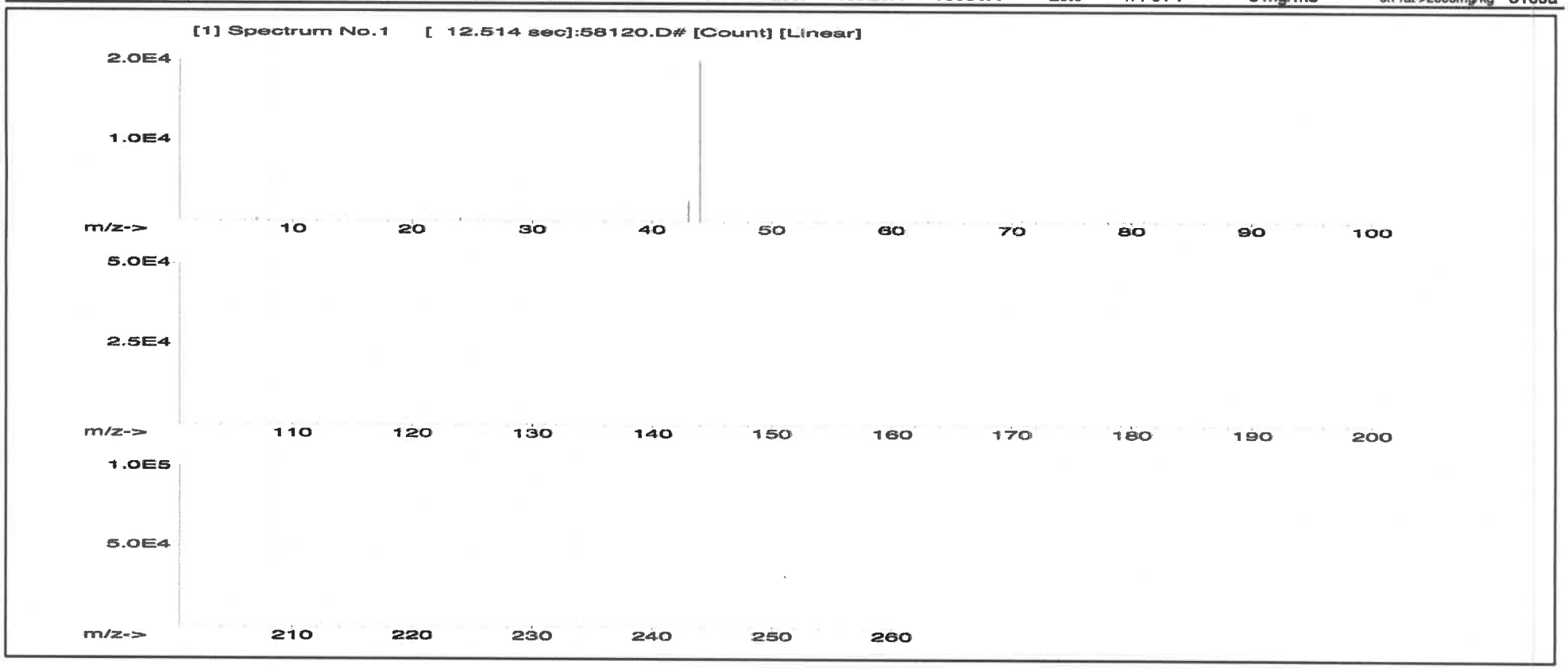
Part Number: 58120
Lot Number: 121824
Description: Calcium (Ca)
Expiration Date: 121827
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 4000.1 ± 0.15 Flask Uncertainty

	Lot #			
Solvent:	24012496	Nitric Acid		
2%	80.0 (mL)	Nitric Acid	± 5E-05	Balance Uncertainty

Giovanni Esposito
Formulated By: Giovanni Esposito 121824

Pedro Rentas
Reviewed By: Pedro L. Rentas 121824

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Calcium carbonate (Ca)	IN014	CAD03203B3	10000	99.999	0.10	39.9	100.2537	100.2677	**10001.4**	**20.0**	471-34-1	5 mg/m3	orl-rat >2000mg/kg	3109a



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	T	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	30	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Part # **58120** Lot # **121824**

Printed: 1/10/2025, 4:48:14 PM

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

R-> 1/13/25

Part Number: 57119
Lot Number: 103024
Description: Potassium (K)

M6141
M6142
M6143

Expiration Date: 103027
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

Weight shown below was diluted to (mL): 4000.1 0.15 Flask Uncertainty

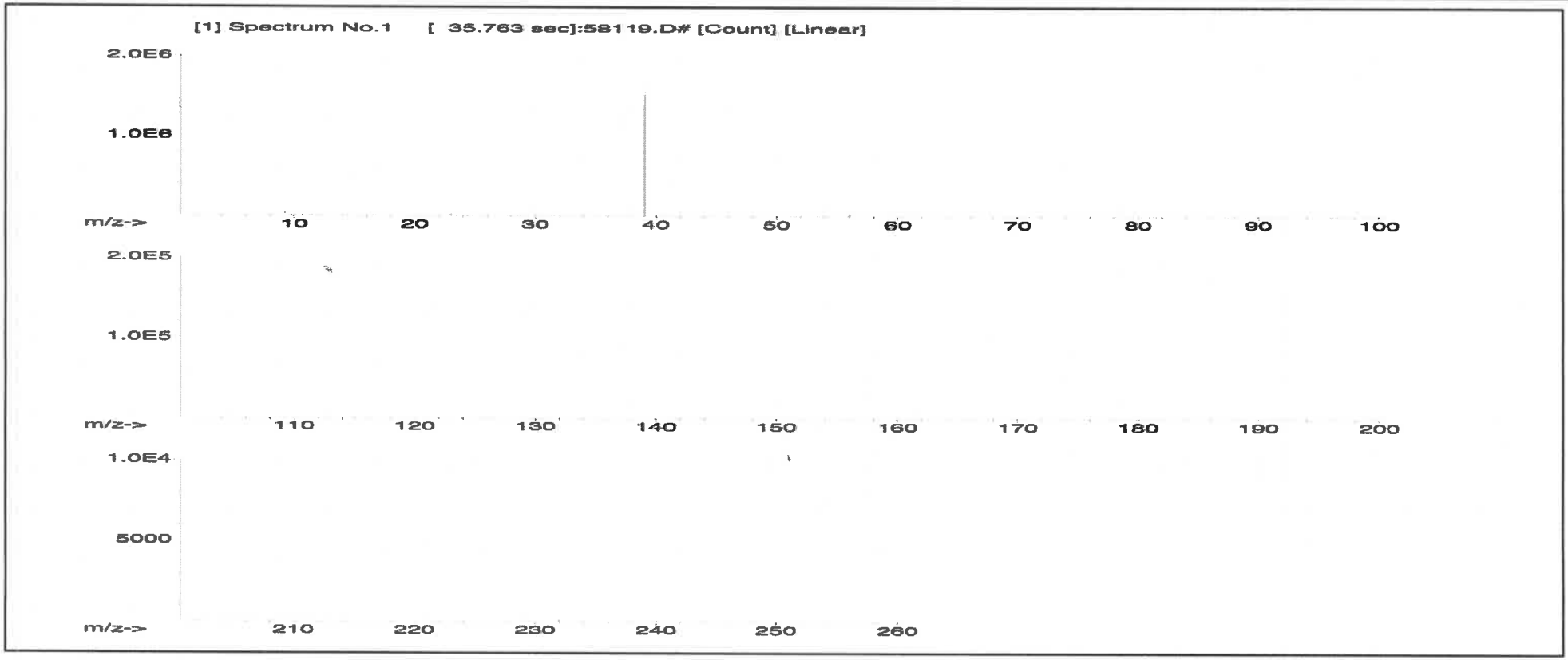
		Lot #	
Solvent:	24002546	Nitric Acid	
2%	80.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Giovanni Esposito

Formulated By:	Giovanni Esposito	103024
Reviewed By:	Pedro L. Rentas	103024

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Potassium nitrate (K)	IN034	KD062022A1	10000	99.999	0.10	37.7	106.1040	######	**10001.1**	**20.0**	7757-79-1	5 mg/m3	orl-rat 3750 mg/kg	3141a



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	T	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

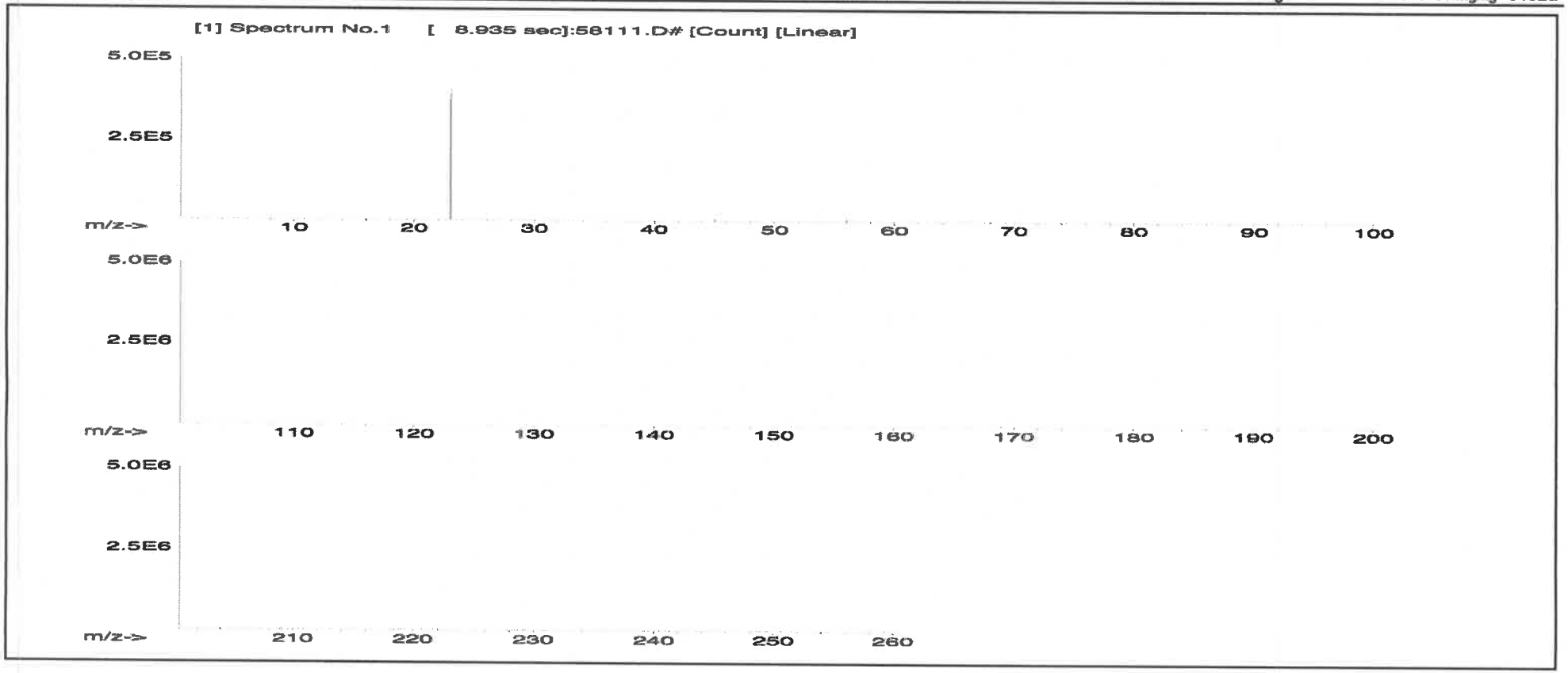
CERTIFIED WEIGHT REPORT:

R->1/13/25

Part Number:	**58111**			**Lot #**	
Lot Number:	**072424**	**Solvent:**	24002546	Nitric Acid	
Description:	**Sodium (Na)**				
		MG144 2%	80.0 (mL)	Nitric Acid	
Expiration Date:	072427				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**10000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	4000.2	0.10	Flask Uncertainty		

Formulated By:	Benson Chan 072424
Reviewed By:	Pedro L. Rentas 072424

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Sodium nitrate (Na)	IN036	NAV012015I1	10000	99.999	0.10	26.9	148.7096	######	**10000.0**	**20.0**	7631-99-4	5 mg/m3	orl-rat 3430 mg/kg	3152a



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Sc	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	T	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 58030
Lot Number: 121724
Description: Zinc (Zn)

R → 1/13/25

M6145

Expiration Date: 121727
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

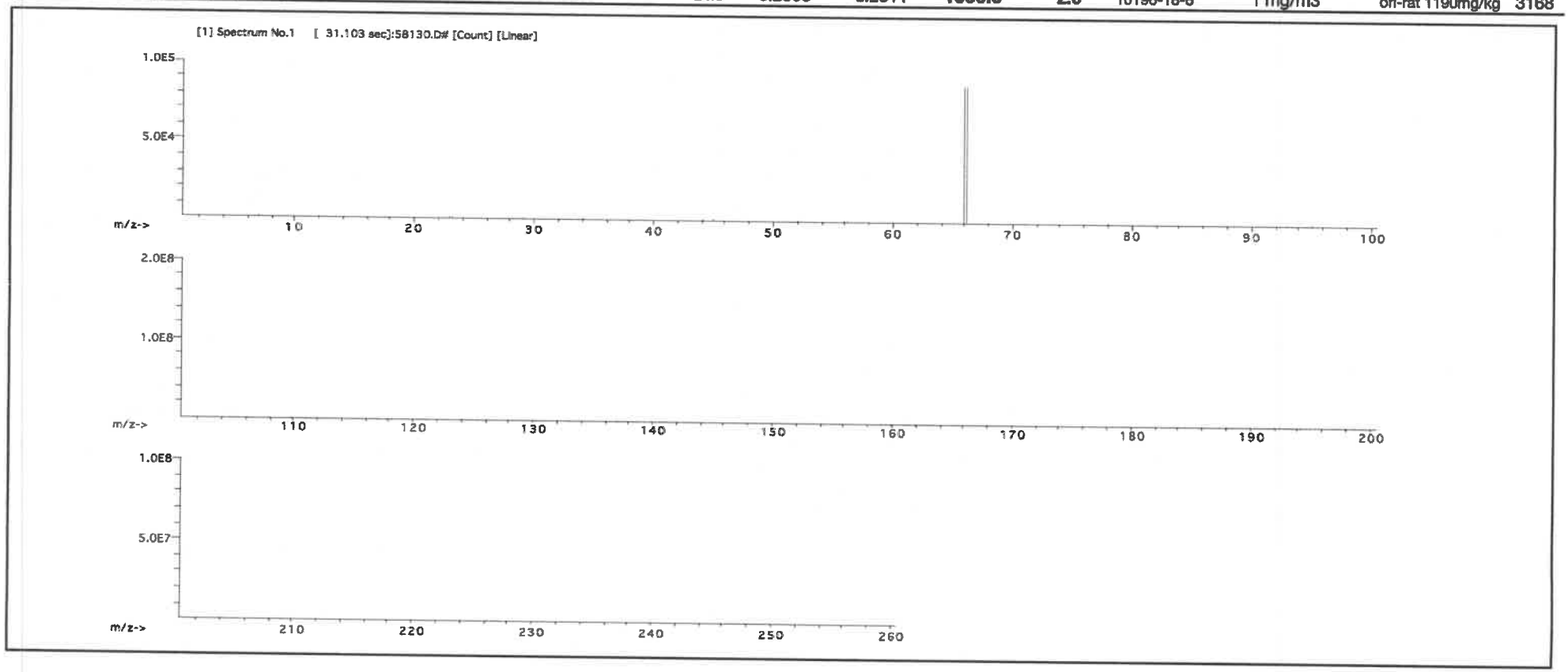
		Lot #	
Solvent:	24012496	Nitric Acid	
	2%	40.0 (mL)	Nitric Acid

5E-05 Balance Uncertainty
Weight shown below was diluted to (mL): 2000.1 0.10 Flask Uncertainty

Aleah O'Brady

Formulated By:	Aleah O'Brady	121724
Reviewed By:	Pedro L. Rentas	121724

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Zinc nitrate hexahydrate (Zn)	IN016	ZNE032021A1	1000	99.999	0.10	24.3	8.2308	8.2311	**1000.0**	**2.0**	10196-18-6	1 mg/m3	ori-rat 1190mg/kg	3168



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	T
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

R : 4/20/21

QATS LABORATORY INORGANIC REFERENCE MATERIAL INITIAL CALIBRATION VERIFICATION SOLUTIONS (ICV1, ICV5, AND ICV6)

M6150

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

Contains Metals in Dilute Acidic or Cyanide in Basic Aqueous Solutions
HAZARDOUS MATERIAL

Safety Data Sheets Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more Aqueous Inorganic Reference Materials containing various analyte concentrations. ICV1 and ICV5 are in a matrix of dilute nitric acid. ICV6 is in a matrix of dilute basic solution. **For the reference material source in reporting ICVs use "USEPA". For the reference material lot number for the ICV1, ICV5, and ICV6 solutions use "ICV1-1014", "ICV5-0415", and "ICV6-0400", respectively.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The Initial Calibration Verification Solutions (ICVs) are to be used to evaluate the accuracy of the initial calibrations of ICP, AA, and Cyanide colorimetric instruments, and are to be used with the CLP SOWs and revisions. The values for each element in the ICVs are listed below in µg/L (ppb) for the resulting solution(s) after the dilution of the concentrate(s) according to the following instructions. Use Class 'A' glassware to prepare the solution(s).

ICV1-1014 For ICP-AES analysis, use a 10-fold dilution by pipetting 10 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid.

ICV1-1014 For ICP-MS analysis, use a 50-fold dilution by pipetting 2 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 1% (v/v) nitric acid.

ICV5-0415 For the cold vapor analysis of mercury by AA, use a 100-fold dilution by pipetting 1 mL of the ICV5 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid. The ICV5 concentrate is prepared in 0.05% (w/v) $K_2Cr_2O_7$ and 5% (v/v) nitric acid.

ICV6-0400 For the analysis of cyanide, use a 100-fold dilution by pipetting 1 mL of the ICV6 concentrate into a 100 mL volumetric flask and dilute to volume with Type II water. Distill this solution along with the samples before analysis. The cyanide concentrate is prepared from $K_3Fe(CN)_6$, Type II water, and 0.1 % sodium hydroxide, and will decompose rapidly if exposed to light.

NOTE: USE TYPE II WATER AND HIGH-PURITY ACIDS FOR ALL DILUTIONS.

(D) ***CERTIFIED CONCENTRATIONS OF QATS ICV1, ICV5, AND ICV6 SOLUTIONS***

ICV1-1014		
Element	**Concentration (µg/L) (after 10-fold dilution)**	**Concentration (µg/L) (after 50-fold dilution)**
Al	2500	500
Sb	1000	200
As	1000	200
Ba	520	100
Be	510	100
Cd	510	100
Ca	10000	2000
Cr	520	100
Co	520	100
Cu	510	100
Fe	10000	2000
Pb	1000	200
Mg	6000	1200
Mn	520	100
Ni	530	110
K	9900	2000
Se	1000	200
Ag	250	50
Na	10000	2000
Tl	1000	210
V	500	100
Zn	1000	200

ICV5-0415		ICV6-0400	
Element	**Concentration (µg/L) (after 100-fold dilution)**	**Analyte**	**Concentration (µg/L) (after 100-fold dilution)**
Hg	4.0	CN^-	99

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

M6151

R-> 1/15/25

Material No.: 9530-33
Batch No.: 22G2862015
Manufactured Date: 2022-06-15
Retest Date: 2027-06-14
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (as HCl) (by acid-base titrn)	36.5 – 38.0 %	37.9 %
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Specific Gravity at 60°/60°F	1.185 – 1.192	1.191
ACS – Bromide (Br)	≤ 0.005 %	< 0.005 %
ACS – Extractable Organic Substances	≤ 5 ppm	< 1 ppm
ACS – Free Chlorine (as Cl_2)	≤ 0.5 ppm	< 0.5 ppm
Phosphate (PO_4)	≤ 0.05 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.5 ppm	< 0.3 ppm
Sulfite (SO_3)	≤ 0.8 ppm	0.3 ppm
Ammonium (NH_4)	≤ 3 ppm	< 1 ppm
Trace Impurities – Arsenic (As)	≤ 0.010 ppm	< 0.003 ppm
Trace Impurities – Aluminum (Al)	≤ 10.0 ppb	1.3 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 3.0 ppb
Trace Impurities – Barium (Ba)	≤ 1.0 ppb	0.2 ppb
Trace Impurities – Beryllium (Be)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Bismuth (Bi)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Boron (B)	≤ 20.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	163.0 ppb
Trace Impurities – Chromium (Cr)	≤ 1.0 ppb	0.7 ppb
Trace Impurities – Cobalt (Co)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gallium (Ga)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Germanium (Ge)	≤ 3.0 ppb	< 2.0 ppb
Trace Impurities – Gold (Au)	≤ 4.0 ppb	0.6 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 15 ppb	6 ppb

>>> Continued on page 2 >>>

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

Material No.: 9530-33
Batch No.: 22G2862015

Test	Specification	Result
Trace Impurities – Lead (Pb)	≤ 1.0 ppb	< 0.5 ppb
Trace Impurities – Lithium (Li)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Magnesium (Mg)	≤ 10.0 ppb	2.9 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	0.1 ppb
Trace Impurities – Molybdenum (Mo)	≤ 10.0 ppb	< 3.0 ppb
Trace Impurities – Nickel (Ni)	≤ 4.0 ppb	< 0.3 ppb
Trace Impurities – Niobium (Nb)	≤ 1.0 ppb	0.8 ppb
Trace Impurities – Potassium (K)	≤ 9.0 ppb	< 2.0 ppb
Trace Impurities – Selenium (Se), For Information Only		< 1.0 ppb
Trace Impurities – Silicon (Si)	≤ 100.0 ppb	< 10.0 ppb
Trace Impurities – Silver (Ag)	≤ 1.0 ppb	0.5 ppb
Trace Impurities – Sodium (Na)	≤ 100.0 ppb	2.3 ppb
Trace Impurities – Strontium (Sr)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Tantalum (Ta)	≤ 1.0 ppb	1.6 ppb
Trace Impurities – Thallium (Tl)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Tin (Sn)	≤ 5.0 ppb	4.0 ppb
Trace Impurities – Titanium (Ti)	≤ 1.0 ppb	1.5 ppb
Trace Impurities – Vanadium (V)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Zinc (Zn)	≤ 5.0 ppb	0.8 ppb
Trace Impurities – Zirconium (Zr)	≤ 1.0 ppb	0.3 ppb

>>> Continued on page 3 >>>

Hydrochloric Acid, 36.5-38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

Material No.: 9530-33
Batch No.: 22G2862015

Test	Specification	Result

For Laboratory,Research,or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications
Storage Condition: Store below 25 °C.

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

James T Ethier

Jamie Ethier
Vice President Global Quality

Nitric Acid 69%
CMOS

R-02102/2025

M-6158

Material No.: 9606-03
Batch No.: 24D1062002
Manufactured Date: 2024-03-26
Retest Date: 2029-03-25
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 - 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO_4)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities - Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities - Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities - Calcium (Ca)	≤ 50.0 ppb	2.3 ppb
Trace Impurities - Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities - Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities - Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	100 ppb
Trace Impurities - Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities - Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities - Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result
Trace Impurities - Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities - Potassium (K)	≤ 50 ppb	16 ppb
Trace Impurities - Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities - Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities - Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities - Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities - Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities - Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count - 0.5 µm and greater	≤ 60 par/ml	10 par/ml
Particle Count - 1.0 µm and greater	≤ 10 par/ml	3 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result

For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Jamie Croak
Director Quality Operations, Bioscience Production

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M6030

R: 8/5/24

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 57047
Lot Number: 122823
Description: Silver (Ag)

Expiration Date: 122826
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

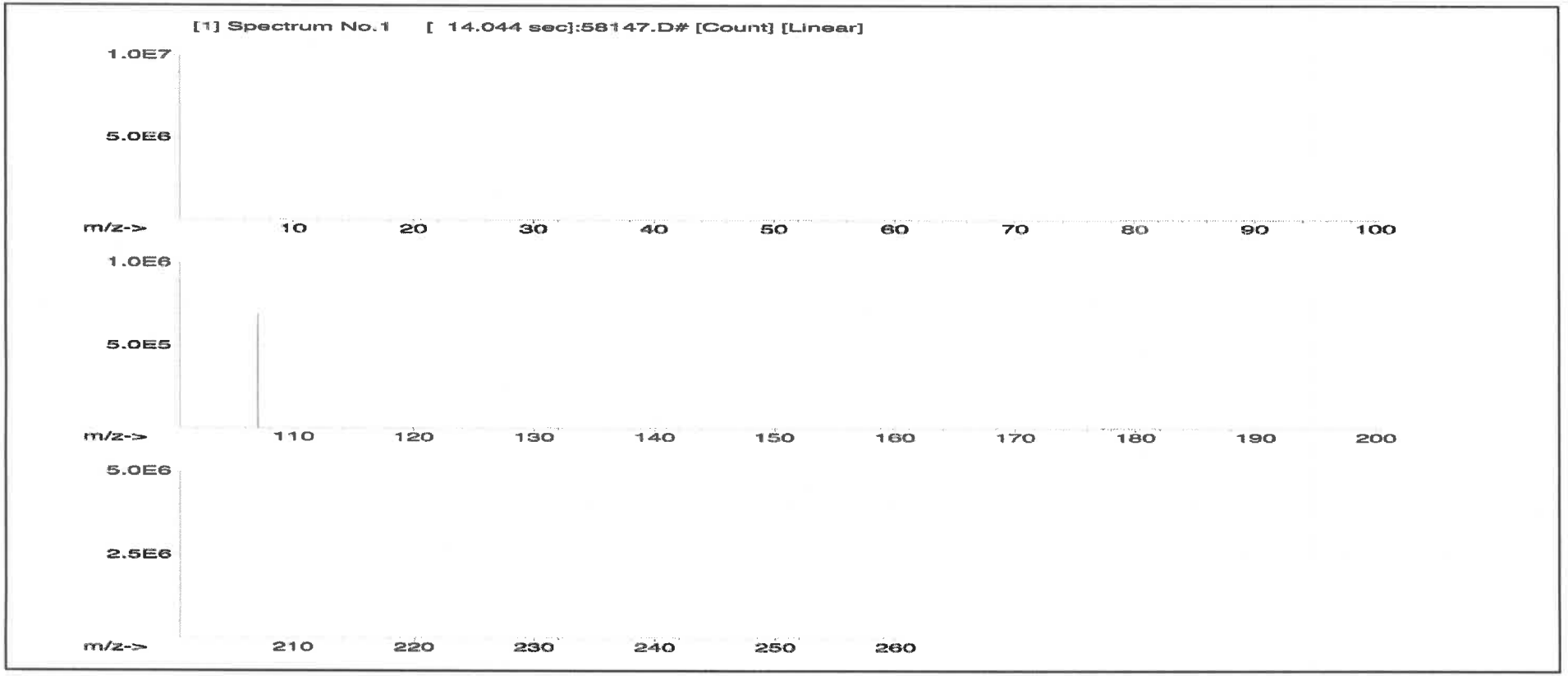
Weight shown below was diluted to (mL): 4000.30 0.058 Flask Uncertainty

		Lot #	
Solvent:	24002546	Nitric Acid	
2%	80.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Formulated By:	Benson Chan	122823
Reviewed By:	Pedro L. Rentas	122823

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Silver nitrate (Ag)	IN035	J0612AGA1	1000.0	99.9999	0.10	63.7	6.27992	6.27998	**1000.0**	**2.0**	7761-88-8	10 ug/m3	NA	3151



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	T	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R: 10/18/24

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

MG146

Part Number: 57051
Lot Number: 071724
Description: Antimony (Sb)
Expiration Date: 071727
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 2000.26 ± 0.058 Flask Uncertainty

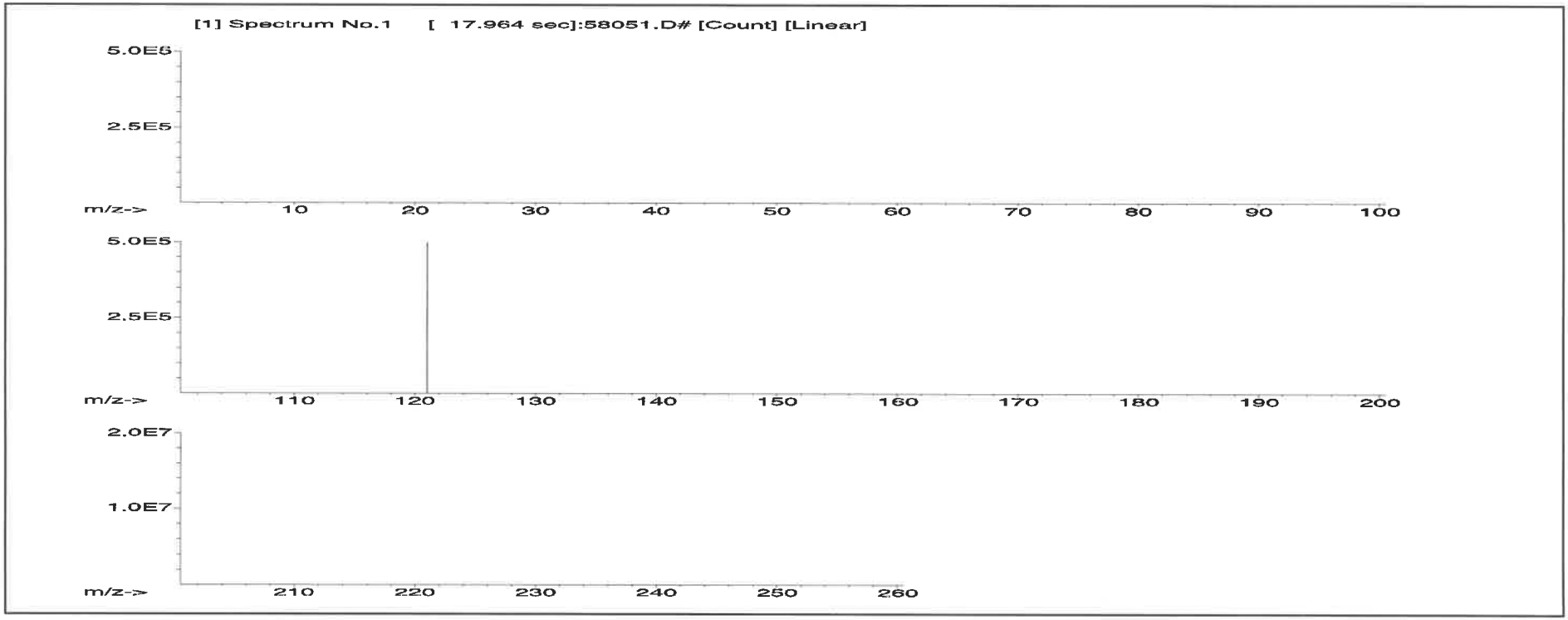
Lot #	Solvent:		
24002546	Nitric Acid		
2.0%	40.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Giovanni Esposito

Formulated By:	Giovanni Esposito	071724
Reviewed By:	Pedro L. Rentas	071724

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Antimony (Sb)	58151	060324	0.1000	200.0	0.084	1000	10001.4	**1000.0**	**2.2**	7440-36-0	0.5 mg/m3	orl-rat 7000 mg/kg	3102a



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	T	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

APTIM

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
"An ISO 9001:2015 Certified Program"

Instructions for QATS Reference Material: *ICP-AES ICS*

QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

M6152

Contains Heavy Metals
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more bottles of Aqueous Reference Material, each composed of metals at various concentrations and prepared with nitrate salts and oxy-acids of the respective elements in a 5% nitric acid matrix. **For the reference material source in reporting ICSA and ICSAB mixture use "USEPA". For the reference material lot number for the ICSA use "ICSA-1211" and for the ICSAB mixture use "ICSA-1211+ICSB-0710".**

CAUTION: The bottle(s) should be protected from light during storage to ensure the stability of silver which is contained in the ICSB solution. The bottle(s) should be stored at room temperature. **Do not allow the solution(s) to freeze.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The interference check sample set is to be used to verify inter-element and background correction factors of inductively-coupled plasma (ICP) spectrometers. This reference material set consists of two (2) concentrated solutions. The ICSA solution contains the four (4) interferent elements: Al, Ca, Fe, and Mg. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be,

The Quality Assurance Technical Support (QATS) contract is operated by APTIM Federal Services, LLC.

Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for ICP-AES Part A and Part B target analytes when diluted as directed.

Using Class "A" glassware, preparation and analysis must be performed according to the following instructions:

ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSA solution by ICP-AES.

ICSB-0710, Analytes, mixed with ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution and 10 mL of the ICSB solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSAB solution by ICP-AES.

(D) *"CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-AES ICS SOLUTION(S)*

The "Certified Value" concentrations of the elements, listed in Table 1 below, were derived from statistically pooled analysis results from the following sources, if available: QATS Laboratory, CLP laboratories, Quarterly Blind (QB)/Proficiency Testing (PT) events, CLP pre-award events, and external referee laboratories.

Table 1. "CERTIFIED VALUES" FOR INTERFERENCE CHECK SAMPLE ICP-AES ICSA-1211, AND ICSA-1211 MIXED WITH ICSB-0710

Element	CRQL	Part A (µg/L)	Low Limit (µg/L)	High Limit (µg/L)	Part A +Part B (µg/L)	Low Limit (µg/L)	High Limit (µg/L)
Al	200	255000	216000	294000	247000	209000	285000
Sb	60	(0.0)	-60.0	60.0	618	525	711
As	10	(0.0)	-10.0	10.0	104	88.4	120
Ba	200	(6.0)	-194	206	(537)	337	737
Be	5.0	(0.0)	-5.0	5.0	495	420	570
Cd	5.0	(1.0)	-4.0	6.0	972	826	1120
Ca	5000	245000	208000	282000	235000	199000	271000
Cr	10	(52.0)	42.0	62.0	542	460	624
Co	50	(0.0)	-50.0	50.0	476	404	548
Cu	25	(2.0)	-23.0	27.0	511	434	588
Fe	100	101000	85600	116500	99300	84400	114500
Pb	10	(0.0)	-10.0	10.0	(49.0)	39.0	59.0
Mg	5000	255000	216000	294000	248000	210000	286000
Mn	15	(7.0)	-8.0	22.0	507	430	584
Ni	40	(2.0)	-38.0	42.0	954	810	1100
Se	35	(0.0)	-35.0	35.0	(46.0)	11.0	81.0
Ag	10	(0.0)	-10.0	10.0	201	170	232
Tl	25	(0.0)	-25.0	25.0	(108)	83.0	133
V	50	(0.0)	-50.0	50.0	491	417	565
Zn	60	(0.0)	-60.0	60.0	952	809	1095

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 1 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value ± 15 percent of the listed certified value.



QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
"An ISO 9001:2015 Certified Program"

APTIM

Instructions for QATS Reference Material: *ICP-AES ICS*

QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

M6155

Contains Heavy Metals
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more bottles of Aqueous Reference Material, each composed of metals at various concentrations and prepared with nitrate salts and oxy-acids of the respective elements in a 5% nitric acid matrix. **For the reference material source in reporting ICSA and ICSAB mixture use "USEPA". For the reference material lot number for the ICSA use "ICSA-1211" and for the ICSAB mixture use "ICSA-1211+ICSB-0710".**

CAUTION: The bottle(s) should be protected from light during storage to ensure the stability of silver which is contained in the ICSB solution. The bottle(s) should be stored at room temperature. **Do not allow the solution(s) to freeze.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The interference check sample set is to be used to verify inter-element and background correction factors of inductively-coupled plasma (ICP) spectrometers. This reference material set consists of two (2) concentrated solutions. The ICSA solution contains the four (4) interferent elements: Al, Ca, Fe, and Mg. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be,



Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for ICP-AES Part A and Part B target analytes when diluted as directed.

Using Class "A" glassware, preparation and analysis must be performed according to the following instructions:

ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSA solution by ICP-AES.

ICSB-0710, Analytes, mixed with ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution and 10 mL of the ICSB solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSAB solution by ICP-AES.

(D) *"CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-AES ICS SOLUTION(S)*

The "Certified Value" concentrations of the elements, listed in Table 1 below, were derived from statistically pooled analysis results from the following sources, if available: QATS Laboratory, CLP laboratories, Quarterly Blind (QB)/Proficiency Testing (PT) events, CLP pre-award events, and external referee laboratories.

Table 1. "CERTIFIED VALUES" FOR INTERFERENCE CHECK SAMPLE ICP-AES ICSA-1211, AND ICSA-1211 MIXED WITH ICSB-0710

Element	CRQL	Part A (µg/L)	Low Limit (µg/L)	High Limit (µg/L)	Part A +Part B (µg/L)	Low Limit (µg/L)	High Limit (µg/L)
Al	200	255000	216000	294000	247000	209000	285000
Sb	60	(0.0)	-60.0	60.0	618	525	711
As	10	(0.0)	-10.0	10.0	104	88.4	120
Ba	200	(6.0)	-194	206	(537)	337	737
Be	5.0	(0.0)	-5.0	5.0	495	420	570
Cd	5.0	(1.0)	-4.0	6.0	972	826	1120
Ca	5000	245000	208000	282000	235000	199000	271000
Cr	10	(52.0)	42.0	62.0	542	460	624
Co	50	(0.0)	-50.0	50.0	476	404	548
Cu	25	(2.0)	-23.0	27.0	511	434	588
Fe	100	101000	85600	116500	99300	84400	114500
Pb	10	(0.0)	-10.0	10.0	(49.0)	39.0	59.0
Mg	5000	255000	216000	294000	248000	210000	286000
Mn	15	(7.0)	-8.0	22.0	507	430	584
Ni	40	(2.0)	-38.0	42.0	954	810	1100
Se	35	(0.0)	-35.0	35.0	(46.0)	11.0	81.0
Ag	10	(0.0)	-10.0	10.0	201	170	232
Tl	25	(0.0)	-25.0	25.0	(108)	83.0	133
V	50	(0.0)	-50.0	50.0	491	417	565
Zn	60	(0.0)	-60.0	60.0	952	809	1095

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 1 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value ± 15 percent of the listed certified value.

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

R: 8/5/24 M6019

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 888.01 ACCREDITED Reference Material Producer Certificate 888.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSR1
Lot Number:	U2-SR730227
Matrix:	0.1% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Strontium
Starting Material:	SrCO3
Starting Material Lot#:	M2-2192
Starting Material Purity:	99.9993%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1001 ± 3 µg/mL

Density: 1.000 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **998 ± 4 µg/mL**
ICP Assay NIST SRM Traceable to 3153a Lot Number: K2-SR650985

Assay Method #2 **1001 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **1001 ± 2 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.001980	M	Eu	<	0.000495	O	Na		0.000200	M	Se	<	0.013862	O	Zn		0.000143
O	Al		0.000370	O	Fe		0.000410	M	Nb	<	0.000495	i	Si	<		M	Zr	<	0.000495
M	As	<	0.000495	M	Ga	<	0.000495	M	Nd	<	0.000495	M	Sm	<	0.000495				
M	Au	<	0.000989	M	Gd	<	0.000495	O	Ni	<	0.007631	M	Sn	<	0.000990				
M	B	<	0.039606	M	Ge	<	0.000495	M	Os	<	0.000494	s	Sr	<					
M	Ba		0.006486	M	Hf	<	0.000495	i	P	<		M	Ta	<	0.000495				
M	Be	<	0.000990	M	Hg	<	0.000989	M	Pb	<	0.002970	M	Tb	<	0.000495				
M	Bi	<	0.000495	M	Ho	<	0.000495	M	Pd	<	0.003957	M	Te	<	0.027724				
O	Ca		0.004255	M	In	<	0.000495	M	Pr	<	0.000495	M	Th	<	0.000990				
M	Cd		0.001339	M	Ir	<	0.000494	M	Pt	<	0.002970	M	Ti	<	0.005940				
M	Ce	<	0.004950	O	K	<	0.008184	M	Rb	<	0.002970	M	Tl	<	0.000495				
M	Co	<	0.000495	M	La	<	0.000495	M	Re	<	0.000495	M	Tm	<	0.000495				
O	Cr	<	0.003207	O	Li	<	0.000884	O	Rh	<	0.012829	M	U	<	0.001485				
M	Cs	<	0.000990	M	Lu	<	0.002970	M	Ru	<	0.000989	M	V	<	0.001980				
M	Cu		0.000099	O	Mg		0.000064	i	S	<		M	W	<	0.003960				
M	Dy	<	0.000495	O	Mn		0.000066	M	Sb	<	0.014852	O	Y	<	0.000995				
M	Er	<	0.000495	M	Mo	<	0.001980	M	Sc	<	0.001980	M	Yb	<	0.000495				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 87.62 +2 6 $Sr(H_2O)_{6}^{+2}$

Chemical Compatibility - Soluble in HCl, and HNO_3. Avoid H_2SO_4, HF and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicate, carbonate, hydroxide, oxide, fluoride, sulfate, oxalate, chromate, arsenate and tungstate in neutral aqueous media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1 - 3.5% HNO_3 / LDPE container.

Sr Containing Samples (Preparation and Solution) -Metal (Best dissolved in diluted HNO_3); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Dry ash and dissolution in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 88 amu	1200 ppt	N/A	72Ge16O, 176Yb+2, 176Lu+2 , 176Hf+2
ICP-OES 407.771 nm	0.0004 / 0.00006 µg/mL	1	U, Ce
ICP-OES 421.552 nm	0.0008 / 0.00004 µg/mL	1	Rb
ICP-OES 460.733 nm	0.07 / 0.003 µg/mL	1	Ce

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 03, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **March 03, 2028**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

R: 8/5/24 M6019

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 888.01 ACCREDITED Reference Material Producer Certificate 888.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSR1
Lot Number:	U2-SR730227
Matrix:	0.1% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Strontium
Starting Material:	SrCO3
Starting Material Lot#:	M2-2192
Starting Material Purity:	99.9993%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1001 ± 3 µg/mL

Density: 1.000 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **998 ± 4 µg/mL**
ICP Assay NIST SRM Traceable to 3153a Lot Number: K2-SR650985

Assay Method #2 **1001 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **1001 ± 2 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.001980	M	Eu	<	0.000495	O	Na		0.000200	M	Se	<	0.013862	O	Zn		0.000143
O	Al		0.000370	O	Fe		0.000410	M	Nb	<	0.000495	i	Si	<		M	Zr	<	0.000495
M	As	<	0.000495	M	Ga	<	0.000495	M	Nd	<	0.000495	M	Sm	<	0.000495				
M	Au	<	0.000989	M	Gd	<	0.000495	O	Ni	<	0.007631	M	Sn	<	0.000990				
M	B	<	0.039606	M	Ge	<	0.000495	M	Os	<	0.000494	s	Sr	<					
M	Ba		0.006486	M	Hf	<	0.000495	i	P	<		M	Ta	<	0.000495				
M	Be	<	0.000990	M	Hg	<	0.000989	M	Pb	<	0.002970	M	Tb	<	0.000495				
M	Bi	<	0.000495	M	Ho	<	0.000495	M	Pd	<	0.003957	M	Te	<	0.027724				
O	Ca		0.004255	M	In	<	0.000495	M	Pr	<	0.000495	M	Th	<	0.000990				
M	Cd		0.001339	M	Ir	<	0.000494	M	Pt	<	0.002970	M	Ti	<	0.005940				
M	Ce	<	0.004950	O	K	<	0.008184	M	Rb	<	0.002970	M	Tl	<	0.000495				
M	Co	<	0.000495	M	La	<	0.000495	M	Re	<	0.000495	M	Tm	<	0.000495				
O	Cr	<	0.003207	O	Li	<	0.000884	O	Rh	<	0.012829	M	U	<	0.001485				
M	Cs	<	0.000990	M	Lu	<	0.002970	M	Ru	<	0.000989	M	V	<	0.001980				
M	Cu		0.000099	O	Mg		0.000064	i	S	<		M	W	<	0.003960				
M	Dy	<	0.000495	O	Mn		0.000066	M	Sb	<	0.014852	O	Y	<	0.000995				
M	Er	<	0.000495	M	Mo	<	0.001980	M	Sc	<	0.001980	M	Yb	<	0.000495				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 87.62 +2 6 $Sr(H_2O)_{6}^{+2}$

Chemical Compatibility - Soluble in HCl, and HNO_3. Avoid H_2SO_4, HF and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicate, carbonate, hydroxide, oxide, fluoride, sulfate, oxalate, chromate, arsenate and tungstate in neutral aqueous media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1 - 3.5% HNO_3 / LDPE container.

Sr Containing Samples (Preparation and Solution) -Metal (Best dissolved in diluted HNO_3); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Dry ash and dissolution in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 88 amu	1200 ppt	N/A	72Ge16O, 176Yb+2, 176Lu+2 , 176Hf+2
ICP-OES 407.771 nm	0.0004 / 0.00006 µg/mL	1	U, Ce
ICP-OES 421.552 nm	0.0008 / 0.00004 µg/mL	1	Rb
ICP-OES 460.733 nm	0.07 / 0.003 µg/mL	1	Ce

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 03, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **March 03, 2028**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M6023

B ! 8/5/24

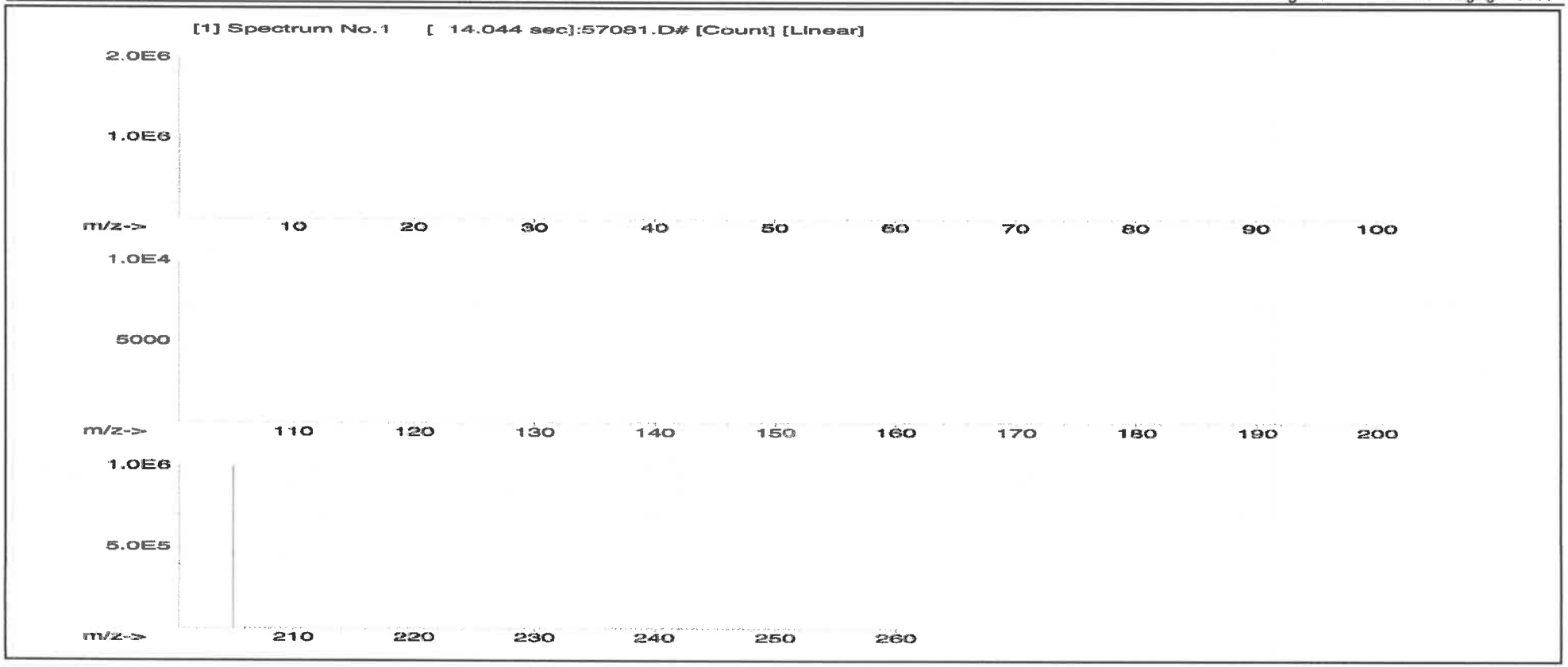
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number:	**57081**			**Lot #**	
Lot Number:	**062724**		**Solvent:**	24002546	Nitric Acid
Description:	**Thallium (Tl)**				
			2%	40.0 (mL)	Nitric Acid
Expiration Date:	062727				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.1	0.10	Flask Uncertainty		

Aleah O'Brady		
Formulated By:	Aleah O'Brady	062724
Reviewed By:	Pedro L. Rentas	062724

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Thallium nitrate (Tl)	IN037	BCCF4399	1000	99.999	0.10	77.0	2.5975	2.5977	**1000.1**	**2.0**	10102-45-1	0.1 mg/m3	orl-mus 15mg/kg	3158



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	T	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:



* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M6021

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Rc. 8/5/24

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57023**	24002546	Nitric Acid	
Lot Number:	**062424**			
Description:	**Vanadium (V)**	2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	062427			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.3	0.06	Flask Uncertainty	

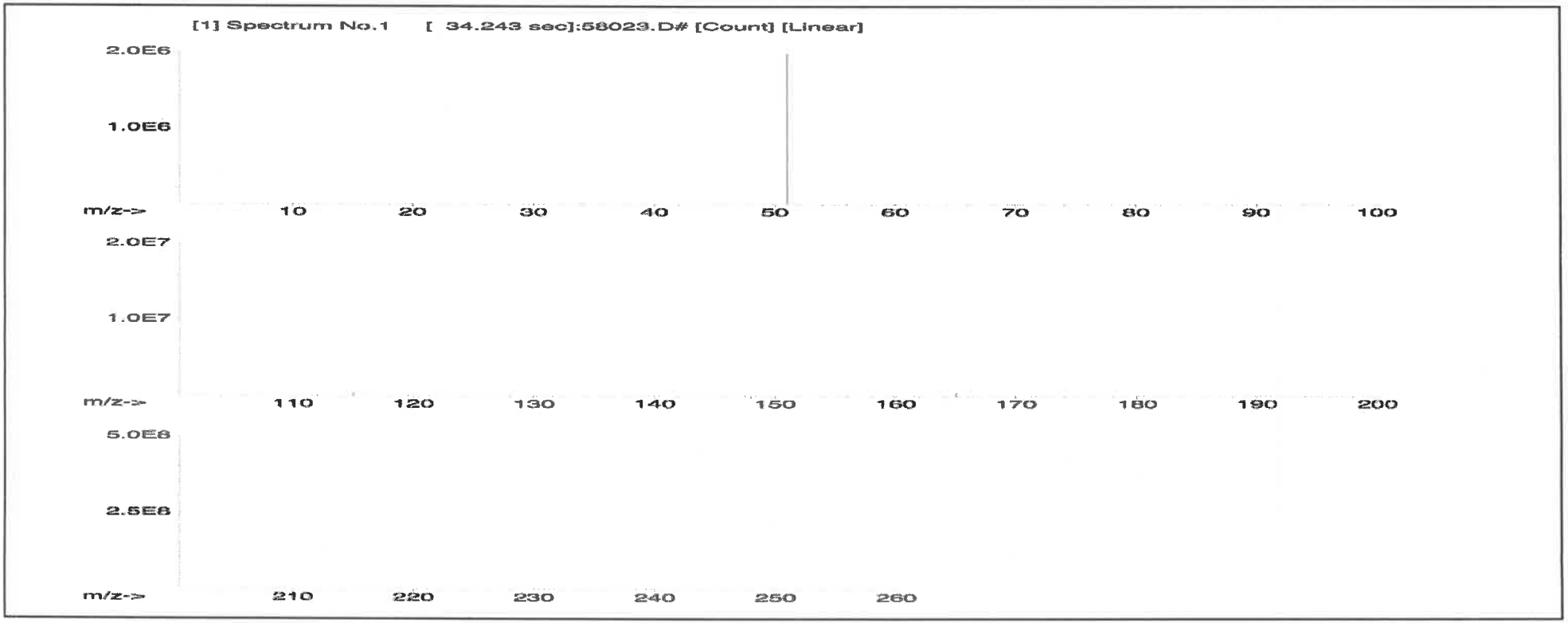
Aleah O'Brady

Formulated By:	Aleah O'Brady	062424

Pedro Rentas

Reviewed By:	Pedro L. Rentas	062424

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium metavanadate (V)	58123	021224	0.1000	200.0	0.084	1000	10000.3	**1000.0**	**2.2**	7803-55-6	0.05 mg/m3	orl-rat 58.1mg/kg	3165



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	T
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

SHIPPING DOCUMENTS

CHEMTECH
CHAIN OF CUSTODY RECORD

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 Fax: (908) 78-8922
www.chemtech.net

Chemtech Project Number: Q2064
COC Number:

CLIENT INFORMATION	PROJECT INFORMATION	BILLING INFORMATION
COMPANY: Tetra Tech	PROJECT NAME: NWIRP Bethpage	BILL TO: PO#
ADDRESS: 4433 Corporation Ln, Suite 300	PROJECT #: 112G08005-WE13 LOCATION: RW8	ADDRESS:
CITY: Virginia Beach STATE: VA ZIP: 23462	PROJECT MANAGER: Ernie Wu	CITY: STATE: ZIP:
ATTENTION: Ernie Wu	E-MAIL: ernie,wu@tetratech.com	ATTENTION: PHONE:
PHONE: 757-466-4901 FAX: 757-461-4148	PHONE: 757-466-4901 FAX: 757-461-4148	

DATA TURNAROUND INFORMATION

FAX: 5 DAYS*
HARD COPY: 5 DAYS*
EDD 5 DAYS*
* TO BE APPROVED BY CHEMTECH
STANDARD TURNAROUND TIME IS 10 BUSINESS DAYS

DATA DELIVERABLE INFORMATION

- ❑ RESEULTS ONLY
- ❑ RESULTS + QC
- ❑ New Jersey REDUCED
- ❑ New Jersey CLP
- ❑ EDD Format
- ❑ USEPA CLP
- ❑ New York State ASP "B"
- ❑ New York State ASP "A"
- ❑ Other

ANALYSIS

	1	2	3	4	5	6	7	8	9
	1,4-Dioxane SW846 8270 SIM	TAL Metals SW846 6010D/7471A	TCL SVOCS SW846 8270						

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# of Bottles	PRESERVATIVES 1	2	3	4	5	6	7	8	9	COMMENTS
									B								<-- Specify Preservatives A-HCl B-HNO3 C-H2SO4 D-NaOH E-ICE F-Other
1.	RW8-SP100-70%-20250514	GW		x	5/14/25	15:10	3	x	x	x							
2.	RW8-SP201-70%-20250514	GW		x	5/14/25	15:11	1	x									
3.	RW8-SP301-70%-20250514	GW		x	5/14/25	15:13	1	x									
4.	RW8-SP303-70%-20250514	GW		x	5/14/25	15:14	3	x	x	x							
5.	RW8-SP100-90%-20250514	GW		x	5/14/25	16:00	3	x	x	x							
6.	RW8-SP201-90%-20250514	GW		x	5/14/25	16:01	1	x									
7.	RW8-SP301-90%-20250514	GW		x	5/14/25	16:03	1	x									
8.	RW8-SP303-90%-20250514	GW		x	5/14/25	16:04	3	x	x	x							
9.																	
10.																	

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE PROSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER	DATE/TIME	RECEIVED BY
1.	5/15/25 1200	1.
RELINQUISHED BY	DATE/TIME	RECEIVED BY
2.	5/16/25 1005	2.
RELINQUISHED BY	DATE/TIME	RECEIVED FOR LAB BY
3.		3.

Conditions of bottles or coolers at receipt: ❑ Compliant ❑ Non Compliant ❑ Cooler Temp 3.1°C
MeOH extraction requires an additional 4oz. Jar for percent solid ❑ Ice in Cooler? Yes
Comments:

Page ____ of ____

SHIPPED VIA: CLIENT: ❑ Hand Delivered ❑ Overnight
CHEMTECH: ❑ Picked Up ❑ Overnight

Shipment Complete ❑ YES ❑ NO

WHITE - CHEMTECH COPYFOR RETURN TO CLIENT **YELLOW** - CHEMTECH COPY **PINK** - SAMPLER COPY

284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0830
DOD ELAP (ANAB)	L2219
Maine	2024021
Maryland	296
New Hampshire	255424 Rev 1
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	T104704488