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

DATA PACKAGE

METALS

PROJECT NAME : FORMER SCHLUMBERGER SITE PRINCETON NJ

JACOBS ENGINEERING GROUP, INC.

412 Mt. Kemble Ave

Downtown Building

Morristown, NJ - 07960

Phone No: 9732670555

ORDER ID : P3467

ATTENTION : Mary I. Murphy

Laboratory Certification ID # 20012

Table Of Contents for P3467

1) METALS DATA 2

2) Signature Page 4

3) Case Narrative 5

4) Qualifier Page 6

5) Conformance/Non Conformance 7

6) QA Checklist 8

7) Chronicle 9

8) Hit Summary 10

9) Sample Data 11

- 9.1) 919-J-WS-080224 12

10) METALS CALIBRATION DATA 13

- 10.1) Initial and Continuing Calibration Verification 14
- 10.2) CRDL Standard For AA & ICP 28
- 10.3) Initial and Continuing Calibration Blank Summary 30
- 10.4) Preparation Blank Summary 41
- 10.5) Interference Check Sample 43

11) METALS QC DATA 46

- 11.1) Matrix Spike Summary 47
- 11.2) Post Digest Spike Summary 49
- 11.3) Duplicate Sample Summary 50
- 11.4) Laboratory Control Sample Summary 52
- 11.5) ICP Serial Dilutions 54

12) METALS PREPARATION & INSTRUMENT DATA 55

- 12.1) ICP Interelement Correction Factors 56

13) PREPARATION & ANALYTICAL SUMMARY 61

- 13.1) Sample Preparation Summary 62
- 13.2) Analysis Run Log 64

14) METALS RAW DATA 67

- 14.1) METALS RAW DATA - ANALYTICAL 68
- 14.2) LB131900 68
- 14.3) LB132113 196
- 14.4) LB131960 346
- 14.5) METALS RAW DATA - PREP 348
  - 14.5.1) PB162493 348
  - 14.5.2) PB162680 351

15) Analytical Runlogs 354
16) Standard Prep Logs 364
17) Shipping Document 574
17.1) Chain Of Custody 575
17.2) Lab Certificate 576
17.3) Internal COC 577

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

Cover Page

Order ID : P3467

Project ID : Former Schlumberger Site Princeton NJ

Client : JACOBS Engineering Group, Inc.

Lab Sample Number	Client Sample Number
P3467-01	919-J-WS-080224
P3467-02	TB-03-080224

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 : _____ Date: 8/22/2024

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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

CASE NARRATIVE

JACOBS Engineering Group, Inc.
Project Name: Former Schlumberger Site Princeton NJ
Project # N/A
Chemtech Project # P3467
Test Name: Metals Group4,Mercury

A. Number of Samples and Date of Receipt:
2 Water samples were received on 08/02/2024.

B. Parameters:
According to the Chain of Custody document, the following analyses were requested: Hexavalent Chromium, Mercury, Metals Group4, SVOCMS Group3, SVOCMS Group6 and VOCMS Group6. This data package contains results for Metals Group4,Mercury.

C. Analytical Techniques:
The analysis of Metals Group4 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 (923-K1-WS-080124MS) analysis met criteria for all samples except for Strontium due to Chemical interference during Digestion Process.
The Matrix Spike Duplicate (923-K1-WS-080124MSD) analysis met criteria for all samples except for Strontium 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:

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_____

Alliance TECHNICAL GROUP
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

QA Control # A3040961

ALLIANCE 284 Sheffield Street, Mountainside New Jersey 07092

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

METALS CONFORMANCE/NON-CONFORMANCE SUMMARY

CHEMTECH PROJECT NUMBER: P3467 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 (923-K1-WS-080124MS) analysis met criteria for all samples except for Strontium due to Chemical interference during Digestion Process. The Matrix Spike Duplicate (923-K1-WS-080124MSD) analysis met criteria for all samples except for Strontium 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:

_____ _____

QA REVIEW Date

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

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: P3467

	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	✓

1st Level QA Review Signature: SOHIL JODHANI **Date:** 08/22/2024

2nd Level QA Review Signature: _____ **Date:** _____

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

LAB CHRONICLE

OrderID:	P3467	**OrderDate:**	8/2/2024 4:30:00 PM
Client:	JACOBS Engineering Group, Inc.	**Project:**	Former Schlumberger Site Princeton NJ
Contact:	Mary I. Murphy	**Location:**	D21,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P3467-01	**919-J-WS-080224**	**Water**			**08/02/24**			**08/02/24**
			Mercury	7470A		08/12/24	08/13/24	
			Metals Group4	6010D		08/05/24	08/21/24	

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

Hit Summary Sheet
SW-846

SDG No.: P3467 **Order ID:** P3467

Client: JACOBS Engineering Group, Inc. **Project ID:** Former Schlumberger Site Princeton NJ

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID :	**919-J-WS-080224**							
P3467-01	919-J-WS-080224	Water	Aluminum	1820		28.3	50.0	ug/L
P3467-01	919-J-WS-080224	Water	Arsenic	4.41	J	3.48	10.0	ug/L
P3467-01	919-J-WS-080224	Water	Barium	78.2		6.28	50.0	ug/L
P3467-01	919-J-WS-080224	Water	Beryllium	0.16	J	0.13	3.00	ug/L
P3467-01	919-J-WS-080224	Water	Boron	60.9		9.95	50.0	ug/L
P3467-01	919-J-WS-080224	Water	Calcium	15900		33.0	1000	ug/L
P3467-01	919-J-WS-080224	Water	Chromium	5.32		0.66	5.00	ug/L
P3467-01	919-J-WS-080224	Water	Cobalt	2.52	J	0.50	15.0	ug/L
P3467-01	919-J-WS-080224	Water	Copper	29.7		7.07	10.0	ug/L
P3467-01	919-J-WS-080224	Water	Iron	10600		18.5	50.0	ug/L
P3467-01	919-J-WS-080224	Water	Lead	18.1		3.51	6.00	ug/L
P3467-01	919-J-WS-080224	Water	Magnesium	2860		39.4	1000	ug/L
P3467-01	919-J-WS-080224	Water	Manganese	530		1.46	10.0	ug/L
P3467-01	919-J-WS-080224	Water	Mercury	0.25		0.081	0.20	ug/L
P3467-01	919-J-WS-080224	Water	Nickel	5.27	J	0.85	20.0	ug/L
P3467-01	919-J-WS-080224	Water	Potassium	2470		685	1000	ug/L
P3467-01	919-J-WS-080224	Water	Silver	0.75	J	0.58	5.00	ug/L
P3467-01	919-J-WS-080224	Water	Sodium	46100		237	1000	ug/L
P3467-01	919-J-WS-080224	Water	Strontium	91.1		2.32	10.0	ug/L
P3467-01	919-J-WS-080224	Water	Titanium	38.4		2.35	20.0	ug/L
P3467-01	919-J-WS-080224	Water	Vanadium	5.78	J	3.06	20.0	ug/L
P3467-01	919-J-WS-080224	Water	Zinc	189		1.75	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:	JACOBS Engineering Group, Inc.	Date Collected:	08/02/24
Project:	Former Schlumberger Site Princeton NJ	Date Received:	08/02/24
Client Sample ID:	919-J-WS-080224	SDG No.:	P3467
Lab Sample ID:	P3467-01	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	1820		1	28.3	50.0	ug/L	08/05/24 09:15	08/21/24 18:49	SW6010	SW3010
7440-36-0	Antimony	2.06	U	1	2.06	25.0	ug/L	08/05/24 09:15	08/21/24 18:49	SW6010	SW3010
7440-38-2	Arsenic	4.41	J	1	3.48	10.0	ug/L	08/05/24 09:15	08/21/24 18:49	SW6010	SW3010
7440-39-3	Barium	78.2		1	6.28	50.0	ug/L	08/05/24 09:15	08/21/24 18:49	SW6010	SW3010
7440-41-7	Beryllium	0.16	J	1	0.13	3.00	ug/L	08/05/24 09:15	08/21/24 18:49	SW6010	SW3010
7440-42-8	Boron	60.9		1	9.95	50.0	ug/L	08/05/24 09:15	08/21/24 18:49	SW6010	SW3010
7440-43-9	Cadmium	0.094	U	1	0.094	3.00	ug/L	08/05/24 09:15	08/21/24 18:49	SW6010	SW3010
7440-70-2	Calcium	15900		1	33.0	1000	ug/L	08/05/24 09:15	08/21/24 18:49	SW6010	SW3010
7440-47-3	Chromium	5.32		1	0.66	5.00	ug/L	08/05/24 09:15	08/21/24 18:49	SW6010	SW3010
7440-48-4	Cobalt	2.52	J	1	0.50	15.0	ug/L	08/05/24 09:15	08/21/24 18:49	SW6010	SW3010
7440-50-8	Copper	29.7		1	7.07	10.0	ug/L	08/05/24 09:15	08/21/24 18:49	SW6010	SW3010
7439-89-6	Iron	10600		1	18.5	50.0	ug/L	08/05/24 09:15	08/21/24 18:49	SW6010	SW3010
7439-92-1	Lead	18.1		1	3.51	6.00	ug/L	08/05/24 09:15	08/21/24 18:49	SW6010	SW3010
7439-95-4	Magnesium	2860		1	39.4	1000	ug/L	08/05/24 09:15	08/21/24 18:49	SW6010	SW3010
7439-96-5	Manganese	530		1	1.46	10.0	ug/L	08/05/24 09:15	08/21/24 18:49	SW6010	SW3010
7439-97-6	Mercury	0.25		1	0.081	0.20	ug/L	08/12/24 16:13	08/13/24 10:49	SW7470A	
7439-98-7	Molybdenum	3.67	U	1	3.67	100	ug/L	08/05/24 09:15	08/21/24 18:49	SW6010	SW3010
7440-02-0	Nickel	5.27	J	1	0.85	20.0	ug/L	08/05/24 09:15	08/21/24 18:49	SW6010	SW3010
7440-09-7	Potassium	2470		1	685	1000	ug/L	08/05/24 09:15	08/21/24 18:49	SW6010	SW3010
7782-49-2	Selenium	5.88	U	1	5.88	10.0	ug/L	08/05/24 09:15	08/21/24 18:49	SW6010	SW3010
7440-22-4	Silver	0.75	J	1	0.58	5.00	ug/L	08/05/24 09:15	08/21/24 18:49	SW6010	SW3010
7440-23-5	Sodium	46100		1	237	1000	ug/L	08/05/24 09:15	08/21/24 18:49	SW6010	SW3010
7440-24-6	Strontium	91.1	N	1	2.32	10.0	ug/L	08/05/24 09:15	08/21/24 18:49	SW6010	SW3010
7440-28-0	Thallium	2.32	U	1	2.32	20.0	ug/L	08/05/24 09:15	08/21/24 18:49	SW6010	SW3010
7440-31-5	Tin	1.89	U	1	1.89	20.0	ug/L	08/05/24 09:15	08/21/24 18:49	SW6010	SW3010
7440-32-6	Titanium	38.4		1	2.35	20.0	ug/L	08/05/24 09:15	08/21/24 18:49	SW6010	SW3010
7440-62-2	Vanadium	5.78	J	1	3.06	20.0	ug/L	08/05/24 09:15	08/21/24 18:49	SW6010	SW3010
7440-66-6	Zinc	189		1	1.75	20.0	ug/L	08/05/24 09:15	08/21/24 18:49	SW6010	SW3010

Color Before:	Colorless	Clarity Before:	Clear	Texture:	
Color After:	Colorless	Clarity After:	Clear	Artifacts:	
Comments:	Mercury				

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: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

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
ICV72	Mercury	4.01	4.0	100	90 - 110	CV	08/13/2024	08:53	LB131960

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

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

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
CCV35	Mercury	4.53	5.0	91	90 - 110	CV	08/13/2024	08:58	LB131960
CCV36	Mercury	4.77	5.0	95	90 - 110	CV	08/13/2024	09:33	LB131960
CCV37	Mercury	4.95	5.0	99	90 - 110	CV	08/13/2024	10:00	LB131960
CCV38	Mercury	4.86	5.0	97	90 - 110	CV	08/13/2024	10:30	LB131960
CCV39	Mercury	5.18	5.0	104	90 - 110	CV	08/13/2024	10:58	LB131960
CCV40	Mercury	5.09	5.0	102	90 - 110	CV	08/13/2024	11:24	LB131960

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

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

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	2310	2500	92	90 - 110	P	08/07/2024	15:52	LB131900
	Antimony	937	1000	94	90 - 110	P	08/07/2024	15:52	LB131900
	Arsenic	903	1000	90	90 - 110	P	08/07/2024	15:52	LB131900
	Barium	489	520	94	90 - 110	P	08/07/2024	15:52	LB131900
	Beryllium	472	510	92	90 - 110	P	08/07/2024	15:52	LB131900
	Boron	2480	2500	99	90 - 110	P	08/07/2024	15:52	LB131900
	Cadmium	470	510	92	90 - 110	P	08/07/2024	15:52	LB131900
	Calcium	9780	10000	98	90 - 110	P	08/07/2024	15:52	LB131900
	Chromium	521	520	100	90 - 110	P	08/07/2024	15:52	LB131900
	Cobalt	487	520	94	90 - 110	P	08/07/2024	15:52	LB131900
	Copper	490	510	96	90 - 110	P	08/07/2024	15:52	LB131900
	Iron	10000	10000	100	90 - 110	P	08/07/2024	15:52	LB131900
	Lead	954	1000	95	90 - 110	P	08/07/2024	15:52	LB131900
	Magnesium	5520	6000	92	90 - 110	P	08/07/2024	15:52	LB131900
	Manganese	493	520	95	90 - 110	P	08/07/2024	15:52	LB131900
	Molybdenum	2710	2500	108	90 - 110	P	08/07/2024	15:52	LB131900
	Nickel	490	530	92	90 - 110	P	08/07/2024	15:52	LB131900
	Potassium	10300	9900	104	90 - 110	P	08/07/2024	15:52	LB131900
	Selenium	916	1000	92	90 - 110	P	08/07/2024	15:52	LB131900
	Silver	251	250	100	90 - 110	P	08/07/2024	15:52	LB131900
	Sodium	10500	10000	105	90 - 110	P	08/07/2024	15:52	LB131900
	Strontium	2500	2500	100	90 - 110	P	08/07/2024	15:52	LB131900
	Thallium	999	1000	100	90 - 110	P	08/07/2024	15:52	LB131900
	Tin	2630	2500	105	90 - 110	P	08/07/2024	15:52	LB131900
	Titanium	2640	2500	106	90 - 110	P	08/07/2024	15:52	LB131900
	Vanadium	475	500	95	90 - 110	P	08/07/2024	15:52	LB131900
	Zinc	1040	1000	104	90 - 110	P	08/07/2024	15:52	LB131900

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

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

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	102	100	102	80 - 120	P	08/07/2024	15:56	LB131900
	Antimony	51.2	50.0	102	80 - 120	P	08/07/2024	15:56	LB131900
	Arsenic	19.9	20.0	100	80 - 120	P	08/07/2024	15:56	LB131900
	Barium	101	100	101	80 - 120	P	08/07/2024	15:56	LB131900
	Beryllium	6.00	6.0	100	80 - 120	P	08/07/2024	15:56	LB131900
	Boron	102	100	102	80 - 120	P	08/07/2024	15:56	LB131900
	Cadmium	6.25	6.0	104	80 - 120	P	08/07/2024	15:56	LB131900
	Calcium	2040	2000	102	80 - 120	P	08/07/2024	15:56	LB131900
	Chromium	9.27	10.0	93	80 - 120	P	08/07/2024	15:56	LB131900
	Cobalt	29.6	30.0	99	80 - 120	P	08/07/2024	15:56	LB131900
	Copper	21.9	20.0	109	80 - 120	P	08/07/2024	15:56	LB131900
	Iron	99.5	100	100	80 - 120	P	08/07/2024	15:56	LB131900
	Lead	13.9	12.0	116	80 - 120	P	08/07/2024	15:56	LB131900
	Magnesium	2100	2000	105	80 - 120	P	08/07/2024	15:56	LB131900
	Manganese	20.6	20.0	103	80 - 120	P	08/07/2024	15:56	LB131900
	Molybdenum	201	200	101	80 - 120	P	08/07/2024	15:56	LB131900
	Nickel	40.0	40.0	100	80 - 120	P	08/07/2024	15:56	LB131900
	Potassium	1760	2000	88	80 - 120	P	08/07/2024	15:56	LB131900
	Selenium	18.3	20.0	91	80 - 120	P	08/07/2024	15:56	LB131900
	Silver	8.68	10.0	87	80 - 120	P	08/07/2024	15:56	LB131900
	Sodium	1730	2000	86	80 - 120	P	08/07/2024	15:56	LB131900
	Strontium	20.7	20.0	104	80 - 120	P	08/07/2024	15:56	LB131900
	Thallium	41.2	40.0	103	80 - 120	P	08/07/2024	15:56	LB131900
	Tin	36.0	40.0	90	80 - 120	P	08/07/2024	15:56	LB131900
	Titanium	40.8	40.0	102	80 - 120	P	08/07/2024	15:56	LB131900
	Vanadium	41.4	40.0	104	80 - 120	P	08/07/2024	15:56	LB131900
	Zinc	41.5	40.0	104	80 - 120	P	08/07/2024	15:56	LB131900

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

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

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	9700	10000	97	90 - 110	P	08/07/2024	16:20	LB131900
	Antimony	4930	5000	99	90 - 110	P	08/07/2024	16:20	LB131900
	Arsenic	4910	5000	98	90 - 110	P	08/07/2024	16:20	LB131900
	Barium	10000	10000	100	90 - 110	P	08/07/2024	16:20	LB131900
	Beryllium	249	250	100	90 - 110	P	08/07/2024	16:20	LB131900
	Boron	4900	5000	98	90 - 110	P	08/07/2024	16:20	LB131900
	Cadmium	2490	2500	100	90 - 110	P	08/07/2024	16:20	LB131900
	Calcium	25000	25000	100	90 - 110	P	08/07/2024	16:20	LB131900
	Chromium	1010	1000	100	90 - 110	P	08/07/2024	16:20	LB131900
	Cobalt	2470	2500	99	90 - 110	P	08/07/2024	16:20	LB131900
	Copper	1230	1250	98	90 - 110	P	08/07/2024	16:20	LB131900
	Iron	4990	5000	100	90 - 110	P	08/07/2024	16:20	LB131900
	Lead	5060	5000	101	90 - 110	P	08/07/2024	16:20	LB131900
	Magnesium	24600	25000	98	90 - 110	P	08/07/2024	16:20	LB131900
	Manganese	2480	2500	99	90 - 110	P	08/07/2024	16:20	LB131900
	Molybdenum	5040	5000	101	90 - 110	P	08/07/2024	16:20	LB131900
	Nickel	2490	2500	100	90 - 110	P	08/07/2024	16:20	LB131900
	Potassium	24300	25000	97	90 - 110	P	08/07/2024	16:20	LB131900
	Selenium	4880	5000	98	90 - 110	P	08/07/2024	16:20	LB131900
	Silver	1240	1250	100	90 - 110	P	08/07/2024	16:20	LB131900
	Sodium	24000	25000	96	90 - 110	P	08/07/2024	16:20	LB131900
	Strontium	5000	5000	100	90 - 110	P	08/07/2024	16:20	LB131900
	Thallium	5160	5000	103	90 - 110	P	08/07/2024	16:20	LB131900
	Tin	5000	5000	100	90 - 110	P	08/07/2024	16:20	LB131900
	Titanium	4950	5000	99	90 - 110	P	08/07/2024	16:20	LB131900
	Vanadium	2460	2500	98	90 - 110	P	08/07/2024	16:20	LB131900
	Zinc	2540	2500	102	90 - 110	P	08/07/2024	16:20	LB131900
CCV02	Aluminum	9760	10000	98	90 - 110	P	08/07/2024	17:14	LB131900
	Antimony	4910	5000	98	90 - 110	P	08/07/2024	17:14	LB131900
	Arsenic	4900	5000	98	90 - 110	P	08/07/2024	17:14	LB131900
	Barium	10200	10000	102	90 - 110	P	08/07/2024	17:14	LB131900
	Beryllium	250	250	100	90 - 110	P	08/07/2024	17:14	LB131900
	Boron	4890	5000	98	90 - 110	P	08/07/2024	17:14	LB131900
	Cadmium	2520	2500	101	90 - 110	P	08/07/2024	17:14	LB131900

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

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

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	Calcium	25500	25000	102	90 - 110	P	08/07/2024	17:14	LB131900
	Chromium	1010	1000	101	90 - 110	P	08/07/2024	17:14	LB131900
	Cobalt	2490	2500	100	90 - 110	P	08/07/2024	17:14	LB131900
	Copper	1240	1250	99	90 - 110	P	08/07/2024	17:14	LB131900
	Iron	5090	5000	102	90 - 110	P	08/07/2024	17:14	LB131900
	Lead	5100	5000	102	90 - 110	P	08/07/2024	17:14	LB131900
	Magnesium	24800	25000	99	90 - 110	P	08/07/2024	17:14	LB131900
	Manganese	2530	2500	101	90 - 110	P	08/07/2024	17:14	LB131900
	Molybdenum	5050	5000	101	90 - 110	P	08/07/2024	17:14	LB131900
	Nickel	2510	2500	100	90 - 110	P	08/07/2024	17:14	LB131900
	Potassium	24500	25000	98	90 - 110	P	08/07/2024	17:14	LB131900
	Selenium	4850	5000	97	90 - 110	P	08/07/2024	17:14	LB131900
	Silver	1250	1250	100	90 - 110	P	08/07/2024	17:14	LB131900
	Sodium	24200	25000	97	90 - 110	P	08/07/2024	17:14	LB131900
	Strontium	5100	5000	102	90 - 110	P	08/07/2024	17:14	LB131900
	Thallium	5130	5000	103	90 - 110	P	08/07/2024	17:14	LB131900
	Tin	5030	5000	100	90 - 110	P	08/07/2024	17:14	LB131900
	Titanium	5060	5000	101	90 - 110	P	08/07/2024	17:14	LB131900
	Vanadium	2490	2500	100	90 - 110	P	08/07/2024	17:14	LB131900
	Zinc	2560	2500	102	90 - 110	P	08/07/2024	17:14	LB131900
CCV03	Aluminum	9390	10000	94	90 - 110	P	08/07/2024	18:51	LB131900
	Antimony	4780	5000	96	90 - 110	P	08/07/2024	18:51	LB131900
	Arsenic	4720	5000	94	90 - 110	P	08/07/2024	18:51	LB131900
	Barium	9840	10000	98	90 - 110	P	08/07/2024	18:51	LB131900
	Beryllium	252	250	101	90 - 110	P	08/07/2024	18:51	LB131900
	Boron	4910	5000	98	90 - 110	P	08/07/2024	18:51	LB131900
	Cadmium	2440	2500	98	90 - 110	P	08/07/2024	18:51	LB131900
	Calcium	24700	25000	99	90 - 110	P	08/07/2024	18:51	LB131900
	Chromium	996	1000	100	90 - 110	P	08/07/2024	18:51	LB131900
	Cobalt	2430	2500	97	90 - 110	P	08/07/2024	18:51	LB131900
	Copper	1200	1250	96	90 - 110	P	08/07/2024	18:51	LB131900
	Iron	4920	5000	98	90 - 110	P	08/07/2024	18:51	LB131900
	Lead	4950	5000	99	90 - 110	P	08/07/2024	18:51	LB131900
	Magnesium	24200	25000	97	90 - 110	P	08/07/2024	18:51	LB131900

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

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

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
CCV03	Manganese	2460	2500	98	90 - 110	P	08/07/2024	18:51	LB131900
	Molybdenum	4970	5000	99	90 - 110	P	08/07/2024	18:51	LB131900
	Nickel	2440	2500	97	90 - 110	P	08/07/2024	18:51	LB131900
	Potassium	24200	25000	97	90 - 110	P	08/07/2024	18:51	LB131900
	Selenium	4670	5000	93	90 - 110	P	08/07/2024	18:51	LB131900
	Silver	1240	1250	99	90 - 110	P	08/07/2024	18:51	LB131900
	Sodium	23600	25000	94	90 - 110	P	08/07/2024	18:51	LB131900
	Strontium	4900	5000	98	90 - 110	P	08/07/2024	18:51	LB131900
	Thallium	4990	5000	100	90 - 110	P	08/07/2024	18:51	LB131900
	Tin	4860	5000	97	90 - 110	P	08/07/2024	18:51	LB131900
	Titanium	4890	5000	98	90 - 110	P	08/07/2024	18:51	LB131900
	Vanadium	2420	2500	97	90 - 110	P	08/07/2024	18:51	LB131900
	Zinc	2500	2500	100	90 - 110	P	08/07/2024	18:51	LB131900
CCV04	Aluminum	9190	10000	92	90 - 110	P	08/07/2024	19:48	LB131900
	Antimony	4780	5000	96	90 - 110	P	08/07/2024	19:48	LB131900
	Arsenic	4740	5000	95	90 - 110	P	08/07/2024	19:48	LB131900
	Barium	9880	10000	99	90 - 110	P	08/07/2024	19:48	LB131900
	Beryllium	242	250	97	90 - 110	P	08/07/2024	19:48	LB131900
	Boron	4700	5000	94	90 - 110	P	08/07/2024	19:48	LB131900
	Cadmium	2460	2500	98	90 - 110	P	08/07/2024	19:48	LB131900
	Calcium	24600	25000	98	90 - 110	P	08/07/2024	19:48	LB131900
	Chromium	995	1000	100	90 - 110	P	08/07/2024	19:48	LB131900
	Cobalt	2430	2500	97	90 - 110	P	08/07/2024	19:48	LB131900
	Copper	1200	1250	96	90 - 110	P	08/07/2024	19:48	LB131900
	Iron	5100	5000	102	90 - 110	P	08/07/2024	19:48	LB131900
	Lead	5000	5000	100	90 - 110	P	08/07/2024	19:48	LB131900
	Magnesium	23900	25000	96	90 - 110	P	08/07/2024	19:48	LB131900
	Manganese	2440	2500	98	90 - 110	P	08/07/2024	19:48	LB131900
	Molybdenum	4950	5000	99	90 - 110	P	08/07/2024	19:48	LB131900
	Nickel	2450	2500	98	90 - 110	P	08/07/2024	19:48	LB131900
	Potassium	24600	25000	98	90 - 110	P	08/07/2024	19:48	LB131900
	Selenium	4690	5000	94	90 - 110	P	08/07/2024	19:48	LB131900
	Silver	1240	1250	99	90 - 110	P	08/07/2024	19:48	LB131900
	Sodium	23900	25000	96	90 - 110	P	08/07/2024	19:48	LB131900

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

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

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	Strontium	4890	5000	98	90 - 110	P	08/07/2024	19:48	LB131900
	Thallium	5020	5000	100	90 - 110	P	08/07/2024	19:48	LB131900
	Tin	4900	5000	98	90 - 110	P	08/07/2024	19:48	LB131900
	Titanium	4860	5000	97	90 - 110	P	08/07/2024	19:48	LB131900
	Vanadium	2410	2500	96	90 - 110	P	08/07/2024	19:48	LB131900
	Zinc	2500	2500	100	90 - 110	P	08/07/2024	19:48	LB131900

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

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

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	2450	2500	98	90 - 110	P	08/21/2024	12:34	LB132113
	Antimony	1010	1000	101	90 - 110	P	08/21/2024	12:34	LB132113
	Arsenic	1000	1000	100	90 - 110	P	08/21/2024	12:34	LB132113
	Barium	501	520	96	90 - 110	P	08/21/2024	12:34	LB132113
	Beryllium	475	510	93	90 - 110	P	08/21/2024	12:34	LB132113
	Boron	2410	2500	96	90 - 110	P	08/21/2024	12:34	LB132113
	Cadmium	498	510	98	90 - 110	P	08/21/2024	12:34	LB132113
	Calcium	9930	10000	99	90 - 110	P	08/21/2024	12:34	LB132113
	Chromium	529	520	102	90 - 110	P	08/21/2024	12:34	LB132113
	Cobalt	522	520	100	90 - 110	P	08/21/2024	12:34	LB132113
	Copper	532	510	104	90 - 110	P	08/21/2024	12:34	LB132113
	Iron	10300	10000	103	90 - 110	P	08/21/2024	12:34	LB132113
	Lead	993	1000	99	90 - 110	P	08/21/2024	12:34	LB132113
	Magnesium	5860	6000	98	90 - 110	P	08/21/2024	12:34	LB132113
	Manganese	507	520	97	90 - 110	P	08/21/2024	12:34	LB132113
	Molybdenum	2670	2500	107	90 - 110	P	08/21/2024	12:34	LB132113
	Nickel	527	530	99	90 - 110	P	08/21/2024	12:34	LB132113
	Potassium	9960	9900	101	90 - 110	P	08/21/2024	12:34	LB132113
	Selenium	1020	1000	102	90 - 110	P	08/21/2024	12:34	LB132113
	Silver	255	250	102	90 - 110	P	08/21/2024	12:34	LB132113
	Sodium	9710	10000	97	90 - 110	P	08/21/2024	12:34	LB132113
	Strontium	2270	2500	91	90 - 110	P	08/21/2024	12:34	LB132113
	Thallium	1030	1000	102	90 - 110	P	08/21/2024	12:34	LB132113
	Tin	2680	2500	107	90 - 110	P	08/21/2024	12:34	LB132113
	Titanium	2550	2500	102	90 - 110	P	08/21/2024	12:34	LB132113
	Vanadium	492	500	98	90 - 110	P	08/21/2024	12:34	LB132113
	Zinc	1010	1000	101	90 - 110	P	08/21/2024	12:34	LB132113

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

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

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	92.9	100	93	80 - 120	P	08/21/2024	13:18	LB132113
	Antimony	46.4	50.0	93	80 - 120	P	08/21/2024	13:18	LB132113
	Arsenic	20.6	20.0	103	80 - 120	P	08/21/2024	13:18	LB132113
	Barium	90.2	100	90	80 - 120	P	08/21/2024	13:18	LB132113
	Beryllium	5.71	6.0	95	80 - 120	P	08/21/2024	13:18	LB132113
	Boron	86.6	100	87	80 - 120	P	08/21/2024	13:18	LB132113
	Cadmium	5.65	6.0	94	80 - 120	P	08/21/2024	13:18	LB132113
	Calcium	1830	2000	92	80 - 120	P	08/21/2024	13:18	LB132113
	Chromium	9.08	10.0	91	80 - 120	P	08/21/2024	13:18	LB132113
	Cobalt	28.2	30.0	94	80 - 120	P	08/21/2024	13:18	LB132113
	Copper	21.0	20.0	105	80 - 120	P	08/21/2024	13:18	LB132113
	Iron	91.8	100	92	80 - 120	P	08/21/2024	13:18	LB132113
	Lead	13.4	12.0	112	80 - 120	P	08/21/2024	13:18	LB132113
	Magnesium	1970	2000	99	80 - 120	P	08/21/2024	13:18	LB132113
	Manganese	18.7	20.0	93	80 - 120	P	08/21/2024	13:18	LB132113
	Molybdenum	186	200	93	80 - 120	P	08/21/2024	13:18	LB132113
	Nickel	37.1	40.0	93	80 - 120	P	08/21/2024	13:18	LB132113
	Potassium	1630	2000	82	80 - 120	P	08/21/2024	13:18	LB132113
	Selenium	19.3	20.0	96	80 - 120	P	08/21/2024	13:18	LB132113
	Silver	11.2	10.0	112	80 - 120	P	08/21/2024	13:18	LB132113
	Sodium	1600	2000	80	80 - 120	P	08/21/2024	13:18	LB132113
	Strontium	17.8	20.0	89	80 - 120	P	08/21/2024	13:18	LB132113
	Thallium	38.9	40.0	97	80 - 120	P	08/21/2024	13:18	LB132113
	Tin	35.4	40.0	88	80 - 120	P	08/21/2024	13:18	LB132113
	Titanium	35.3	40.0	88	80 - 120	P	08/21/2024	13:18	LB132113
	Vanadium	35.5	40.0	89	80 - 120	P	08/21/2024	13:18	LB132113
	Zinc	38.3	40.0	96	80 - 120	P	08/21/2024	13:18	LB132113

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

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

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	10200	10000	102	90 - 110	P	08/21/2024	15:39	LB132113
	Antimony	5210	5000	104	90 - 110	P	08/21/2024	15:39	LB132113
	Arsenic	4960	5000	99	90 - 110	P	08/21/2024	15:39	LB132113
	Barium	10400	10000	104	90 - 110	P	08/21/2024	15:39	LB132113
	Beryllium	252	250	101	90 - 110	P	08/21/2024	15:39	LB132113
	Boron	5070	5000	101	90 - 110	P	08/21/2024	15:39	LB132113
	Cadmium	2490	2500	100	90 - 110	P	08/21/2024	15:39	LB132113
	Calcium	25500	25000	102	90 - 110	P	08/21/2024	15:39	LB132113
	Chromium	1040	1000	104	90 - 110	P	08/21/2024	15:39	LB132113
	Cobalt	2550	2500	102	90 - 110	P	08/21/2024	15:39	LB132113
	Copper	1300	1250	104	90 - 110	P	08/21/2024	15:39	LB132113
	Iron	5340	5000	107	90 - 110	P	08/21/2024	15:39	LB132113
	Lead	4990	5000	100	90 - 110	P	08/21/2024	15:39	LB132113
	Magnesium	25400	25000	102	90 - 110	P	08/21/2024	15:39	LB132113
	Manganese	2580	2500	103	90 - 110	P	08/21/2024	15:39	LB132113
	Molybdenum	5180	5000	104	90 - 110	P	08/21/2024	15:39	LB132113
	Nickel	2590	2500	103	90 - 110	P	08/21/2024	15:39	LB132113
	Potassium	26600	25000	106	90 - 110	P	08/21/2024	15:39	LB132113
	Selenium	5070	5000	101	90 - 110	P	08/21/2024	15:39	LB132113
	Silver	1240	1250	99	90 - 110	P	08/21/2024	15:39	LB132113
	Sodium	26600	25000	107	90 - 110	P	08/21/2024	15:39	LB132113
	Strontium	5020	5000	100	90 - 110	P	08/21/2024	15:39	LB132113
	Thallium	4960	5000	99	90 - 110	P	08/21/2024	15:39	LB132113
	Tin	5140	5000	103	90 - 110	P	08/21/2024	15:39	LB132113
	Titanium	5150	5000	103	90 - 110	P	08/21/2024	15:39	LB132113
	Vanadium	2580	2500	103	90 - 110	P	08/21/2024	15:39	LB132113
	Zinc	2550	2500	102	90 - 110	P	08/21/2024	15:39	LB132113
CCV02	Aluminum	9800	10000	98	90 - 110	P	08/21/2024	16:59	LB132113
	Antimony	4920	5000	98	90 - 110	P	08/21/2024	16:59	LB132113
	Arsenic	4770	5000	96	90 - 110	P	08/21/2024	16:59	LB132113
	Barium	9540	10000	95	90 - 110	P	08/21/2024	16:59	LB132113
	Beryllium	267	250	107	90 - 110	P	08/21/2024	16:59	LB132113
	Boron	5380	5000	108	90 - 110	P	08/21/2024	16:59	LB132113
	Cadmium	2380	2500	95	90 - 110	P	08/21/2024	16:59	LB132113

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

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

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	Calcium	24600	25000	98	90 - 110	P	08/21/2024	16:59	LB132113
	Chromium	971	1000	97	90 - 110	P	08/21/2024	16:59	LB132113
	Cobalt	2440	2500	98	90 - 110	P	08/21/2024	16:59	LB132113
	Copper	1230	1250	99	90 - 110	P	08/21/2024	16:59	LB132113
	Iron	4530	5000	90	90 - 110	P	08/21/2024	16:59	LB132113
	Lead	4730	5000	94	90 - 110	P	08/21/2024	16:59	LB132113
	Magnesium	24500	25000	98	90 - 110	P	08/21/2024	16:59	LB132113
	Manganese	2460	2500	98	90 - 110	P	08/21/2024	16:59	LB132113
	Molybdenum	4860	5000	97	90 - 110	P	08/21/2024	16:59	LB132113
	Nickel	2460	2500	98	90 - 110	P	08/21/2024	16:59	LB132113
	Potassium	23000	25000	92	90 - 110	P	08/21/2024	16:59	LB132113
	Selenium	4980	5000	100	90 - 110	P	08/21/2024	16:59	LB132113
	Silver	1200	1250	96	90 - 110	P	08/21/2024	16:59	LB132113
	Sodium	22700	25000	91	90 - 110	P	08/21/2024	16:59	LB132113
	Strontium	4730	5000	95	90 - 110	P	08/21/2024	16:59	LB132113
	Thallium	5030	5000	101	90 - 110	P	08/21/2024	16:59	LB132113
	Tin	4990	5000	100	90 - 110	P	08/21/2024	16:59	LB132113
	Titanium	4910	5000	98	90 - 110	P	08/21/2024	16:59	LB132113
	Vanadium	2440	2500	98	90 - 110	P	08/21/2024	16:59	LB132113
	Zinc	2360	2500	94	90 - 110	P	08/21/2024	16:59	LB132113
CCV03	Aluminum	9850	10000	98	90 - 110	P	08/21/2024	17:51	LB132113
	Antimony	5060	5000	101	90 - 110	P	08/21/2024	17:51	LB132113
	Arsenic	4850	5000	97	90 - 110	P	08/21/2024	17:51	LB132113
	Barium	9850	10000	98	90 - 110	P	08/21/2024	17:51	LB132113
	Beryllium	262	250	105	90 - 110	P	08/21/2024	17:51	LB132113
	Boron	5300	5000	106	90 - 110	P	08/21/2024	17:51	LB132113
	Cadmium	2450	2500	98	90 - 110	P	08/21/2024	17:51	LB132113
	Calcium	25000	25000	100	90 - 110	P	08/21/2024	17:51	LB132113
	Chromium	993	1000	99	90 - 110	P	08/21/2024	17:51	LB132113
	Cobalt	2520	2500	101	90 - 110	P	08/21/2024	17:51	LB132113
	Copper	1260	1250	101	90 - 110	P	08/21/2024	17:51	LB132113
	Iron	4790	5000	96	90 - 110	P	08/21/2024	17:51	LB132113
	Lead	4880	5000	98	90 - 110	P	08/21/2024	17:51	LB132113
	Magnesium	24800	25000	99	90 - 110	P	08/21/2024	17:51	LB132113

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

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

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
CCV03	Manganese	2500	2500	100	90 - 110	P	08/21/2024	17:51	LB132113
	Molybdenum	5060	5000	101	90 - 110	P	08/21/2024	17:51	LB132113
	Nickel	2530	2500	101	90 - 110	P	08/21/2024	17:51	LB132113
	Potassium	23900	25000	96	90 - 110	P	08/21/2024	17:51	LB132113
	Selenium	5030	5000	101	90 - 110	P	08/21/2024	17:51	LB132113
	Silver	1230	1250	98	90 - 110	P	08/21/2024	17:51	LB132113
	Sodium	23600	25000	94	90 - 110	P	08/21/2024	17:51	LB132113
	Strontium	4790	5000	96	90 - 110	P	08/21/2024	17:51	LB132113
	Thallium	5060	5000	101	90 - 110	P	08/21/2024	17:51	LB132113
	Tin	5110	5000	102	90 - 110	P	08/21/2024	17:51	LB132113
	Titanium	4990	5000	100	90 - 110	P	08/21/2024	17:51	LB132113
	Vanadium	2480	2500	99	90 - 110	P	08/21/2024	17:51	LB132113
	Zinc	2320	2500	93	90 - 110	P	08/21/2024	17:51	LB132113
CCV04	Aluminum	9430	10000	94	90 - 110	P	08/21/2024	19:03	LB132113
	Antimony	4850	5000	97	90 - 110	P	08/21/2024	19:03	LB132113
	Arsenic	4610	5000	92	90 - 110	P	08/21/2024	19:03	LB132113
	Barium	9480	10000	95	90 - 110	P	08/21/2024	19:03	LB132113
	Beryllium	241	250	96	90 - 110	P	08/21/2024	19:03	LB132113
	Boron	4870	5000	97	90 - 110	P	08/21/2024	19:03	LB132113
	Cadmium	2380	2500	95	90 - 110	P	08/21/2024	19:03	LB132113
	Calcium	24000	25000	96	90 - 110	P	08/21/2024	19:03	LB132113
	Chromium	979	1000	98	90 - 110	P	08/21/2024	19:03	LB132113
	Cobalt	2450	2500	98	90 - 110	P	08/21/2024	19:03	LB132113
	Copper	1210	1250	97	90 - 110	P	08/21/2024	19:03	LB132113
	Iron	4940	5000	99	90 - 110	P	08/21/2024	19:03	LB132113
	Lead	4710	5000	94	90 - 110	P	08/21/2024	19:03	LB132113
	Magnesium	23700	25000	95	90 - 110	P	08/21/2024	19:03	LB132113
	Manganese	2390	2500	96	90 - 110	P	08/21/2024	19:03	LB132113
	Molybdenum	4930	5000	99	90 - 110	P	08/21/2024	19:03	LB132113
	Nickel	2450	2500	98	90 - 110	P	08/21/2024	19:03	LB132113
	Potassium	24600	25000	98	90 - 110	P	08/21/2024	19:03	LB132113
	Selenium	4770	5000	95	90 - 110	P	08/21/2024	19:03	LB132113
	Silver	1230	1250	99	90 - 110	P	08/21/2024	19:03	LB132113
	Sodium	24100	25000	96	90 - 110	P	08/21/2024	19:03	LB132113

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

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

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	Strontium	4640	5000	93	90 - 110	P	08/21/2024	19:03	LB132113
	Thallium	4940	5000	99	90 - 110	P	08/21/2024	19:03	LB132113
	Tin	4970	5000	100	90 - 110	P	08/21/2024	19:03	LB132113
	Titanium	4780	5000	96	90 - 110	P	08/21/2024	19:03	LB132113
	Vanadium	2380	2500	95	90 - 110	P	08/21/2024	19:03	LB132113
	Zinc	2660	2500	106	90 - 110	P	08/21/2024	19:03	LB132113
CCV05	Aluminum	9840	10000	98	90 - 110	P	08/21/2024	20:21	LB132113
	Antimony	4850	5000	97	90 - 110	P	08/21/2024	20:21	LB132113
	Arsenic	4750	5000	95	90 - 110	P	08/21/2024	20:21	LB132113
	Barium	9680	10000	97	90 - 110	P	08/21/2024	20:21	LB132113
	Beryllium	227	250	91	90 - 110	P	08/21/2024	20:21	LB132113
	Boron	5250	5000	105	90 - 110	P	08/21/2024	20:21	LB132113
	Cadmium	2510	2500	100	90 - 110	P	08/21/2024	20:21	LB132113
	Calcium	25300	25000	101	90 - 110	P	08/21/2024	20:21	LB132113
	Chromium	1020	1000	102	90 - 110	P	08/21/2024	20:21	LB132113
	Cobalt	2540	2500	102	90 - 110	P	08/21/2024	20:21	LB132113
	Copper	1240	1250	99	90 - 110	P	08/21/2024	20:21	LB132113
	Iron	4680	5000	94	90 - 110	P	08/21/2024	20:21	LB132113
	Lead	4960	5000	99	90 - 110	P	08/21/2024	20:21	LB132113
	Magnesium	25700	25000	103	90 - 110	P	08/21/2024	20:21	LB132113
	Manganese	2500	2500	100	90 - 110	P	08/21/2024	20:21	LB132113
	Molybdenum	4940	5000	99	90 - 110	P	08/21/2024	20:21	LB132113
	Nickel	2550	2500	102	90 - 110	P	08/21/2024	20:21	LB132113
	Potassium	23200	25000	93	90 - 110	P	08/21/2024	20:21	LB132113
	Selenium	4910	5000	98	90 - 110	P	08/21/2024	20:21	LB132113
	Silver	1270	1250	102	90 - 110	P	08/21/2024	20:21	LB132113
	Sodium	22600	25000	91	90 - 110	P	08/21/2024	20:21	LB132113
	Strontium	4740	5000	95	90 - 110	P	08/21/2024	20:21	LB132113
	Thallium	5100	5000	102	90 - 110	P	08/21/2024	20:21	LB132113
	Tin	5240	5000	105	90 - 110	P	08/21/2024	20:21	LB132113
	Titanium	4930	5000	99	90 - 110	P	08/21/2024	20:21	LB132113
	Vanadium	2480	2500	99	90 - 110	P	08/21/2024	20:21	LB132113
	Zinc	2410	2500	96	90 - 110	P	08/21/2024	20:21	LB132113

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

Metals

- 2b -

CRDL STANDARD FOR AA & ICP

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

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	106	100	106	40 - 160	P	08/07/2024	16:07	LB131900
	Antimony	50.6	50.0	101	40 - 160	P	08/07/2024	16:07	LB131900
	Arsenic	19.7	20.0	99	40 - 160	P	08/07/2024	16:07	LB131900
	Barium	99.7	100	100	40 - 160	P	08/07/2024	16:07	LB131900
	Beryllium	6.22	6.0	104	40 - 160	P	08/07/2024	16:07	LB131900
	Boron	99.0	100	99	40 - 160	P	08/07/2024	16:07	LB131900
	Cadmium	6.22	6.0	104	40 - 160	P	08/07/2024	16:07	LB131900
	Calcium	2030	2000	102	40 - 160	P	08/07/2024	16:07	LB131900
	Chromium	9.85	10.0	98	40 - 160	P	08/07/2024	16:07	LB131900
	Cobalt	29.9	30.0	100	40 - 160	P	08/07/2024	16:07	LB131900
	Copper	22.3	20.0	111	40 - 160	P	08/07/2024	16:07	LB131900
	Iron	97.0	100	97	40 - 160	P	08/07/2024	16:07	LB131900
	Lead	14.5	12.0	121	40 - 160	P	08/07/2024	16:07	LB131900
	Magnesium	2110	2000	105	40 - 160	P	08/07/2024	16:07	LB131900
	Manganese	21.1	20.0	106	40 - 160	P	08/07/2024	16:07	LB131900
	Molybdenum	204	200	102	40 - 160	P	08/07/2024	16:07	LB131900
	Nickel	40.1	40.0	100	40 - 160	P	08/07/2024	16:07	LB131900
	Potassium	1760	2000	88	40 - 160	P	08/07/2024	16:07	LB131900
	Selenium	17.8	20.0	89	40 - 160	P	08/07/2024	16:07	LB131900
	Silver	8.55	10.0	86	40 - 160	P	08/07/2024	16:07	LB131900
	Sodium	1750	2000	88	40 - 160	P	08/07/2024	16:07	LB131900
	Strontium	20.5	20.0	103	40 - 160	P	08/07/2024	16:07	LB131900
	Thallium	39.2	40.0	98	40 - 160	P	08/07/2024	16:07	LB131900
	Tin	36.2	40.0	90	40 - 160	P	08/07/2024	16:07	LB131900
	Titanium	40.3	40.0	101	40 - 160	P	08/07/2024	16:07	LB131900
	Vanadium	39.9	40.0	100	40 - 160	P	08/07/2024	16:07	LB131900
	Zinc	42.1	40.0	105	40 - 160	P	08/07/2024	16:07	LB131900
CRA	Mercury	0.24	0.2	118	40 - 160	CV	08/13/2024	09:10	LB131960
CRI01	Aluminum	104	100	104	40 - 160	P	08/21/2024	13:33	LB132113
	Antimony	46.9	50.0	94	40 - 160	P	08/21/2024	13:33	LB132113
	Arsenic	19.4	20.0	97	40 - 160	P	08/21/2024	13:33	LB132113
	Barium	90.9	100	91	40 - 160	P	08/21/2024	13:33	LB132113
	Beryllium	5.56	6.0	93	40 - 160	P	08/21/2024	13:33	LB132113
	Boron	84.1	100	84	40 - 160	P	08/21/2024	13:33	LB132113
	Cadmium	5.65	6.0	94	40 - 160	P	08/21/2024	13:33	LB132113

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

Metals

- 2b -

CRDL STANDARD FOR AA & ICP

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

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	Calcium	1840	2000	92	40 - 160	P	08/21/2024	13:33	LB132113
	Chromium	9.22	10.0	92	40 - 160	P	08/21/2024	13:33	LB132113
	Cobalt	28.2	30.0	94	40 - 160	P	08/21/2024	13:33	LB132113
	Copper	20.9	20.0	104	40 - 160	P	08/21/2024	13:33	LB132113
	Iron	99.0	100	99	40 - 160	P	08/21/2024	13:33	LB132113
	Lead	13.4	12.0	111	40 - 160	P	08/21/2024	13:33	LB132113
	Magnesium	1940	2000	97	40 - 160	P	08/21/2024	13:33	LB132113
	Manganese	18.2	20.0	91	40 - 160	P	08/21/2024	13:33	LB132113
	Molybdenum	187	200	93	40 - 160	P	08/21/2024	13:33	LB132113
	Nickel	37.2	40.0	93	40 - 160	P	08/21/2024	13:33	LB132113
	Potassium	1720	2000	86	40 - 160	P	08/21/2024	13:33	LB132113
	Selenium	18.6	20.0	93	40 - 160	P	08/21/2024	13:33	LB132113
	Silver	11.8	10.0	118	40 - 160	P	08/21/2024	13:33	LB132113
	Sodium	1620	2000	81	40 - 160	P	08/21/2024	13:33	LB132113
	Strontium	17.9	20.0	89	40 - 160	P	08/21/2024	13:33	LB132113
	Thallium	39.4	40.0	99	40 - 160	P	08/21/2024	13:33	LB132113
	Tin	35.3	40.0	88	40 - 160	P	08/21/2024	13:33	LB132113
	Titanium	35.4	40.0	88	40 - 160	P	08/21/2024	13:33	LB132113
	Vanadium	35.2	40.0	88	40 - 160	P	08/21/2024	13:33	LB132113
	Zinc	39.0	40.0	97	40 - 160	P	08/21/2024	13:33	LB132113

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

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB72	Mercury	0.20	+/-0.20	U	0.20	CV	08/13/2024	08:55	LB131960

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

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB35	Mercury	0.20	+/-0.20	U	0.20	CV	08/13/2024	09:03	LB131960
CCB36	Mercury	0.20	+/-0.20	U	0.20	CV	08/13/2024	09:35	LB131960
CCB37	Mercury	0.20	+/-0.20	U	0.20	CV	08/13/2024	10:05	LB131960
CCB38	Mercury	0.20	+/-0.20	U	0.20	CV	08/13/2024	10:35	LB131960
CCB39	Mercury	0.20	+/-0.20	U	0.20	CV	08/13/2024	11:04	LB131960
CCB40	Mercury	0.20	+/-0.20	U	0.20	CV	08/13/2024	11:26	LB131960

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

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Aluminum	100	+/-100	U	100	P	08/07/2024	16:03	LB131900
	Antimony	50.0	+/-50.0	U	50.0	P	08/07/2024	16:03	LB131900
	Arsenic	20.0	+/-20.0	U	20.0	P	08/07/2024	16:03	LB131900
	Barium	100	+/-100	U	100	P	08/07/2024	16:03	LB131900
	Beryllium	6.00	+/-6.00	U	6.00	P	08/07/2024	16:03	LB131900
	Boron	100	+/-100	U	100	P	08/07/2024	16:03	LB131900
	Cadmium	6.00	+/-6.00	U	6.00	P	08/07/2024	16:03	LB131900
	Calcium	2000	+/-2000	U	2000	P	08/07/2024	16:03	LB131900
	Chromium	10.0	+/-10.0	U	10.0	P	08/07/2024	16:03	LB131900
	Cobalt	30.0	+/-30.0	U	30.0	P	08/07/2024	16:03	LB131900
	Copper	20.0	+/-20.0	U	20.0	P	08/07/2024	16:03	LB131900
	Iron	100	+/-100	U	100	P	08/07/2024	16:03	LB131900
	Lead	12.0	+/-12.0	U	12.0	P	08/07/2024	16:03	LB131900
	Magnesium	2000	+/-2000	U	2000	P	08/07/2024	16:03	LB131900
	Manganese	20.0	+/-20.0	U	20.0	P	08/07/2024	16:03	LB131900
	Molybdenum	200	+/-200	U	200	P	08/07/2024	16:03	LB131900
	Nickel	40.0	+/-40.0	U	40.0	P	08/07/2024	16:03	LB131900
	Potassium	2000	+/-2000	U	2000	P	08/07/2024	16:03	LB131900
	Selenium	20.0	+/-20.0	U	20.0	P	08/07/2024	16:03	LB131900
	Silver	10.0	+/-10.0	U	10.0	P	08/07/2024	16:03	LB131900
	Sodium	2000	+/-2000	U	2000	P	08/07/2024	16:03	LB131900
	Strontium	20.0	+/-20.0	U	20.0	P	08/07/2024	16:03	LB131900
	Thallium	40.0	+/-40.0	U	40.0	P	08/07/2024	16:03	LB131900
	Tin	40.0	+/-40.0	U	40.0	P	08/07/2024	16:03	LB131900
	Titanium	40.0	+/-40.0	U	40.0	P	08/07/2024	16:03	LB131900
	Vanadium	40.0	+/-40.0	U	40.0	P	08/07/2024	16:03	LB131900
	Zinc	40.0	+/-40.0	U	40.0	P	08/07/2024	16:03	LB131900

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: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Aluminum	100	+/-100	U	100	P	08/07/2024	16:25	LB131900
	Antimony	50.0	+/-50.0	U	50.0	P	08/07/2024	16:25	LB131900
	Arsenic	20.0	+/-20.0	U	20.0	P	08/07/2024	16:25	LB131900
	Barium	100	+/-100	U	100	P	08/07/2024	16:25	LB131900
	Beryllium	6.00	+/-6.00	U	6.00	P	08/07/2024	16:25	LB131900
	Boron	100	+/-100	U	100	P	08/07/2024	16:25	LB131900
	Cadmium	6.00	+/-6.00	U	6.00	P	08/07/2024	16:25	LB131900
	Calcium	2000	+/-2000	U	2000	P	08/07/2024	16:25	LB131900
	Chromium	10.0	+/-10.0	U	10.0	P	08/07/2024	16:25	LB131900
	Cobalt	30.0	+/-30.0	U	30.0	P	08/07/2024	16:25	LB131900
	Copper	20.0	+/-20.0	U	20.0	P	08/07/2024	16:25	LB131900
	Iron	100	+/-100	U	100	P	08/07/2024	16:25	LB131900
	Lead	12.0	+/-12.0	U	12.0	P	08/07/2024	16:25	LB131900
	Magnesium	2000	+/-2000	U	2000	P	08/07/2024	16:25	LB131900
	Manganese	20.0	+/-20.0	U	20.0	P	08/07/2024	16:25	LB131900
	Molybdenum	200	+/-200	U	200	P	08/07/2024	16:25	LB131900
	Nickel	40.0	+/-40.0	U	40.0	P	08/07/2024	16:25	LB131900
	Potassium	2000	+/-2000	U	2000	P	08/07/2024	16:25	LB131900
	Selenium	20.0	+/-20.0	U	20.0	P	08/07/2024	16:25	LB131900
	Silver	10.0	+/-10.0	U	10.0	P	08/07/2024	16:25	LB131900
	Sodium	2000	+/-2000	U	2000	P	08/07/2024	16:25	LB131900
	Strontium	20.0	+/-20.0	U	20.0	P	08/07/2024	16:25	LB131900
	Thallium	40.0	+/-40.0	U	40.0	P	08/07/2024	16:25	LB131900
	Tin	40.0	+/-40.0	U	40.0	P	08/07/2024	16:25	LB131900
	Titanium	40.0	+/-40.0	U	40.0	P	08/07/2024	16:25	LB131900
	Vanadium	40.0	+/-40.0	U	40.0	P	08/07/2024	16:25	LB131900
	Zinc	40.0	+/-40.0	U	40.0	P	08/07/2024	16:25	LB131900
CCB02	Aluminum	100	+/-100	U	100	P	08/07/2024	17:18	LB131900
	Antimony	50.0	+/-50.0	U	50.0	P	08/07/2024	17:18	LB131900
	Arsenic	20.0	+/-20.0	U	20.0	P	08/07/2024	17:18	LB131900
	Barium	100	+/-100	U	100	P	08/07/2024	17:18	LB131900
	Beryllium	6.00	+/-6.00	U	6.00	P	08/07/2024	17:18	LB131900
	Boron	100	+/-100	U	100	P	08/07/2024	17:18	LB131900
	Cadmium	6.00	+/-6.00	U	6.00	P	08/07/2024	17:18	LB131900
	Calcium	2000	+/-2000	U	2000	P	08/07/2024	17:18	LB131900
	Chromium	10.0	+/-10.0	U	10.0	P	08/07/2024	17:18	LB131900
	Cobalt	30.0	+/-30.0	U	30.0	P	08/07/2024	17:18	LB131900
	Copper	20.0	+/-20.0	U	20.0	P	08/07/2024	17:18	LB131900
	Iron	100	+/-100	U	100	P	08/07/2024	17:18	LB131900

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

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB02	Lead	12.0	+/-12.0	U	12.0	P	08/07/2024	17:18	LB131900
	Magnesium	2000	+/-2000	U	2000	P	08/07/2024	17:18	LB131900
	Manganese	20.0	+/-20.0	U	20.0	P	08/07/2024	17:18	LB131900
	Molybdenum	200	+/-200	U	200	P	08/07/2024	17:18	LB131900
	Nickel	40.0	+/-40.0	U	40.0	P	08/07/2024	17:18	LB131900
	Potassium	2000	+/-2000	U	2000	P	08/07/2024	17:18	LB131900
	Selenium	20.0	+/-20.0	U	20.0	P	08/07/2024	17:18	LB131900
	Silver	10.0	+/-10.0	U	10.0	P	08/07/2024	17:18	LB131900
	Sodium	2000	+/-2000	U	2000	P	08/07/2024	17:18	LB131900
	Strontium	20.0	+/-20.0	U	20.0	P	08/07/2024	17:18	LB131900
	Thallium	40.0	+/-40.0	U	40.0	P	08/07/2024	17:18	LB131900
	Tin	40.0	+/-40.0	U	40.0	P	08/07/2024	17:18	LB131900
	Titanium	40.0	+/-40.0	U	40.0	P	08/07/2024	17:18	LB131900
	Vanadium	40.0	+/-40.0	U	40.0	P	08/07/2024	17:18	LB131900
	Zinc	40.0	+/-40.0	U	40.0	P	08/07/2024	17:18	LB131900
CCB03	Aluminum	100	+/-100	U	100	P	08/07/2024	18:55	LB131900
	Antimony	50.0	+/-50.0	U	50.0	P	08/07/2024	18:55	LB131900
	Arsenic	20.0	+/-20.0	U	20.0	P	08/07/2024	18:55	LB131900
	Barium	100	+/-100	U	100	P	08/07/2024	18:55	LB131900
	Beryllium	6.00	+/-6.00	U	6.00	P	08/07/2024	18:55	LB131900
	Boron	100	+/-100	U	100	P	08/07/2024	18:55	LB131900
	Cadmium	6.00	+/-6.00	U	6.00	P	08/07/2024	18:55	LB131900
	Calcium	2000	+/-2000	U	2000	P	08/07/2024	18:55	LB131900
	Chromium	10.0	+/-10.0	U	10.0	P	08/07/2024	18:55	LB131900
	Cobalt	30.0	+/-30.0	U	30.0	P	08/07/2024	18:55	LB131900
	Copper	20.0	+/-20.0	U	20.0	P	08/07/2024	18:55	LB131900
	Iron	100	+/-100	U	100	P	08/07/2024	18:55	LB131900
	Lead	12.0	+/-12.0	U	12.0	P	08/07/2024	18:55	LB131900
	Magnesium	2000	+/-2000	U	2000	P	08/07/2024	18:55	LB131900
	Manganese	20.0	+/-20.0	U	20.0	P	08/07/2024	18:55	LB131900
	Molybdenum	200	+/-200	U	200	P	08/07/2024	18:55	LB131900
	Nickel	40.0	+/-40.0	U	40.0	P	08/07/2024	18:55	LB131900
	Potassium	2000	+/-2000	U	2000	P	08/07/2024	18:55	LB131900
	Selenium	20.0	+/-20.0	U	20.0	P	08/07/2024	18:55	LB131900
	Silver	10.0	+/-10.0	U	10.0	P	08/07/2024	18:55	LB131900
	Sodium	509	+/-2000	J	2000	P	08/07/2024	18:55	LB131900
	Strontium	20.0	+/-20.0	U	20.0	P	08/07/2024	18:55	LB131900
	Thallium	40.0	+/-40.0	U	40.0	P	08/07/2024	18:55	LB131900
	Tin	40.0	+/-40.0	U	40.0	P	08/07/2024	18:55	LB131900

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

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB03	Titanium	40.0	+/-40.0	U	40.0	P	08/07/2024	18:55	LB131900
	Vanadium	40.0	+/-40.0	U	40.0	P	08/07/2024	18:55	LB131900
	Zinc	40.0	+/-40.0	U	40.0	P	08/07/2024	18:55	LB131900
CCB04	Aluminum	100	+/-100	U	100	P	08/07/2024	19:52	LB131900
	Antimony	50.0	+/-50.0	U	50.0	P	08/07/2024	19:52	LB131900
	Arsenic	20.0	+/-20.0	U	20.0	P	08/07/2024	19:52	LB131900
	Barium	100	+/-100	U	100	P	08/07/2024	19:52	LB131900
	Beryllium	6.00	+/-6.00	U	6.00	P	08/07/2024	19:52	LB131900
	Boron	100	+/-100	U	100	P	08/07/2024	19:52	LB131900
	Cadmium	6.00	+/-6.00	U	6.00	P	08/07/2024	19:52	LB131900
	Calcium	2000	+/-2000	U	2000	P	08/07/2024	19:52	LB131900
	Chromium	10.0	+/-10.0	U	10.0	P	08/07/2024	19:52	LB131900
	Cobalt	30.0	+/-30.0	U	30.0	P	08/07/2024	19:52	LB131900
	Copper	20.0	+/-20.0	U	20.0	P	08/07/2024	19:52	LB131900
	Iron	100	+/-100	U	100	P	08/07/2024	19:52	LB131900
	Lead	12.0	+/-12.0	U	12.0	P	08/07/2024	19:52	LB131900
	Magnesium	2000	+/-2000	U	2000	P	08/07/2024	19:52	LB131900
	Manganese	20.0	+/-20.0	U	20.0	P	08/07/2024	19:52	LB131900
	Molybdenum	200	+/-200	U	200	P	08/07/2024	19:52	LB131900
	Nickel	40.0	+/-40.0	U	40.0	P	08/07/2024	19:52	LB131900
	Potassium	2000	+/-2000	U	2000	P	08/07/2024	19:52	LB131900
	Selenium	20.0	+/-20.0	U	20.0	P	08/07/2024	19:52	LB131900
	Silver	10.0	+/-10.0	U	10.0	P	08/07/2024	19:52	LB131900
	Sodium	2000	+/-2000	U	2000	P	08/07/2024	19:52	LB131900
	Strontium	20.0	+/-20.0	U	20.0	P	08/07/2024	19:52	LB131900
	Thallium	40.0	+/-40.0	U	40.0	P	08/07/2024	19:52	LB131900
	Tin	40.0	+/-40.0	U	40.0	P	08/07/2024	19:52	LB131900
	Titanium	40.0	+/-40.0	U	40.0	P	08/07/2024	19:52	LB131900
	Vanadium	40.0	+/-40.0	U	40.0	P	08/07/2024	19:52	LB131900
	Zinc	40.0	+/-40.0	U	40.0	P	08/07/2024	19:52	LB131900

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

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Aluminum	100	+/-100	U	100	P	08/21/2024	13:23	LB132113
	Antimony	50.0	+/-50.0	U	50.0	P	08/21/2024	13:23	LB132113
	Arsenic	20.0	+/-20.0	U	20.0	P	08/21/2024	13:23	LB132113
	Barium	100	+/-100	U	100	P	08/21/2024	13:23	LB132113
	Beryllium	6.00	+/-6.00	U	6.00	P	08/21/2024	13:23	LB132113
	Boron	100	+/-100	U	100	P	08/21/2024	13:23	LB132113
	Cadmium	6.00	+/-6.00	U	6.00	P	08/21/2024	13:23	LB132113
	Calcium	2000	+/-2000	U	2000	P	08/21/2024	13:23	LB132113
	Chromium	10.0	+/-10.0	U	10.0	P	08/21/2024	13:23	LB132113
	Cobalt	30.0	+/-30.0	U	30.0	P	08/21/2024	13:23	LB132113
	Copper	20.0	+/-20.0	U	20.0	P	08/21/2024	13:23	LB132113
	Iron	100	+/-100	U	100	P	08/21/2024	13:23	LB132113
	Lead	12.0	+/-12.0	U	12.0	P	08/21/2024	13:23	LB132113
	Magnesium	2000	+/-2000	U	2000	P	08/21/2024	13:23	LB132113
	Manganese	20.0	+/-20.0	U	20.0	P	08/21/2024	13:23	LB132113
	Molybdenum	200	+/-200	U	200	P	08/21/2024	13:23	LB132113
	Nickel	40.0	+/-40.0	U	40.0	P	08/21/2024	13:23	LB132113
	Potassium	2000	+/-2000	U	2000	P	08/21/2024	13:23	LB132113
	Selenium	20.0	+/-20.0	U	20.0	P	08/21/2024	13:23	LB132113
	Silver	10.0	+/-10.0	U	10.0	P	08/21/2024	13:23	LB132113
	Sodium	2000	+/-2000	U	2000	P	08/21/2024	13:23	LB132113
	Strontium	20.0	+/-20.0	U	20.0	P	08/21/2024	13:23	LB132113
	Thallium	40.0	+/-40.0	U	40.0	P	08/21/2024	13:23	LB132113
	Tin	40.0	+/-40.0	U	40.0	P	08/21/2024	13:23	LB132113
	Titanium	40.0	+/-40.0	U	40.0	P	08/21/2024	13:23	LB132113
	Vanadium	40.0	+/-40.0	U	40.0	P	08/21/2024	13:23	LB132113
	Zinc	40.0	+/-40.0	U	40.0	P	08/21/2024	13:23	LB132113

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: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Aluminum	100	+/-100	U	100	P	08/21/2024	15:43	LB132113
	Antimony	50.0	+/-50.0	U	50.0	P	08/21/2024	15:43	LB132113
	Arsenic	20.0	+/-20.0	U	20.0	P	08/21/2024	15:43	LB132113
	Barium	100	+/-100	U	100	P	08/21/2024	15:43	LB132113
	Beryllium	6.00	+/-6.00	U	6.00	P	08/21/2024	15:43	LB132113
	Boron	100	+/-100	U	100	P	08/21/2024	15:43	LB132113
	Cadmium	6.00	+/-6.00	U	6.00	P	08/21/2024	15:43	LB132113
	Calcium	2000	+/-2000	U	2000	P	08/21/2024	15:43	LB132113
	Chromium	10.0	+/-10.0	U	10.0	P	08/21/2024	15:43	LB132113
	Cobalt	30.0	+/-30.0	U	30.0	P	08/21/2024	15:43	LB132113
	Copper	20.0	+/-20.0	U	20.0	P	08/21/2024	15:43	LB132113
	Iron	100	+/-100	U	100	P	08/21/2024	15:43	LB132113
	Lead	12.0	+/-12.0	U	12.0	P	08/21/2024	15:43	LB132113
	Magnesium	2000	+/-2000	U	2000	P	08/21/2024	15:43	LB132113
	Manganese	20.0	+/-20.0	U	20.0	P	08/21/2024	15:43	LB132113
	Molybdenum	200	+/-200	U	200	P	08/21/2024	15:43	LB132113
	Nickel	40.0	+/-40.0	U	40.0	P	08/21/2024	15:43	LB132113
	Potassium	2000	+/-2000	U	2000	P	08/21/2024	15:43	LB132113
	Selenium	20.0	+/-20.0	U	20.0	P	08/21/2024	15:43	LB132113
	Silver	10.0	+/-10.0	U	10.0	P	08/21/2024	15:43	LB132113
	Sodium	2000	+/-2000	U	2000	P	08/21/2024	15:43	LB132113
	Strontium	20.0	+/-20.0	U	20.0	P	08/21/2024	15:43	LB132113
	Thallium	40.0	+/-40.0	U	40.0	P	08/21/2024	15:43	LB132113
	Tin	40.0	+/-40.0	U	40.0	P	08/21/2024	15:43	LB132113
	Titanium	40.0	+/-40.0	U	40.0	P	08/21/2024	15:43	LB132113
	Vanadium	40.0	+/-40.0	U	40.0	P	08/21/2024	15:43	LB132113
	Zinc	40.0	+/-40.0	U	40.0	P	08/21/2024	15:43	LB132113
CCB02	Aluminum	100	+/-100	U	100	P	08/21/2024	17:03	LB132113
	Antimony	50.0	+/-50.0	U	50.0	P	08/21/2024	17:03	LB132113
	Arsenic	20.0	+/-20.0	U	20.0	P	08/21/2024	17:03	LB132113
	Barium	100	+/-100	U	100	P	08/21/2024	17:03	LB132113
	Beryllium	6.00	+/-6.00	U	6.00	P	08/21/2024	17:03	LB132113
	Boron	100	+/-100	U	100	P	08/21/2024	17:03	LB132113
	Cadmium	6.00	+/-6.00	U	6.00	P	08/21/2024	17:03	LB132113
	Calcium	2000	+/-2000	U	2000	P	08/21/2024	17:03	LB132113
	Chromium	10.0	+/-10.0	U	10.0	P	08/21/2024	17:03	LB132113
	Cobalt	30.0	+/-30.0	U	30.0	P	08/21/2024	17:03	LB132113
	Copper	20.0	+/-20.0	U	20.0	P	08/21/2024	17:03	LB132113
	Iron	100	+/-100	U	100	P	08/21/2024	17:03	LB132113

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: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB02	Lead	12.0	+/-12.0	U	12.0	P	08/21/2024	17:03	LB132113
	Magnesium	2000	+/-2000	U	2000	P	08/21/2024	17:03	LB132113
	Manganese	20.0	+/-20.0	U	20.0	P	08/21/2024	17:03	LB132113
	Molybdenum	200	+/-200	U	200	P	08/21/2024	17:03	LB132113
	Nickel	40.0	+/-40.0	U	40.0	P	08/21/2024	17:03	LB132113
	Potassium	2000	+/-2000	U	2000	P	08/21/2024	17:03	LB132113
	Selenium	20.0	+/-20.0	U	20.0	P	08/21/2024	17:03	LB132113
	Silver	10.0	+/-10.0	U	10.0	P	08/21/2024	17:03	LB132113
	Sodium	2000	+/-2000	U	2000	P	08/21/2024	17:03	LB132113
	Strontium	20.0	+/-20.0	U	20.0	P	08/21/2024	17:03	LB132113
	Thallium	40.0	+/-40.0	U	40.0	P	08/21/2024	17:03	LB132113
	Tin	40.0	+/-40.0	U	40.0	P	08/21/2024	17:03	LB132113
	Titanium	40.0	+/-40.0	U	40.0	P	08/21/2024	17:03	LB132113
	Vanadium	40.0	+/-40.0	U	40.0	P	08/21/2024	17:03	LB132113
	Zinc	40.0	+/-40.0	U	40.0	P	08/21/2024	17:03	LB132113
CCB03	Aluminum	100	+/-100	U	100	P	08/21/2024	17:56	LB132113
	Antimony	50.0	+/-50.0	U	50.0	P	08/21/2024	17:56	LB132113
	Arsenic	20.0	+/-20.0	U	20.0	P	08/21/2024	17:56	LB132113
	Barium	100	+/-100	U	100	P	08/21/2024	17:56	LB132113
	Beryllium	6.00	+/-6.00	U	6.00	P	08/21/2024	17:56	LB132113
	Boron	100	+/-100	U	100	P	08/21/2024	17:56	LB132113
	Cadmium	6.00	+/-6.00	U	6.00	P	08/21/2024	17:56	LB132113
	Calcium	2000	+/-2000	U	2000	P	08/21/2024	17:56	LB132113
	Chromium	10.0	+/-10.0	U	10.0	P	08/21/2024	17:56	LB132113
	Cobalt	30.0	+/-30.0	U	30.0	P	08/21/2024	17:56	LB132113
	Copper	20.0	+/-20.0	U	20.0	P	08/21/2024	17:56	LB132113
	Iron	100	+/-100	U	100	P	08/21/2024	17:56	LB132113
	Lead	12.0	+/-12.0	U	12.0	P	08/21/2024	17:56	LB132113
	Magnesium	2000	+/-2000	U	2000	P	08/21/2024	17:56	LB132113
	Manganese	20.0	+/-20.0	U	20.0	P	08/21/2024	17:56	LB132113
	Molybdenum	200	+/-200	U	200	P	08/21/2024	17:56	LB132113
	Nickel	40.0	+/-40.0	U	40.0	P	08/21/2024	17:56	LB132113
	Potassium	2000	+/-2000	U	2000	P	08/21/2024	17:56	LB132113
	Selenium	20.0	+/-20.0	U	20.0	P	08/21/2024	17:56	LB132113
	Silver	10.0	+/-10.0	U	10.0	P	08/21/2024	17:56	LB132113
	Sodium	2000	+/-2000	U	2000	P	08/21/2024	17:56	LB132113
	Strontium	20.0	+/-20.0	U	20.0	P	08/21/2024	17:56	LB132113
	Thallium	40.0	+/-40.0	U	40.0	P	08/21/2024	17:56	LB132113
	Tin	40.0	+/-40.0	U	40.0	P	08/21/2024	17:56	LB132113

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

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB03	Titanium	40.0	+/-40.0	U	40.0	P	08/21/2024	17:56	LB132113
	Vanadium	40.0	+/-40.0	U	40.0	P	08/21/2024	17:56	LB132113
	Zinc	40.0	+/-40.0	U	40.0	P	08/21/2024	17:56	LB132113
CCB04	Aluminum	100	+/-100	U	100	P	08/21/2024	19:07	LB132113
	Antimony	50.0	+/-50.0	U	50.0	P	08/21/2024	19:07	LB132113
	Arsenic	20.0	+/-20.0	U	20.0	P	08/21/2024	19:07	LB132113
	Barium	100	+/-100	U	100	P	08/21/2024	19:07	LB132113
	Beryllium	6.00	+/-6.00	U	6.00	P	08/21/2024	19:07	LB132113
	Boron	100	+/-100	U	100	P	08/21/2024	19:07	LB132113
	Cadmium	6.00	+/-6.00	U	6.00	P	08/21/2024	19:07	LB132113
	Calcium	2000	+/-2000	U	2000	P	08/21/2024	19:07	LB132113
	Chromium	10.0	+/-10.0	U	10.0	P	08/21/2024	19:07	LB132113
	Cobalt	30.0	+/-30.0	U	30.0	P	08/21/2024	19:07	LB132113
	Copper	20.0	+/-20.0	U	20.0	P	08/21/2024	19:07	LB132113
	Iron	100	+/-100	U	100	P	08/21/2024	19:07	LB132113
	Lead	12.0	+/-12.0	U	12.0	P	08/21/2024	19:07	LB132113
	Magnesium	2000	+/-2000	U	2000	P	08/21/2024	19:07	LB132113
	Manganese	20.0	+/-20.0	U	20.0	P	08/21/2024	19:07	LB132113
	Molybdenum	200	+/-200	U	200	P	08/21/2024	19:07	LB132113
	Nickel	40.0	+/-40.0	U	40.0	P	08/21/2024	19:07	LB132113
	Potassium	2000	+/-2000	U	2000	P	08/21/2024	19:07	LB132113
	Selenium	20.0	+/-20.0	U	20.0	P	08/21/2024	19:07	LB132113
	Silver	10.0	+/-10.0	U	10.0	P	08/21/2024	19:07	LB132113
	Sodium	2000	+/-2000	U	2000	P	08/21/2024	19:07	LB132113
	Strontium	20.0	+/-20.0	U	20.0	P	08/21/2024	19:07	LB132113
	Thallium	40.0	+/-40.0	U	40.0	P	08/21/2024	19:07	LB132113
	Tin	40.0	+/-40.0	U	40.0	P	08/21/2024	19:07	LB132113
	Titanium	40.0	+/-40.0	U	40.0	P	08/21/2024	19:07	LB132113
	Vanadium	40.0	+/-40.0	U	40.0	P	08/21/2024	19:07	LB132113
	Zinc	40.0	+/-40.0	U	40.0	P	08/21/2024	19:07	LB132113
CCB05	Aluminum	100	+/-100	U	100	P	08/21/2024	20:30	LB132113
	Antimony	50.0	+/-50.0	U	50.0	P	08/21/2024	20:30	LB132113
	Arsenic	20.0	+/-20.0	U	20.0	P	08/21/2024	20:30	LB132113
	Barium	100	+/-100	U	100	P	08/21/2024	20:30	LB132113
	Beryllium	6.00	+/-6.00	U	6.00	P	08/21/2024	20:30	LB132113
	Boron	100	+/-100	U	100	P	08/21/2024	20:30	LB132113
	Cadmium	6.00	+/-6.00	U	6.00	P	08/21/2024	20:30	LB132113
	Calcium	2000	+/-2000	U	2000	P	08/21/2024	20:30	LB132113
	Chromium	10.0	+/-10.0	U	10.0	P	08/21/2024	20:30	LB132113

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

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB05	Cobalt	30.0	+/-30.0	U	30.0	P	08/21/2024	20:30	LB132113
	Copper	20.0	+/-20.0	U	20.0	P	08/21/2024	20:30	LB132113
	Iron	100	+/-100	U	100	P	08/21/2024	20:30	LB132113
	Lead	12.0	+/-12.0	U	12.0	P	08/21/2024	20:30	LB132113
	Magnesium	2000	+/-2000	U	2000	P	08/21/2024	20:30	LB132113
	Manganese	20.0	+/-20.0	U	20.0	P	08/21/2024	20:30	LB132113
	Molybdenum	200	+/-200	U	200	P	08/21/2024	20:30	LB132113
	Nickel	40.0	+/-40.0	U	40.0	P	08/21/2024	20:30	LB132113
	Potassium	2000	+/-2000	U	2000	P	08/21/2024	20:30	LB132113
	Selenium	20.0	+/-20.0	U	20.0	P	08/21/2024	20:30	LB132113
	Silver	10.0	+/-10.0	U	10.0	P	08/21/2024	20:30	LB132113
	Sodium	2000	+/-2000	U	2000	P	08/21/2024	20:30	LB132113
	Strontium	20.0	+/-20.0	U	20.0	P	08/21/2024	20:30	LB132113
	Thallium	40.0	+/-40.0	U	40.0	P	08/21/2024	20:30	LB132113
	Tin	40.0	+/-40.0	U	40.0	P	08/21/2024	20:30	LB132113
	Titanium	40.0	+/-40.0	U	40.0	P	08/21/2024	20:30	LB132113
	Vanadium	40.0	+/-40.0	U	40.0	P	08/21/2024	20:30	LB132113
	Zinc	40.0	+/-40.0	U	40.0	P	08/21/2024	20:30	LB132113

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

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Instrument: CV1

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB162680BL		**WATER**		**Batch Number:**	**PB162680**		**Prep Date:**	**08/12/2024**	
	Mercury	0.20	<0.20	U	0.20	CV	08/13/2024	10:07	LB131960

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

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Instrument: P4

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB162493BL		**WATER**		**Batch Number:**	**PB162493**		**Prep Date:**	**08/05/2024**	
	Aluminum	50.0	<50.0	U	50.0	P	08/07/2024	16:29	LB131900
	Antimony	25.0	<25.0	U	25.0	P	08/07/2024	16:29	LB131900
	Arsenic	10.0	<10.0	U	10.0	P	08/07/2024	16:29	LB131900
	Barium	50.0	<50.0	U	50.0	P	08/07/2024	16:29	LB131900
	Beryllium	3.00	<3.00	U	3.00	P	08/07/2024	16:29	LB131900
	Boron	50.0	<50.0	U	50.0	P	08/07/2024	16:29	LB131900
	Cadmium	3.00	<3.00	U	3.00	P	08/07/2024	16:29	LB131900
	Calcium	1000	<1000	U	1000	P	08/07/2024	16:29	LB131900
	Chromium	5.00	<5.00	U	5.00	P	08/07/2024	16:29	LB131900
	Cobalt	15.0	<15.0	U	15.0	P	08/07/2024	16:29	LB131900
	Copper	10.0	<10.0	U	10.0	P	08/07/2024	16:29	LB131900
	Iron	50.0	<50.0	U	50.0	P	08/07/2024	16:29	LB131900
	Lead	6.00	<6.00	U	6.00	P	08/07/2024	16:29	LB131900
	Magnesium	1000	<1000	U	1000	P	08/07/2024	16:29	LB131900
	Manganese	10.0	<10.0	U	10.0	P	08/07/2024	16:29	LB131900
	Molybdenum	100	<100	U	100	P	08/07/2024	16:29	LB131900
	Nickel	20.0	<20.0	U	20.0	P	08/07/2024	16:29	LB131900
	Potassium	1000	<1000	U	1000	P	08/07/2024	16:29	LB131900
	Selenium	10.0	<10.0	U	10.0	P	08/07/2024	16:29	LB131900
	Silver	5.00	<5.00	U	5.00	P	08/07/2024	16:29	LB131900
	Sodium	1000	<1000	U	1000	P	08/07/2024	16:29	LB131900
	Strontium	10.0	<10.0	U	10.0	P	08/07/2024	16:29	LB131900
	Thallium	20.0	<20.0	U	20.0	P	08/07/2024	16:29	LB131900
	Tin	20.0	<20.0	U	20.0	P	08/07/2024	16:29	LB131900
	Titanium	20.0	<20.0	U	20.0	P	08/07/2024	16:29	LB131900
	Vanadium	20.0	<20.0	U	20.0	P	08/07/2024	16:29	LB131900
	Zinc	20.0	<20.0	U	20.0	P	08/07/2024	16:29	LB131900

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

Metals
- 4 -
INTERFERENCE CHECK SAMPLE

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

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	266000	255000	104	216000	294000	08/07/2024	16:12	LB131900
	Antimony	-1.84			-50	50	08/07/2024	16:12	LB131900
	Arsenic	4.35			-20	20	08/07/2024	16:12	LB131900
	Barium	6.14	6.0	102	-94	106	08/07/2024	16:12	LB131900
	Beryllium	0.93			-6	6	08/07/2024	16:12	LB131900
	Boron	12.4	1000	1	-100	100	08/07/2024	16:12	LB131900
	Cadmium	3.70	1.0	370	-5	7	08/07/2024	16:12	LB131900
	Calcium	253000	245000	103	208000	282000	08/07/2024	16:12	LB131900
	Chromium	56.8	52.0	109	42	62	08/07/2024	16:12	LB131900
	Cobalt	2.84			-30	30	08/07/2024	16:12	LB131900
	Copper	9.27	2.0	464	-18	22	08/07/2024	16:12	LB131900
	Iron	102000	101000	101	85600	116500	08/07/2024	16:12	LB131900
	Lead	5.55			-12	12	08/07/2024	16:12	LB131900
	Magnesium	272000	255000	107	216000	294000	08/07/2024	16:12	LB131900
	Manganese	16.2	7.0	231	-13	27	08/07/2024	16:12	LB131900
	Molybdenum	0.026	1000		-200	200	08/07/2024	16:12	LB131900
	Nickel	3.43	2.0	172	-38	42	08/07/2024	16:12	LB131900
	Potassium	-48.6			0	0	08/07/2024	16:12	LB131900
	Selenium	-7.63			-20	20	08/07/2024	16:12	LB131900
	Silver	2.04			-10	10	08/07/2024	16:12	LB131900
	Sodium	17.5			0	0	08/07/2024	16:12	LB131900
	Strontium	3.47			0	0	08/07/2024	16:12	LB131900
	Thallium	2.30			-40	40	08/07/2024	16:12	LB131900
	Tin	-2.89	1000		-40	40	08/07/2024	16:12	LB131900
	Titanium	-3.00			0	0	08/07/2024	16:12	LB131900
	Vanadium	5.23			-40	40	08/07/2024	16:12	LB131900
	Zinc	2.26			-40	40	08/07/2024	16:12	LB131900
ICSAB01	Aluminum	250000	247000	101	209000	285000	08/07/2024	16:16	LB131900
	Antimony	605	618	98	525	711	08/07/2024	16:16	LB131900
	Arsenic	103	104	99	88.4	120	08/07/2024	16:16	LB131900
	Barium	516	537	96	437	637	08/07/2024	16:16	LB131900
	Beryllium	494	495	100	420	570	08/07/2024	16:16	LB131900
	Boron	1010	1000	101	850	1150	08/07/2024	16:16	LB131900
	Cadmium	968	972	100	826	1120	08/07/2024	16:16	LB131900
	Calcium	237000	235000	101	199000	271000	08/07/2024	16:16	LB131900
	Chromium	565	542	104	460	624	08/07/2024	16:16	LB131900
	Cobalt	501	476	105	404	548	08/07/2024	16:16	LB131900
	Copper	488	511	96	434	588	08/07/2024	16:16	LB131900
	Iron	101000	99300	102	84400	114500	08/07/2024	16:16	LB131900
	Lead	55.1	49.0	112	37	61	08/07/2024	16:16	LB131900
	Magnesium	253000	248000	102	210000	286000	08/07/2024	16:16	LB131900
	Manganese	510	507	101	430	584	08/07/2024	16:16	LB131900

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

Metals
- 4 -
INTERFERENCE CHECK SAMPLE

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

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	Molybdenum	1070	1000	107	850	1150	08/07/2024	16:16	LB131900
	Nickel	992	954	104	810	1100	08/07/2024	16:16	LB131900
	Potassium	-74.2			0	0	08/07/2024	16:16	LB131900
	Selenium	34.4	46.0	75	26	66	08/07/2024	16:16	LB131900
	Silver	221	201	110	170	232	08/07/2024	16:16	LB131900
	Sodium	3.05			0	0	08/07/2024	16:16	LB131900
	Strontium	863			0	0	08/07/2024	16:16	LB131900
	Thallium	103	108	95	68	148	08/07/2024	16:16	LB131900
	Tin	1070	1000	107	850	1150	08/07/2024	16:16	LB131900
	Titanium	1050			0	0	08/07/2024	16:16	LB131900
	Vanadium	487	491	99	417	565	08/07/2024	16:16	LB131900
	Zinc	1090	952	114	809	1095	08/07/2024	16:16	LB131900
ICSA01	Aluminum	259000	255000	102	216000	294000	08/21/2024	13:37	LB132113
	Antimony	-1.88			-50	50	08/21/2024	13:37	LB132113
	Arsenic	5.06			-20	20	08/21/2024	13:37	LB132113
	Barium	6.68	6.0	111	-94	106	08/21/2024	13:37	LB132113
	Beryllium	1.09			-6	6	08/21/2024	13:37	LB132113
	Boron	29.2	1000	3	-100	100	08/21/2024	13:37	LB132113
	Cadmium	-2.47	1.0	247	-5	7	08/21/2024	13:37	LB132113
	Calcium	244000	245000	100	208000	282000	08/21/2024	13:37	LB132113
	Chromium	58.7	52.0	113	42	62	08/21/2024	13:37	LB132113
	Cobalt	2.35			-30	30	08/21/2024	13:37	LB132113
	Copper	21.8	2.0	1090	-18	22	08/21/2024	13:37	LB132113
	Iron	108000	101000	107	85600	116500	08/21/2024	13:37	LB132113
	Lead	3.22			-12	12	08/21/2024	13:37	LB132113
	Magnesium	258000	255000	101	216000	294000	08/21/2024	13:37	LB132113
	Manganese	15.2	7.0	217	-13	27	08/21/2024	13:37	LB132113
	Molybdenum	0.72	1000		-200	200	08/21/2024	13:37	LB132113
	Nickel	3.37	2.0	168	-38	42	08/21/2024	13:37	LB132113
	Potassium	-93.1			0	0	08/21/2024	13:37	LB132113
	Selenium	-6.48			-20	20	08/21/2024	13:37	LB132113
	Silver	3.88			-10	10	08/21/2024	13:37	LB132113
	Sodium	-79.6			0	0	08/21/2024	13:37	LB132113
	Strontium	-10.4			0	0	08/21/2024	13:37	LB132113
	Thallium	7.87			-40	40	08/21/2024	13:37	LB132113
	Tin	-2.32	1000		-40	40	08/21/2024	13:37	LB132113
	Titanium	-0.61			0	0	08/21/2024	13:37	LB132113
	Vanadium	5.05			-40	40	08/21/2024	13:37	LB132113
	Zinc	7.21			-40	40	08/21/2024	13:37	LB132113
ICSAB01	Aluminum	248000	247000	100	209000	285000	08/21/2024	14:00	LB132113
	Antimony	606	618	98	525	711	08/21/2024	14:00	LB132113
	Arsenic	103	104	99	88.4	120	08/21/2024	14:00	LB132113

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

Metals
- 4 -
INTERFERENCE CHECK SAMPLE

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

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	Barium	493	537	92	437	637	08/21/2024	14:00	LB132113
	Beryllium	497	495	100	420	570	08/21/2024	14:00	LB132113
	Boron	1030	1000	103	850	1150	08/21/2024	14:00	LB132113
	Cadmium	944	972	97	826	1120	08/21/2024	14:00	LB132113
	Calcium	235000	235000	100	199000	271000	08/21/2024	14:00	LB132113
	Chromium	546	542	101	460	624	08/21/2024	14:00	LB132113
	Cobalt	498	476	105	404	548	08/21/2024	14:00	LB132113
	Copper	511	511	100	434	588	08/21/2024	14:00	LB132113
	Iron	97700	99300	98	84400	114500	08/21/2024	14:00	LB132113
	Lead	50.0	49.0	102	37	61	08/21/2024	14:00	LB132113
	Magnesium	247000	248000	100	210000	286000	08/21/2024	14:00	LB132113
	Manganese	495	507	98	430	584	08/21/2024	14:00	LB132113
	Molybdenum	1100	1000	110	850	1150	08/21/2024	14:00	LB132113
	Nickel	988	954	104	810	1100	08/21/2024	14:00	LB132113
	Potassium	-211			0	0	08/21/2024	14:00	LB132113
	Selenium	38.0	46.0	83	26	66	08/21/2024	14:00	LB132113
	Silver	215	201	107	170	232	08/21/2024	14:00	LB132113
	Sodium	-135			0	0	08/21/2024	14:00	LB132113
	Strontium	1060			0	0	08/21/2024	14:00	LB132113
	Thallium	108	108	100	68	148	08/21/2024	14:00	LB132113
	Tin	1100	1000	110	850	1150	08/21/2024	14:00	LB132113
	Titanium	1060			0	0	08/21/2024	14:00	LB132113
	Vanadium	472	491	96	417	565	08/21/2024	14:00	LB132113
	Zinc	1060	952	111	809	1095	08/21/2024	14:00	LB132113

METAL QC DATA

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

metals
- 5a -
MATRIX SPIKE SUMMARY

client: JACOBS Engineering Group, Inc. **level:** low **sdg no.:** P3467

contract: JACO05 **lab code:** CHEM **case no.:** P3467 **sas no.:** P3467

matrix: Water **sample id:** P3440-01 **client id:** 923-K1-WS-080124MS

Percent Solids for Sample: NA **Spiked ID:** P3440-02 **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	1000		50.9		1000	95		P
Antimony	ug/L	88 - 113	378		25.0	U	400	94		P
Arsenic	ug/L	87 - 113	359		10.0	U	400	90		P
Barium	ug/L	88 - 113	155		58.9		100	96		P
Beryllium	ug/L	89 - 112	95.3		3.00	U	100	95		P
Boron	ug/L	85 - 113	178		47.6	J	150	87		P
Cadmium	ug/L	88 - 113	89.7		3.00	U	100	90		P
Calcium	ug/L	87 - 113	20200		19400		500	152		P
Chromium	ug/L	90 - 113	196		0.76	J	200	98		P
Cobalt	ug/L	89 - 114	93.6		15.0	U	100	94		P
Copper	ug/L	86 - 114	140		10.0	U	150	93		P
Iron	ug/L	87 - 115	4020		2490		1500	103		P
Lead	ug/L	86 - 113	453		6.00	U	500	91		P
Magnesium	ug/L	85 - 113	4590		3680		1000	92		P
Manganese	ug/L	90 - 114	887		777		100	111		P
Mercury	ug/L	75 - 125	3.28		0.20	U	4.0	82		CV
Molybdenum	ug/L	89 - 113	205		100	U	200	102		P
Nickel	ug/L	88 - 113	236		1.18	J	250	94		P
Potassium	ug/L	86 - 114	8060		3290		5000	95		P
Selenium	ug/L	83 - 114	851		10.0	U	1000	85		P
Silver	ug/L	84 - 115	34.0		5.00	U	37.5	91		P
Sodium	ug/L	87 - 115	80100		79700		1500	24		P
Strontium	ug/L	90 - 113	229		129		500	20	N	P
Thallium	ug/L	85 - 114	884		20.0	U	1000	88		P
Tin	ug/L	88 - 115	331		20.0	U	350	95		P
Titanium	ug/L	91 - 111	100		20.0	U	100	100		P
Vanadium	ug/L	90 - 111	146		20.0	U	150	97		P
Zinc	ug/L	87 - 115	114		10.1	J	100	104		P

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

metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: JACOBS Engineering Group, Inc. **level:** low **sdg no.:** P3467

contract: JACO05 **lab code:** CHEM **case no.:** P3467 **sas no.:** P3467

matrix: Water **sample id:** P3440-01 **client id:** 923-K1-WS-080124MSD

Percent Solids for Sample: NA **Spiked ID:** P3440-03 **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	1050		50.9		1000	100		P
Antimony	ug/L	88 - 113	391		25.0	U	400	98		P
Arsenic	ug/L	87 - 113	377		10.0	U	400	94		P
Barium	ug/L	88 - 113	161		58.9		100	102		P
Beryllium	ug/L	89 - 112	102		3.00	U	100	102		P
Boron	ug/L	85 - 113	188		47.6	J	150	93		P
Cadmium	ug/L	88 - 113	94.8		3.00	U	100	95		P
Calcium	ug/L	87 - 113	20600		19400		500	244		P
Chromium	ug/L	90 - 113	205		0.76	J	200	102		P
Cobalt	ug/L	89 - 114	99.1		15.0	U	100	99		P
Copper	ug/L	86 - 114	146		10.0	U	150	97		P
Iron	ug/L	87 - 115	4110		2490		1500	108		P
Lead	ug/L	86 - 113	477		6.00	U	500	95		P
Magnesium	ug/L	85 - 113	4730		3680		1000	105		P
Manganese	ug/L	90 - 114	906		777		100	129		P
Mercury	ug/L	75 - 125	3.17		0.20	U	4.0	79		CV
Molybdenum	ug/L	89 - 113	213		100	U	200	106		P
Nickel	ug/L	88 - 113	249		1.18	J	250	99		P
Potassium	ug/L	86 - 114	8290		3290		5000	100		P
Selenium	ug/L	83 - 114	889		10.0	U	1000	89		P
Silver	ug/L	84 - 115	35.5		5.00	U	37.5	95		P
Sodium	ug/L	87 - 115	80100		79700		1500	27		P
Strontium	ug/L	90 - 113	236		129		500	21	N	P
Thallium	ug/L	85 - 114	940		20.0	U	1000	94		P
Tin	ug/L	88 - 115	344		20.0	U	350	98		P
Titanium	ug/L	91 - 111	103		20.0	U	100	103		P
Vanadium	ug/L	90 - 111	155		20.0	U	150	103		P
Zinc	ug/L	87 - 115	119		10.1	J	100	109		P

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

Metals
- 5b -
POST DIGEST SPIKE SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

Matrix: Water **Level:** LOW **Client ID:** 923-K1-WS-080124A

Sample ID: P3440-01 **Spiked ID:** P3440-01A

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Strontium	ug/L	90 - 113	210		129		500	16		P

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

Metals

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: JACOBS Engineering Group, Inc. **Level:** LOW **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

Matrix: Water **Sample ID:** P3440-01 **Client ID:** 923-K1-WS-080124DUP

Percent Solids for Sample: NA **Duplicate ID** P3440-01DUP **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/L	20	50.9		56.2		10		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	58.9		57.4		3		P
Beryllium	ug/L	20	3.00	U	3.00	U			P
Boron	ug/L	20	47.6	J	46.4	J	3		P
Cadmium	ug/L	20	3.00	U	3.00	U			P
Calcium	ug/L	20	19400		18900		3		P
Chromium	ug/L	20	0.76	J	0.84	J	10		P
Cobalt	ug/L	20	15.0	U	15.0	U			P
Copper	ug/L	20	10.0	U	10.0	U			P
Iron	ug/L	20	2490		2400		4		P
Lead	ug/L	20	6.00	U	6.00	U			P
Magnesium	ug/L	20	3680		3600		2		P
Manganese	ug/L	20	777		758		2		P
Mercury	ug/L	20	0.20	U	0.20	U			CV
Molybdenum	ug/L	20	100	U	100	U			P
Nickel	ug/L	20	1.18	J	1.15	J	3		P
Potassium	ug/L	20	3290		3190		3		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	79700		76900		4		P
Strontium	ug/L	20	129		126		2		P
Thallium	ug/L	20	20.0	U	20.0	U			P
Tin	ug/L	20	20.0	U	20.0	U			P
Titanium	ug/L	20	20.0	U	20.0	U			P
Vanadium	ug/L	20	20.0	U	20.0	U			P
Zinc	ug/L	20	10.1	J	9.57	J	5		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: JACOBS Engineering Group, Inc. **Level:** LOW **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

Matrix: Water **Sample ID:** P3440-02 **Client ID:** 923-K1-WS-080124MSD

Percent Solids for Sample: NA **Duplicate ID** P3440-03 **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/L	20	1000		1050		5		P
Antimony	ug/L	20	378		391		3		P
Arsenic	ug/L	20	359		377		5		P
Barium	ug/L	20	155		161		4		P
Beryllium	ug/L	20	95.3		102		7		P
Boron	ug/L	20	178		188		5		P
Cadmium	ug/L	20	89.7		94.8		6		P
Calcium	ug/L	20	20200		20600		2		P
Chromium	ug/L	20	196		205		4		P
Cobalt	ug/L	20	93.6		99.1		6		P
Copper	ug/L	20	140		146		4		P
Iron	ug/L	20	4020		4110		2		P
Lead	ug/L	20	453		477		5		P
Magnesium	ug/L	20	4590		4730		3		P
Manganese	ug/L	20	887		906		2		P
Mercury	ug/L	20	3.28		3.17		3		CV
Molybdenum	ug/L	20	205		213		4		P
Nickel	ug/L	20	236		249		5		P
Potassium	ug/L	20	8060		8290		3		P
Selenium	ug/L	20	851		889		4		P
Silver	ug/L	20	34.0		35.5		4		P
Sodium	ug/L	20	80100		80100		0		P
Strontium	ug/L	20	229		236		3		P
Thallium	ug/L	20	884		940		6		P
Tin	ug/L	20	331		344		4		P
Titanium	ug/L	20	100		103		3		P
Vanadium	ug/L	20	146		155		6		P
Zinc	ug/L	20	114		119		4		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

LABORATORY CONTROL SAMPLE SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB162493BS							
Aluminum	ug/L	1000	1020		102	86 - 115	P
Antimony	ug/L	400	403		101	88 - 113	P
Arsenic	ug/L	400	390		98	87 - 113	P
Barium	ug/L	100	100		100	88 - 113	P
Beryllium	ug/L	100	108		108	89 - 112	P
Boron	ug/L	150	157		105	85 - 113	P
Cadmium	ug/L	100	98.7		99	88 - 113	P
Calcium	ug/L	500	539	J	108	87 - 113	P
Chromium	ug/L	200	205		102	90 - 113	P
Cobalt	ug/L	100	100		100	89 - 114	P
Copper	ug/L	150	155		103	86 - 114	P
Iron	ug/L	1500	1440		96	87 - 115	P
Lead	ug/L	500	499		100	86 - 113	P
Magnesium	ug/L	1000	1000		100	85 - 113	P
Manganese	ug/L	100	104		104	90 - 114	P
Molybdenum	ug/L	200	204		102	89 - 113	P
Nickel	ug/L	250	256		102	88 - 113	P
Potassium	ug/L	5000	4540		91	86 - 114	P
Selenium	ug/L	1000	977		98	83 - 114	P
Silver	ug/L	37.5	37.1		99	84 - 115	P
Sodium	ug/L	1500	1340		89	87 - 115	P
Strontium	ug/L	100	99.7		100	90 - 113	P
Thallium	ug/L	1000	1000		100	85 - 114	P
Tin	ug/L	350	356		102	88 - 115	P
Titanium	ug/L	100	102		102	91 - 111	P
Vanadium	ug/L	150	152		101	90 - 111	P
Zinc	ug/L	100	106		106	87 - 115	P

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

LABORATORY CONTROL SAMPLE SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB162680BS							
Mercury	ug/L	4.0	3.62		90	80 - 120	CV

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

Metals

-9 -

ICP SERIAL DILUTIONS

SAMPLE NO.

923-K1-WS-080124L

Lab Name: Chemtech Consulting Group **Contract:** JACO05

Lab Code: CHEM **Lb No.:** lb131900 **Lab Sample ID :** P3440-01L **SDG No.:** P3467

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	50.9		250	U	100.0		P
Antimony	25.0	U	125	U			P
Arsenic	10.0	U	50.0	U			P
Barium	58.9		59.1	J	0		P
Beryllium	3.00	U	15.0	U			P
Boron	47.6	J	50.3	J	6		P
Cadmium	3.00	U	15.0	U			P
Calcium	19400		19700		2		P
Chromium	0.76	J	25.0	U	100.0		P
Cobalt	15.0	U	75.0	U			P
Copper	10.0	U	50.0	U			P
Iron	2490		2550		2		P
Lead	6.00	U	30.0	U			P
Magnesium	3680		3600	J	2		P
Manganese	777		782		1		P
Mercury	0.20	U	1.00	U			CV
Molybdenum	100	U	500	U			P
Nickel	1.18	J	100	U	100.0		P
Potassium	3290		5000	U	100.0		P
Selenium	10.0	U	50.0	U			P
Silver	5.00	U	25.0	U			P
Sodium	79700		78800		1		P
Strontium	129		131		1		P
Thallium	20.0	U	100	U			P
Tin	20.0	U	100	U			P
Titanium	20.0	U	100	U			P
Vanadium	20.0	U	100	U			P
Zinc	10.1	J	9.90	J	2		P

METAL PREPARATION & INSTRUMENT DATA

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

Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

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: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

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: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

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: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

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: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Case No.:** P3467 **SAS No.:** P3467

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: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Method:**

Case No.: P3467 **SAS No.:** P3467

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB162493**						
P3440-01DUP	923-K1-WS-080124DUP	DUP	WATER	08/05/2024	50.0	25.0	
P3440-02	923-K1-WS-080124MS	MS	WATER	08/05/2024	50.0	25.0	
P3440-03	923-K1-WS-080124MSD	MSD	WATER	08/05/2024	50.0	25.0	
P3467-01	919-J-WS-080224	SAM	WATER	08/05/2024	50.0	25.0	
PB162493BL	PB162493BL	MB	WATER	08/05/2024	50.0	25.0	
PB162493BS	PB162493BS	LCS	WATER	08/05/2024	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: JACOBS Engineering Group, Inc. **SDG No.:** P3467

Contract: JACO05 **Lab Code:** CHEM **Method:**

Case No.: P3467 **SAS No.:** P3467

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB162680**						
P3440-01DUP	923-K1-WS-080124DUP	DUP	WATER	08/12/2024	30.0	30.0	
P3440-02	923-K1-WS-080124MS	MS	WATER	08/12/2024	30.0	30.0	
P3440-03	923-K1-WS-080124MSD	MSD	WATER	08/12/2024	30.0	30.0	
P3467-01	919-J-WS-080224	SAM	WATER	08/12/2024	30.0	30.0	
PB162680BL	PB162680BL	MB	WATER	08/12/2024	30.0	30.0	
PB162680BS	PB162680BS	LCS	WATER	08/12/2024	30.0	30.0	

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

metals
- 14 -
ANALYSIS RUN LOG

Client: JACOBS Engineering Group, Inc. **Contract:** JACO05

Lab code: CHEM **Case no.:** P3467 **Sas no.:** P3467 **Sdg no.:** P3467

Instrument id number: **Method:** **Run number:** LB131900

Start date: 08/07/2024 **End date:** 08/07/2024

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1416	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
S1	S1	1	1421	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
S2	S2	1	1425	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
S3	S3	1	1429	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
S4	S4	1	1433	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
S5	S5	1	1438	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
ICV01	ICV01	1	1552	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
LLICV01	LLICV01	1	1556	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
ICB01	ICB01	1	1603	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
CRI01	CRI01	1	1607	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
ICSA01	ICSA01	1	1612	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
ICSAB01	ICSAB01	1	1616	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
CCV01	CCV01	1	1620	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
CCB01	CCB01	1	1625	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
PB162493BL	PB162493BL	1	1629	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
PB162493BS	PB162493BS	1	1634	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
P3440-01DUP	923-K1-WS-080124DUP	1	1705	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
P3440-01L	923-K1-WS-080124L	5	1709	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
CCV02	CCV02	1	1714	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
CCB02	CCB02	1	1718	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
P3440-02	923-K1-WS-080124MS	1	1820	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
P3440-03	923-K1-WS-080124MSD	1	1824	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
P3440-01A	923-K1-WS-080124A	1	1833	Sr
CCV03	CCV03	1	1851	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
CCB03	CCB03	1	1855	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
CCV04	CCV04	1	1948	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
CCB04	CCB04	1	1952	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn

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

metals
- 14 -
ANALYSIS RUN LOG

Client: JACOBS Engineering Group, Inc. **Contract:** JACO05

Lab code: CHEM **Case no.:** P3467 **Sas no.:** P3467 **Sdg no.:** P3467

Instrument id number: **Method:** **Run number:** LB131960

Start date: 08/13/2024 **End date:** 08/13/2024

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	0836	HG
S0.2	S0.2	1	0839	HG
S2.5	S2.5	1	0841	HG
S5	S5	1	0843	HG
S7.5	S7.5	1	0845	HG
S10	S10	1	0850	HG
ICV72	ICV72	1	0853	HG
ICB72	ICB72	1	0855	HG
CCV35	CCV35	1	0858	HG
CCB35	CCB35	1	0903	HG
CRA	CRA	1	0910	HG
CCV36	CCV36	1	0933	HG
CCB36	CCB36	1	0935	HG
CCV37	CCV37	1	1000	HG
CCB37	CCB37	1	1005	HG
PB162680BL	PB162680BL	1	1007	HG
PB162680BS	PB162680BS	1	1009	HG
P3440-01DUP	923-K1-WS-080124DUP	1	1025	HG
P3440-02	923-K1-WS-080124MS	1	1028	HG
CCV38	CCV38	1	1030	HG
CCB38	CCB38	1	1035	HG
P3440-03	923-K1-WS-080124MSD	1	1037	HG
P3467-01	919-J-WS-080224	1	1049	HG
CCV39	CCV39	1	1058	HG
CCB39	CCB39	1	1104	HG
P3440-01L	923-K1-WS-080124L	5	1119	HG
CCV40	CCV40	1	1124	HG
CCB40	CCB40	1	1126	HG

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

metals
- 14 -
ANALYSIS RUN LOG

Client: JACOBS Engineering Group, Inc. **Contract:** JACO05

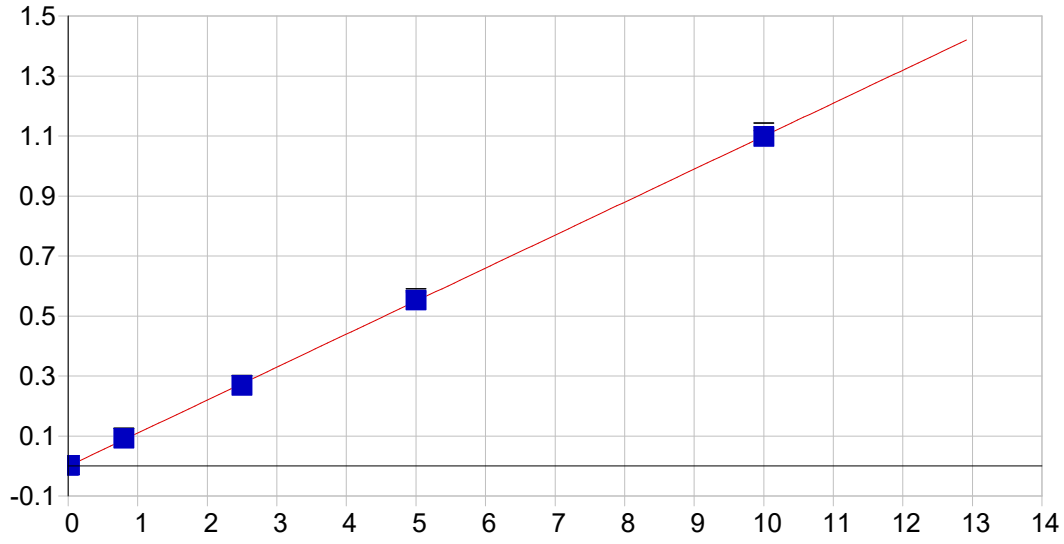
Lab code: CHEM **Case no.:** P3467 **Sas no.:** P3467 **Sdg no.:** P3467

Instrument id number: **Method:** **Run number:** LB132113

Start date: 08/21/2024 **End date:** 08/21/2024

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1209	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
S1	S1	1	1213	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
S2	S2	1	1217	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
S3	S3	1	1222	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
S4	S4	1	1226	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
S5	S5	1	1230	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
ICV01	ICV01	1	1234	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
LLICV01	LLICV01	1	1318	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
ICB01	ICB01	1	1323	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
CRI01	CRI01	1	1333	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
ICSA01	ICSA01	1	1337	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
ICSAB01	ICSAB01	1	1400	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
CCV01	CCV01	1	1539	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
CCB01	CCB01	1	1543	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
CCV02	CCV02	1	1659	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
CCB02	CCB02	1	1703	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
CCV03	CCV03	1	1751	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
CCB03	CCB03	1	1756	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
P3467-01	919-J-WS-080224	1	1849	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
CCV04	CCV04	1	1903	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
CCB04	CCB04	1	1907	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
CCV05	CCV05	1	2021	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn
CCB05	CCB05	1	2030	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Sn,Sr,Ti,Tl,V,Zn

METAL
RAW DATA

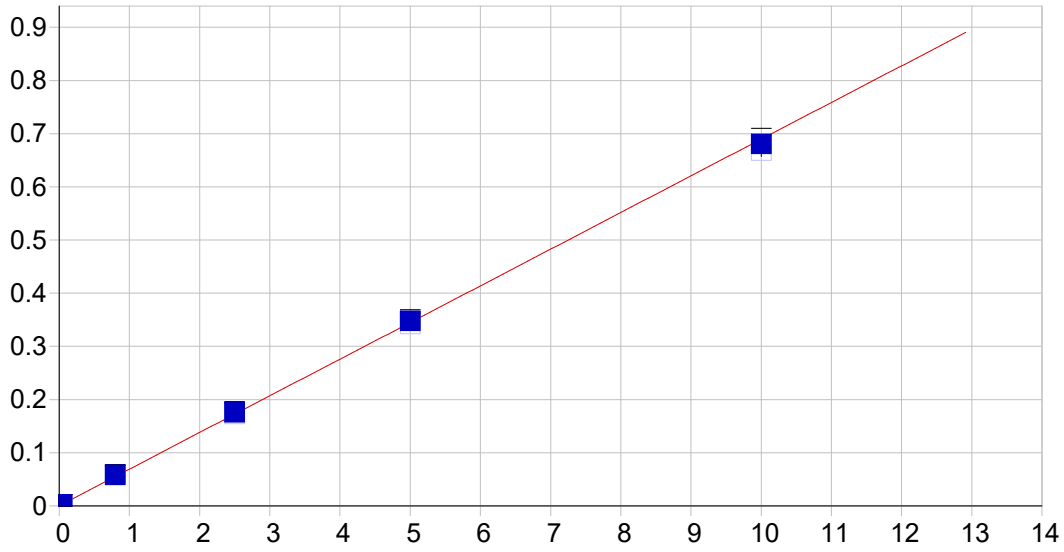


As 189.042 {479}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000235	Re-Slope:	1.000000
A1 (Gain):	0.109962	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999906	Status:	OK.
Std Error of Est:	0.000035		
Predicted MDL:	0.001621		
Predicted MQL:	0.005402		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00024	.000	1
S1	.02000	.01945	-.001	-2.76	.00189	.000	1
S3	2.5000	2.4436	-.056	-2.25	.26818	.001	1
S4	5.0000	5.0271	.027	.543	.55197	.005	1
S5	10.000	9.9898	-.010	-.102	1.0971	.013	1
S2	.80000	.83999	.040	5.00	.09204	.001	1

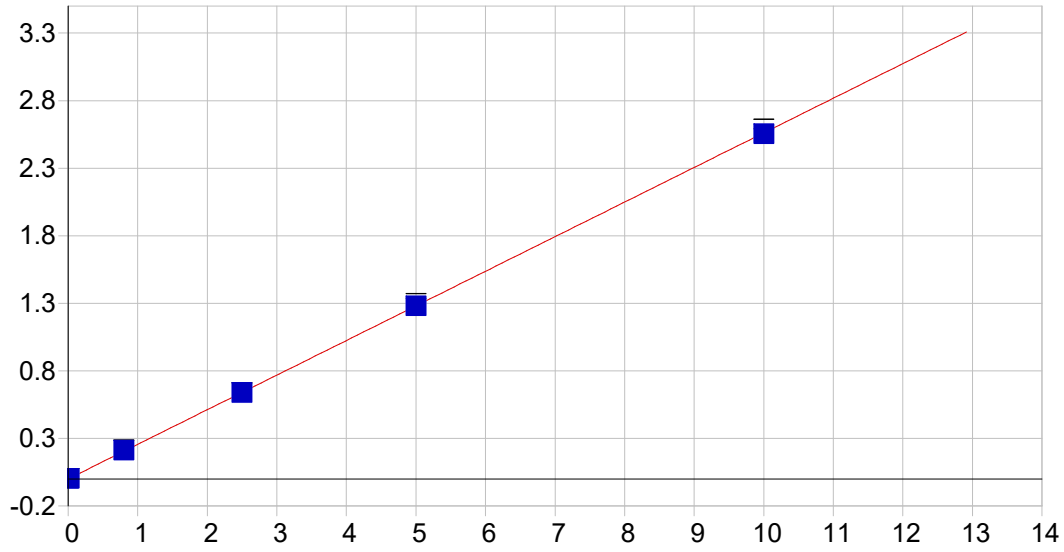


Tl 190.856 {477}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000182	Re-Slope:	1.000000
A1 (Gain):	0.068946	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999847	Status:	OK.
Std Error of Est:	0.000039		
Predicted MDL:	0.001453		
Predicted MQL:	0.004845		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00018	.000	1
S1	.04000	.03848	-.002	-3.81	.00266	.000	1
S3	2.5000	2.5463	.046	1.85	.17256	.002	1
S4	5.0000	5.0456	.046	.912	.34170	.002	1
S5	10.000	9.8667	-.133	-1.33	.66775	.011	1
S2	.80000	.84287	.043	5.36	.05728	.001	1

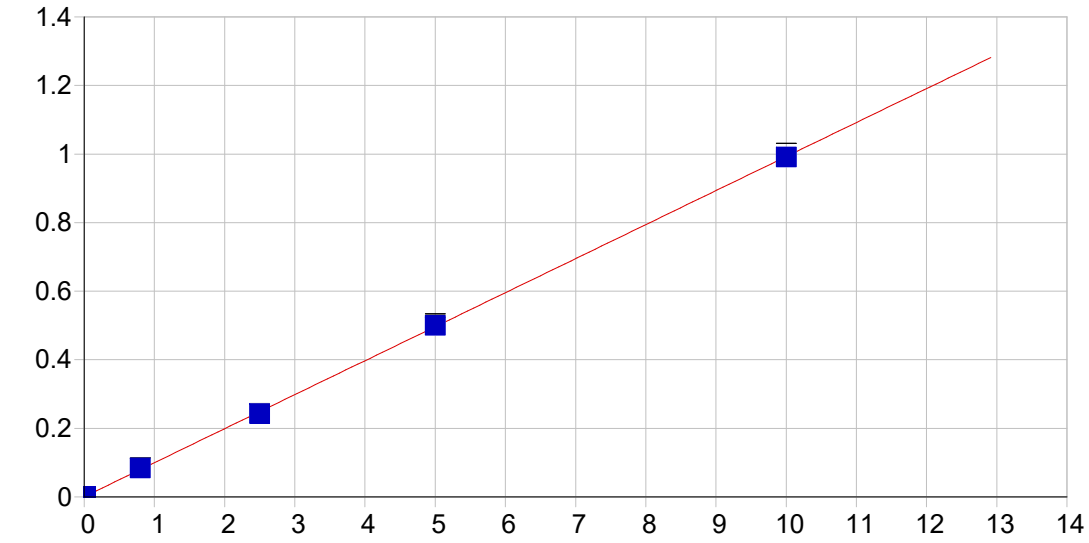


Pb 220.353 {453}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000280	Re-Slope:	1.000000
A1 (Gain):	0.256173	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999956	Status:	OK.
Std Error of Est:	0.000044		
Predicted MDL:	0.001041		
Predicted MQL:	0.003468		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00028	.000	1
S1	.01200	.01311	.001	9.25	.00302	.000	1
S3	2.5000	2.4911	-.009	-.357	.63719	.001	1
S4	5.0000	5.0012	.001	.023	1.2795	.018	1
S5	10.000	9.9730	-.027	-.270	2.5519	.036	1
S2	.80000	.83368	.034	4.21	.21307	.001	1

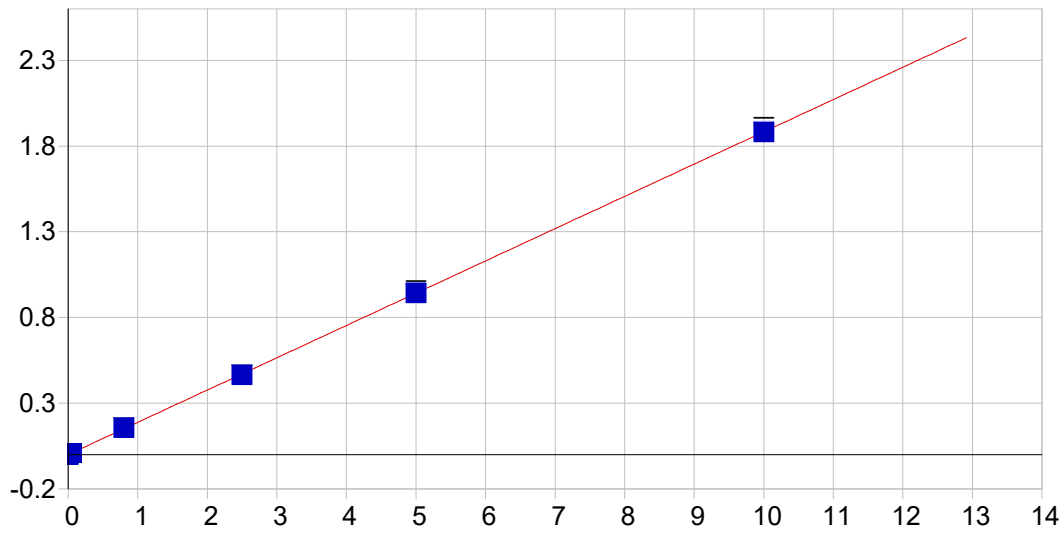


Se 196.090 {472}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000490	Re-Slope:	1.000000
A1 (Gain):	0.099208	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999879	Status:	OK.
Std Error of Est:	0.000036		
Predicted MDL:	0.002026		
Predicted MQL:	0.006752		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00049	.000	1
S1	.02000	.01810	-.002	-9.48	.00229	.000	1
S3	2.5000	2.4402	-.060	-2.39	.24251	.001	1
S4	5.0000	5.0339	.034	.678	.49976	.005	1
S5	10.000	9.9827	-.017	-.173	.99060	.012	1
S2	.80000	.84513	.045	5.64	.08431	.001	1

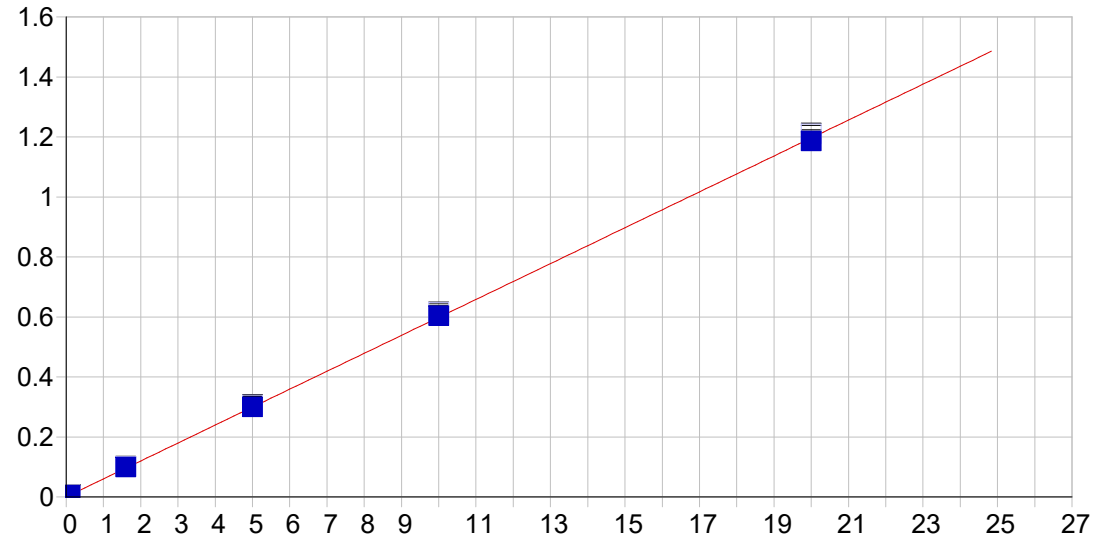


Sb 206.833 {463}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000094	Re-Slope:	1.000000
A1 (Gain):	0.188285	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999957	Status:	OK.
Std Error of Est:	0.000065		
Predicted MDL:	0.001304		
Predicted MQL:	0.004345		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00009	.000	1
S1	.05000	.04866	-.001	-2.68	.00928	.000	1
S3	2.5000	2.4683	-.032	-1.27	.46612	.001	1
S4	5.0000	5.0082	.008	.164	.94562	.010	1
S5	10.000	9.9945	-.005	-.055	1.8870	.023	1
S2	.80000	.83028	.030	3.79	.15683	.000	1

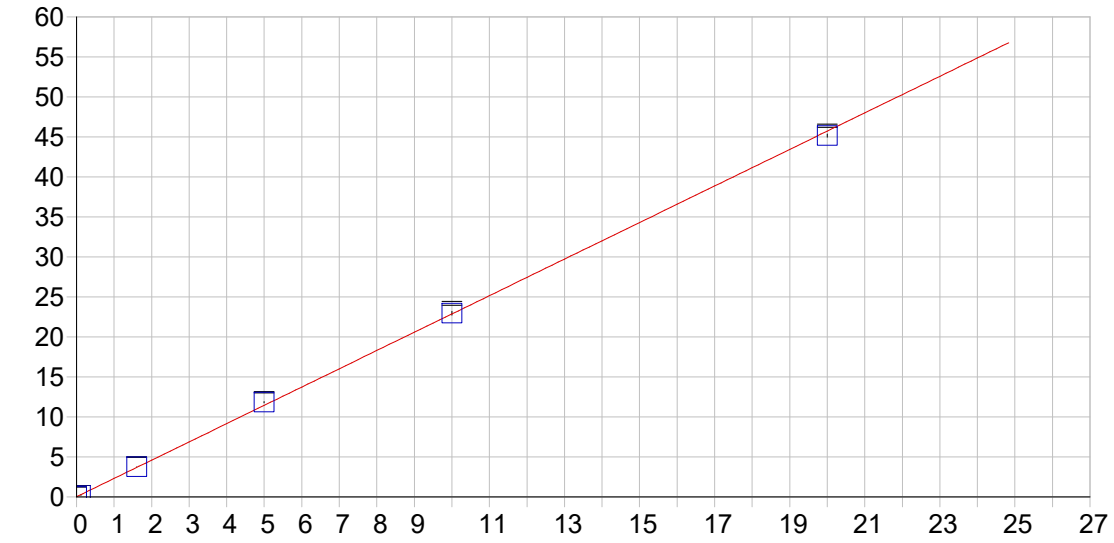


Al 396.152 { 85}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000288	Re-Slope:	1.000000
A1 (Gain):	0.059801	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999936	Status:	OK.
Std Error of Est:	0.000051		
Predicted MDL:	0.008904		
Predicted MQL:	0.029679		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00029	.000	1
S1	.10000	.10912	.009	9.12	.00728	.000	1
S3	5.0000	5.0146	.015	.292	.30596	.002	1
S4	10.000	10.090	.090	.898	.61527	.002	1
S5	20.000	19.833	-.167	-.836	1.2095	.004	1
S2	1.6000	1.6532	.053	3.32	.10101	.001	1

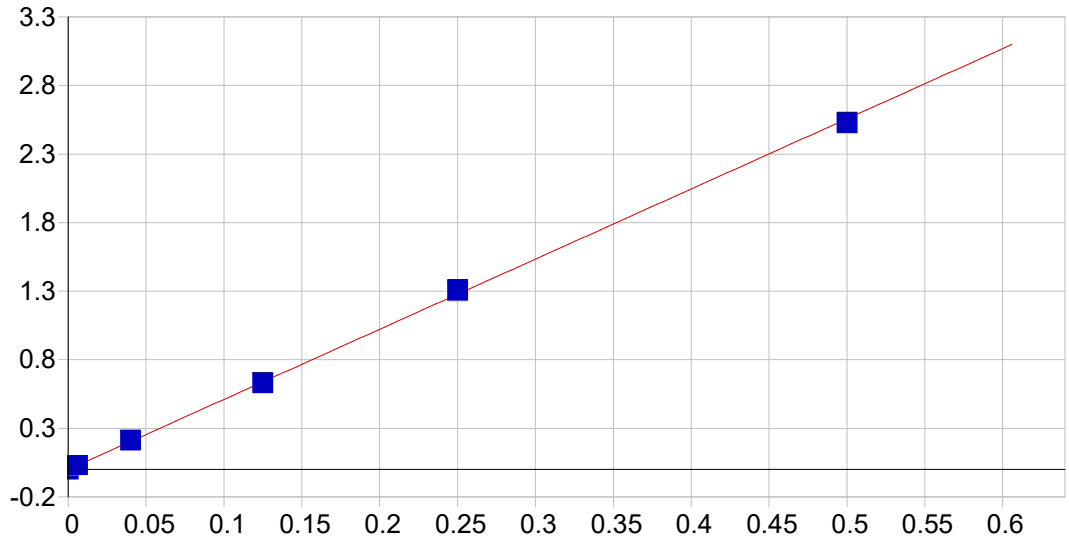


Ba 493.409 { 68}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.021546	Re-Slope:	1.000000
A1 (Gain):	2.285023	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999869	Status:	OK.
Std Error of Est:	0.002740		
Predicted MDL:	0.000765		
Predicted MQL:	0.002549		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.02153	.003	1
S1	.10000	.10133	.001	1.33	.25308	.004	1
S3	5.0000	5.1702	.170	3.40	11.835	.079	1
S4	10.000	10.037	.037	.366	22.955	.253	1
S5	20.000	19.758	-.242	-1.21	45.169	.197	1
S2	1.6000	1.6340	.034	2.13	3.7553	.021	1

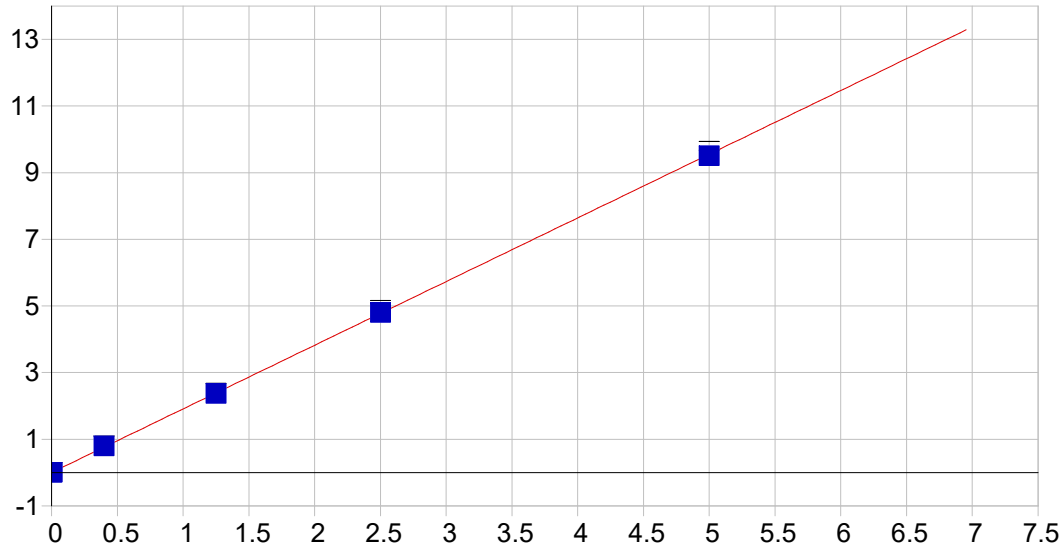


Be 234.861 {144}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000476	Re-Slope:	1.000000
A1 (Gain):	5.114586	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999845	Status:	OK.
Std Error of Est:	0.000258		
Predicted MDL:	0.000044		
Predicted MQL:	0.000148		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00048	.000	1
S1	.00600	.00639	.000	6.53	.03199	.000	1
S3	.12500	.12328	-.002	-1.37	.62720	.003	1
S4	.25000	.25517	.005	2.07	1.2989	.006	1
S5	.50000	.49452	-.005	-1.10	2.5173	.003	1
S2	.04000	.04164	.002	4.10	.21158	.001	1

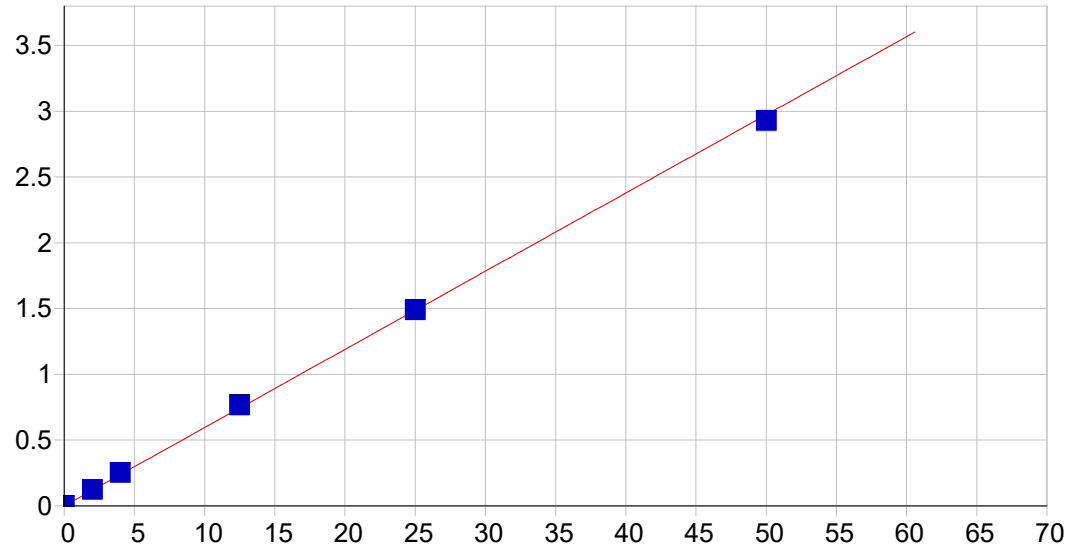


Cd 226.502 {449}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000006	Re-Slope:	1.000000
A1 (Gain):	1.910879	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999937	Status:	OK.
Std Error of Est:	0.000195		
Predicted MDL:	0.000091		
Predicted MQL:	0.000305		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00001	.000	1
S1	.00600	.00613	.000	2.14	.01176	.000	1
S3	1.2500	1.2429	-.007	-.568	2.3767	.002	1
S4	2.5000	2.5144	.014	.578	4.8081	.060	1
S5	5.0000	4.9737	-.026	-.527	9.5106	.133	1
S2	.40000	.41887	.019	4.72	.80094	.001	1

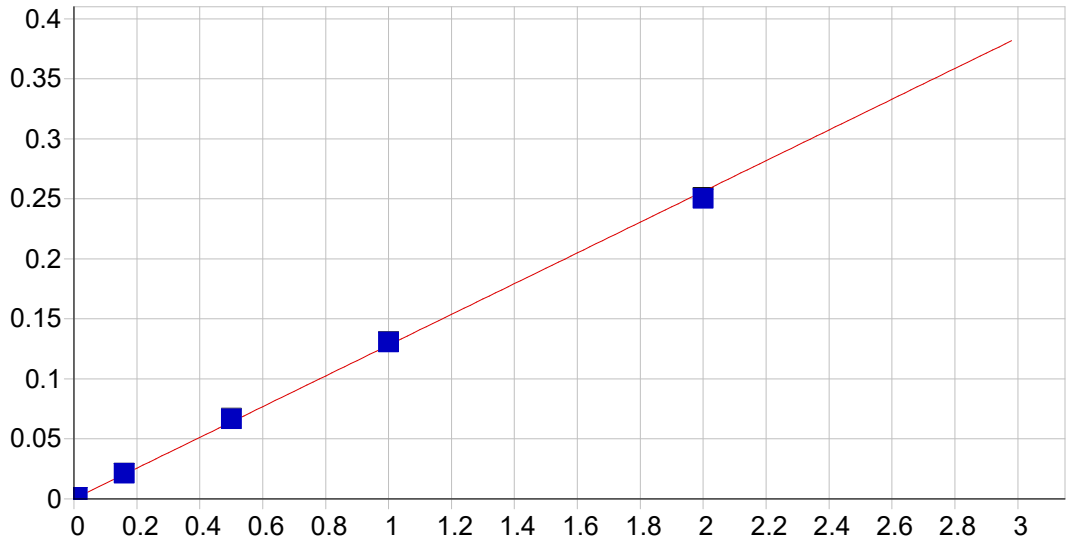


Ca 373.690 { 90}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001052	Re-Slope:	1.000000
A1 (Gain):	0.059443	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999805	Status:	OK.
Std Error of Est:	0.000619		
Predicted MDL:	0.008221		
Predicted MQL:	0.027404		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00021	-.000	.000	.00104	.000	1
S2	4.0000	4.2187	.219	5.47	.25115	.001	1
S3	12.500	12.876	.376	3.01	.76433	.003	1
S4	25.000	25.078	.078	.311	1.4876	.003	1
S5	50.000	49.266	-.734	-1.47	2.9212	.001	1
S1	2.0000	2.0616	.062	3.08	.12351	.001	1

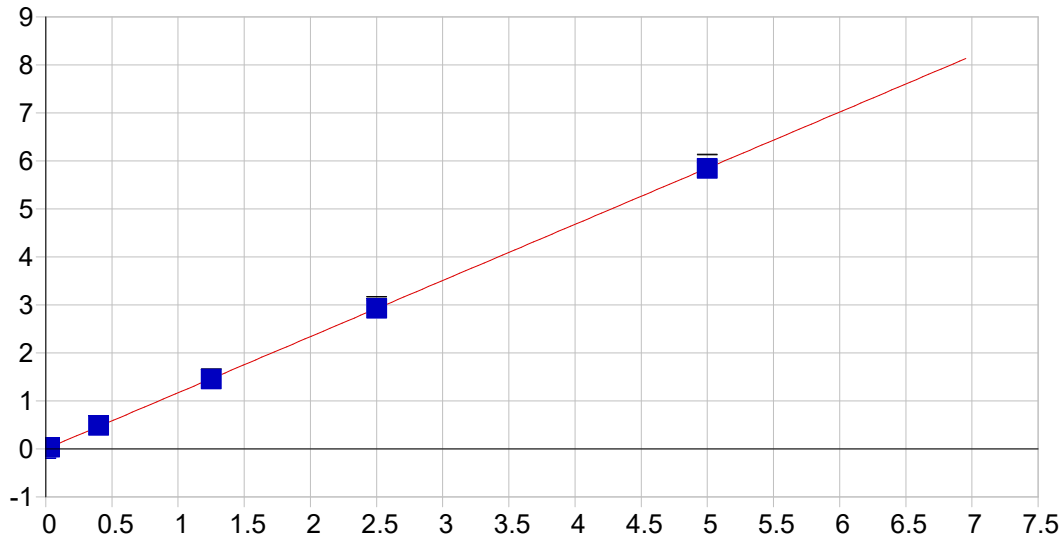


Cr 267.716 {126}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000023	Re-Slope:	1.000000
A1 (Gain):	0.128062	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999675	Status:	OK.
Std Error of Est:	0.000024		
Predicted MDL:	0.000317		
Predicted MQL:	0.001057		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00002	.000	1
S1	.01000	.00996	-.000	-.395	.00130	.000	1
S3	.50000	.51927	.019	3.85	.06654	.001	1
S4	1.0000	1.0201	.020	2.01	.13070	.000	1
S5	2.0000	1.9547	-.045	-2.26	.25043	.001	1
S2	.16000	.16588	.006	3.68	.02127	.000	1

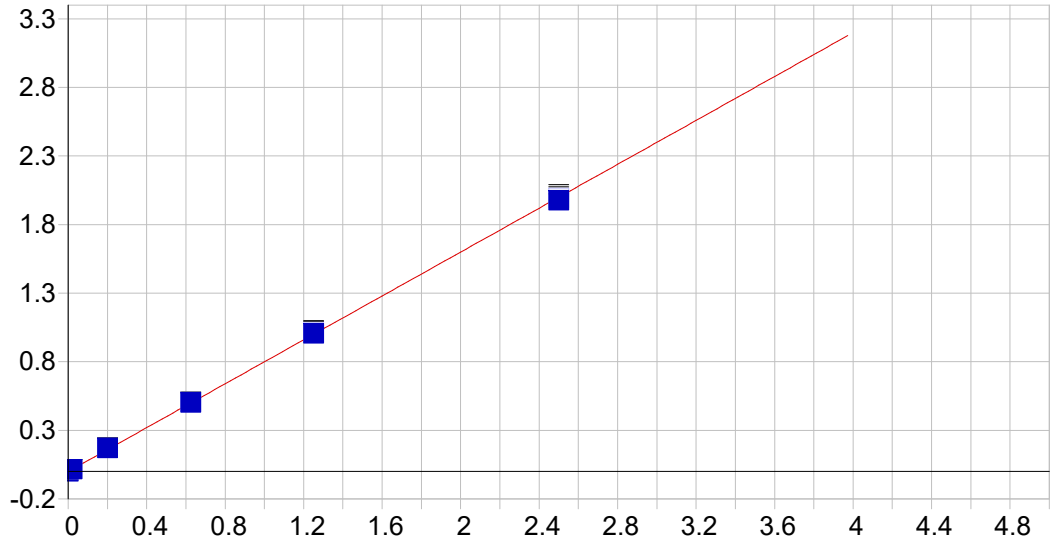


Co 228.616 {448}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000029	Re-Slope:	1.000000
A1 (Gain):	1.169571	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999962	Status:	OK.
Std Error of Est:	0.000207		
Predicted MDL:	0.000166		
Predicted MQL:	0.000554		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00003	.000	1
S1	.03000	.02971	-.000	-.959	.03457	.000	1
S3	1.2500	1.2433	-.007	-.535	1.4566	.001	1
S4	2.5000	2.4996	-.000	-.016	2.9284	.038	1
S5	5.0000	4.9913	-.009	-.173	5.8476	.084	1
S2	.40000	.41605	.016	4.01	.48737	.001	1

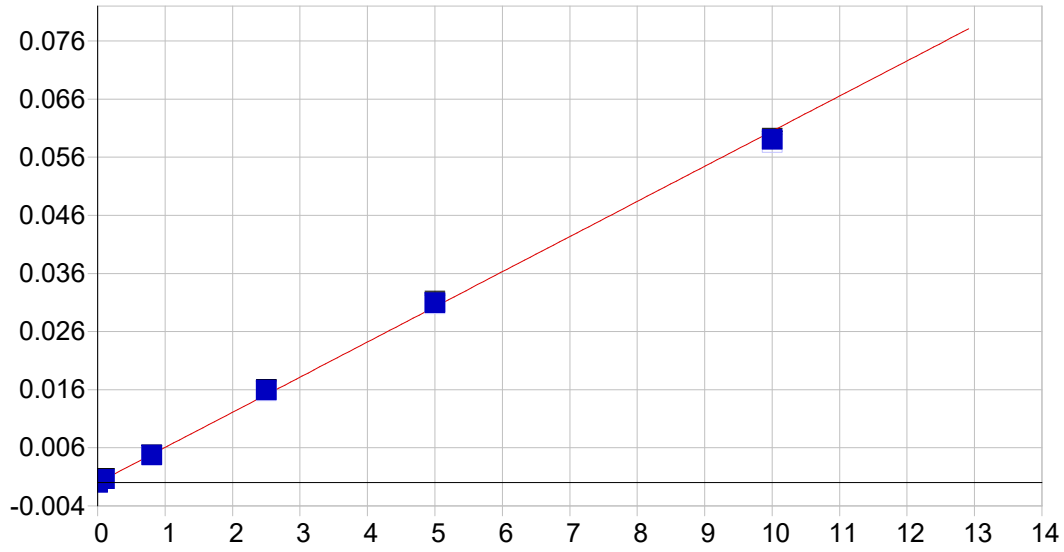


Cu 224.700 {450}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000311	Re-Slope:	1.000000
A1 (Gain):	0.799965	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999834	Status:	OK.
Std Error of Est:	0.000173		
Predicted MDL:	0.000395		
Predicted MQL:	0.001315		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00031	.000	1
S1	.02000	.02192	.002	9.60	.01741	.000	1
S3	.62500	.62834	.003	.535	.50670	.001	1
S4	1.2500	1.2595	.010	.761	1.0160	.012	1
S5	2.5000	2.4714	-.029	-1.14	1.9942	.025	1
S2	.20000	.21382	.014	6.91	.17213	.001	1

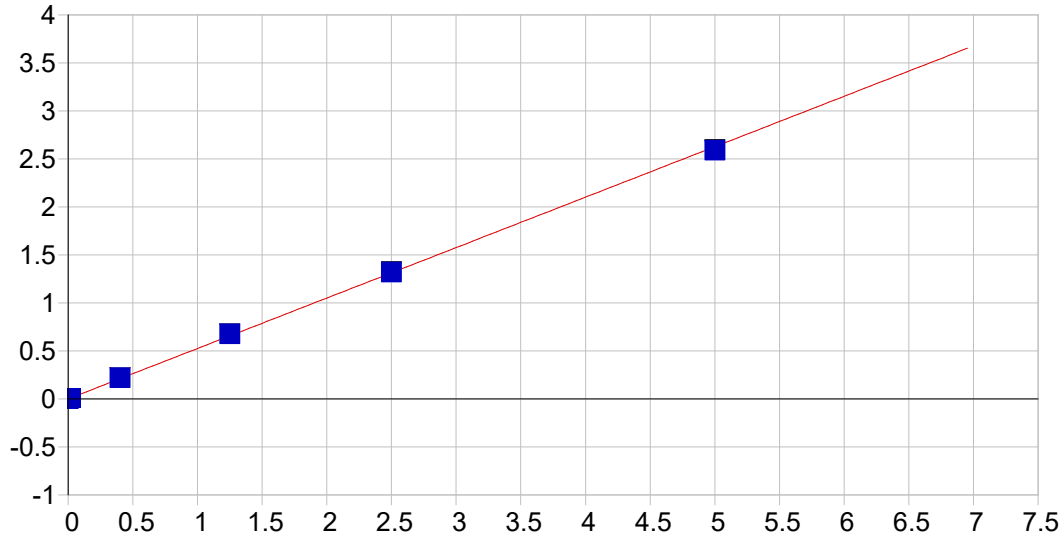


Fe 240.488 {140}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000009	Re-Slope:	1.000000
A1 (Gain):	0.006048	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999555	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	0.003607		
Predicted MQL:	0.012024		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00001	.000	1
S1	.10000	.10442	.004	4.42	.00063	.000	1
S3	2.5000	2.6304	.130	5.21	.01579	.000	1
S4	5.0000	5.1222	.122	2.44	.03073	.000	1
S5	10.000	9.7597	-.240	-2.40	.05852	.000	1
S2	.80000	.78332	-.017	-2.08	.00471	.000	1

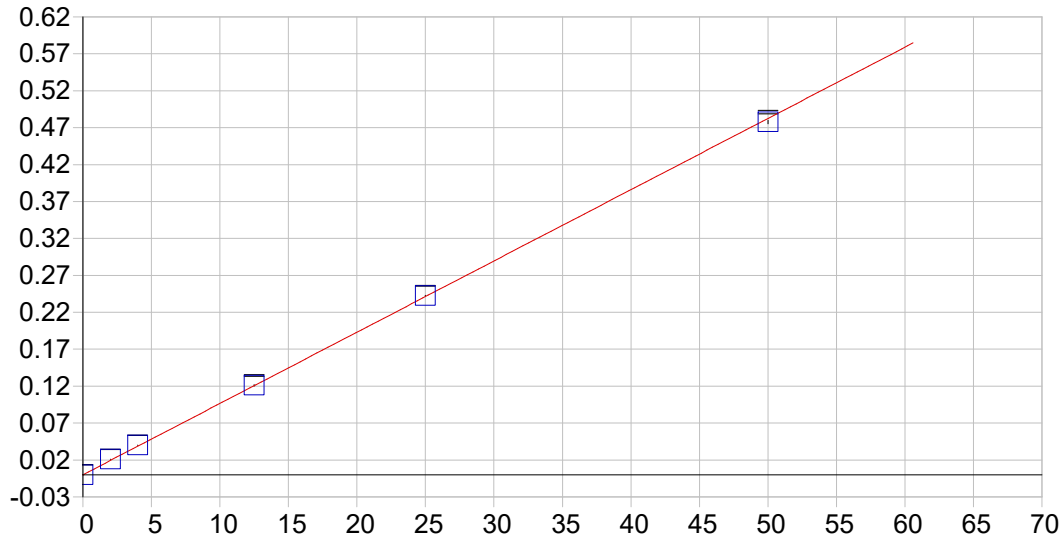


Mn 257.610 {131}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000073	Re-Slope:	1.000000
A1 (Gain):	0.525349	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999814	Status:	OK.
Std Error of Est:	0.000168		
Predicted MDL:	0.000320		
Predicted MQL:	0.001065		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00007	.000	1
S1	.02000	.02123	.001	6.14	.01123	.000	1
S3	1.2500	1.2852	.035	2.82	.67532	.005	1
S4	2.5000	2.5149	.015	.598	1.3214	.005	1
S5	5.0000	4.9269	-.073	-1.46	2.5887	.007	1
S2	.40000	.42174	.022	5.44	.22166	.001	1

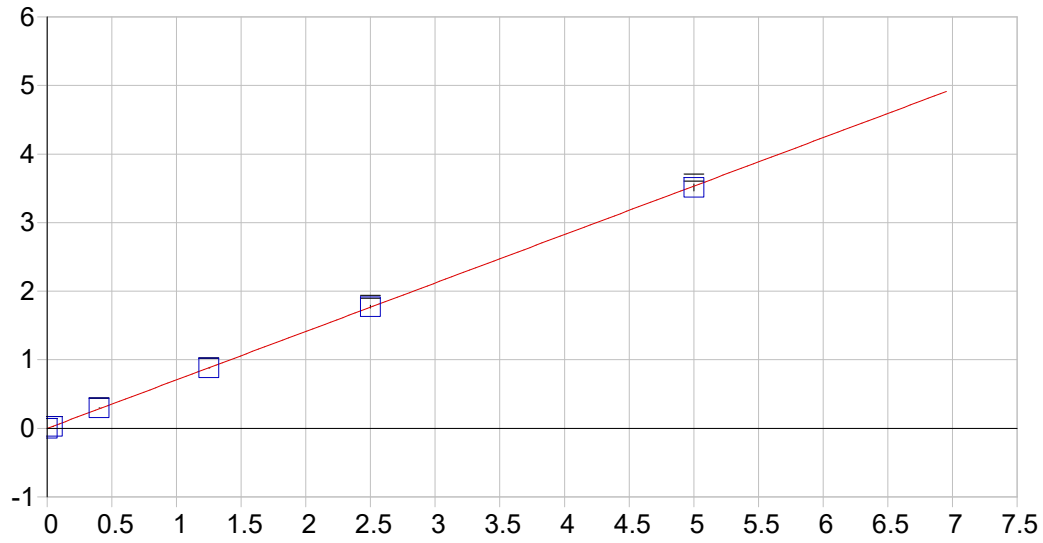


Mg 279.079 {121}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000006	Re-Slope:	1.000000
A1 (Gain):	0.009650	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999859	Status:	OK.
Std Error of Est:	0.000086		
Predicted MDL:	0.019038		
Predicted MQL:	0.063459		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00024	-.000	.000	.00000	.000	1
S2	4.0000	4.1430	.143	3.58	.03999	.000	1
S3	12.500	12.545	.045	.361	.12107	.001	1
S4	25.000	25.140	.140	.559	.24260	.000	1
S5	50.000	49.497	-.503	-1.01	.47765	.002	1
S1	2.0000	2.1749	.175	8.74	.02099	.000	1

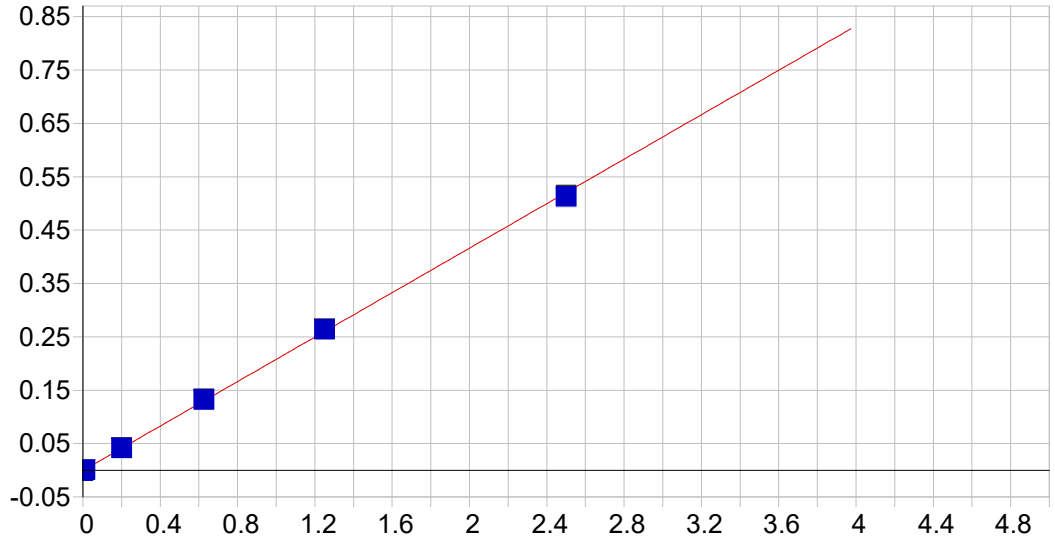


Ni 231.604 {446}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000075	Re-Slope:	1.000000
A1 (Gain):	0.706465	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999920	Status:	OK.
Std Error of Est:	0.000210		
Predicted MDL:	0.000270		
Predicted MQL:	0.000901		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00007	.000	1
S1	.04000	.03951	-.000	-1.23	.02799	.000	1
S3	1.2500	1.2459	-.004	-.332	.88023	.002	1
S4	2.5000	2.5103	.010	.412	1.7735	.023	1
S5	5.0000	4.9719	-.028	-.562	3.5126	.051	1
S2	.40000	.42240	.022	5.60	.29849	.000	1

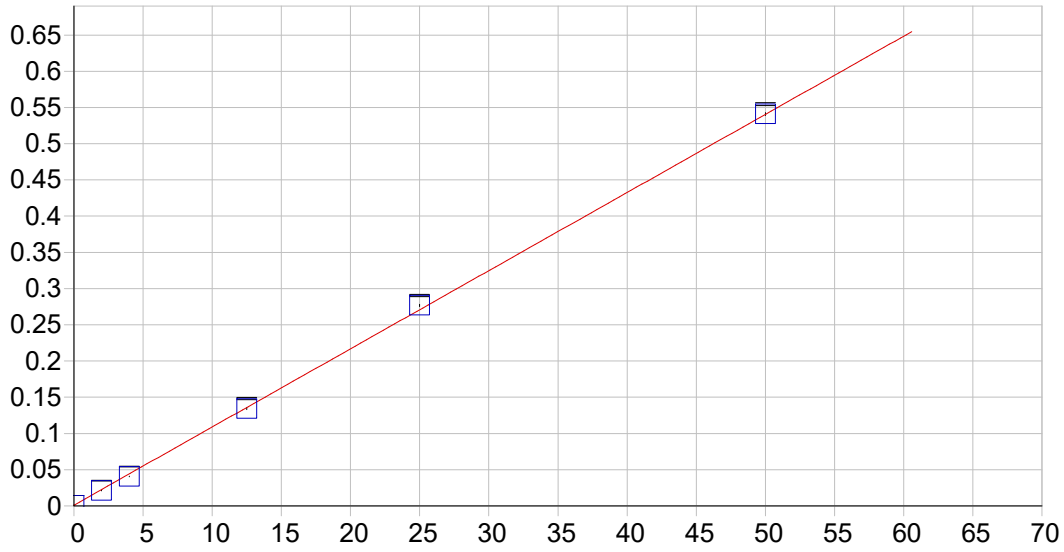


Ag 328.068 {103}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000623	Re-Slope:	1.000000
A1 (Gain):	0.208404	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999854	Status:	OK.
Std Error of Est:	0.000029		
Predicted MDL:	0.000331		
Predicted MQL:	0.001105		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00062	.000	1
S1	.01000	.00855	-.001	-14.5	.00115	.000	1
S3	.62500	.63775	.013	2.04	.13179	.001	1
S4	1.2500	1.2710	.021	1.68	.26327	.001	1
S5	2.5000	2.4653	-.035	-1.39	.51115	.002	1
S2	.20000	.20234	.002	1.17	.04138	.000	1

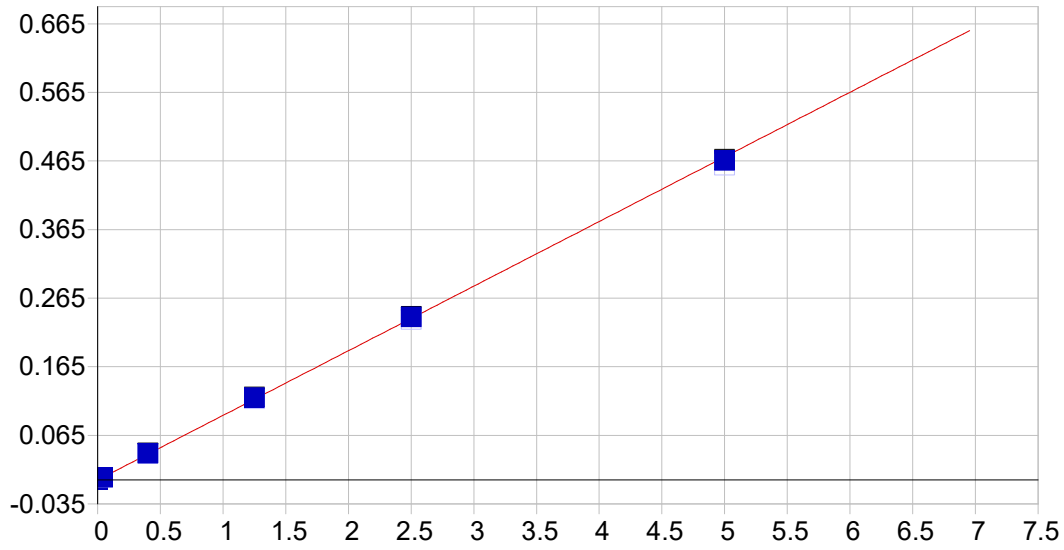


Na 589.592 { 57}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001095	Re-Slope:	1.000000
A1 (Gain):	0.010788	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999737	Status:	OK.
Std Error of Est:	0.000131		
Predicted MDL:	0.011354		
Predicted MQL:	0.037847		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00027	.000	.000	.00110	.000	1
S2	4.0000	3.6754	-.325	-8.11	.04075	.000	1
S3	12.500	12.358	-.142	-1.14	.13441	.002	1
S4	25.000	25.554	.554	2.22	.27677	.002	1
S5	50.000	50.046	.046	.093	.54100	.002	1
S1	2.0000	1.8667	-.133	-6.66	.02123	.000	1

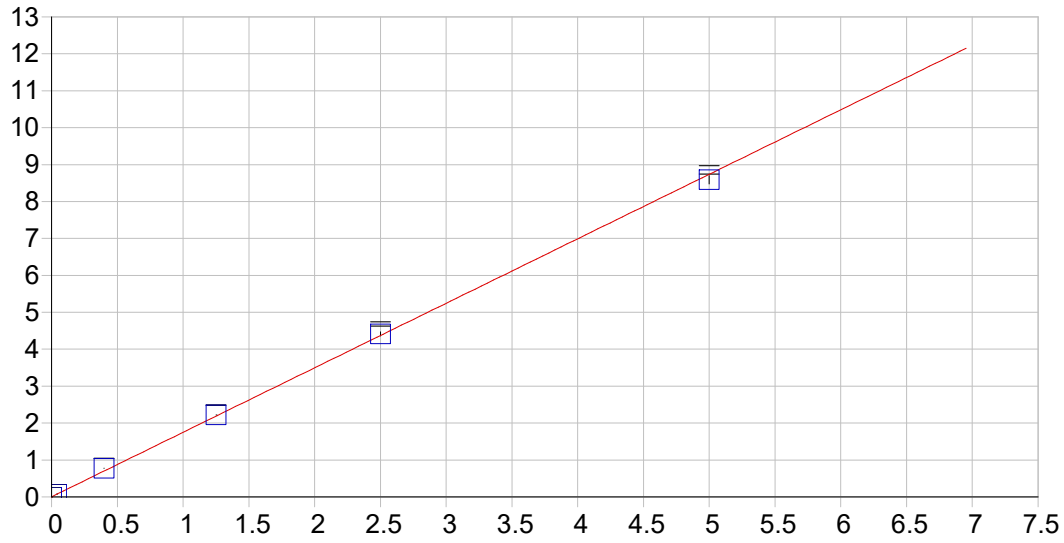


V 292.402 {115}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000140	Re-Slope:	1.000000
A1 (Gain):	0.094213	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999900	Status:	OK.
Std Error of Est:	0.000031		
Predicted MDL:	0.002265		
Predicted MQL:	0.007550		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00014	.000	1
S1	.04000	.04176	.002	4.39	.00365	.000	1
S3	1.2500	1.2738	.024	1.91	.11815	.001	1
S4	2.5000	2.5204	.020	.816	.23388	.001	1
S5	5.0000	4.9414	-.059	-1.17	.45854	.002	1
S2	.40000	.41264	.013	3.16	.03819	.000	1

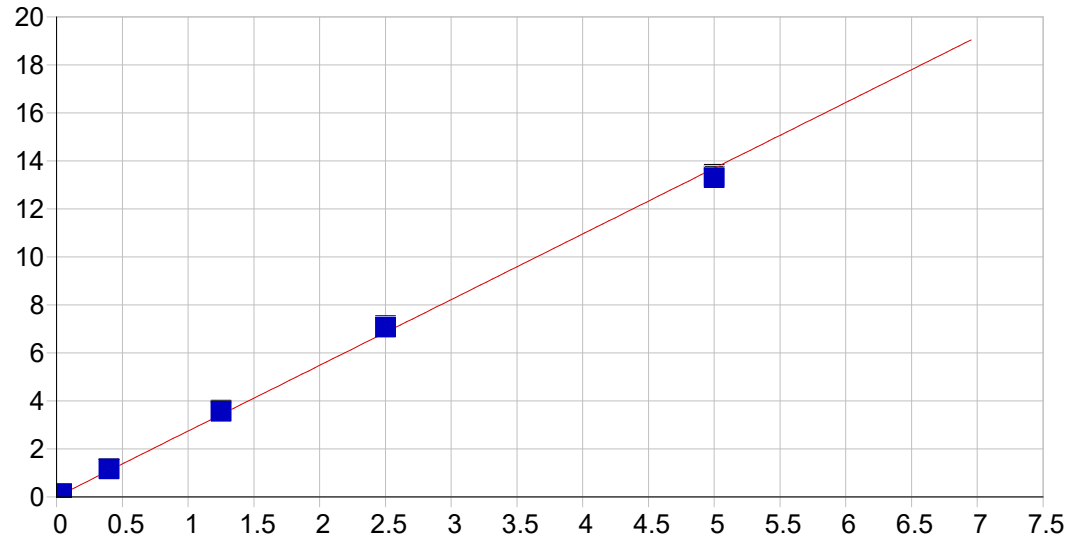


Zn 206.200 {464}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.003079	Re-Slope:	1.000000
A1 (Gain):	1.746973	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999651	Status:	OK.
Std Error of Est:	0.001083		
Predicted MDL:	0.000138		
Predicted MQL:	0.000461		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00307	.000	1
S1	.04000	.04225	.002	5.63	.07690	.001	1
S3	1.2500	1.2674	.017	1.39	2.2172	.001	1
S4	2.5000	2.5253	.025	1.01	4.4147	.057	1
S5	5.0000	4.9136	-.086	-1.73	8.5870	.111	1
S2	.40000	.44143	.041	10.4	.77424	.002	1

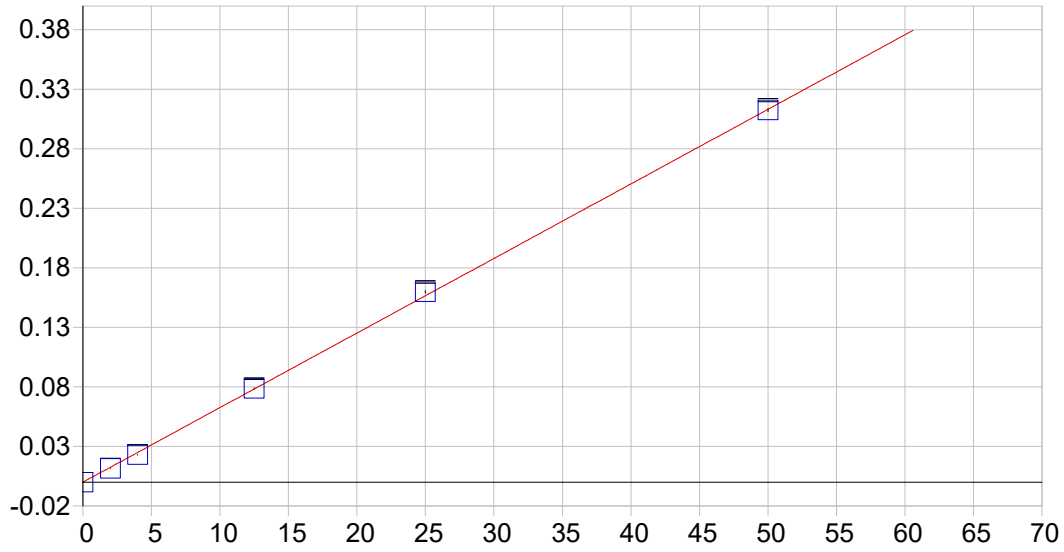


Zn 213.856 {158}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.005707	Re-Slope:	1.000000
A1 (Gain):	2.738041	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999483	Status:	OK.
Std Error of Est:	0.002081		
Predicted MDL:	0.000193		
Predicted MQL:	0.000645		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00569	.000	1
S1	.04000	.04327	.003	8.17	.12494	.002	1
S3	1.2500	1.2967	.047	3.73	3.5798	.031	1
S4	2.5000	2.5770	.077	3.08	7.1092	.019	1
S5	5.0000	4.8535	-.147	-2.93	13.390	.048	1
S2	.40000	.41962	.020	4.91	1.1623	.001	1

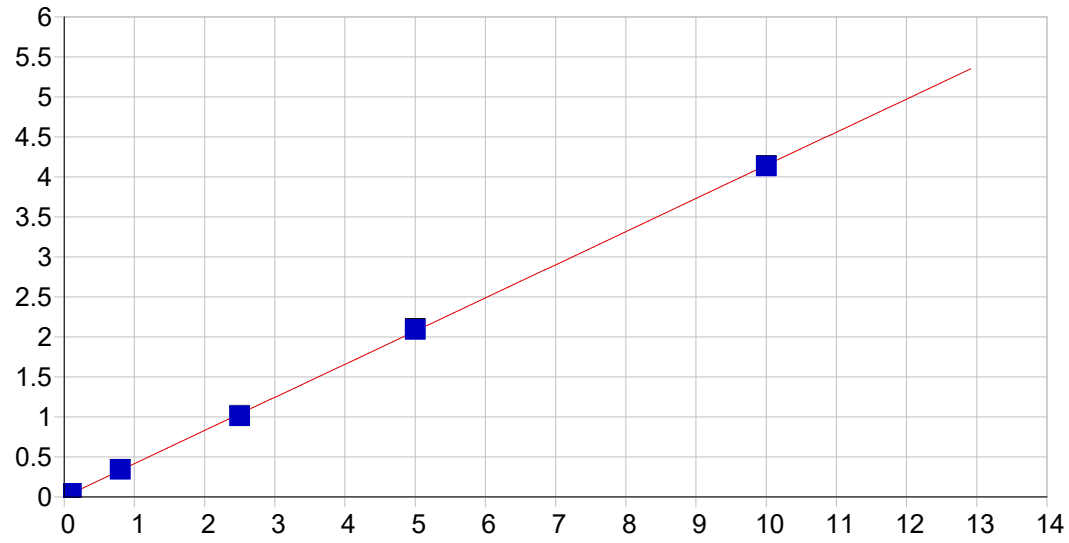


K 766.490 { 44}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000072	Re-Slope:	1.000000
A1 (Gain):	0.006266	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999754	Status:	OK.
Std Error of Est:	0.000074		
Predicted MDL:	0.026526		
Predicted MQL:	0.088419		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00025	.000	.000	-.00007	.000	1
S2	4.0000	3.6821	-.318	-7.95	.02300	.000	1
S3	12.500	12.550	.050	.400	.07857	.001	1
S4	25.000	25.514	.514	2.06	.15980	.001	1
S5	50.000	49.893	-.107	-.214	.31256	.001	1
S1	2.0000	1.8607	-.139	-6.96	.01159	.000	1

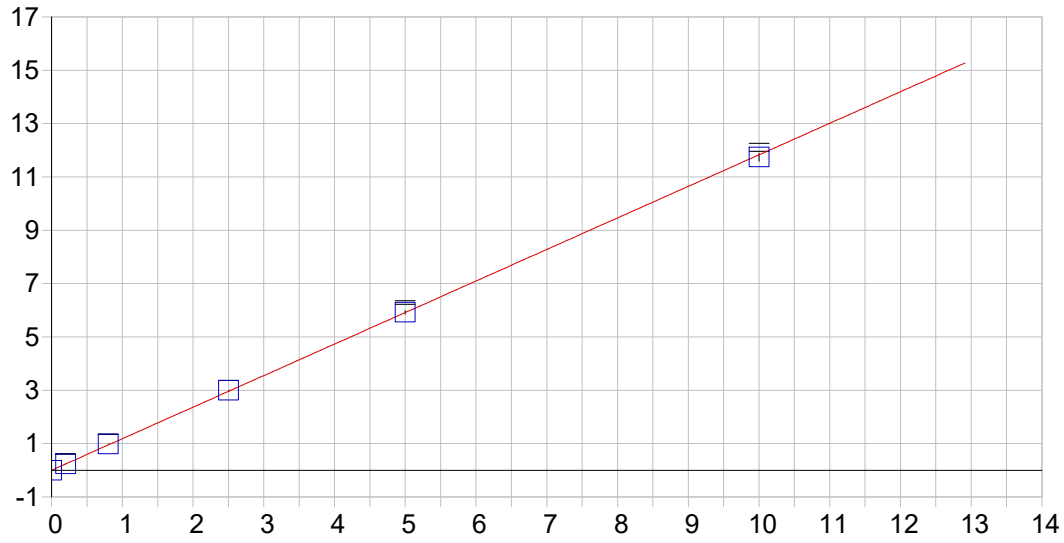


B 249.678 {135}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001044	Re-Slope:	1.000000
A1 (Gain):	0.414366	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999927	Status:	OK.
Std Error of Est:	0.000262		
Predicted MDL:	0.000640		
Predicted MQL:	0.002135		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00104	.000	1
S1	.10000	.10285	.003	2.85	.04349	.000	1
S3	2.5000	2.4416	-.058	-2.34	1.0107	.006	1
S4	5.0000	5.0490	.049	.980	2.0891	.012	1
S5	10.000	9.9827	-.017	-.173	4.1294	.002	1
S2	.80000	.82385	.024	2.98	.34177	.001	1

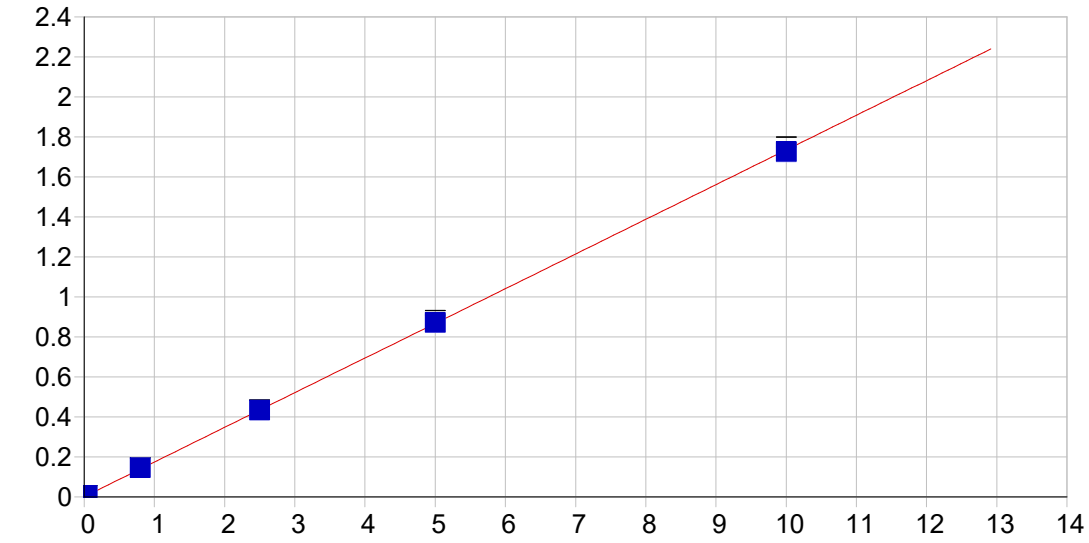


Mo 202.030 {467}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000221	Re-Slope:	1.000000
A1 (Gain):	1.182801	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999938	Status:	OK.
Std Error of Est:	0.000979		
Predicted MDL:	0.000209		
Predicted MQL:	0.000698		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	-.00024	.000	1
S1	.20000	.20355	.004	1.78	.24054	.004	1
S3	2.5000	2.5334	.033	1.34	2.9963	.004	1
S4	5.0000	5.0064	.006	.128	5.9213	.064	1
S5	10.000	9.9255	-.075	-.745	11.740	.147	1
S2	.80000	.83116	.031	3.90	.98288	.003	1

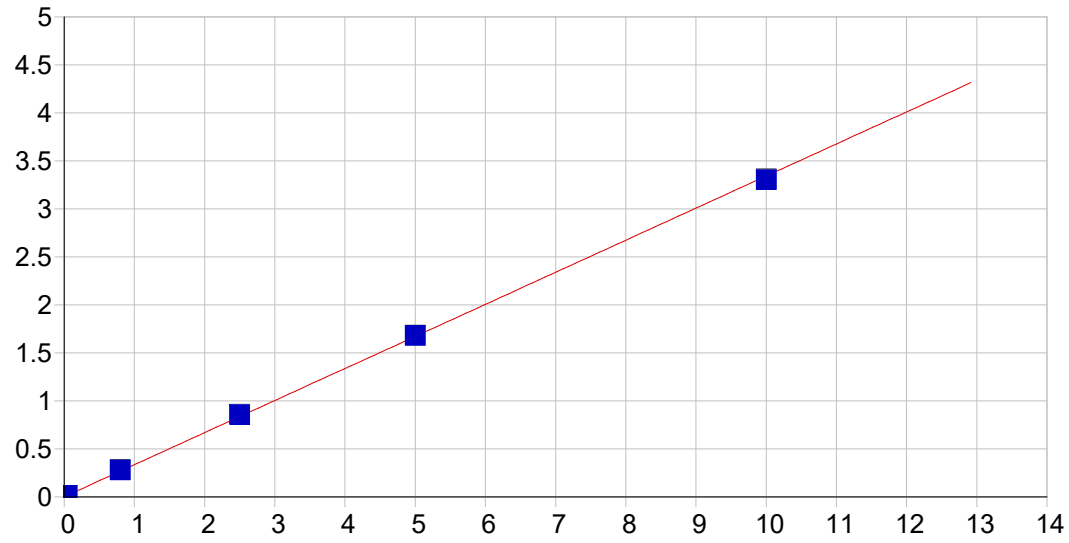


Sn 189.989 {478}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000883	Re-Slope:	1.000000
A1 (Gain):	0.173370	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999936	Status:	OK.
Std Error of Est:	0.000065		
Predicted MDL:	0.000576		
Predicted MQL:	0.001921		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00088	.000	1
S1	.04000	.03578	-.004	-10.6	.00708	.000	1
S3	2.5000	2.4977	-.002	-.092	.43346	.001	1
S4	5.0000	5.0224	.022	.447	.87072	.011	1
S5	10.000	9.9492	-.051	-.508	1.7240	.025	1
S2	.80000	.83496	.035	4.37	.14550	.000	1

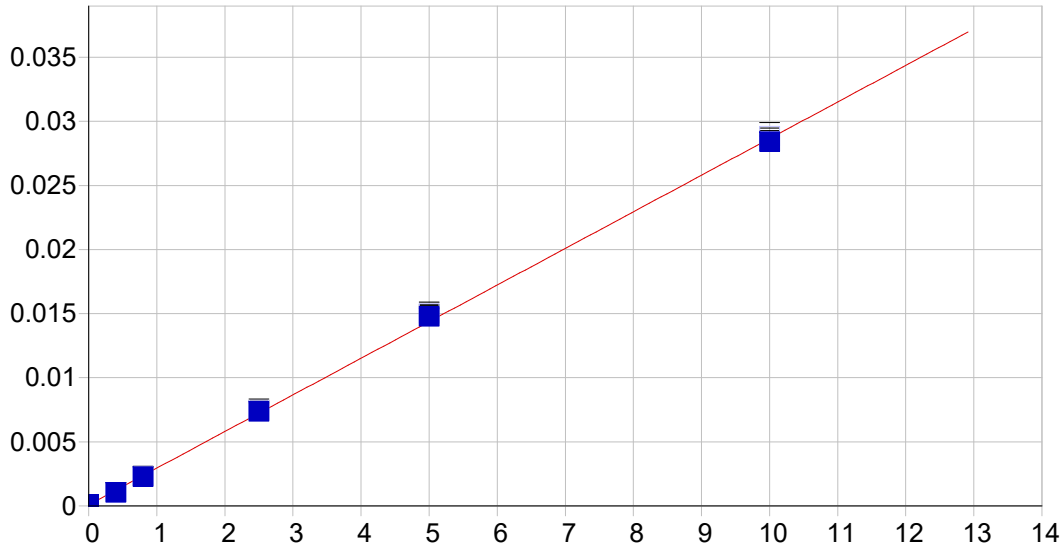


Ti 336.121 {100}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001400	Re-Slope:	1.000000
A1 (Gain):	0.334056	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999896	Status:	OK.
Std Error of Est:	0.000160		
Predicted MDL:	0.000950		
Predicted MQL:	0.003167		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00140	.000	1
S1	.04000	.04142	.001	3.56	.01523	.000	1
S3	2.5000	2.5573	.057	2.29	.85539	.005	1
S4	5.0000	5.0240	.024	.480	1.6791	.003	1
S5	10.000	9.8880	-.112	-1.12	3.3033	.005	1
S2	.80000	.82928	.029	3.66	.27833	.001	1

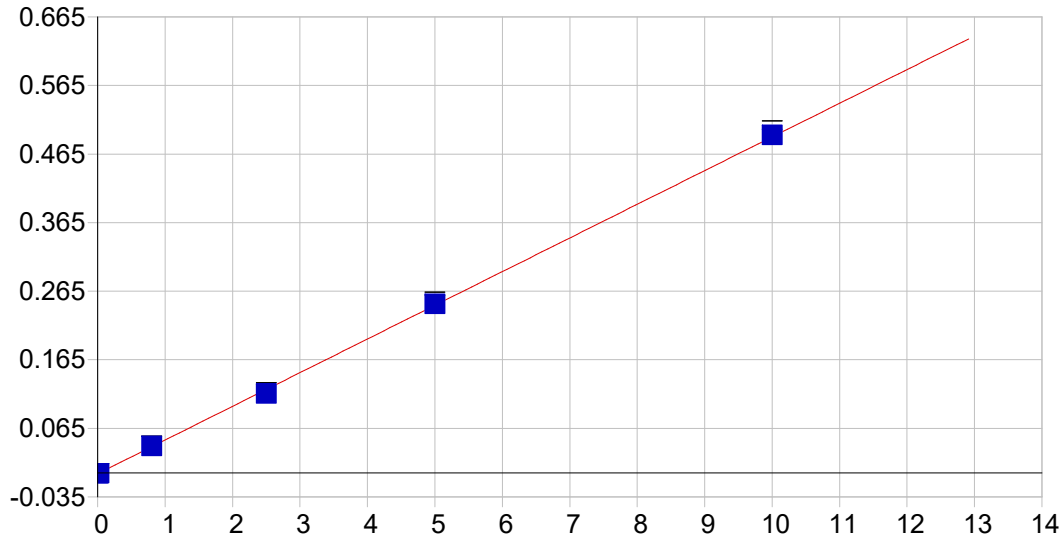


Si 288.158 {117}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000091	Re-Slope:	1.000000
A1 (Gain):	0.002857	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999513	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	0.009703		
Predicted MQL:	0.032342		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00007	.000	.000	.00009	.000	1
S1	.40000	.33261	-.067	-16.8	.00104	.000	1
S3	2.5000	2.5453	.045	1.81	.00747	.000	1
S4	5.0000	5.1454	.145	2.91	.01500	.000	1
S5	10.000	9.9109	-.089	-.891	.02883	.000	1
S2	.80000	.76490	-.035	-4.39	.00231	.000	1

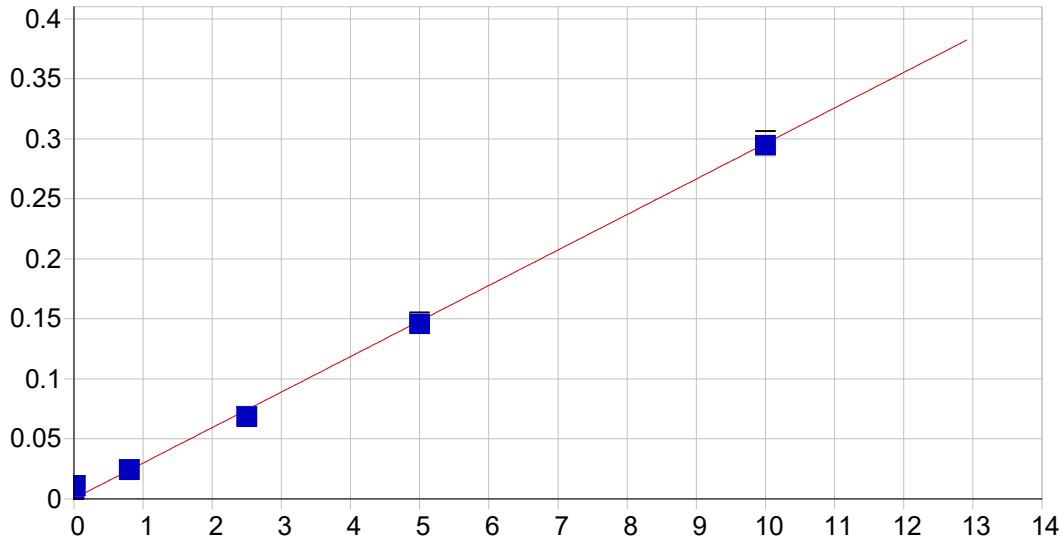


P 177.495 {490}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001137	Re-Slope:	1.000000
A1 (Gain):	0.049110	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999794	Status:	OK.
Std Error of Est:	0.000023		
Predicted MDL:	0.001837		
Predicted MQL:	0.006125		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00114	.000	1
S1	.02000	.01756	-.002	-12.2	-.00027	.000	1
S3	2.5000	2.3780	-.122	-4.88	.11563	.001	1
S4	5.0000	5.0449	.045	.898	.24658	.003	1
S5	10.000	10.059	.059	.588	.49277	.006	1
S2	.80000	.82078	.021	2.60	.03917	.000	1

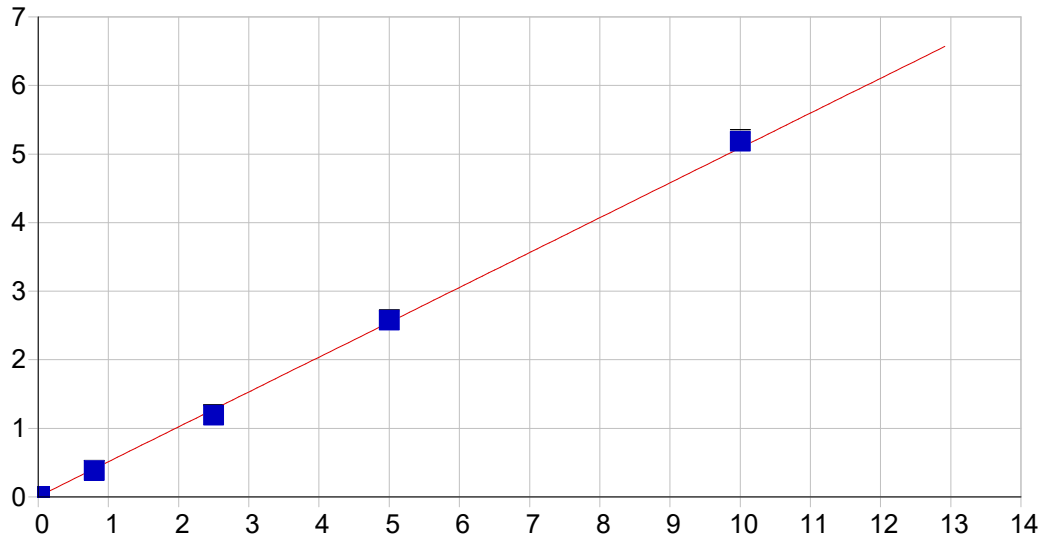


S 182.034 {485}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000276	Re-Slope:	1.000000
A1 (Gain):	0.029579	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.877490	Status:	OK.
Std Error of Est:	0.000378		
Predicted MDL:	0.002773		
Predicted MQL:	0.009245		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00033	-.000	.000	.00027	.000	1
S1	.02000	.34930	.329	1650.	.01058	.000	1
S3	2.5000	2.3079	-.192	-7.68	.06835	.000	1
S4	5.0000	4.9221	-.078	-1.56	.14548	.002	1
S5	10.000	9.9460	-.054	-.540	.29370	.004	1
S2	.80000	.80789	.008	.986	.02411	.000	1

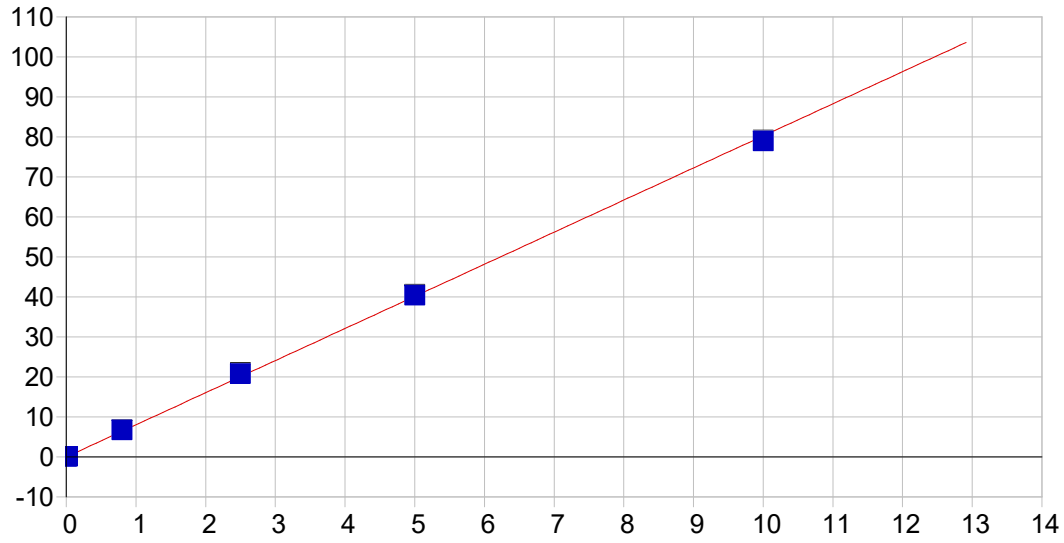


Li 670.784 { 50}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.004729	Re-Slope:	1.000000
A1 (Gain):	0.508339	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999041	Status:	OK.
Std Error of Est:	0.000522		
Predicted MDL:	0.002257		
Predicted MQL:	0.007522		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00002	.000	.000	.00474	.001	1
S5	10.000	10.189	.189	1.89	5.1886	.023	1
S4	5.0000	5.0546	.055	1.09	2.5765	.007	1
S3	2.5000	2.3302	-.170	-6.79	1.1904	.010	1
S1	.02000	.00228	-.018	-88.6	.00607	.001	1
S2	.80000	.74460	-.055	-6.93	.38360	.002	1

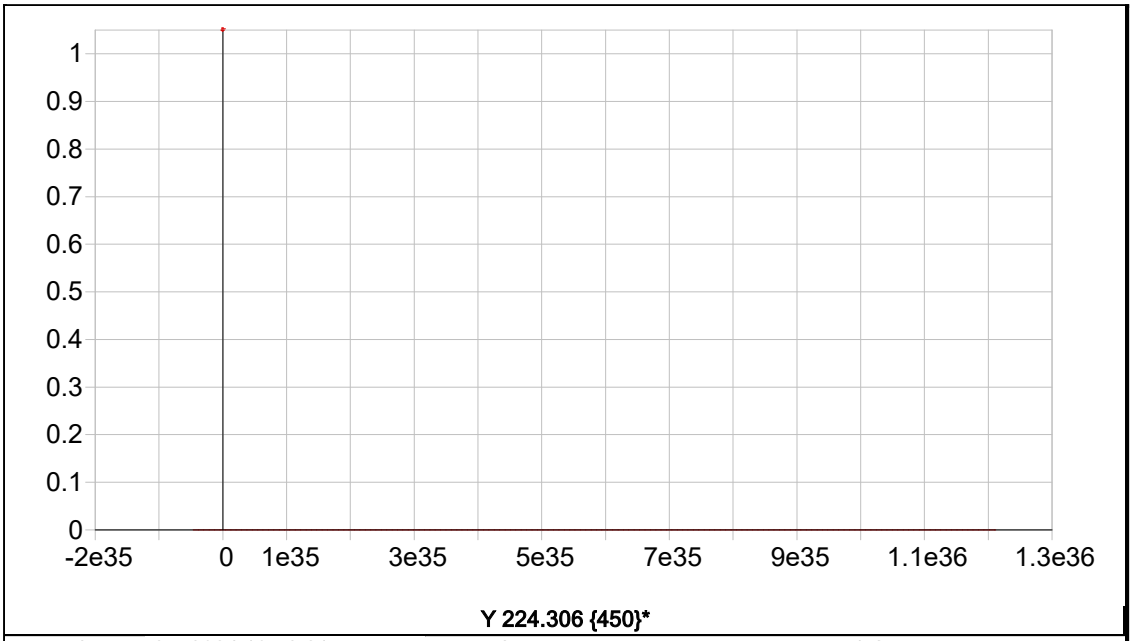


Sr 407.771 { 83}

Date of Fit:	8/7/2024 19:58:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000025	Re-Slope:	1.000000
A1 (Gain):	8.025497	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999788	Status:	OK.
Std Error of Est:	0.003879		
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	-.00004	.000	1
S1	.02000	.02071	.001	3.55	.16698	.003	1
S3	2.5000	2.5902	.090	3.61	20.807	.195	1
S4	5.0000	5.0383	.038	.766	40.475	.185	1
S5	10.000	9.8358	-.164	-1.64	79.018	.147	1
S2	.80000	.83499	.035	4.37	6.7076	.030	1

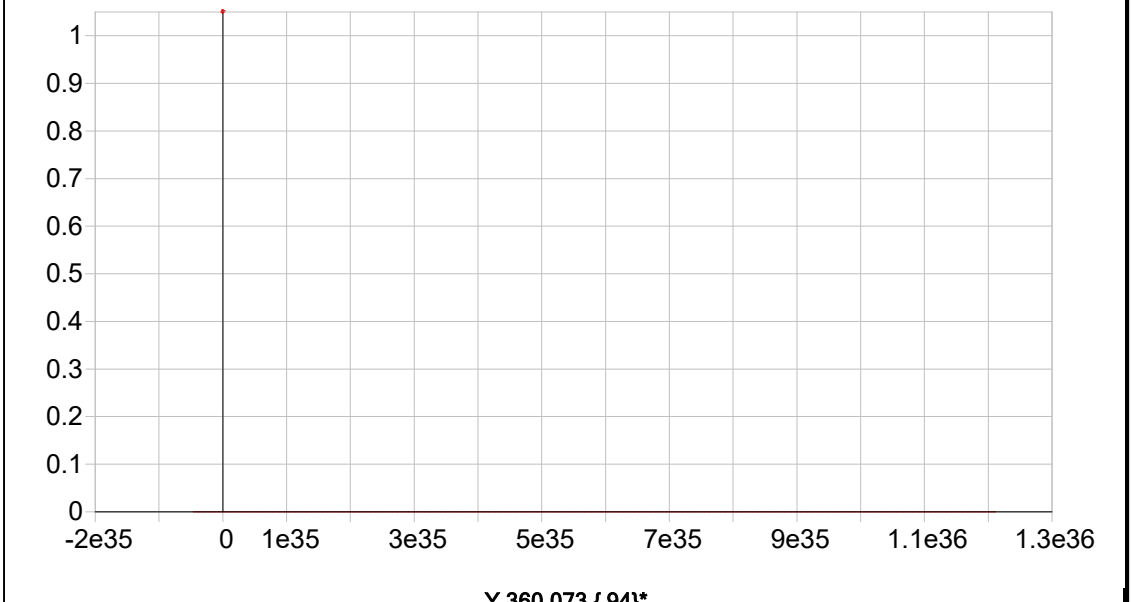


Y 224.306 {450}*

Date of Fit:	8/7/2024 19:58:21	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



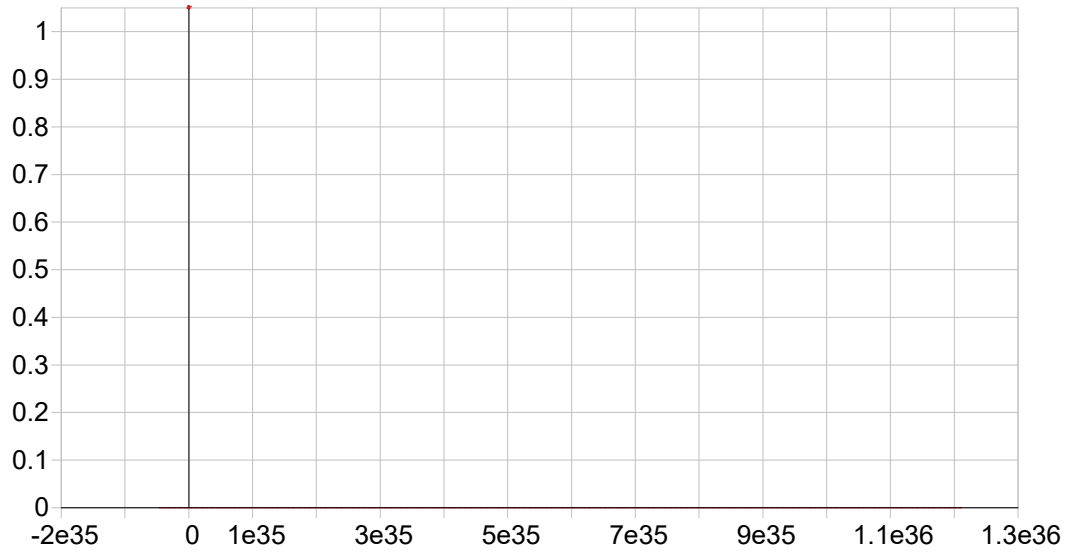
Y 360.073 { 94}*

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

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					

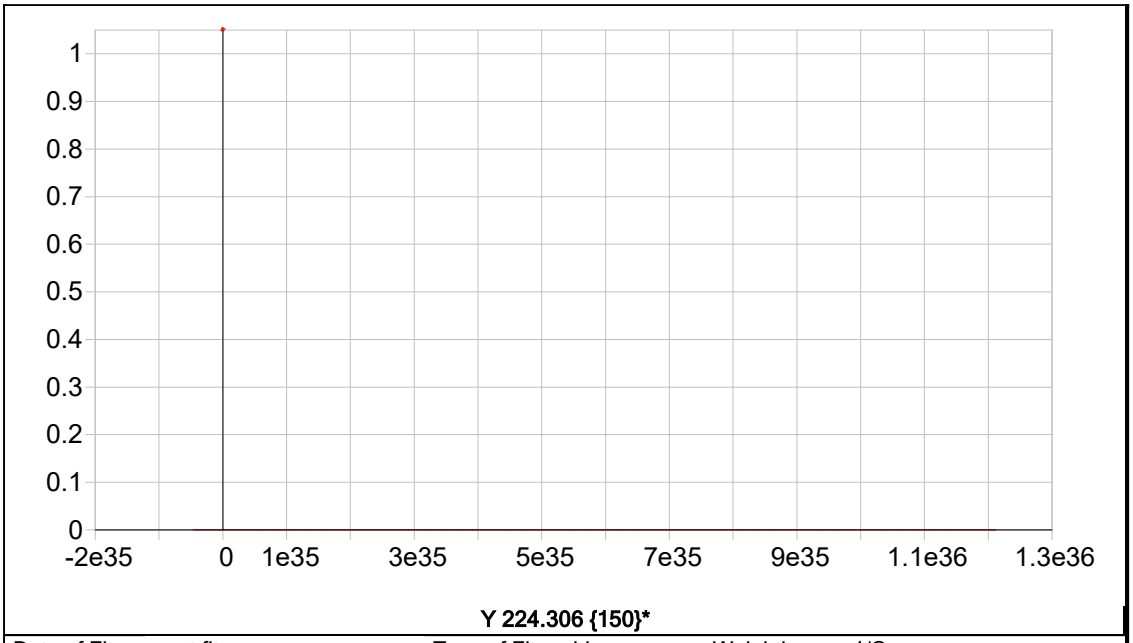
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis



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

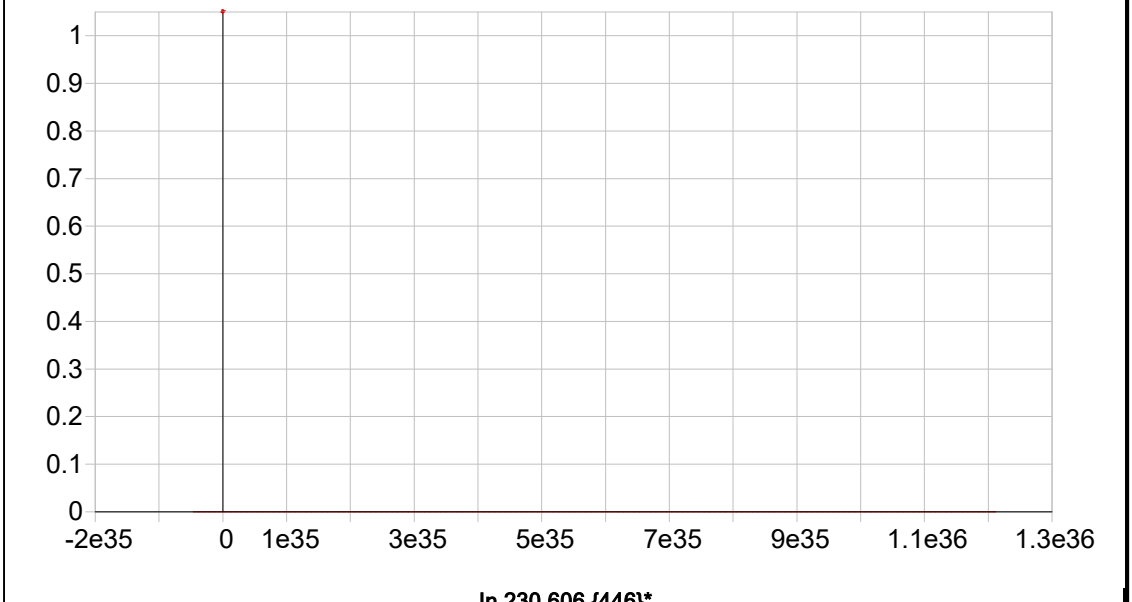


Y 224.306 {150}*

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:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: S0 Acquired: 8/7/2024 14:16:38 Type: Cal
Method: NON EPA-6010-200.7(v2342) 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	-.00024	.00018	-.00028	.00049	.00009	.00029	.02153	-.00048
Stddev	.00017	.00003	.00003	.00014	.00020	.00027	.00254	.00003
%RSD	70.186	16.372	11.389	27.670	209.55	93.074	11.783	5.7793
#1	-.00039	.00015	-.00029	.00064	.00011	.00003	.01941	-.00049
#2	-.00025	.00021	-.00030	.00044	-.00011	.00056	.02434	-.00050
#3	-.00006	.00018	-.00024	.00039	.00029	.00027	.02084	-.00045

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	.00001	.00104	.00002	-.00003	-.00031	.00001	.00007	.00000
Stddev	.00012	.00036	.00002	.00009	.00020	.00002	.00008	.00014
%RSD	2006.1	34.705	68.059	297.62	63.110	213.20	118.76	4528.9
#1	.00011	.00078	.00004	.00001	-.00026	.00001	-.00003	-.00015
#2	-.00012	.00145	.00001	.00003	-.00015	-.00001	.00011	.00004
#3	.00002	.00089	.00001	-.00013	-.00053	.00003	.00013	.00013

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	.00007	-.00062	.00110	-.00014	.00569	-.00007	.00104	-.00024
Stddev	.00012	.00001	.00008	.00021	.00049	.00013	.00022	.00023
%RSD	162.04	1.8839	7.5315	152.46	8.6799	181.34	20.914	95.775
#1	.00016	-.00064	.00106	-.00005	.00570	-.00020	.00082	-.00037
#2	.00013	-.00062	.00104	-.00038	.00519	-.00007	.00105	.00003
#3	-.00006	-.00061	.00119	.00001	.00617	.00006	.00125	-.00037

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	.00088	.00140	.00009	-.00114	.00027	.00474	-.00004
Stddev	.00007	.00033	.00001	.00003	.00005	.00062	.00034
%RSD	7.6213	23.447	15.561	2.3182	20.499	13.090	796.31
#1	.00085	.00151	.00008	-.00111	.00028	.00526	.00034
#2	.00084	.00166	.00011	-.00116	.00021	.00405	-.00020
#3	.00096	.00103	.00008	-.00114	.00031	.00490	-.00027

Sample Name: S0 Acquired: 8/7/2024 14:16:38 Type: Cal
Method: NON EPA-6010-200.7(v2342) 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	2842.8	100060.	13228.	3855.0	5340.4
Stddev	29.5	379.	84.	13.0	56.4
%RSD	1.0395	.37909	.63181	.33607	1.0555
#1	2813.5	100340.	13138.	3850.7	5281.6
#2	2872.6	99627.	13303.	3844.7	5394.0
#3	2842.3	100210.	13243.	3869.5	5345.4

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: S1 Acquired: 8/7/2024 14:21:03 Type: Cal
Method: NON EPA-6010-200.7(v2342) 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	.00189	.00266	.00302	.00229	.00928	.00728	.25308	.03199
Stddev	.00006	.00010	.00031	.00022	.00020	.00015	.00350	.00007
%RSD	2.9668	3.8485	10.308	9.7553	2.1393	2.0089	1.3843	.22865
#1	.00193	.00256	.00335	.00209	.00907	.00723	.24923	.03202
#2	.00192	.00277	.00273	.00225	.00928	.00716	.25392	.03204
#3	.00183	.00264	.00297	.00253	.00947	.00744	.25609	.03190

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	.01176	.12351	.00130	.03457	.01741	.00063	.01123	.02099
Stddev	.00017	.00141	.00002	.00049	.00040	.00003	.00012	.00016
%RSD	1.4542	1.1423	1.2652	1.4038	2.3071	4.3395	1.0793	.76376
#1	.01160	.12293	.00132	.03407	.01698	.00060	.01109	.02086
#2	.01194	.12249	.00130	.03504	.01777	.00064	.01131	.02117
#3	.01174	.12512	.00128	.03462	.01749	.00066	.01128	.02094

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	.02799	.00115	.02123	.00365	.12494	.01159	.04349	.24054
Stddev	.00045	.00007	.00038	.00001	.00204	.00025	.00030	.00401
%RSD	1.6039	6.0627	1.8118	.29812	1.6366	2.1344	.69635	1.6654
#1	.02748	.00118	.02100	.00366	.12478	.01143	.04331	.23667
#2	.02834	.00119	.02168	.00366	.12706	.01187	.04331	.24467
#3	.02814	.00107	.02103	.00364	.12298	.01146	.04384	.24029

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	.00708	.01523	.00104	-.00027	.01058	.00607	.16698
Stddev	.00012	.00028	.00002	.00006	.00025	.00138	.00297
%RSD	1.6640	1.8664	1.5914	23.166	2.3836	22.662	1.7780
#1	.00697	.01500	.00105	-.00033	.01033	.00457	.16487
#2	.00720	.01514	.00106	-.00021	.01084	.00638	.16570
#3	.00706	.01555	.00102	-.00028	.01057	.00727	.17038

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: S1 Acquired: 8/7/2024 14:21:03 Type: Cal
Method: NON EPA-6010-200.7(v2342) 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	2820.7	97260.	13217.	3767.6	5270.4
Stddev	34.6	1428.	125.	51.0	64.6
%RSD	1.2280	1.4681	.94605	1.3539	1.2251
#1	2844.7	97408.	13292.	3769.1	5318.5
#2	2781.0	95764.	13286.	3715.9	5197.0
#3	2836.5	98609.	13073.	3817.9	5295.7

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: S2 Acquired: 8/7/2024 14:25:29 Type: Cal
Method: NON EPA-6010-200.7(v2342) 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	.09204	.05728	.21307	.08431	.15683	.10101	3.7553	.21158
Stddev	.00052	.00063	.00067	.00060	.00029	.00106	.0207	.00109
%RSD	.56191	1.1084	.31275	.71184	.18615	1.0462	.55127	.51621
#1	.09145	.05656	.21374	.08363	.15651	.10215	3.7640	.21061
#2	.09225	.05752	.21241	.08455	.15690	.10080	3.7702	.21135
#3	.09242	.05776	.21307	.08476	.15709	.10007	3.7316	.21276

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	.80094	.25115	.02127	.48737	.17213	.00471	.22166	.03999
Stddev	.00133	.00146	.00014	.00070	.00074	.00002	.00057	.00019
%RSD	.16620	.58306	.67520	.14447	.43278	.41287	.25893	.46466
#1	.80170	.25273	.02134	.48718	.17171	.00472	.22220	.04020
#2	.79941	.25089	.02111	.48678	.17169	.00471	.22106	.03987
#3	.80172	.24984	.02137	.48815	.17299	.00468	.22171	.03989

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	.29849	.04138	.04075	.03819	1.1623	.02300	.34177	.98288
Stddev	.00031	.00019	.00034	.00044	.0014	.00016	.00106	.00289
%RSD	.10494	.46409	.84541	1.1647	.11975	.68889	.31078	.29435
#1	.29816	.04136	.04101	.03865	1.1627	.02317	.34091	.98069
#2	.29852	.04121	.04087	.03815	1.1607	.02296	.34145	.98179
#3	.29878	.04159	.04036	.03776	1.1634	.02287	.34296	.98616

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	.14550	.27833	.00231	.03917	.02411	.38360	6.7076
Stddev	.00030	.00066	.00002	.00012	.00024	.00198	.0304
%RSD	.20823	.23573	.82764	.31714	.98483	.51709	.45267
#1	.14550	.27866	.00229	.03930	.02384	.38384	6.7272
#2	.14520	.27875	.00231	.03914	.02429	.38545	6.7231
#3	.14580	.27757	.00233	.03905	.02419	.38151	6.6726

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: S2 Acquired: 8/7/2024 14:25:29 Type: Cal
Method: NON EPA-6010-200.7(v2342) 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	2638.4	101090.	13414.	3860.6	4825.4
Stddev	10.9	217.	6.	10.1	13.0
%RSD	.41406	.21484	.04511	.26207	.26992
#1	2648.9	100870.	13409.	3856.9	4836.1
#2	2639.2	101310.	13421.	3852.9	4829.2
#3	2627.1	101100.	13413.	3872.1	4810.9

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: S3 Acquired: 8/7/2024 14:29:39 Type: Cal
Method: NON EPA-6010-200.7(v2342) 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	.26818	.17256	.63719	.24251	.46612	.30596	11.835	.62720
Stddev	.00083	.00191	.00076	.00077	.00080	.00178	.079	.00342
%RSD	.31132	1.1066	.11892	.31673	.17242	.58309	.66543	.54554
#1	.26802	.17343	.63660	.24329	.46685	.30721	11.898	.62913
#2	.26908	.17388	.63693	.24248	.46625	.30676	11.861	.62921
#3	.26743	.17037	.63805	.24176	.46526	.30392	11.747	.62325

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	2.3767	.76433	.06654	1.4566	.50670	.01579	.67532	.12107
Stddev	.0024	.00342	.00064	.0012	.00079	.00013	.00507	.00120
%RSD	.09955	.44768	.95727	.08193	.15580	.79476	.75052	.99407
#1	2.3739	.76491	.06727	1.4576	.50714	.01593	.67713	.12118
#2	2.3781	.76742	.06610	1.4568	.50718	.01574	.67924	.12221
#3	2.3779	.76065	.06624	1.4553	.50579	.01570	.66960	.11981

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	.88023	.13179	.13441	.11815	3.5798	.07857	1.0107	2.9963
Stddev	.00151	.00140	.00158	.00098	.0308	.00063	.0064	.0043
%RSD	.17166	1.0633	1.1751	.83043	.86064	.80457	.63732	.14190
#1	.87863	.13339	.13623	.11879	3.6147	.07928	1.0155	2.9976
#2	.88163	.13114	.13359	.11865	3.5562	.07809	1.0134	2.9998
#3	.88042	.13083	.13340	.11702	3.5685	.07832	1.0034	2.9916

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	.43346	.85539	.00747	.11563	.06835	1.1904	20.807
Stddev	.00107	.00500	.00009	.00141	.00012	.0104	.195
%RSD	.24725	.58464	1.1954	1.2185	.17077	.87018	.93842
#1	.43356	.85941	.00757	.11449	.06848	1.1957	21.033
#2	.43449	.85696	.00743	.11518	.06826	1.1970	20.696
#3	.43235	.84979	.00741	.11720	.06830	1.1784	20.694

Sample Name: S3 Acquired: 8/7/2024 14:29:39 Type: Cal
Method: NON EPA-6010-200.7(v2342) 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	2798.9	95865.	13985.	3717.9	5157.5
Stddev	4.0	869.	91.	35.7	3.7
%RSD	.14267	.90640	.64732	.96046	.07087
#1	2794.3	94864.	13951.	3676.7	5153.3
#2	2801.2	96302.	13917.	3737.9	5159.6
#3	2801.2	96428.	14088.	3739.2	5159.6

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: S4 Acquired: 8/7/2024 14:33:54 Type: Cal
Method: NON EPA-6010-200.7(v2342) 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	.55197	.34170	1.2795	.49976	.94562	.61527	22.955	1.2989
Stddev	.00527	.00221	.0176	.00481	.00997	.00172	.253	.0063
%RSD	.95538	.64748	1.3774	.96162	1.0542	.27887	1.1006	.48636
#1	.54667	.33921	1.2629	.49543	.93694	.61723	22.923	1.3058
#2	.55722	.34342	1.2980	.50493	.95651	.61403	22.720	1.2933
#3	.55201	.34248	1.2776	.49893	.94342	.61455	23.222	1.2976

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	4.8081	1.4876	.13070	2.9284	1.0160	.03073	1.3214	.24260
Stddev	.0597	.0032	.00022	.0376	.0118	.00023	.0046	.00043
%RSD	1.2417	.21418	.16832	1.2824	1.1628	.74301	.34599	.17525
#1	4.7513	1.4912	.13095	2.8934	1.0056	.03047	1.3262	.24295
#2	4.8703	1.4853	.13062	2.9680	1.0288	.03085	1.3172	.24213
#3	4.8026	1.4862	.13053	2.9237	1.0135	.03088	1.3209	.24273

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	1.7735	.26327	.27677	.23388	7.1092	.15980	2.0891	5.9213
Stddev	.0225	.00056	.00164	.00096	.0193	.00106	.0125	.0635
%RSD	1.2691	.21352	.59348	.41152	.27187	.66131	.59697	1.0731
#1	1.7531	.26269	.27487	.23488	7.0923	.15859	2.1035	5.8671
#2	1.7977	.26329	.27766	.23296	7.1303	.16050	2.0808	5.9913
#3	1.7698	.26381	.27777	.23380	7.1049	.16032	2.0831	5.9056

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	.87072	1.6791	.01500	.24658	.14548	2.5765	40.475
Stddev	.01079	.0027	.00014	.00263	.00161	.0075	.185
%RSD	1.2397	.16326	.91050	1.0685	1.1039	.28981	.45654
#1	.86107	1.6822	.01485	.24392	.14395	2.5843	40.560
#2	.88238	1.6778	.01508	.24919	.14715	2.5695	40.263
#3	.86872	1.6773	.01509	.24662	.14535	2.5756	40.602

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: S4 Acquired: 8/7/2024 14:33:54 Type: Cal
Method: NON EPA-6010-200.7(v2342) 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	2623.8	91190.	13156.	3567.6	4743.0
Stddev	21.8	410.	65.	19.8	41.4
%RSD	.83260	.44975	.49735	.55568	.87213
#1	2638.3	91656.	13083.	3589.2	4775.3
#2	2598.7	91028.	13210.	3563.4	4696.4
#3	2634.4	90885.	13175.	3550.2	4757.3

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: S5 Acquired: 8/7/2024 14:38:15 Type: Cal
Method: NON EPA-6010-200.7(v2342) 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	1.0971	.66775	2.5519	.99060	1.8870	1.2095	45.169	2.5173
Stddev	.0129	.01083	.0356	.01177	.0231	.0038	.197	.0028
%RSD	1.1732	1.6219	1.3949	1.1879	1.2222	.31190	.43566	.10992
#1	1.0865	.65754	2.5220	.98130	1.8689	1.2096	45.293	2.5173
#2	1.0934	.66661	2.5423	.98667	1.8793	1.2057	44.942	2.5146
#3	1.1114	.67911	2.5913	1.0038	1.9130	1.2132	45.272	2.5201

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	9.5106	2.9212	.25043	5.8476	1.9942	.05852	2.5887	.47765
Stddev	.1327	.0009	.00052	.0844	.0248	.00024	.0074	.00241
%RSD	1.3950	.03096	.20797	1.4429	1.2454	.41792	.28517	.50508
#1	9.3945	2.9202	.24989	5.7777	1.9770	.05828	2.5912	.47797
#2	9.4820	2.9214	.25093	5.8239	1.9829	.05853	2.5804	.47510
#3	9.6552	2.9220	.25046	5.9413	2.0227	.05877	2.5945	.47989

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	3.5126	.51115	.54100	.45854	13.390	.31256	4.1294	11.740
Stddev	.0511	.00230	.00193	.00225	.048	.00127	.0019	.147
%RSD	1.4551	.45076	.35619	.49133	.36098	.40538	.04602	1.2534
#1	3.4695	.50850	.53891	.46027	13.382	.31117	4.1297	11.625
#2	3.4991	.51272	.54136	.45599	13.346	.31287	4.1274	11.688
#3	3.5691	.51223	.54271	.45935	13.442	.31364	4.1311	11.906

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	1.7240	3.3033	.02883	.49277	.29370	5.1886	79.018
Stddev	.0247	.0052	.00031	.00608	.00413	.0230	.147
%RSD	1.4334	.15601	1.0889	1.2337	1.4062	.44401	.18562
#1	1.7033	3.3052	.02849	.48834	.29052	5.1993	79.087
#2	1.7174	3.2975	.02890	.49026	.29220	5.1622	79.117
#3	1.7513	3.3072	.02911	.49970	.29836	5.2043	78.849

Sample Name: S5 Acquired: 8/7/2024 14:38:15 Type: Cal
Method: NON EPA-6010-200.7(v2342) 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	2575.7	93628.	13075.	3550.9	4608.3
Stddev	24.8	355.	29.	9.4	51.3
%RSD	.96163	.37916	.22008	.26475	1.1142
#1	2590.8	93917.	13044.	3559.2	4646.2
#2	2589.2	93232.	13082.	3552.8	4628.9
#3	2547.1	93736.	13100.	3540.7	4549.9

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: ICV01 Acquired: 8/7/2024 15:52:34 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	.9030789	.9994193	.9541418	.9164869	.9371919	2.312478
Stddev	.0123032	.0090212	.0123932	.0100951	.0133883	.012006
%RSD	1.362364	.9026447	1.298883	1.101497	1.428552	.5191695
#1	.8963378	.9945968	.9476451	.9109319	.9304948	2.307183
#2	.8956195	.9938343	.9463478	.9103892	.9284737	2.326221
#3	.9172794	1.009827	.9684326	.9281394	.9526073	2.304030

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4890079	.4718164	.4702097	9.778822	.5207177	.4874401
Stddev	.0011548	.0020018	.0069672	.032023	.0036412	.0073087
%RSD	.2361566	.4242748	1.481729	.3274771	.6992599	1.499396
#1	.4886452	.4741117	.4667800	9.742408	.5248638	.4839852
#2	.4880779	.4709049	.4656222	9.802599	.5192492	.4824994
#3	.4903005	.4704325	.4782270	9.791458	.5180401	.4958357

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4898263	10.04721	.4933306	5.522499	.4904687	.2513103
Stddev	.0068740	.00889	.0010841	.008112	.0068870	.0009252
%RSD	1.403365	.0885265	.2197407	.1468893	1.404175	.3681299
#1	.4862795	10.04352	.4942812	5.529776	.4874334	.2520870
#2	.4854501	10.04076	.4935606	5.523968	.4856207	.2502867
#3	.4977493	10.05736	.4921500	5.513753	.4983520	.2515571

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.46409	.4752209	1.041797	10.33834	2.484759	2.713180
Stddev	.02191	.0014087	.006502	.03813	.007065	.036882
%RSD	.2093649	.2964270	.6240729	.3688311	.2843230	1.359351
#1	10.47969	.4765357	1.049299	10.37732	2.492405	2.697512
#2	10.43905	.4737341	1.038286	10.30112	2.478473	2.686719
#3	10.47355	.4753929	1.037805	10.33657	2.483398	2.755309

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: ICV01 Acquired: 8/7/2024 15:52:34 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	2.627209	2.644031	2.290586	F -.001106	F -.003787	F .0007870
Stddev	.033581	.009546	.010957	.002240	.001686	.0014464
%RSD	1.278210	.3610518	.4783402	202.4823	44.50727	183.7840
#1	2.612156	2.635647	2.303214	.001046	-.005584	.0021798
#2	2.603788	2.642024	2.284942	-.003426	-.002240	-.000708
#3	2.665683	2.654421	2.283602	-.000939	-.003538	.000889

Elem	Sr4077
Units	ppm
Avg	2.503018
Stddev	.013131
%RSD	.5246181
#1	2.493502
#2	2.497552
#3	2.517999

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2848.217	94766.41	14260.01	3635.562	5333.102
Stddev	33.619	166.47	16.95	1.236	66.504
%RSD	1.180361	.1756679	.1188417	.0339848	1.246995
#1	2856.413	94651.36	14279.55	3636.338	5349.415
#2	2876.981	94957.30	14251.13	3634.138	5389.931
#3	2811.258	94690.58	14249.35	3636.211	5259.959

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: LLICV01 Acquired: 8/7/2024 15:56:50 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	.0199173	.0412116	.0139037	.0182834	.0512344	.1016224
Stddev	.0011979	.0010298	.0001295	.0021866	.0006702	.0081829
%RSD	6.014410	2.498839	.9314088	11.95966	1.308083	8.052297
#1	.0194106	.0402623	.0138325	.0179837	.0518077	.1048524
#2	.0212852	.0410660	.0140531	.0206044	.0504976	.1076974
#3	.0190559	.0423064	.0138254	.0162621	.0513980	.0923175

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1011584	.0060026	.0062540	2.042189	.0092735	.0295957
Stddev	.0010129	.0000466	.0000506	.000983	.0001180	.0001163
%RSD	1.001298	.7765579	.8088921	.0481107	1.272923	.3929419
#1	.1011654	.0060084	.0063007	2.041175	.0093211	.0294894
#2	.1021679	.0060461	.0062611	2.043137	.0093603	.0297199
#3	.1001421	.0059534	.0062003	2.042254	.0091391	.0295777

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0218889	.0994735	.0206221	2.103021	.0400081	.0086832
Stddev	.0003883	.0020440	.0005404	.026003	.0003345	.0001580
%RSD	1.774137	2.054825	2.620510	1.236477	.8360794	1.819494
#1	.0216275	.0972982	.0207239	2.111325	.0398290	.0085016
#2	.0223352	.0997679	.0211044	2.123858	.0403941	.0087584
#3	.0217041	.1013543	.0200381	2.073879	.0398014	.0087896

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.728466	.0414265	.0414877	1.761238	.1020511	.2014149
Stddev	.008672	.0020017	.0004565	.011874	.0016055	.0004656
%RSD	.5016959	4.831926	1.100360	.6741853	1.573199	.2311675
#1	1.726288	.0402529	.0419986	1.753776	.1019918	.2009535
#2	1.738019	.0402889	.0411198	1.774930	.1036855	.2014065
#3	1.721091	.0437377	.0413445	1.755007	.1004762	.2018846

Sample Name: LLICV01 Acquired: 8/7/2024 15:56:50 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	.0360339	.0407602	F .3107209	.0167503	F .3618586	F -.000386
Stddev	.0004319	.0004408	.0075832	.0008820	.0007694	.003084
%RSD	1.198511	1.081510	2.440520	5.265722	.2126119	799.7534
#1	.0364601	.0402513	.3185578	.0176212	.3617138	-.003905
#2	.0355966	.0410254	.3034198	.0158576	.3626901	.000902
#3	.0360450	.0410039	.3101851	.0167722	.3611719	.001846

Elem	Sr4077
Units	ppm
Avg	.0207007
Stddev	.0002214
%RSD	1.069670
#1	.0207790
#2	.0208723
#3	.0204507

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2727.532	102753.1	14016.35	3883.264	5023.178
Stddev	5.186	425.8	121.35	25.129	3.450
%RSD	.1901477	.4143512	.8657586	.6471116	.0686726
#1	2724.520	102356.3	13978.36	3860.156	5023.704
#2	2724.556	103202.8	13918.55	3910.016	5019.496
#3	2733.521	102700.1	14152.15	3879.619	5026.334

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: ICB01 Acquired: 8/7/2024 16:03:10 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	.0010981	-.001049	.0000753	-.001993	.0011316	.0052669	.0000791
Stddev	.0004839	.001993	.0006541	.000707	.0014817	.0034728	.0003025
%RSD	44.06613	189.9114	868.9640	35.47145	130.9326	65.93627	382.2929
#1	.0010102	.000522	-.000243	-.002810	.0010281	.0039577	-.000207
#2	.0006642	-.003290	-.000359	-.001588	-.000296	.0026390	.000396
#3	.0016200	-.000379	.000828	-.001582	.002662	.0092041	.000048

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000590	-.000040	.0027290	-.000032	.0000633	-.000551	-.002134
Stddev	.0000288	.000046	.0024173	.000068	.0000783	.000113	.002527
%RSD	48.84351	113.9391	88.57926	214.3455	123.7559	20.56950	118.4359
#1	.0000483	.000011	.0035296	.000005	-.000026	-.000593	-.001927
#2	.0000917	-.000056	.0046445	.000010	.000094	-.000637	-.004758
#3	.0000371	-.000077	.0000129	-.000111	.000122	-.000423	.000284

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000130	-.017036	-.000104	.0000246	-.028978	.0020362	-.000181
Stddev	.000085	.013959	.000189	.0000967	.006203	.0010825	.000092
%RSD	64.81593	81.94168	181.4278	392.1975	21.40477	53.16080	50.85734
#1	-.000119	-.029011	-.000113	.0000945	-.036128	.0032571	-.000228
#2	-.000052	-.001704	.000089	.0000651	-.025762	.0011936	-.000075
#3	-.000220	-.020392	-.000290	-.000086	-.025043	.0016579	-.000240

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.065261	.0009737	.0000083	-.000317	.0001638	-.005381	-.001896
Stddev	.010151	.0004389	.0001184	.000174	.0005730	.004719	.001899
%RSD	15.55480	45.08112	1429.061	55.00632	349.7663	87.68834	100.1663
#1	-.068400	.0011567	-.000003	-.000192	.0007575	-.007648	.000265
#2	-.073472	.0004728	.000132	-.000242	.0001197	-.008539	-.003300
#3	-.053911	.0012915	-.000104	-.000516	-.000386	.000043	-.002653

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: ICB01 Acquired: 8/7/2024 16:03:10 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.002756	.0016815	-.000047
Stddev	.001513	.0004151	.000018
%RSD	54.91331	24.68957	37.92174
#1	-.001020	.0020797	-.000044
#2	-.003796	.0017134	-.000030
#3	-.003452	.0012513	-.000065

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2770.575	101690.7	13622.01	3885.005	5185.570
Stddev	33.500	202.5	48.28	10.580	63.580
%RSD	1.209149	.1991171	.3544283	.2723239	1.226089
#1	2797.377	101718.7	13572.64	3886.054	5239.271
#2	2733.018	101877.6	13624.28	3895.022	5115.366
#3	2781.329	101475.6	13669.12	3873.940	5202.074

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: CRI01 Acquired: 8/7/2024 16:07:38 Type: Unk
Method: NON EPA-6010-200.7(v2342) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0197108	.0392327	.0145395	.0178106	.0505561	.1061444
Stddev	.0005312	.0008550	.0004863	.0002455	.0009011	.0001508
%RSD	2.695182	2.179221	3.345038	1.378506	1.782314	.1420294
#1	.0203120	.0382910	.0150414	.0180700	.0499658	.1062098
#2	.0195156	.0399602	.0140703	.0177798	.0501093	.1062513
#3	.0193047	.0394470	.0145067	.0175819	.0515933	.1059719

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0997214	.0062227	.0062181	2.030023	.0098461	.0298811
Stddev	.0008877	.0000528	.0000511	.013646	.0004388	.0005899
%RSD	.8902161	.8483983	.8223018	.6722039	4.456016	1.974180
#1	.0998203	.0062603	.0062769	2.034432	.0100499	.0293902
#2	.1005555	.0062454	.0061931	2.040918	.0101459	.0297175
#3	.0987883	.0061623	.0061843	2.014717	.0093426	.0305355

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0222730	.0970248	.0211187	2.108968	.0401303	.0085538
Stddev	.0003279	.0023739	.0001077	.023442	.0005754	.0000745
%RSD	1.472313	2.446735	.5099842	1.111562	1.433735	.8706673
#1	.0219037	.0971182	.0212093	2.123142	.0395503	.0085024
#2	.0223849	.0993506	.0211472	2.121853	.0401396	.0085198
#3	.0225303	.0946055	.0209996	2.081909	.0407009	.0086392

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.753115	.0399209	.0421126	1.758269	.0990384	.2039760
Stddev	.005364	.0012803	.0001862	.029117	.0006126	.0012965
%RSD	.3059540	3.207110	.4421007	1.656020	.6185423	.6356319
#1	1.749773	.0408380	.0419959	1.781060	.0996144	.2029726
#2	1.759302	.0404666	.0420145	1.725467	.0991058	.2035156
#3	1.750270	.0384582	.0423273	1.768281	.0983948	.2054400

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: CRI01 Acquired: 8/7/2024 16:07:38 Type: Unk
Method: NON EPA-6010-200.7(v2342) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0362068	.0403067	.3195116	.0152129	F .3600683	F .0006077
Stddev	.0001876	.0008255	.0053009	.0016957	.0037945	.0008295
%RSD	.5182120	2.048029	1.659057	11.14637	1.053832	136.5026
#1	.0359996	.0397378	.3135527	.0134853	.3574387	-.000172
#2	.0362557	.0399289	.3212792	.0168748	.3583480	.001480
#3	.0363652	.0412535	.3237028	.0152787	.3644183	.000515

Elem	Sr4077
Units	ppm
Avg	.0205154
Stddev	.0000772
%RSD	.3763512
#1	.0205948
#2	.0204406
#3	.0205108

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2740.623	100828.1	13660.37	3862.786	5074.082
Stddev	15.277	154.9	59.54	19.678	26.078
%RSD	.5574109	.1536632	.4358488	.5094314	.5139419
#1	2747.865	100679.6	13607.84	3875.150	5084.206
#2	2750.932	100988.8	13648.21	3873.115	5093.579
#3	2723.073	100816.0	13725.05	3840.094	5044.460

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: ICSA01 Acquired: 8/7/2024 16:12:03 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	.0043502	.0022998	.0055536	-.007634	-.001839	265.7290
Stddev	.0005076	.0008634	.0013983	.001385	.000797	2.0180
%RSD	11.66898	37.54104	25.17834	18.14548	43.32996	.7594091
#1	.0041309	.0032921	.0052466	-.008419	-.001782	265.1290
#2	.0039891	.0017203	.0070799	-.008447	-.002663	267.9790
#3	.0049306	.0018870	.0043343	-.006034	-.001073	264.0791

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0061369	.0009273	.0036998	253.1989	.0567516	.0028376
Stddev	.0010812	.0000364	.0001636	.8927	.0009792	.0001835
%RSD	17.61799	3.926106	4.423177	.3525785	1.725319	6.465408
#1	.0048896	.0008883	.0038390	252.3262	.0564804	.0029684
#2	.0067129	.0009332	.0037409	254.1103	.0559366	.0029165
#3	.0068081	.0009604	.0035195	253.1603	.0578377	.0026279

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0092688	101.8314	.0161522	271.7230	.0034326	.0020449
Stddev	.0020000	1.4458	.0002444	.7594	.0000414	.0001476
%RSD	21.57790	1.419784	1.513095	.2794590	1.206179	7.216110
#1	.0102252	101.2356	.0159527	270.9491	.0034804	.0022132
#2	.0106111	100.7787	.0160791	272.4669	.0034063	.0019377
#3	.0069702	103.4799	.0164248	271.7530	.0034113	.0019838

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0175097	.0052267	.0022627	-.048565	.0124168	.0000263
Stddev	.0065281	.0015288	.0002201	.022301	.0022016	.0003323
%RSD	37.28284	29.24881	9.726136	45.92063	17.73108	1261.996
#1	.0125327	.0034615	.0020800	-.026962	.0113498	-.000179
#2	.0249010	.0061081	.0025070	-.071505	.0109519	-.000151
#3	.0150952	.0061106	.0022011	-.047228	.0149486	.000410

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: ICSA01 Acquired: 8/7/2024 16:12:03 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.002889	-.002997	.0164923	.0014513	F -.023256	F .0309686
Stddev	.000639	.000311	.0112694	.0020443	.001148	.0005772
%RSD	22.13369	10.36208	68.33136	140.8658	4.934275	1.863766
#1	-.002282	-.003330	.0204948	-.000231	-.023284	.0314555
#2	-.002829	-.002716	.0037680	.003727	-.022095	.0311192
#3	-.003557	-.002945	.0252143	.000858	-.024390	.0303310

Elem	Sr4077
Units	ppm
Avg	.0034657
Stddev	.0016210
%RSD	46.77307
#1	.0040063
#2	.0047472
#3	.0016434

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2438.168	87220.38	12754.86	3338.220	4257.823
Stddev	11.303	1079.16	30.48	36.659	19.259
%RSD	.4635935	1.237275	.2389350	1.098172	.4523245
#1	2433.545	87225.41	12727.18	3322.941	4250.897
#2	2429.909	88297.01	12749.88	3380.048	4242.984
#3	2451.050	86138.72	12787.52	3311.672	4279.587

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: ICSAB01 Acquired: 8/7/2024 16:16:41 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	.1034045	.1033269	.0550785	.0343896	.6052752	249.9884
Stddev	.0022474	.0019889	.0025807	.0023067	.0006830	2.2370
%RSD	2.173386	1.924886	4.685533	6.707589	.1128485	.8948453
#1	.1036191	.1047659	.0536326	.0317522	.6054322	252.2433
#2	.1055368	.1041575	.0580580	.0353859	.6058661	249.9522
#3	.1010575	.1010573	.0535448	.0360307	.6045274	247.7697

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5156567	.4943890	.9677298	237.1691	.5646960	.5005156
Stddev	.0042262	.0015689	.0002088	1.6405	.0010681	.0004370
%RSD	.8195691	.3173432	.0215720	.6916913	.1891459	.0873022
#1	.5198691	.4951649	.9674905	238.6323	.5645275	.5006763
#2	.5156841	.4954189	.9678745	237.4795	.5637221	.5008495
#3	.5114169	.4925834	.9678243	235.3956	.5658383	.5000211

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4882216	101.1827	.5103977	252.7847	.9922725	.2207981
Stddev	.0009073	.3931	.0041154	1.7991	.0005913	.0001128
%RSD	.1858330	.3885327	.8063058	.7117154	.0595948	.0510831
#1	.4874016	101.5563	.5139903	254.5422	.9916993	.2206761
#2	.4880670	100.7726	.5112952	252.8653	.9928805	.2208196
#3	.4891963	101.2192	.5059077	250.9467	.9922379	.2208986

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0030522	.4868824	1.091999	-.074180	1.010766	1.069326
Stddev	.0063302	.0023686	.002685	.012783	.005245	.000522
%RSD	207.4021	.4864938	.2458510	17.23184	.5189265	.0488089
#1	-.004232	.4843264	1.095080	-.060301	1.015411	1.069810
#2	.006165	.4890033	1.090165	-.085469	1.011810	1.069395
#3	.007224	.4873175	1.090751	-.076772	1.005077	1.068773

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: ICSAB01 Acquired: 8/7/2024 16:16:41 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	1.070895	1.052947	.9607425	F .0024513	F -.021590	F .0277107
Stddev	.003193	.010117	.0074789	.0003750	.002548	.0012621
%RSD	.2981148	.9608262	.7784471	15.29965	11.79944	4.554639
#1	1.074557	1.061018	.9610614	.0028699	-.021321	.0262552
#2	1.068698	1.056227	.9531093	.0021459	-.024262	.0283733
#3	1.069431	1.041598	.9680568	.0023380	-.019188	.0285034

Elem	Sr4077
Units	ppm
Avg	.8630054
Stddev	.0071309
%RSD	.8262888
#1	.8695092
#2	.8641267
#3	.8553802

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2472.824	84142.59	13110.23	3234.073	4344.851
Stddev	1.317	246.41	108.36	13.622	2.014
%RSD	.0532596	.2928424	.8265595	.4211994	.0463561
#1	2474.111	83858.39	13027.85	3218.695	4343.170
#2	2472.883	84272.84	13069.85	3238.901	4347.084
#3	2471.479	84296.53	13232.98	3244.624	4344.300

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: CCV01 Acquired: 8/7/2024 16:20:52 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	4.912658	5.164469	5.059280	4.880384	4.930195	9.702629	10.02679
Stddev	.027108	.038689	.029713	.016113	.025467	.084490	.06689
%RSD	.5517945	.7491391	.5872990	.3301665	.5165517	.8707994	.6670916
#1	4.892408	5.189896	5.059863	4.875250	4.922522	9.788042	10.04036
#2	4.902111	5.119944	5.029279	4.867463	4.909446	9.700751	10.08585
#3	4.943454	5.183567	5.088696	4.898439	4.958616	9.619093	9.95416

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2491685	2.493714	24.95708	1.005494	2.473895	1.231177	4.994595
Stddev	.0019457	.011200	.09761	.003612	.011197	.004537	.065992
%RSD	.7808728	.4491391	.3911053	.3592646	.4526101	.3684904	1.321278
#1	.2494164	2.495821	25.05965	1.005445	2.475192	1.229685	4.985088
#2	.2509784	2.481610	24.94628	1.001907	2.462106	1.227573	4.933872
#3	.2471108	2.503711	24.86533	1.009131	2.484387	1.236271	5.064825

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.481258	24.57995	2.489347	1.244845	24.00242	2.460757	2.540427
Stddev	.011603	.09917	.011257	.006522	.29339	.017630	.018328
%RSD	.4676294	.4034419	.4522070	.5239176	1.222354	.7164442	.7214523
#1	2.493941	24.69446	2.489246	1.241743	24.04846	2.480989	2.542601
#2	2.478657	24.52377	2.478141	1.240454	23.68872	2.452591	2.521109
#3	2.471177	24.52164	2.500655	1.252339	24.27007	2.448690	2.557571

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.31878	4.900675	5.043403	5.004263	4.952676	4.854809	5.029217
Stddev	.28646	.042481	.023999	.024840	.027025	.071191	.014775
%RSD	1.177934	.8668494	.4758526	.4963719	.5456679	1.466402	.2937864
#1	24.32445	4.908890	5.038566	5.008246	4.980192	4.879031	5.028853
#2	24.02952	4.938449	5.022191	4.977672	4.951665	4.774667	5.014627
#3	24.60236	4.854686	5.069453	5.026871	4.926170	4.910728	5.044170

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: CCV01 Acquired: 8/7/2024 16:20:52 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	4.678984	4.702781	5.000227
Stddev	.027234	.034403	.032942
%RSD	.5820476	.7315387	.6588133
#1	4.668624	4.739715	4.998141
#2	4.658451	4.696980	5.034163
#3	4.709878	4.671647	4.968378

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2707.043	94979.20	13456.56	3633.897	4904.021
Stddev	13.628	636.71	111.18	29.392	25.695
%RSD	.5034337	.6703665	.8261790	.8088395	.5239613
#1	2711.271	95147.28	13425.90	3635.693	4905.877
#2	2718.056	95515.00	13363.93	3662.350	4928.739
#3	2691.802	94275.31	13579.85	3603.648	4877.449

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: CCB01 Acquired: 8/7/2024 16:25:11 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.000546	-.000461	.0000196	.0007940	.0011534	.0037589	.0001135
Stddev	.001727	.001063	.0008075	.0009433	.0015998	.0014490	.0010932
%RSD	316.3872	230.3910	4129.056	118.8056	138.7045	38.54926	963.6036
#1	.000196	.000546	.0006945	-.000146	.0012712	.0023405	.0013202
#2	-.002520	-.000358	-.000875	.000788	-.000502	.0052368	-.000169
#3	.000686	-.001572	.000239	.001740	.002691	.0036994	-.000811

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000152	-.000037	-.000882	-.000035	.0000293	-.000218	.0002195
Stddev	.0000543	.000052	.006435	.000026	.0000909	.000233	.0018567
%RSD	356.5653	142.7768	729.1854	73.04194	310.7050	107.1247	845.7352
#1	-.000022	-.000026	-.007367	-.000015	-.000009	.000047	.0021840
#2	-.000010	-.000093	-.000782	-.000064	-.000036	-.000395	-.001506
#3	.000078	.000010	.005501	-.000026	.000133	-.000305	-.000019

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000100	-.008604	-.000115	.0002679	-.042584	-.000218	-.000029
Stddev	.000271	.003804	.000087	.0000408	.004393	.002667	.000083
%RSD	272.0284	44.20872	75.55469	15.21585	10.31701	1221.148	281.1681
#1	-.000214	-.011571	-.000088	.0002893	-.045734	.002816	-.000068
#2	.000210	-.009923	-.000045	.0002209	-.037565	-.002191	-.000087
#3	-.000295	-.004316	-.000212	.0002934	-.044455	-.001280	.000066

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.087886	.0101936	.0003458	-.000356	.0001129	.0019828	-.004295
Stddev	.022681	.0005726	.0001345	.000085	.0004878	.0057886	.001988
%RSD	25.80772	5.616949	38.90373	23.99084	432.0142	291.9465	46.28682
#1	-.082357	.0098175	.0003175	-.000453	.0005568	-.001513	-.006590
#2	-.068480	.0108526	.0002277	-.000320	-.000409	.008665	-.003119
#3	-.112820	.0099109	.0004923	-.000293	.000191	-.001204	-.003175

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: CCB01 Acquired: 8/7/2024 16:25:11 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.002144	-.000985	-.000002
Stddev	.000401	.001136	.000029
%RSD	18.69129	115.3111	1557.269
#1	-.002047	.000279	-.000034
#2	-.002585	-.001920	.000023
#3	-.001801	-.001314	.000005

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2692.644	99302.72	13935.52	3798.022	4983.160
Stddev	11.142	351.10	167.90	4.435	12.223
%RSD	.4137781	.3535688	1.204846	.1167699	.2452919
#1	2703.457	99072.58	13755.12	3793.196	4991.609
#2	2693.275	99706.84	13964.22	3798.950	4988.726
#3	2681.200	99128.75	14087.22	3801.919	4969.144

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: PB162493BL Acquired: 8/7/2024 16:29:40 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.000448	-.000641	-.000538	.0009980	.0002932	.0069561	.0006022
Stddev	.001231	.000506	.000394	.0016452	.0012463	.0066711	.0006090
%RSD	274.8502	79.05617	73.21376	164.8533	425.0530	95.90250	101.1350
#1	.000974	-.000405	-.000600	.0004446	.0016211	.0092985	.0003464
#2	-.001147	-.001222	-.000116	.0028485	-.000851	.0121401	.0012974
#3	-.001171	-.000295	-.000896	-.000299	.000110	-.000570	.0001628

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000136	.0000194	-.000962	-.000285	.0001713	-.000421	-.002589
Stddev	.0000490	.0001002	.002537	.000185	.0001261	.000200	.002895
%RSD	360.2685	517.4567	263.7881	64.83224	73.63253	47.48296	111.8476
#1	-.000029	.0000514	.001966	-.000489	.0001468	-.000190	.000358
#2	.000067	-.000093	-.002517	-.000131	.0000592	-.000530	-.002695
#3	.000003	.000100	-.002334	-.000234	.0003078	-.000543	-.005430

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000149	-.005720	-.000103	.0001669	-.041288	-.000180	-.000125
Stddev	.000044	.001989	.000010	.0000964	.008143	.001384	.000056
%RSD	29.46831	34.76293	9.408037	57.75904	19.72307	768.1075	44.31408
#1	-.000110	-.006025	-.000114	.0000558	-.047031	.001365	-.000179
#2	-.000140	-.003597	-.000095	.0002161	-.044863	-.000599	-.000068
#3	-.000196	-.007539	-.000100	.0002289	-.031968	-.001306	-.000130

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.086089	.0035532	-.000010	-.003393	.0000661	-.009504	-.003128
Stddev	.025392	.0000986	.000036	.000123	.0006103	.006857	.000489
%RSD	29.49547	2.775010	354.4600	3.614317	923.1028	72.14688	15.63573
#1	-.062363	.0036491	.000022	-.003400	-.000311	-.002775	-.002945
#2	-.112871	.0034521	-.000004	-.003511	.000770	-.016481	-.002756
#3	-.083034	.0035585	-.000048	-.003266	-.000261	-.009256	-.003682

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: PB162493BL Acquired: 8/7/2024 16:29:40 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.002425	.0000643	-.000055
Stddev	.001883	.0006262	.000021
%RSD	77.65365	973.8152	37.57750
#1	-.004566	.0007793	-.000076
#2	-.001680	-.000386	-.000034
#3	-.001028	-.000200	-.000054

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2725.605	103022.5	13430.38	3874.155	5078.942
Stddev	13.986	297.1	32.97	6.308	23.158
%RSD	.5131251	.2884312	.2454885	.1628261	.4559612
#1	2741.719	102855.0	13419.58	3873.541	5105.509
#2	2718.481	102846.9	13467.39	3868.176	5063.024
#3	2716.617	103365.6	13404.16	3880.748	5068.294

Sample Name: PB162493BS Acquired: 8/7/2024 16:34:08 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	.7808905	2.001473	.9981728	1.953020	.8053177	2.046667
Stddev	.0072820	.022193	.0097117	.020293	.0087633	.007235
%RSD	.9325207	1.108825	.9729494	1.039074	1.088179	.3535122
#1	.7851177	2.015521	1.004008	1.963541	.8096550	2.052267
#2	.7724821	1.975888	.986962	1.929626	.7952315	2.049236
#3	.7850718	2.013010	1.003549	1.965892	.8110664	2.038498

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2001124	.2166001	.1974336	1.077592	.4093574	.2005799
Stddev	.0002638	.0002711	.0019637	.004525	.0010359	.0016302
%RSD	.1318210	.1251635	.9946284	.4199426	.2530491	.8127212
#1	.2003700	.2167267	.1986189	1.073015	.4081740	.2013653
#2	.1998428	.2167848	.1951669	1.082064	.4097987	.1987057
#3	.2001245	.2162889	.1985151	1.077697	.4100996	.2016687

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3090651	2.870622	.2088188	2.009026	.5118825	.0742360
Stddev	.0022256	.017105	.0003764	.010307	.0052592	.0003266
%RSD	.7201015	.5958624	.1802649	.5130392	1.027418	.4399261
#1	.3098912	2.857621	.2084364	1.997426	.5155433	.0744584
#2	.3065446	2.864246	.2088310	2.017132	.5058559	.0743885
#3	.3107596	2.890000	.2091890	2.012520	.5142483	.0738611

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.670684	.3037496	.2118791	9.076245	.3147306	.4084700
Stddev	.011959	.0036181	.0004818	.037459	.0013773	.0036871
%RSD	.4477782	1.191151	.2274062	.4127145	.4375990	.9026538
#1	2.662258	.3078387	.2113388	9.043200	.3162293	.4107537
#2	2.665424	.3009633	.2120341	9.068598	.3135206	.4042164
#3	2.684372	.3024468	.2122643	9.116938	.3144418	.4104398

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: PB162493BS Acquired: 8/7/2024 16:34:08 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	.7127224	.2040740	F .7285804	6.097537	F -.009579	.1878850
Stddev	.0066863	.0015594	.0064506	.059453	.002145	.0007188
%RSD	.9381409	.7641207	.8853636	.9750310	22.39004	.3825769
#1	.7165983	.2037543	.7242202	6.127320	-.007107	.1873319
#2	.7050017	.2057684	.7359904	6.029079	-.010687	.1876255
#3	.7165673	.2026992	.7255307	6.136212	-.010943	.1886975

Elem	Sr4077
Units	ppm
Avg	.1994314
Stddev	.0001396
%RSD	.0700203
#1	.1995776
#2	.1994172
#3	.1992994

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2614.879	94859.32	12405.14	3687.233	4811.891
Stddev	23.943	436.43	8.49	21.962	43.558
%RSD	.9156405	.4600852	.0684521	.5956119	.9052086
#1	2598.087	95265.25	12408.03	3711.790	4779.962
#2	2642.296	94914.99	12395.59	3669.474	4861.511
#3	2604.255	94397.72	12411.82	3680.436	4794.200

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3426-01 Acquired: 8/7/2024 16:38:19 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.000212	-.005462	-.001207	-.001205	.0010930	.0371886	.3523920
Stddev	.001091	.000999	.002045	.001455	.0004277	.0041502	.0011550
%RSD	515.6621	18.29751	169.3579	120.7773	39.13242	11.15996	.3277609
#1	-.000944	-.006378	-.001177	-.001819	.0007301	.0324663	.3511132
#2	-.000733	-.005612	-.003266	.000457	.0009843	.0388428	.3533592
#3	.001042	-.004396	.000822	-.002253	.0015646	.0402566	.3527037

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000511	.0001165	53.21883	.0021488	.0023391	-.001401	6.263706
Stddev	.000036	.0001099	.05924	.0005035	.0000594	.000343	.036998
%RSD	7.031416	94.34884	.1113123	23.43211	2.537969	24.51669	.5906688
#1	-.000546	.0001762	53.15047	.0026379	.0023655	-.001018	6.226261
#2	-.000513	.0001836	53.25102	.0021765	.0022712	-.001681	6.300240
#3	-.000474	-.000010	53.25501	.0016320	.0023807	-.001504	6.264618

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.59163	18.02123	.0040720	.0005117	258.2646	-.000018	.0438305
Stddev	.02696	.04751	.0003236	.0001152	2.6068	.000280	.0001472
%RSD	.2545666	.2636495	7.946919	22.50447	1.009360	1525.014	.3359001
#1	10.56131	17.96694	.0039718	.0003850	256.2937	-.000327	.0437788
#2	10.61289	18.04157	.0038104	.0006100	261.2204	.000219	.0439966
#3	10.60070	18.05519	.0044339	.0005402	257.2798	.000053	.0437161

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.650645	.1599309	.0005663	-.005598	-.001298	6.152677	.0976824
Stddev	.003463	.0008598	.0001062	.000183	.000514	.023754	.0013345
%RSD	.0358881	.5375796	18.74552	3.265316	39.59063	.3860819	1.366135
#1	9.646691	.1608867	.0005309	-.005696	-.001275	6.129730	.0971603
#2	9.653141	.1592207	.0004823	-.005711	-.000796	6.177164	.0966880
#3	9.652102	.1596852	.0006856	-.005387	-.001823	6.151137	.0991990

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3426-01 Acquired: 8/7/2024 16:38:19 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	.9636732	.0081722	.3822318
Stddev	.0028355	.0012342	.0002243
%RSD	.2942363	15.10184	.0586869
#1	.9613071	.0083871	.3820093
#2	.9628965	.0092848	.3822285
#3	.9668161	.0068447	.3824578

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2674.809	93248.87	13266.65	3509.283	4829.631
Stddev	4.989	95.77	29.48	19.402	9.798
%RSD	.1865272	.1027034	.2221857	.5528757	.2028759
#1	2673.175	93343.91	13247.60	3530.988	4829.963
#2	2680.411	93152.39	13300.60	3493.623	4839.259
#3	2670.842	93250.30	13251.75	3503.239	4819.671

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3426-02 Acquired: 8/7/2024 16:42:53 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.000490	-.006103	-.002108	-.000703	.0000561	.0257911	.3580549
Stddev	.002360	.001160	.000246	.000705	.0004275	.0094509	.0003589
%RSD	481.6664	19.00409	11.66966	100.2905	762.4141	36.64410	.1002265
#1	-.003215	-.007441	-.002094	-.000735	.0004969	.0347257	.3584225
#2	.000904	-.005490	-.001870	-.001392	-.000357	.0158971	.3577055
#3	.000841	-.005379	-.002361	.000017	.000028	.0267504	.3580368

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000586	-.000005	54.78151	.0020533	.0023294	-.001733	6.291298
Stddev	.000031	.000024	.26397	.0000972	.0000913	.000521	.063112
%RSD	5.243525	485.6166	.4818682	4.733700	3.921339	30.07481	1.003165
#1	-.000593	.000011	54.48160	.0021608	.0023662	-.002334	6.356543
#2	-.000613	-.000033	54.97863	.0020274	.0023966	-.001412	6.230561
#3	-.000552	.000007	54.88429	.0019716	.0022254	-.001453	6.286790

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.87705	18.57561	.0030825	.0003625	268.3776	.0011017	.0210206
Stddev	.02528	.04462	.0000139	.0003509	1.3300	.0011570	.0005557
%RSD	.2324064	.2402094	.4517601	96.82103	.4955695	105.0215	2.643654
#1	10.84819	18.52427	.0030961	.0007677	269.6088	.0020728	.0216481
#2	10.89525	18.60496	.0030682	.0001590	266.9670	.0014106	.0205904
#3	10.88772	18.59761	.0030833	.0001607	268.5570	-.000178	.0208234

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.924574	.1663703	.0007133	-.005946	-.001276	6.305781	.1006222
Stddev	.124233	.0001332	.0001707	.000076	.000540	.093741	.0022556
%RSD	1.251774	.0800750	23.92390	1.282885	42.33808	1.486582	2.241669
#1	10.06268	.1663979	.0007755	-.005970	-.000853	6.410302	.0980943
#2	9.82193	.1664875	.0005203	-.005860	-.001885	6.229153	.1013429
#3	9.88911	.1662254	.0008442	-.006007	-.001091	6.277888	.1024294

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3426-02 Acquired: 8/7/2024 16:42:53 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	.9555456	.0078294	.3906363
Stddev	.0044152	.0017045	.0007920
%RSD	.4620586	21.77009	.2027335
#1	.9511205	.0065017	.3903996
#2	.9555657	.0097515	.3899897
#3	.9599508	.0072351	.3915197

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2610.191	90466.85	12800.29	3422.962	4716.864
Stddev	25.973	998.25	39.20	23.524	44.489
%RSD	.9950639	1.103439	.3062505	.6872397	.9431831
#1	2639.470	89331.33	12834.05	3397.526	4766.093
#2	2601.183	91206.18	12757.30	3443.935	4704.961
#3	2589.922	90863.05	12809.53	3427.424	4679.537

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3429-01 Acquired: 8/7/2024 16:47:26 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.000750	-.006773	.0070430	.0005133	.0010306	.0177449	.4019297
Stddev	.000522	.001386	.0011814	.0011905	.0009558	.0079030	.0001082
%RSD	69.52572	20.46137	16.77477	231.9163	92.74687	44.53704	.0269294
#1	-.001095	-.007267	.0060414	.0013346	-.000072	.0121433	.4018885
#2	-.000150	-.005208	.0067416	-.000852	.001534	.0267846	.4020524
#3	-.001005	-.007845	.0083459	.001057	.001630	.0143067	.4018481

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000771	.0000690	60.14683	.0018806	.0017505	-.002437	6.673150
Stddev	.000053	.0000536	.21325	.0002134	.0001533	.000162	.039621
%RSD	6.902121	77.65524	.3545420	11.34527	8.755619	6.650231	.5937349
#1	-.000817	.0000801	60.24988	.0019469	.0016123	-.002256	6.699079
#2	-.000784	.0000107	59.90164	.0020529	.0017240	-.002486	6.627542
#3	-.000713	.0001161	60.28898	.0016419	.0019153	-.002569	6.692828

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.64142	20.43264	.0030307	.0003374	287.6184	.0010351	.0545054
Stddev	.03793	.11343	.0000615	.0003622	.0432	.0008206	.0001368
%RSD	.2780488	.5551179	2.029905	107.3634	.0150298	79.27637	.2510230
#1	13.65007	20.43969	.0030838	-.000027	287.6652	.0006216	.0543820
#2	13.59991	20.31586	.0029633	.000697	287.5800	.0005035	.0544818
#3	13.67428	20.54238	.0030450	.000342	287.6099	.0019802	.0546526

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.24239	.1631266	.0005821	-.005434	-.000982	6.005074	.0722973
Stddev	.03577	.0002438	.0002823	.000188	.000705	.017495	.0025379
%RSD	.3492089	.1494550	48.50341	3.452675	71.80582	.2913348	3.510397
#1	10.28102	.1629533	.0005098	-.005300	-.001389	6.023149	.0748491
#2	10.23572	.1630212	.0003429	-.005648	-.001390	5.988223	.0722694
#3	10.21042	.1634054	.0008935	-.005353	-.000168	6.003851	.0697735

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3429-01 Acquired: 8/7/2024 16:47:26 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	1.112802	.0093898	.4379797
Stddev	.003730	.0020191	.0005533
%RSD	.3352349	21.50344	.1263417
#1	1.115033	.0087351	.4384928
#2	1.114879	.0116551	.4373934
#3	1.108496	.0077793	.4380529

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2599.467	92466.81	13102.85	3466.613	4688.954
Stddev	2.972	309.21	12.50	10.512	3.162
%RSD	.1143479	.3344027	.0954062	.3032442	.0674405
#1	2596.733	92190.87	13090.01	3454.739	4689.921
#2	2602.631	92801.01	13114.98	3470.372	4691.519
#3	2599.037	92408.56	13103.57	3474.730	4685.421

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3429-02 Acquired: 8/7/2024 16:51:56 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	.0082656	-.003927	.0040157	-.001074	.0009317	.3728868	.1994166
Stddev	.0009349	.001135	.0003620	.000360	.0011083	.0009077	.0009232
%RSD	11.31119	28.90945	9.014479	33.51546	118.9620	.2434164	.4629664
#1	.0093058	-.003966	.0036001	-.001400	-.000250	.3721281	.1991080
#2	.0074954	-.002773	.0042620	-.000688	.001949	.3726399	.1986872
#3	.0079956	-.005043	.0041851	-.001134	.001096	.3738924	.2004546

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000003	.0001250	17.61960	.0042093	.0109372	.0090503	17.29884
Stddev	.000031	.0000783	.05736	.0001724	.0000994	.0003145	.02742
%RSD	930.7606	62.62651	.3255226	4.095405	.9086101	3.474573	.1585088
#1	.000012	.0002152	17.57024	.0044041	.0108246	.0093240	17.27979
#2	.000018	.0000740	17.60605	.0040766	.0109742	.0087068	17.33027
#3	-.000039	.0000858	17.68252	.0041471	.0110127	.0091200	17.28646

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.554199	5.963367	.0185962	.0005930	84.61980	.0049921	.0353836
Stddev	.011083	.023734	.0002516	.0000931	.17217	.0021315	.0004033
%RSD	.4339322	.3979940	1.353035	15.69704	.2034598	42.69838	1.139765
#1	2.549796	5.961277	.0185999	.0006797	84.76965	.0069160	.0351134
#2	2.545993	5.940747	.0188459	.0006047	84.65802	.0053596	.0358472
#3	2.566807	5.988077	.0183428	.0004947	84.43173	.0027007	.0351903

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.374969	.0534888	.0007948	-.004582	.0059420	6.362613	.3869256
Stddev	.011332	.0002927	.0001241	.000478	.0005087	.026129	.0008229
%RSD	.2590223	.5472598	15.61489	10.42404	8.561977	.4106652	.2126677
#1	4.363555	.0531540	.0006567	-.004725	.0062076	6.376644	.3860395
#2	4.386217	.0536161	.0008308	-.004049	.0062629	6.378729	.3876657
#3	4.375135	.0536963	.0008969	-.004971	.0053554	6.332466	.3870716

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3429-02 Acquired: 8/7/2024 16:51:56 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	1.799009	.0014037	.0971995
Stddev	.012474	.0015953	.0005500
%RSD	.6933959	113.6537	.5658863
#1	1.787638	.0021781	.0973222
#2	1.797037	-.000431	.0965985
#3	1.812352	.002464	.0976778

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2658.866	95254.32	13276.32	3579.822	4922.456
Stddev	8.496	103.65	50.99	7.949	16.696
%RSD	.3195164	.1088190	.3840322	.2220408	.3391855
#1	2652.887	95291.91	13317.32	3588.934	4926.323
#2	2668.591	95137.12	13292.41	3576.214	4936.879
#3	2655.120	95333.94	13219.23	3574.316	4904.165

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3429-03 Acquired: 8/7/2024 16:56:19 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	.0035015	-.006290	.0016930	-.004169	.0016748	.2850601	.4843593
Stddev	.0004677	.000866	.0005504	.001694	.0019255	.0052953	.0010686
%RSD	13.35759	13.76447	32.50663	40.62917	114.9640	1.857603	.2206267
#1	.0039187	-.005290	.0013318	-.002937	-.000426	.2893896	.4843338
#2	.0035898	-.006795	.0023264	-.003469	.003355	.2866345	.4854405
#3	.0029959	-.006784	.0014209	-.006100	.002096	.2791561	.4833037

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000417	.0004729	60.03829	.0027674	.0031132	.0037211	38.40279
Stddev	.000021	.0000613	.19444	.0003001	.0001321	.0003527	.11513
%RSD	4.942519	12.95891	.3238566	10.84517	4.241854	9.479076	.2997892
#1	-.000394	.0005001	59.88892	.0026609	.0029796	.0033654	38.36042
#2	-.000423	.0005159	60.25814	.0031062	.0031164	.0037271	38.53310
#3	-.000433	.0004028	59.96781	.0025350	.0032436	.0040707	38.31485

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.81421	20.07680	.0106638	.0037669	280.5210	.0149991	.1017343
Stddev	.03526	.03526	.0002032	.0004568	1.4971	.0022367	.0003394
%RSD	.2552797	.1756081	1.905346	12.12749	.5336902	14.91251	.3336009
#1	13.82162	20.05289	.0104344	.0032396	280.5113	.0124647	.1018578
#2	13.84518	20.11729	.0108211	.0040201	282.0229	.0166973	.1019947
#3	13.77583	20.06023	.0107358	.0040412	279.0288	.0158354	.1013505

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.35596	.1536551	.0008065	-.002419	.0068411	7.355204	.2677020
Stddev	.05507	.0007144	.0002843	.000583	.0008349	.028485	.0024112
%RSD	.5317501	.4649480	35.25381	24.11416	12.20397	.3872774	.9006864
#1	10.36308	.1536904	.0005965	-.001932	.0077393	7.362512	.2654494
#2	10.40712	.1543512	.0006930	-.002260	.0066952	7.379323	.2674111
#3	10.29768	.1529237	.0011300	-.003066	.0060887	7.323777	.2702454

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3429-03 Acquired: 8/7/2024 16:56:19 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	.9988808	.0059557	.4292358
Stddev	.0100256	.0003119	.0019472
%RSD	1.003687	5.236537	.4536480
#1	.9876860	.0062915	.4303412
#2	1.007032	.0056752	.4303789
#3	1.001925	.0059005	.4269875

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2570.799	89259.54	12951.64	3400.080	4635.107
Stddev	16.443	189.68	26.96	2.125	27.761
%RSD	.6396218	.2124999	.2081477	.0624956	.5989381
#1	2588.870	89265.96	12944.54	3397.955	4665.300
#2	2566.807	89066.74	12928.94	3402.205	4629.335
#3	2556.719	89445.93	12981.44	3400.080	4610.685

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3440-01 Acquired: 8/7/2024 17:00:48 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.001741	-.004326	.0008645	.0010573	.0014085	.1017045	.1178899
Stddev	.001023	.000423	.0010675	.0000576	.0002733	.0033275	.0010116
%RSD	58.74943	9.768777	123.4758	5.452394	19.40076	3.271735	.8580985
#1	-.002114	-.003849	.0017094	.0010628	.0011036	.0996973	.1185993
#2	-.002525	-.004653	.0012194	.0009971	.0014906	.0998708	.1183391
#3	-.000584	-.004478	-.000335	.0011121	.0016313	.1055455	.1167315

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000196	-.000118	38.85129	.0015287	.0008873	.0021716	4.970221
Stddev	.000064	.000065	.13061	.0000575	.0001385	.0003715	.015769
%RSD	32.77928	55.47811	.3361862	3.759972	15.61390	17.10727	.3172754
#1	-.000232	-.000102	38.95228	.0014623	.0009413	.0024652	4.967217
#2	-.000236	-.000061	38.89780	.0015603	.0007299	.0017540	4.956169
#3	-.000122	-.000189	38.70378	.0015634	.0009907	.0022957	4.987276

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.553252	7.352373	.0023697	.0003788	159.4088	.0031138	.0201273
Stddev	.007626	.058728	.0001078	.0001999	.4456	.0012802	.0000223
%RSD	.4909446	.7987557	4.548734	52.76774	.2795388	41.11492	.1110080
#1	1.561635	7.410140	.0022456	.0005697	158.8943	.0016577	.0201191
#2	1.551397	7.292730	.0024227	.0001710	159.6579	.0040629	.0201102
#3	1.546726	7.354249	.0024406	.0003958	159.6741	.0036209	.0201526

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.578974	.0951990	.0004923	-.005588	.0011915	4.989642	.2590633
Stddev	.012436	.0011208	.0002205	.000405	.0002284	.009497	.0023527
%RSD	.1890257	1.177294	44.78915	7.251472	19.16702	.1903434	.9081704
#1	6.579135	.0964235	.0004963	-.005180	.0010056	4.999903	.2573133
#2	6.591329	.0942239	.0007108	-.005594	.0014464	4.987864	.2581387
#3	6.566459	.0949498	.0002698	-.005990	.0011225	4.981159	.2617379

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3440-01 Acquired: 8/7/2024 17:00:48 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	2.544444	.0061032	.2582790
Stddev	.005663	.0004811	.0017159
%RSD	.2225510	7.882911	.6643471
#1	2.544779	.0055951	.2597742
#2	2.549932	.0061627	.2586573
#3	2.538621	.0065518	.2564056

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2660.485	91173.31	12741.43	3451.429	4885.127
Stddev	8.532	103.91	56.14	6.938	15.979
%RSD	.3206759	.1139720	.4406275	.2010279	.3271005
#1	2661.832	91282.00	12677.76	3454.320	4883.011
#2	2651.360	91162.98	12762.69	3456.455	4870.312
#3	2668.262	91074.94	12783.83	3443.513	4902.059

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3440-01DUP Acquired: 8/7/2024 17:05:19 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.002841	-.004134	.0012861	.0008077	.0004123	.1123474	.1147345
Stddev	.001026	.001077	.0000910	.0012323	.0010088	.0085077	.0043609
%RSD	36.12193	26.05864	7.076414	152.5701	244.7070	7.572680	3.800908
#1	-.001921	-.004986	.0012295	-.000123	-.000619	.1219091	.1167540
#2	-.003948	-.004492	.0012377	.000341	.000460	.1056143	.1097298
#3	-.002656	-.002923	.0013911	.002205	.001396	.1095189	.1177195

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000142	-.000115	37.81808	.0016869	.0009571	.0020290	4.795094
Stddev	.000018	.000095	1.16882	.0001084	.0001285	.0003687	.008078
%RSD	12.98579	82.78452	3.090628	6.425778	13.42658	18.17149	.1684681
#1	-.000151	-.000152	38.37867	.0015802	.0010265	.0018634	4.785910
#2	-.000154	-.000187	36.47456	.0016836	.0010360	.0017722	4.801100
#3	-.000121	-.000007	38.60100	.0017969	.0008088	.0024515	4.798271

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.515903	7.209701	.0022925	.0002670	153.7418	.0010134	.0191371
Stddev	.048585	.257622	.0001614	.0002338	.5761	.0021907	.0001877
%RSD	3.204998	3.573272	7.041261	87.57936	.3747516	216.1861	.9806153
#1	1.540056	7.324084	.0021076	.0004745	154.3339	-.000562	.0192337
#2	1.459975	6.914694	.0023651	.0000137	153.7083	.000087	.0192569
#3	1.547677	7.390326	.0024049	.0003127	153.1831	.003515	.0189209

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.375125	.0927807	.0005697	-.005645	.0018934	4.839634	.2564539
Stddev	.036312	.0030283	.0001643	.000816	.0002906	.006337	.0037095
%RSD	.5695915	3.263966	28.83352	14.45456	15.34814	.1309343	1.446438
#1	6.389916	.0946032	.0004909	-.004765	.0021684	4.838197	.2528534
#2	6.401706	.0892849	.0007585	-.005792	.0019225	4.834140	.2602635
#3	6.333751	.0944538	.0004597	-.006377	.0015894	4.846566	.2562449

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3440-01DUP Acquired: 8/7/2024 17:05:19 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	2.507551	.0043386	.2515202
Stddev	.006595	.0009503	.0081214
%RSD	.2629944	21.90391	3.228922
#1	2.508879	.0032487	.2560799
#2	2.513381	.0049941	.2421436
#3	2.500393	.0047731	.2563370

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2686.259	93679.37	12921.74	3509.797	4939.715
Stddev	12.267	243.50	414.52	2.112	26.764
%RSD	.4566569	.2599239	3.207904	.0601826	.5418046
#1	2682.802	93485.28	12661.55	3507.392	4934.633
#2	2676.091	93600.24	13399.75	3510.646	4915.856
#3	2699.883	93952.59	12703.91	3511.353	4968.655

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3440-01LX5 Acquired: 8/7/2024 17:09:49 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.000766	-.001183	.0000658	-.001609	-.000107	.0285907	.0236303
Stddev	.000748	.001180	.0007514	.001128	.001033	.0056302	.0005924
%RSD	97.57923	99.76994	1142.135	70.09722	962.0513	19.69259	2.506938
#1	-.001273	-.001075	.0006011	-.002149	.000116	.0254236	.0242832
#2	.000092	-.000060	-.000793	-.000313	-.001234	.0252573	.0234805
#3	-.001118	-.002413	.000389	-.002364	.000796	.0350913	.0231272

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000031	-.000022	7.890441	-.000046	.0002145	.0001997	1.018793
Stddev	.000041	.000071	.033909	.000237	.0000648	.0001422	.012188
%RSD	133.1773	323.5588	.4297525	510.6763	30.19810	71.20708	1.196328
#1	-.000035	.000011	7.883366	.000227	.0002021	.0003636	1.005867
#2	-.000069	.000027	7.860628	-.000174	.0002846	.0001243	1.020436
#3	.000012	-.000104	7.927330	-.000192	.0001568	.0001110	1.030076

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3129266	1.440602	.0004998	.0001185	31.52275	.0018325	.0039581
Stddev	.0010121	.014594	.0000881	.0003054	.00896	.0005945	.0002708
%RSD	.3234149	1.013069	17.62260	257.5923	.0284187	32.44024	6.841178
#1	.3140526	1.423981	.0005977	-.000212	31.51310	.0024548	.0039073
#2	.3120929	1.446506	.0004748	.000391	31.53081	.0017722	.0042506
#3	.3126343	1.451320	.0004269	.000177	31.52433	.0012704	.0037163

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.314162	.0201184	-.000006	-.003922	.0008271	.9966508	.0503632
Stddev	.023773	.0003882	.000115	.000318	.0005404	.0099276	.0024006
%RSD	1.808979	1.929617	1930.698	8.116596	65.34145	.9960986	4.766576
#1	1.327560	.0205322	-.000118	-.004023	.0012545	.9943135	.0491576
#2	1.328212	.0197623	.000113	-.003565	.0010072	1.007539	.0531276
#3	1.286714	.0200606	-.000012	-.004177	.0002196	.988100	.0488043

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3440-01LX5 Acquired: 8/7/2024 17:09:49 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	.5167801	.0052266	.0522196
Stddev	.0032987	.0009596	.0003210
%RSD	.6383168	18.35938	.6146364
#1	.5205514	.0058779	.0523003
#2	.5144312	.0056773	.0518660
#3	.5153579	.0041247	.0524925

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2806.031	96151.81	13698.11	3660.661	5255.148
Stddev	13.985	81.86	73.62	11.550	28.920
%RSD	.4983869	.0851361	.5374236	.3155255	.5503163
#1	2791.426	96228.13	13635.69	3673.910	5226.328
#2	2807.367	96161.93	13779.29	3655.360	5254.950
#3	2819.299	96065.35	13679.35	3652.713	5284.167

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: CCV02 Acquired: 8/7/2024 17:14:14 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	4.895758	5.133879	5.104507	4.852883	4.914654	9.762684	10.19056
Stddev	.015471	.024402	.021040	.012113	.015613	.030922	.02318
%RSD	.3160125	.4753109	.4121775	.2496119	.3176758	.3167390	.2274636
#1	4.907200	5.141001	5.106410	4.851159	4.909735	9.743157	10.16401
#2	4.878156	5.153927	5.082580	4.841724	4.902094	9.746559	10.20090
#3	4.901918	5.106708	5.124530	4.865766	4.932134	9.798336	10.20676

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2498357	2.515324	25.54699	1.007856	2.487538	1.235717	5.086609
Stddev	.0010817	.009324	.08476	.018439	.013338	.005065	.085941
%RSD	.4329802	.3706837	.3317727	1.829521	.5362040	.4098965	1.689551
#1	.2486914	2.519076	25.51549	1.014902	2.492928	1.235876	5.136649
#2	.2499743	2.504708	25.48250	1.021734	2.472348	1.230574	5.135805
#3	.2508415	2.522186	25.64299	.986933	2.497337	1.240701	4.987375

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.526300	24.76349	2.509085	1.247635	24.15815	2.493825	2.561423
Stddev	.015777	.15933	.011885	.020188	.41753	.021329	.044253
%RSD	.6245074	.6433874	.4736930	1.618114	1.728337	.8552658	1.727658
#1	2.523104	24.78061	2.513258	1.257521	24.41311	2.490852	2.580504
#2	2.512366	24.59630	2.495676	1.260974	24.38505	2.474138	2.592934
#3	2.543431	24.91357	2.518321	1.224409	23.67630	2.516484	2.510831

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.54410	4.885660	5.047881	5.025715	5.058047	4.902919	5.119357
Stddev	.41217	.024953	.020198	.020549	.021107	.072362	.025597
%RSD	1.679323	.5107458	.4001321	.4088743	.4173046	1.475899	.4999962
#1	24.73782	4.864871	5.043976	5.029064	5.056869	4.926206	5.135089
#2	24.82373	4.878777	5.029921	5.003697	5.037553	4.960770	5.089821
#3	24.07075	4.913332	5.069747	5.044384	5.079719	4.821780	5.133160

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: CCV02 Acquired: 8/7/2024 17:14:14 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	4.681528	4.661492	5.096903
Stddev	.022243	.018895	.037801
%RSD	.4751237	.4053394	.7416399
#1	4.701021	4.654861	5.070759
#2	4.657298	4.646807	5.079704
#3	4.686267	4.682809	5.140244

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2705.459	94768.41	13405.29	3608.988	4885.182
Stddev	7.397	1801.94	34.35	64.636	16.547
%RSD	.2734165	1.901415	.2562092	1.790965	.3387267
#1	2705.729	94027.15	13441.45	3588.082	4879.582
#2	2712.718	93455.34	13401.32	3557.393	4903.802
#3	2697.931	96822.76	13373.10	3681.490	4872.161

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: CCB02 Acquired: 8/7/2024 17:18:33 Type: Unk
Method: NON EPA-6010-200.7(v2342) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009152	-.000820	.0003238	-.001479	.0006691	.0053632	.0004554
Stddev	.0004497	.000801	.0007685	.000749	.0009901	.0048436	.0009116
%RSD	49.13601	97.63833	237.3627	50.60586	147.9877	90.31050	200.1846
#1	.0006481	-.001442	.0009452	-.000787	.0013944	.0006565	-.000166
#2	.0014344	-.001102	.0005616	-.002274	.0010717	.0051003	.000030
#3	.0006631	.000083	-.000536	-.001376	-.000459	.0103328	.001502

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000342	-.000021	.0013224	.0000732	.0001261	-.000335	-.002244
Stddev	.0000499	.000016	.0072472	.0000451	.0000961	.000419	.003591
%RSD	146.0391	77.75330	548.0403	61.67157	76.21075	125.1121	160.0084
#1	.0000117	-.000012	-.006253	.0000834	.0002367	-.000815	.000811
#2	-.000001	-.000011	.008189	.0001123	.0000643	-.000142	-.006200
#3	.000091	-.000040	.002032	.0000238	.0000771	-.000047	-.001345

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001903	-.002279	-.000066	.0001764	.0191985	.0005743	.0000274
Stddev	.0001957	.016368	.000129	.0001096	.0059285	.0016971	.0000530
%RSD	102.8155	718.2582	194.9548	62.09811	30.87991	295.5152	193.7560
#1	.0004049	-.015355	-.000037	.0002704	.0135399	.0025014	.0000083
#2	.0001444	.016078	-.000208	.0002027	.0253642	-.000697	-.000013
#3	.0000217	-.007560	.000046	.0000561	.0186913	-.000081	.000087

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002729	.0100291	.0002247	-.003396	.0004704	.0029321	-.002554
Stddev	.017690	.0002953	.0001875	.000279	.0002810	.0041684	.002122
%RSD	648.1359	2.944852	83.41783	8.202740	59.74426	142.1641	83.07130
#1	-.023153	.0103321	.0004388	-.003691	.0007912	.0047761	-.000115
#2	.007771	.0097420	.0000899	-.003360	.0003521	-.001840	-.003571
#3	.007195	.0100133	.0001455	-.003137	.0002679	.005860	-.003977

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: CCB02 Acquired: 8/7/2024 17:18:33 Type: Unk
Method: NON EPA-6010-200.7(v2342) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.002767	.0008179	-.000000
Stddev	.002344	.0022315	.000010
%RSD	84.71296	272.8296	10214.70
#1	-.005149	.0015181	.000011
#2	-.000464	-.001680	-.000005
#3	-.002687	.002615	-.000007

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2833.833	97074.23	13163.51	3747.365	5364.182
Stddev	13.944	345.60	93.02	11.402	25.696
%RSD	.4920675	.3560159	.7066779	.3042563	.4790219
#1	2846.040	96931.95	13064.02	3748.031	5383.277
#2	2836.821	96822.47	13248.33	3735.646	5374.301
#3	2818.636	97468.25	13178.19	3758.420	5334.967

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: LR2 Acquired: 8/7/2024 18:15:40 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	.0135203	-.010643	229.7273	.0036942	-.002398	.1009736
Stddev	.0013773	.001307	.3143	.0005160	.001034	.0076063
%RSD	10.18715	12.28202	.1368295	13.96702	43.13007	7.532924
#1	.0141091	-.011596	229.3649	.0041646	-.003158	.1004644
#2	.0119464	-.009153	229.8907	.0031424	-.001220	.0936348
#3	.0145054	-.011179	229.9262	.0037758	-.002817	.1088217

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 89.73364	-.001909	-.006052	.2292111	.0253384	-.027666
Stddev	.92852	.000014	.000040	.0059909	.0004721	.000156
%RSD	1.034755	.7163412	.6578382	2.613720	1.862970	.5641833
#1	89.80057	-.001925	-.006046	.2319691	.0248511	-.027530
#2	90.62688	-.001898	-.006015	.2223379	.0257935	-.027836
#3	88.77346	-.001905	-.006094	.2333264	.0253706	-.027631

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	258.5760	.1162616	43.49239	-.022769	F 44.84289	.0022675
Stddev	.7960	.0027682	.07405	.006518	.04191	.0001427
%RSD	.3078464	2.380972	.1702535	28.62735	.0934662	6.295108
#1	259.4838	.1166611	43.42220	-.021994	44.79786	.0024178
#2	258.2470	.1188082	43.56977	-.029641	44.85005	.0021337
#3	257.9972	.1133153	43.48519	-.016673	44.88076	.0022511

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.059606	-.003307	F 23.82602	1.345481	.0019992	.0031503
Stddev	.041365	.001100	.11035	.049528	.0007097	.0002588
%RSD	3.903802	33.27036	.4631683	3.681089	35.50076	8.216322
#1	1.084902	-.002885	23.93764	1.392910	.0012247	.0028516
#2	1.082045	-.002480	23.71697	1.349442	.0021544	.0032912
#3	1.011870	-.004555	23.82346	1.294091	.0026184	.0033081

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: LR2 Acquired: 8/7/2024 18:15:40 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	.0137399	-.047029	-.008529	-.291510	-.046009	.0008491
Stddev	.0007189	.000632	.002282	.005612	.002375	.0007609
%RSD	5.232403	1.344809	26.75498	1.925203	5.163114	89.61034
#1	.0136212	-.046657	-.011128	-.285065	-.043361	.0001282
#2	.0145108	-.046670	-.006856	-.294140	-.046712	.0016445
#3	.0130877	-.047759	-.007602	-.295323	-.047954	.0007746

Elem	Sr4077
Units	ppm
Avg	.0019125
Stddev	.0000477
%RSD	2.494950
#1	.0019651
#2	.0019006
#3	.0018719

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2511.165	97429.41	13168.97	3571.994	5143.108
Stddev	3.553	369.37	81.66	6.584	13.330
%RSD	.1414820	.3791131	.6200591	.1843306	.2591862
#1	2514.861	97349.02	13099.21	3567.900	5158.334
#2	2510.859	97106.86	13148.93	3568.493	5133.537
#3	2507.776	97832.35	13258.78	3579.589	5137.455

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3440-02 Acquired: 8/7/2024 18:20:27 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	.7176244	1.767243	.9057799	1.701784	.7562700	2.008577	.3100484
Stddev	.0036564	.014009	.0047496	.012246	.0040371	.005591	.0007431
%RSD	.5095199	.7927236	.5243671	.7195693	.5338119	.2783444	.2396743
#1	.7136037	1.752708	.9005039	1.687876	.7519579	2.012064	.3097017
#2	.7185189	1.768359	.9071210	1.706528	.7568925	2.011539	.3109016
#3	.7207505	1.780660	.9097147	1.710947	.7599597	2.002129	.3095421

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1905821	.1794821	40.36838	.3919728	.1872921	.2796960	8.045790
Stddev	.0008848	.0015602	.02514	.0034048	.0019499	.0022012	.074368
%RSD	.4642508	.8692901	.0622668	.8686256	1.041083	.7870101	.9243119
#1	.1914234	.1777942	40.38410	.3881552	.1850533	.2771641	7.965743
#2	.1896595	.1797805	40.38164	.3946951	.1882041	.2811562	8.112740
#3	.1906633	.1808716	40.33939	.3930681	.1886188	.2807676	8.058887

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.774675	9.186820	.4726336	.0679693	160.1264	.2929637	.2280801
Stddev	.003475	.038953	.0038843	.0007007	.7649	.0032953	.0012999
%RSD	.1958110	.4240139	.8218380	1.030882	.4776764	1.124798	.5699414
#1	1.778452	9.229885	.4686302	.0671788	159.6417	.2921113	.2266773
#2	1.773958	9.154045	.4728842	.0685137	161.0082	.2966013	.2292441
#3	1.771614	9.176530	.4763866	.0682154	159.7294	.2901783	.2283188

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.11828	.3563257	.4097895	.6618321	.2000486	5.892113	5.906122
Stddev	.13376	.0018585	.0026421	.0068105	.0007594	.051311	.062600
%RSD	.8298593	.5215671	.6447443	1.029034	.3796035	.8708474	1.059915
#1	15.99074	.3583303	.4068938	.6539689	.1993109	5.834200	5.834755
#2	16.25749	.3546599	.4104054	.6656623	.2008280	5.931907	5.931870
#3	16.10660	.3559871	.4120692	.6658651	.2000068	5.910231	5.951743

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3440-02 Acquired: 8/7/2024 18:20:27 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	2.695853	.1706456	.4573908
Stddev	.032210	.0003255	.0013353
%RSD	1.194782	.1907220	.2919376
#1	2.659529	.1703296	.4588505
#2	2.707095	.1709798	.4570909
#3	2.720935	.1706274	.4562309

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2628.807	92297.34	13049.23	3459.284	4812.667
Stddev	11.275	377.63	78.92	6.535	25.859
%RSD	.4288884	.4091454	.6048064	.1889106	.5373147
#1	2641.359	92627.57	12958.28	3457.400	4842.510
#2	2619.537	91885.62	13089.80	3453.898	4796.871
#3	2625.526	92378.84	13099.62	3466.554	4798.622

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3440-03 Acquired: 8/7/2024 18:24:40 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	.7530533	1.879668	.9540541	1.777888	.7828631	2.098021	.3223955
Stddev	.0042591	.014096	.0014944	.007168	.0031845	.014779	.0016113
%RSD	.5655807	.7499149	.1566383	.4031531	.4067737	.7044408	.4998065
#1	.7547348	1.881325	.9526325	1.775285	.7802011	2.087579	.3223940
#2	.7482101	1.892862	.9539179	1.772385	.7819972	2.114932	.3240076
#3	.7562150	1.864817	.9556120	1.785993	.7863910	2.091553	.3207849

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2038357	.1896487	41.29357	.4100529	.1981496	.2927984	8.218837
Stddev	.0005015	.0005927	.14668	.0026842	.0005144	.0015000	.048979
%RSD	.2460355	.3125028	.3552118	.6545912	.2596015	.5123018	.5959405
#1	.2042269	.1897874	41.30818	.4116164	.1980745	.2923800	8.210300
#2	.2040097	.1889990	41.43239	.4115888	.1976768	.2915520	8.271523
#3	.2032703	.1901597	41.14013	.4069535	.1986973	.2944632	8.174687

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.811924	9.456084	.4975020	.0710136	160.2292	.3090486	.2375753
Stddev	.009425	.081781	.0006725	.0004878	1.1104	.0017960	.0016010
%RSD	.5201908	.8648478	.1351688	.6869469	.6930189	.5811489	.6738932
#1	1.811044	9.439424	.4977999	.0708289	160.2111	.3086631	.2380433
#2	1.821759	9.544911	.4967321	.0715669	161.3486	.3110060	.2388901
#3	1.802969	9.383915	.4979742	.0706452	159.1280	.3074766	.2357924

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.58503	.3753553	.4253774	.6880172	.2067583	5.929796	6.154587
Stddev	.14253	.0013018	.0006162	.0025341	.0022188	.044967	.017484
%RSD	.8594070	.3468188	.1448596	.3683145	1.073138	.7583159	.2840818
#1	16.61809	.3768321	.4247479	.6858471	.2070454	5.900103	6.166204
#2	16.70814	.3743741	.4254047	.6874024	.2088195	5.981531	6.134479
#3	16.42888	.3748598	.4259794	.6908021	.2044099	5.907754	6.163078

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3440-03 Acquired: 8/7/2024 18:24:40 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	2.653894	.1762400	.4724996
Stddev	.003656	.0013959	.0024762
%RSD	.1377451	.7920235	.5240585
#1	2.657972	.1751149	.4720007
#2	2.650911	.1778021	.4751872
#3	2.652798	.1758030	.4703108

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2676.862	93043.25	13031.26	3498.275	4903.956
Stddev	11.993	424.81	20.73	11.766	15.913
%RSD	.4480245	.4565746	.1591137	.3363411	.3244995
#1	2689.680	92987.28	13020.63	3502.430	4919.880
#2	2674.992	92649.20	13018.00	3484.995	4903.935
#3	2665.913	93493.27	13055.15	3507.400	4888.053

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3440-01A Acquired: 8/7/2024 18:33:57 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	.7023645	1.732868	.8869900	1.654630	.7440037	1.913258	.2862744
Stddev	.0052726	.014162	.0109879	.012869	.0065868	.142578	.0217107
%RSD	.7506952	.8172669	1.238779	.7777637	.8853129	7.452113	7.583884
#1	.6964088	1.716633	.8747858	1.639872	.7367273	1.999360	.2995962
#2	.7064370	1.739289	.8960965	1.663515	.7495592	1.748682	.2612218
#3	.7042476	1.742683	.8900876	1.660502	.7457247	1.991732	.2980051

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1831402	.1777687	36.75425	.3879442	.1870162	.2748460	7.682022
Stddev	.0117744	.0020409	2.68981	.0011818	.0021719	.0018567	.085815
%RSD	6.429148	1.148053	7.318355	.3046402	1.161329	.6755570	1.117086
#1	.1897782	.1754199	38.30390	.3872118	.1846231	.2727092	7.755537
#2	.1695456	.1791090	33.64833	.3893077	.1888623	.2760663	7.587724
#3	.1900969	.1787772	38.31050	.3873133	.1875631	.2757624	7.702803

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.609142	8.399464	.4677947	.0671498	149.3443	.2750053	.2248427
Stddev	.118323	.605229	.0058349	.0003789	.3323	.0216432	.0013325
%RSD	7.353196	7.205567	1.247328	.5642877	.2225232	7.870090	.5926429
#1	1.677758	8.784073	.4611828	.0675859	148.9701	.2890085	.2237551
#2	1.472514	7.701829	.4722224	.0669016	149.6052	.2500772	.2263291
#3	1.677154	8.712492	.4699789	.0669617	149.4575	.2859302	.2244439

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.52364	.3345079	.4117046	.6489941	.1891654	5.527527	5.676680
Stddev	.15746	.0208438	.0042558	.0081766	.0141442	.063181	.068435
%RSD	1.014331	6.231190	1.033711	1.259889	7.477137	1.143024	1.205553
#1	15.66395	.3462597	.4068025	.6396145	.1975319	5.578558	5.597764
#2	15.35334	.3104417	.4144552	.6546192	.1728348	5.456859	5.712579
#3	15.55363	.3468223	.4138559	.6527485	.1971295	5.547164	5.719696

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3440-01A Acquired: 8/7/2024 18:33:57 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	2.404723	.1559343	.4200114
Stddev	.028613	.0123243	.0318411
%RSD	1.189855	7.903534	7.581004
#1	2.372104	.1645212	.4384133
#2	2.425581	.1418130	.3832445
#3	2.416485	.1614688	.4383764

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2696.245	92816.43	13670.19	3469.518	4984.383
Stddev	19.003	351.79	946.28	10.727	47.266
%RSD	.7047996	.3790116	6.922201	.3091694	.9482759
#1	2718.023	92410.40	13101.79	3458.428	5037.575
#2	2683.030	93029.72	14762.56	3470.286	4947.202
#3	2687.682	93009.18	13146.22	3479.840	4968.374

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3440-04 Acquired: 8/7/2024 18:38:12 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.002295	-.004012	-.000011	.0015831	.0030966	.0913062
Stddev	.000882	.001155	.000412	.0000757	.0009259	.0079925
%RSD	38.41285	28.79282	3663.753	4.780614	29.90217	8.753510
#1	-.002265	-.004155	-.000442	.0016529	.0036359	.0851683
#2	-.001429	-.005090	.000379	.0015937	.0020274	.1003438
#3	-.003191	-.002792	.000029	.0015027	.0036264	.0884066

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1644325	-.000099	.0000166	70.25034	.0011287	.0094538
Stddev	.0014504	.000057	.0000281	.39439	.0001646	.0001741
%RSD	.8820444	57.70064	169.0270	.5614087	14.58758	1.841597
#1	.1632957	-.000077	.0000294	70.15631	.0013117	.0092708
#2	.1639360	-.000056	.0000360	69.91146	.0009925	.0096174
#3	.1660660	-.000163	-.000016	70.68325	.0010818	.0094733

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005635	8.167336	2.048104	16.13867	.0018971	.0001761
Stddev	.0003848	.022965	.011950	.10703	.0000411	.0002899
%RSD	68.29097	.2811830	.5834763	.6632108	2.168232	164.6041
#1	.0002250	8.155097	2.043374	16.09720	.0019351	.0001119
#2	.0004835	8.193828	2.039242	16.05857	.0019026	-.000076
#3	.0009820	8.153083	2.061695	16.26023	.0018534	.000493

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	373.3099	.0021295	.0454913	12.65069	.1164012	.0001009
Stddev	2.7325	.0012323	.0000787	.04147	.0010589	.0000717
%RSD	.7319746	57.86884	.1730636	.3278167	.9097309	71.00249
#1	373.9609	.0010516	.0454139	12.65943	.1154789	.0001218
#2	370.3106	.0034730	.0455713	12.60555	.1161670	.0001598
#3	375.6581	.0018640	.0454887	12.68710	.1175576	.0000211

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3440-04 Acquired: 8/7/2024 18:38:12 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.006266	-.000743	4.437786	.4790917	F 16.48325	.0069215
Stddev	.000318	.000677	.007954	.0027004	.02104	.0017833
%RSD	5.081406	91.19001	.1792254	.5636446	.1276574	25.76504
#1	-.006234	-.000006	4.445163	.4808882	16.49556	.0048829
#2	-.006599	-.000883	4.438834	.4759863	16.45896	.0081924
#3	-.005965	-.001339	4.429360	.4804006	16.49524	.0076892

Elem	Sr4077
Units	ppm
Avg	.4856174
Stddev	.0028538
%RSD	.5876705
#1	.4857304
#2	.4827088
#3	.4884131

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2553.751	92582.51	12755.99	3454.153	4533.046
Stddev	1.276	43.35	72.82	5.233	.581
%RSD	.0499486	.0468188	.5708377	.1514997	.0128077
#1	2553.851	92544.59	12750.17	3459.138	4533.713
#2	2554.974	92629.76	12831.53	3448.703	4532.770
#3	2552.429	92573.17	12686.25	3454.619	4532.655

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3443-01 Acquired: 8/7/2024 18:42:43 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.003083	-.002628	.0028164	.0007365	.0027036	12.06319
Stddev	.001467	.000638	.0004199	.0023011	.0008954	.05412
%RSD	47.57112	24.28310	14.90826	312.4452	33.12060	.4486343
#1	-.001476	-.003364	.0025507	.0016671	.0021202	12.12561
#2	-.003424	-.002276	.0033005	-.001884	.0037345	12.02941
#3	-.004349	-.002242	.0025981	.002427	.0022559	12.03456

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0290957	-.000079	-.000003	40.91678	.0854025	.0026894
Stddev	.0004178	.000057	.000053	.01446	.0004455	.0001649
%RSD	1.436129	71.95493	1548.037	.0353301	.5216452	6.130274
#1	.0286626	-.000117	-.000012	40.92656	.0854167	.0025709
#2	.0291282	-.000108	.000053	40.90017	.0858407	.0026197
#3	.0294964	-.000014	-.000051	40.92360	.0849500	.0028777

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3568542	2.067872	.0385686	12.66479	.0638173	.0002448
Stddev	.0007386	.017351	.0005711	.04998	.0002702	.0000335
%RSD	.2069834	.8390920	1.480700	.3946488	.4234225	13.67313
#1	.3560978	2.048901	.0381242	12.63194	.0636282	.0002081
#2	.3568909	2.071775	.0383690	12.64013	.0636968	.0002524
#3	.3575737	2.082939	.0392127	12.72231	.0641268	.0002737

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	359.4202	.0020157	1.643699	46.98219	1.006890	.0091419
Stddev	1.9063	.0013356	.007443	.19561	.003424	.0000347
%RSD	.5303777	66.25950	.4528280	.4163582	.3400830	.3796816
#1	361.3041	.0025380	1.640540	47.17686	1.005565	.0091669
#2	357.4923	.0004979	1.638357	46.98405	1.004327	.0091566
#3	359.4642	.0030112	1.652201	46.78565	1.010779	.0091023

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3443-01 Acquired: 8/7/2024 18:42:43 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	.0289670	-.000914	3.523942	F 11.64807	F 153.4612	.0096917
Stddev	.0001989	.000536	.002726	.02189	.3179	.0012893
%RSD	.6867144	58.62878	.0773620	.1879534	.2071630	13.30342
#1	.0288599	-.001444	3.525625	11.65304	153.8208	.0103222
#2	.0288446	-.000372	3.525404	11.66705	153.3452	.0105444
#3	.0291965	-.000926	3.520797	11.62412	153.2175	.0082084

Elem	Sr4077
Units	ppm
Avg	.1866675
Stddev	.0007263
%RSD	.3890855
#1	.1874488
#2	.1860129
#3	.1865407

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2601.353	91795.84	13362.67	3453.115	4649.369
Stddev	12.657	264.90	44.13	6.880	7.724
%RSD	.4865528	.2885758	.3302111	.1992379	.1661357
#1	2614.346	91611.00	13318.40	3453.664	4656.669
#2	2600.652	91677.19	13406.64	3459.704	4650.159
#3	2589.061	92099.32	13362.96	3445.977	4641.281

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3451-01 Acquired: 8/7/2024 18:47:08 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	.0006023	-.003505	.0059157	.0014224	.0012686	.3222773	.0952579
Stddev	.0006469	.000578	.0007543	.0012286	.0008430	.0159260	.0019014
%RSD	107.4158	16.50283	12.75034	86.37413	66.45219	4.941698	1.996034
#1	.0002177	-.004160	.0056639	.0004166	.0020428	.3039442	.0954102
#2	.0013492	-.003065	.0067636	.0027917	.0013925	.3301949	.0932850
#3	.0002399	-.003290	.0053195	.0010589	.0003705	.3326928	.0970786

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000108	-.000121	28.36200	.0018079	.0009044	.0053841	5.846488
Stddev	.000062	.000110	.52958	.0003138	.0000480	.0001531	.026736
%RSD	57.44055	90.92679	1.867225	17.35880	5.311668	2.844073	.4573001
#1	-.000153	-.000134	28.29889	.0021131	.0008989	.0052080	5.835738
#2	-.000037	-.000005	27.86679	.0014861	.0008594	.0054584	5.826799
#3	-.000133	-.000225	28.92030	.0018245	.0009550	.0054860	5.876925

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6720243	4.605694	.0020960	.0004288	92.59170	.0057109	.0252302
Stddev	.0141485	.087826	.0003129	.0001489	.13648	.0007491	.0002328
%RSD	2.105357	1.906898	14.92792	34.71645	.1473948	13.11684	.9228658
#1	.6694004	4.567336	.0017531	.0002605	92.63577	.0064790	.0254852
#2	.6593714	4.543571	.0021688	.0004829	92.43864	.0056714	.0250288
#3	.6873011	4.706174	.0023661	.0005431	92.70070	.0049824	.0251768

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.584466	.0952135	.0010688	-.004939	.0055260	3.335363	.2121433
Stddev	.032930	.0014731	.0000987	.000142	.0003958	.026907	.0014979
%RSD	.7182886	1.547193	9.238340	2.877871	7.163214	.8067186	.7060782
#1	4.622473	.0952971	.0009942	-.004801	.0058626	3.305224	.2111210
#2	4.564497	.0937003	.0011808	-.005085	.0056255	3.343896	.2114462
#3	4.566427	.0966430	.0010314	-.004933	.0050899	3.356968	.2138627

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3451-01 Acquired: 8/7/2024 18:47:08 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	4.206540	.0023358	.1913931
Stddev	.006981	.0012237	.0031308
%RSD	.1659484	52.38669	1.635791
#1	4.204876	.0018297	.1916704
#2	4.214202	.0014464	.1881329
#3	4.200541	.0037314	.1943760

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2713.020	93314.21	13613.43	3509.915	5028.052
Stddev	9.384	296.79	243.11	20.363	19.280
%RSD	.3458883	.3180590	1.785780	.5801475	.3834475
#1	2704.181	93040.35	13550.75	3488.019	5010.356
#2	2712.010	93629.57	13881.74	3528.283	5025.200
#3	2722.868	93272.71	13407.80	3513.443	5048.599

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: CCV03 Acquired: 8/7/2024 18:51:30 Type: Unk
Method: NON EPA-6010-200.7(v2342) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.716102	4.988259	4.950342	4.666678	4.776040	9.392072
Stddev	.031280	.006447	.032507	.029365	.033850	.014605
%RSD	.6632638	.1292351	.6566612	.6292460	.7087459	.1555034
#1	4.687075	4.983148	4.925730	4.637479	4.746340	9.405751
#2	4.712002	4.995502	4.938104	4.666351	4.768883	9.393774
#3	4.749231	4.986128	4.987192	4.696206	4.812896	9.376690

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.844111	.2518247	2.438146	24.71112	.9959542	2.426973
Stddev	.080295	.0005956	.015644	.04125	.0053665	.016381
%RSD	.8156626	.2365245	.6416406	.1669445	.5388264	.6749609
#1	9.932265	.2521886	2.426821	24.73516	.9973099	2.415134
#2	9.775157	.2511373	2.431620	24.66349	1.000513	2.420117
#3	9.824912	.2521482	2.455996	24.73472	.990040	2.445669

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.199036	4.922774	2.455917	24.18515	2.436072	1.238580
Stddev	.011676	.006828	.002425	.06593	.015597	.001316
%RSD	.9738005	.1386991	.0987271	.2726235	.6402403	.1062705
#1	1.188543	4.930285	2.456765	24.16893	2.424922	1.239572
#2	1.196951	4.921094	2.453182	24.12884	2.429400	1.239081
#3	1.211614	4.916943	2.457804	24.25768	2.453896	1.237087

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.63713	2.418437	2.501466	24.23197	4.905832	4.967234
Stddev	.04239	.002036	.011504	.02577	.008893	.029499
%RSD	.1793390	.0841839	.4598717	.1063579	.1812744	.5938724
#1	23.67727	2.418071	2.508591	24.25573	4.915921	4.939168
#2	23.64133	2.416610	2.507611	24.23562	4.899127	4.964552
#3	23.59280	2.420632	2.488195	24.20457	4.902450	4.997983

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: CCV03 Acquired: 8/7/2024 18:51:30 Type: Unk
Method: NON EPA-6010-200.7(v2342) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.861240	4.894870	4.733723	4.884098	F 4.439280	F 4.322959
Stddev	.026609	.011567	.025703	.030845	.037183	.008950
%RSD	.5473780	.2363016	.5429727	.6315443	.8375949	.2070296
#1	4.842780	4.902315	4.708590	4.853008	4.414902	4.333195
#2	4.849198	4.881545	4.732618	4.884595	4.420861	4.319072
#3	4.891741	4.900752	4.759961	4.914692	4.482077	4.316610

Elem	Sr4077
Units	ppm
Avg	4.896201
Stddev	.017178
%RSD	.3508453
#1	4.893584
#2	4.880481
#3	4.914537

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2789.040	94570.96	13297.07	3619.921	5078.113
Stddev	21.278	56.31	31.47	4.934	39.595
%RSD	.7629193	.0595441	.2366867	.1363008	.7797143
#1	2808.174	94514.18	13260.79	3614.925	5110.441
#2	2792.821	94571.89	13317.07	3620.048	5089.949
#3	2766.125	94626.79	13313.35	3624.791	5033.951

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: CCB03 Acquired: 8/7/2024 18:55:49 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.000100	.0008465	-.000327	-.000182	.0005633	.0070506	-.001617
Stddev	.000657	.0002679	.000917	.001762	.0006536	.0034893	.001313
%RSD	660.0981	31.65151	280.6403	966.3903	116.0322	49.48933	81.19174
#1	-.000001	.0008749	.000090	-.002170	.0001422	.0110597	-.001905
#2	-.000801	.0005655	.000308	.000434	.0002315	.0053930	-.000184
#3	.000503	.0010990	-.001379	.001189	.0013163	.0046990	-.002763

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000352	-.000009	-.005233	.0000832	.0001984	.0001804	-.000790
Stddev	.0000412	.000075	.003201	.0001407	.0001228	.0001688	.001467
%RSD	117.0090	797.9349	61.16341	169.0720	61.89744	93.55058	185.6436
#1	.0000090	-.000001	-.004958	-.000067	.0002245	.0001301	.000902
#2	.0000139	.000061	-.008562	.000211	.0003061	.0000425	-.001701
#3	.0000828	-.000089	-.002179	.000106	.0000647	.0003687	-.001571

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000229	-.006234	-.000080	-.000015	.5090810	.0006119	-.000204
Stddev	.000204	.014552	.000118	.000153	.0228407	.0010545	.000122
%RSD	88.99752	233.4268	146.5993	989.2887	4.486643	172.3411	59.64150
#1	-.000021	-.008518	-.000128	-.000058	.4831905	.0017935	-.000079
#2	-.000429	-.019509	.000054	.000154	.5176726	-.000233	-.000321
#3	-.000237	.009324	-.000167	-.000142	.5263800	.000275	-.000212

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8344575	.0040639	.0002669	-.003414	-.000225	-.007415	-.004557
Stddev	.0311816	.0004957	.0001939	.000515	.000782	.002555	.000367
%RSD	3.736752	12.19795	72.64187	15.08702	347.1210	34.46495	8.051713
#1	.8061688	.0046191	.0004905	-.004004	-.000755	-.007565	-.004324
#2	.8293119	.0039066	.0001630	-.003057	.000672	-.009891	-.004367
#3	.8678919	.0036659	.0001471	-.003181	-.000593	-.004787	-.004980

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: CCB03 Acquired: 8/7/2024 18:55:49 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.001850	.0029548	-.000066
Stddev	.000447	.0002331	.000010
%RSD	24.18780	7.888046	15.03376
#1	-.002242	.0027656	-.000063
#2	-.001945	.0028836	-.000057
#3	-.001362	.0032151	-.000077

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2717.416	103644.1	13797.95	3904.276	5032.866
Stddev	24.415	323.8	62.83	8.994	54.577
%RSD	.8984513	.3123970	.4553314	.2303705	1.084404
#1	2745.078	103719.0	13857.56	3894.134	5093.364
#2	2708.296	103289.4	13732.34	3907.407	5017.903
#3	2698.874	103923.8	13803.97	3911.286	4987.332

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: LR1 Acquired: 8/7/2024 19:07:49 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	.0419043	-.012289	.0492429	-.115214	-.002260	1988.991	.0157141
Stddev	.0079528	.003413	.0038997	.005546	.005091	14.391	.0005246
%RSD	18.97847	27.77458	7.919374	4.813397	225.2593	.7235155	3.338527
#1	.0328227	-.016052	.0533994	-.116634	-.006593	2005.376	.0151821
#2	.0476241	-.011423	.0486647	-.119911	.003347	1983.197	.0157291
#3	.0452660	-.009392	.0456645	-.109096	-.003533	1978.401	.0162310

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0069283	.0696885	1646.331	.0243813	.0397801	-.019714	907.7457
Stddev	.0000923	.0021672	16.180	.0001140	.0004876	.009507	3.9674
%RSD	1.332333	3.109853	.9827863	.4677797	1.225744	48.22263	.4370588
#1	.0070041	.0714574	1662.362	.0242802	.0403151	-.012490	903.6156
#2	.0068255	.0672711	1646.623	.0243588	.0396645	-.030484	911.5274
#3	.0069553	.0703372	1630.007	.0245049	.0393607	-.016169	908.0941

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0108810	1734.212	.0410891	.0114347	1806.618	.0139198	.0478760
Stddev	.0007811	23.490	.0003866	.0004829	3.001	.0008998	.0008252
%RSD	7.178866	1.354519	.9410017	4.222983	.1661310	6.464049	1.723672
#1	.0117563	1760.554	.0415132	.0119506	1803.615	.0131780	.0482926
#2	.0102549	1715.440	.0409978	.0109935	1809.618	.0149207	.0484099
#3	.0106317	1726.641	.0407562	.0113600	1806.622	.0136606	.0469256

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1407.191	.0371593	-.000003	-.000205	-.053455	.1333908	.0601927
Stddev	1.388	.0164595	.001806	.000989	.001969	.0083745	.0031629
%RSD	.0986470	44.29455	70206.63	482.3052	3.684049	6.278145	5.254648
#1	1408.319	.0223238	-.001872	.000451	-.054154	.1400213	.0626941
#2	1405.641	.0548653	.001731	-.001342	-.051232	.1239797	.0612466
#3	1407.615	.0342887	.000133	.000276	-.054980	.1361714	.0566374

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: LR1 Acquired: 8/7/2024 19:07:49 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.199870	.3125616	-.895953
Stddev	.007291	.0013233	.003936
%RSD	3.647731	.4233703	.4393241
#1	-.198976	.3111114	-.891844
#2	-.193068	.3137037	-.899690
#3	-.207566	.3128698	-.896325

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1840.516	69187.81	11116.11	2492.633	2952.148
Stddev	15.525	373.55	74.16	22.427	25.511
%RSD	.8435366	.5399099	.6671112	.8997355	.8641598
#1	1829.153	69598.54	11040.70	2504.374	2934.795
#2	1858.206	68868.37	11188.95	2466.773	2981.440
#3	1834.189	69096.52	11118.67	2506.752	2940.210

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3455-01 Acquired: 8/7/2024 19:12:57 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.003215	-.003699	.0019290	-.001494	.0007554	.0821130	.0032424
Stddev	.002605	.000875	.0003370	.001561	.0008593	.0022862	.0006438
%RSD	81.00304	23.65892	17.46955	104.5227	113.7627	2.784205	19.85463
#1	-.001838	-.004534	.0022096	.000302	.0001184	.0845739	.0028179
#2	-.006219	-.003775	.0020222	-.002529	.0017327	.0817099	.0039831
#3	-.001589	-.002789	.0015552	-.002254	.0004149	.0800551	.0029262

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000868	.0000756	6.683393	.0010197	.0103924	.0041586	14.56159
Stddev	.0000304	.0001330	.035837	.0002170	.0000970	.0001691	.13764
%RSD	34.99713	175.8786	.5362113	21.28227	.9337824	4.066786	.9452357
#1	.0000831	.0001286	6.666737	.0007777	.0102804	.0042153	14.41445
#2	.0000585	-.000076	6.724527	.0011970	.0104483	.0042921	14.68720
#3	.0001189	.000174	6.658915	.0010845	.0104486	.0039684	14.58311

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6120579	2.982767	.0106335	.0005162	13.66353	.0026377	.0388074
Stddev	.0031069	.017366	.0002251	.0002467	.08861	.0014998	.0003110
%RSD	.5076197	.5822130	2.116980	47.79612	.6485091	56.85921	.8014379
#1	.6118929	3.002819	.0108443	.0002355	13.56797	.0043483	.0390752
#2	.6152440	2.972575	.0103964	.0006147	13.74299	.0015484	.0384663
#3	.6090367	2.972908	.0106598	.0006985	13.67961	.0020164	.0388809

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.274603	.0078482	.0001449	-.004686	.0016824	4.641398	.0037430
Stddev	.038003	.0001002	.0000871	.000226	.0005183	.029369	.0009064
%RSD	2.981563	1.277141	60.07372	4.813480	30.80520	.6327540	24.21524
#1	1.231021	.0079313	.0000449	-.004574	.0020940	4.611270	.0046155
#2	1.300828	.0077369	.0001859	-.004539	.0011004	4.669943	.0028062
#3	1.291961	.0078764	.0002040	-.004946	.0018529	4.642980	.0038072

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3455-01 Acquired: 8/7/2024 19:12:57 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	.7568199	.0001410	.0287921
Stddev	.0038593	.0004675	.0003412
%RSD	.5099308	331.4931	1.185138
#1	.7534976	-.000074	.0291324
#2	.7559089	-.000180	.0287939
#3	.7610531	.000677	.0284499

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2690.173	98403.24	12992.79	3726.910	5024.333
Stddev	14.035	499.81	54.58	22.597	24.014
%RSD	.5217098	.5079173	.4201063	.6063283	.4779518
#1	2702.776	98979.38	12929.81	3752.279	5045.330
#2	2692.696	98144.40	13022.00	3719.513	5029.520
#3	2675.048	98085.94	13026.55	3708.939	4998.150

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3455-03 Acquired: 8/7/2024 19:17:20 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.002381	-.003243	.0015723	-.000503	.0013219	-.034611
Stddev	.001680	.000975	.0012457	.001356	.0005540	.011532
%RSD	70.56097	30.06719	79.22518	269.6462	41.90955	33.31964
#1	-.004251	-.002496	.0028038	-.001848	.0012031	-.037445
#2	-.000998	-.004346	.0003129	-.000523	.0019257	-.044462
#3	-.001894	-.002886	.0016002	.000863	.0008370	-.021926

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2423551	-.000134	-.000079	140.7153	.0009246	.0040123
Stddev	.0197857	.000037	.000054	10.8961	.0001017	.0001501
%RSD	8.163935	27.58252	68.15512	7.743363	10.99705	3.741168
#1	.2567284	-.000173	-.000135	148.7539	.0008950	.0040740
#2	.2197889	-.000098	-.000073	128.3138	.0010377	.0038412
#3	.2505479	-.000132	-.000028	145.0782	.0008409	.0041218

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0256240	.0234739	.0761782	18.01932	.0062477	.0001984
Stddev	.0001330	.0032649	.0058455	1.41482	.0001525	.0001155
%RSD	.5191689	13.90863	7.673503	7.851701	2.440905	58.20276
#1	.0256818	.0209009	.0802525	19.08737	.0061681	.0001174
#2	.0254719	.0223740	.0694805	16.41470	.0061515	.0003306
#3	.0257184	.0271466	.0788016	18.55590	.0064236	.0001472

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.23418	.0012802	.0347847	12.60891	1.700724	.0039758
Stddev	.39541	.0004565	.0011066	.31290	.116157	.0001103
%RSD	2.168516	35.66095	3.181181	2.481558	6.829874	2.773587
#1	17.83668	.0013164	.0335169	12.27313	1.787234	.0040862
#2	18.23839	.0008067	.0352811	12.66130	1.568702	.0038657
#3	18.62747	.0017176	.0355562	12.89231	1.746236	.0039754

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3455-03 Acquired: 8/7/2024 19:17:20 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.006423	-.004706	5.000674	.1088872	F 14.09720	.0147304
Stddev	.001157	.000987	.120721	.0003348	.04048	.0008432
%RSD	18.01856	20.97017	2.414087	.3075198	.2871232	5.723997
#1	-.006176	-.005807	4.879449	.1088995	14.13905	.0157036
#2	-.005408	-.003901	5.001687	.1092158	14.09429	.0142679
#3	-.007683	-.004409	5.120884	.1085464	14.05826	.0142197

Elem	Sr4077
Units	ppm
Avg	1.833959
Stddev	.123501
%RSD	6.734137
#1	1.938686
#2	1.697770
#3	1.865421

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2697.631	93358.48	13736.90	3496.218	5065.154
Stddev	15.934	2292.54	1010.98	64.105	26.028
%RSD	.5906504	2.455628	7.359587	1.833556	.5138729
#1	2679.528	96003.42	12988.88	3568.892	5035.126
#2	2709.529	92130.44	14887.07	3472.056	5081.270
#3	2703.835	91941.57	13334.74	3447.705	5079.066

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3455-04 Acquired: 8/7/2024 19:21:50 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.001594	-.003735	.0010098	.0016207	.0018945	-.026623
Stddev	.001117	.000942	.0001060	.0010979	.0010699	.010148
%RSD	70.08349	25.21329	10.49735	67.74107	56.47180	38.11814
#1	-.002842	-.004598	.0009252	.0018500	.0022021	-.016765
#2	-.001255	-.002731	.0009755	.0004263	.0027769	-.026067
#3	-.000686	-.003877	.0011288	.0025858	.0007045	-.037038

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2302924	-.000171	-.000211	134.2441	.0005349	.0036445
Stddev	.0013561	.000046	.000067	.8379	.0001707	.0000296
%RSD	.5888457	27.20323	31.97706	.6241446	31.90294	.8114971
#1	.2288792	-.000139	-.000157	133.2810	.0003847	.0036359
#2	.2304152	-.000149	-.000287	134.6456	.0007205	.0036202
#3	.2315830	-.000224	-.000189	134.8056	.0004996	.0036774

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009329	.0293989	.0710370	17.54178	.0023871	-.000156
Stddev	.0004284	.0012794	.0000687	.17252	.0000549	.000372
%RSD	45.92315	4.351882	.0966672	.9834570	2.300216	239.3069
#1	.0011570	.0289618	.0710056	17.34891	.0024175	.000002
#2	.0004389	.0283954	.0711158	17.68136	.0023237	.000112
#3	.0012027	.0308396	.0709897	17.59508	.0024201	-.000581

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.49458	.0023841	.0091719	11.69560	1.680360	.0038273
Stddev	.04822	.0007614	.0000599	.04581	.003224	.0003507
%RSD	.2923527	31.93438	.6531737	.3917251	.1918548	9.162425
#1	16.43927	.0031626	.0091270	11.64382	1.678630	.0042274
#2	16.52780	.0016412	.0092399	11.73089	1.684080	.0036812
#3	16.51667	.0023486	.0091488	11.71208	1.678371	.0035733

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3455-04 Acquired: 8/7/2024 19:21:50 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.005768	-.004081	4.628938	.0967713	F 14.17086	.0151909
Stddev	.000462	.000944	.027390	.0003887	.01206	.0027447
%RSD	8.010285	23.14475	.5917046	.4016955	.0850961	18.06794
#1	-.005430	-.003071	4.599253	.0963757	14.15694	.0152200
#2	-.005580	-.004227	4.653230	.0967853	14.17753	.0124318
#3	-.006295	-.004943	4.634330	.0971528	14.17811	.0179210

Elem	Sr4077
Units	ppm
Avg	1.740057
Stddev	.008807
%RSD	.5061221
#1	1.730169
#2	1.742945
#3	1.747057

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2679.230	94290.64	12706.49	3538.417	5028.489
Stddev	1.007	54.67	5.64	7.190	4.025
%RSD	.0375733	.0579803	.0443965	.2032019	.0800476
#1	2680.005	94251.70	12710.90	3545.892	5026.079
#2	2679.593	94267.07	12700.14	3531.550	5026.253
#3	2678.092	94353.14	12708.44	3537.809	5033.136

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3455-05 Acquired: 8/7/2024 19:26:19 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.002754	-.003626	.0129906	.0010572	.0002699	.0457534	.0025134
Stddev	.001430	.001296	.0002772	.0009915	.0014121	.0042113	.0007670
%RSD	51.92241	35.75458	2.133831	93.78843	523.1767	9.204401	30.51779
#1	-.003526	-.002129	.0132019	.0020986	-.001354	.0457323	.0016974
#2	-.003631	-.004367	.0126768	.0001245	.000953	.0415526	.0026230
#3	-.001104	-.004381	.0130932	.0009485	.001211	.0499752	.0032197

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000088	-.000053	5.862373	.0039729	.0115713	.0066634	3.113201
Stddev	.000027	.000058	.036406	.0001498	.0000117	.0003032	.033118
%RSD	30.32938	108.5038	.6210109	3.769379	.1013157	4.549616	1.063795
#1	-.000117	.000004	5.824943	.0040135	.0115618	.0066390	3.076477
#2	-.000082	-.000111	5.897660	.0038071	.0115844	.0063732	3.122328
#3	-.000065	-.000052	5.864516	.0040983	.0115678	.0069781	3.140799

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1105253	2.637795	.0152368	.0001041	11.95466	.0027467	.0550598
Stddev	.0002174	.009430	.0000909	.0001481	.14156	.0004253	.0012476
%RSD	.1966573	.3575144	.5968758	142.2808	1.184129	15.48528	2.265941
#1	.1106917	2.634508	.0151789	.0001981	11.81551	.0024418	.0536610
#2	.1106048	2.630449	.0153417	-.000067	11.94996	.0032326	.0554608
#3	.1102793	2.648430	.0151900	.000181	12.09851	.0025657	.0560576

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.016307	.0091379	.0001814	.0627456	.0005181	4.898596	.0029891
Stddev	.016324	.0004684	.0001385	.0005259	.0005445	.033264	.0005085
%RSD	1.606185	5.125962	76.35137	.8382316	105.1049	.6790509	17.01302
#1	.999951	.0096541	.0000788	.0623384	.0002555	4.860416	.0024104
#2	1.016370	.0087400	.0001265	.0625589	.0011442	4.914056	.0031920
#3	1.032599	.0090196	.0003390	.0633394	.0001546	4.921317	.0033649

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3455-05 Acquired: 8/7/2024 19:26:19 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	.6822536	.0009194	.0355439
Stddev	.0026087	.0007612	.0000557
%RSD	.3823594	82.79264	.1566959
#1	.6802116	.0011552	.0355738
#2	.6813569	.0000682	.0355783
#3	.6851924	.0015349	.0354796

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2826.700	98105.47	13120.79	3733.432	5442.881
Stddev	2.840	1048.76	15.11	38.237	7.238
%RSD	.1004793	1.069013	.1151978	1.024174	.1329792
#1	2829.715	99192.94	13116.30	3769.553	5447.877
#2	2824.075	98023.22	13108.43	3737.360	5446.186
#3	2826.311	97100.26	13137.65	3693.383	5434.581

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3455-07 Acquired: 8/7/2024 19:30:44 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.002000	-.002639	.0016905	.0003409	.0004399	-.009706	.1712434
Stddev	.001516	.000515	.0008810	.0028231	.0005828	.006533	.0007706
%RSD	75.78485	19.51560	52.11293	828.1963	132.5011	67.31283	.4500144
#1	-.002951	-.002955	.0018467	.0015762	.0008597	-.017250	.1711311
#2	-.002797	-.002045	.0007418	.0023358	.0006855	-.005885	.1720640
#3	-.000252	-.002918	.0024829	-.002889	-.000226	-.005983	.1705351

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000146	-.000082	88.84222	.0008073	.0025619	.0036497	.0352899
Stddev	.000039	.000032	.32308	.0001653	.0001112	.0004794	.0015788
%RSD	26.92566	38.62756	.3636565	20.47338	4.338604	13.13411	4.473838
#1	-.000104	-.000108	88.65679	.0007179	.0026804	.0031230	.0341903
#2	-.000182	-.000047	89.21528	.0007060	.0025454	.0040604	.0345803
#3	-.000152	-.000091	88.65459	.0009981	.0024599	.0037658	.0370990

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0482889	11.82936	.0020575	.0000917	13.65362	.0001345	.0184012
Stddev	.0001236	.09633	.0002316	.0002804	.03372	.0023163	.0006050
%RSD	.2558965	.8143198	11.25513	305.7134	.2469569	1721.900	3.288126
#1	.0483028	11.83575	.0020423	.0000656	13.62663	.0028086	.0178765
#2	.0484048	11.92233	.0022963	.0003843	13.64280	-.001158	.0182640
#3	.0481589	11.72999	.0018339	-.000175	13.69141	-.001247	.0190631

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.047953	1.186847	.0026643	-.006171	-.003012	3.243778	.1157209
Stddev	.009699	.004730	.0000518	.000005	.000857	.015922	.0009726
%RSD	.1603713	.3985471	1.943896	.0831323	28.46122	.4908421	.8404701
#1	6.037132	1.181922	.0026052	-.006165	-.003408	3.251373	.1163683
#2	6.055864	1.191354	.0027014	-.006171	-.002028	3.225481	.1161919
#3	6.050864	1.187264	.0026865	-.006176	-.003598	3.254480	.1146024

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3455-07 Acquired: 8/7/2024 19:30:44 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	4.599890	.0091027	1.118246
Stddev	.021987	.0023405	.006958
%RSD	.4779859	25.71158	.6222325
#1	4.620528	.0064633	1.111760
#2	4.602377	.0099194	1.125595
#3	4.576766	.0109254	1.117381

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2655.952	93338.26	12972.96	3528.294	4938.611
Stddev	15.670	204.26	64.65	11.814	30.504
%RSD	.5899891	.2188399	.4983496	.3348393	.6176688
#1	2642.186	93445.05	13028.77	3541.579	4910.897
#2	2652.667	93466.98	12902.12	3518.966	4933.640
#3	2673.004	93102.74	12987.99	3524.338	4971.295

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3455-08 Acquired: 8/7/2024 19:35:06 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.000841	-.001736	-.000186	.0010090	.0016470	-.025251	.1900451
Stddev	.001244	.000700	.001443	.0005934	.0003910	.009700	.0008982
%RSD	147.8480	40.28530	776.3100	58.80967	23.73850	38.41397	.4726111
#1	-.001973	-.000934	-.001168	.0003630	.0020981	-.019265	.1910780
#2	-.001042	-.002059	-.000861	.0015298	.0014046	-.020045	.1896093
#3	.000491	-.002217	.001471	.0011343	.0014385	-.036442	.1894479

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000110	-.000020	102.3292	.0016678	.0028079	.0004341	.0400955
Stddev	.000026	.000049	.7023	.0001099	.0001578	.0005747	.0027957
%RSD	23.52276	239.8680	.6862956	6.589186	5.619110	132.3742	6.972570
#1	-.000123	.000034	102.8368	.0016752	.0029790	-.000229	.0399764
#2	-.000126	-.000059	102.6231	.0015544	.0027766	.000762	.0373612
#3	-.000080	-.000036	101.5277	.0017738	.0026681	.000770	.0429488

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0619860	13.24583	.0031163	.0001491	14.99395	.0018330	.0098234
Stddev	.0001907	.11284	.0001121	.0001994	.17486	.0001707	.0001430
%RSD	.3076849	.8518780	3.597952	133.7058	1.166225	9.313842	1.455264
#1	.0621892	13.37403	.0031926	.0002817	14.87492	.0017254	.0097707
#2	.0618108	13.20186	.0029876	.0002459	14.91222	.0017438	.0099853
#3	.0619579	13.16159	.0031688	-.000080	15.19471	.0020298	.0097144

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.788004	1.280686	.0028551	-.007059	-.003640	3.549347	.1155134
Stddev	.085785	.006437	.0001423	.000331	.000229	.048044	.0013040
%RSD	1.101504	.5026077	4.984268	4.683537	6.299543	1.353603	1.128874
#1	7.705997	1.287869	.0029085	-.006738	-.003556	3.505136	.1168565
#2	7.780892	1.275441	.0029629	-.007040	-.003900	3.542430	.1154312
#3	7.877124	1.278748	.0026938	-.007398	-.003465	3.600474	.1142524

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3455-08 Acquired: 8/7/2024 19:35:06 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	6.450552	.0114434	1.305318
Stddev	.036568	.0006370	.008224
%RSD	.5668948	5.566623	.6300419
#1	6.425974	.0112886	1.314812
#2	6.492576	.0108980	1.300404
#3	6.433107	.0121435	1.300738

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2714.428	93689.02	13723.23	3559.310	5083.811
Stddev	5.359	821.84	66.47	37.745	16.012
%RSD	.1974372	.8771966	.4843884	1.060453	.3149564
#1	2720.614	94563.84	13652.95	3600.350	5097.913
#2	2711.183	93570.10	13731.64	3551.497	5066.405
#3	2711.486	92933.12	13785.10	3526.083	5087.114

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3457-01 Acquired: 8/7/2024 19:39:30 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.001885	-.003736	-.000129	.0012231	.0002179	.0928999	.3652654
Stddev	.002159	.001127	.000676	.0013073	.0002018	.0130595	.0011354
%RSD	114.5505	30.15320	524.4237	106.8852	92.61031	14.05759	.3108277
#1	.000260	-.004310	.000034	.0019098	.0002360	.0891365	.3642767
#2	-.001856	-.002438	.000451	.0020440	.0000077	.1074279	.3665053
#3	-.004059	-.004461	-.000871	-.000284	.0004101	.0821354	.3650141

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000152	-.000020	67.23367	.0017188	.0044633	.0012044	7.307816
Stddev	.000029	.000064	.24183	.0002585	.0001015	.0001501	.044523
%RSD	19.40455	318.2060	.3596888	15.03990	2.274775	12.46622	.6092529
#1	-.000154	.000039	66.99457	.0014289	.0043909	.0011374	7.285138
#2	-.000180	-.000087	67.47815	.0019252	.0044196	.0010993	7.359113
#3	-.000121	-.000011	67.22828	.0018023	.0045793	.0013763	7.279198

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.863904	17.76596	.0034561	.0015470	308.8348	.0023215	.0205021
Stddev	.014869	.09835	.0001076	.0001144	2.0926	.0030983	.0001936
%RSD	.3848233	.5536127	3.114388	7.394262	.6775790	133.4629	.9441939
#1	3.850361	17.67727	.0035514	.0014492	311.2184	.0056239	.0202786
#2	3.879815	17.87174	.0034775	.0016728	307.9863	-.000521	.0206166
#3	3.861536	17.74888	.0033394	.0015190	307.2997	.001862	.0206111

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.466872	.1538675	.0002768	-.006579	-.000671	4.861045	.0817294
Stddev	.046074	.0002696	.0000885	.000801	.001014	.033948	.0005019
%RSD	.4866840	.1751879	31.95896	12.18084	151.1585	.6983746	.6140807
#1	9.449671	.1541474	.0003524	-.006166	.000497	4.858801	.0811883
#2	9.519072	.1538453	.0002985	-.007503	-.001187	4.896059	.0821795
#3	9.431873	.1536097	.0001795	-.006069	-.001323	4.828274	.0818205

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3457-01 Acquired: 8/7/2024 19:39:30 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	.9850976	.0093004	.4619843
Stddev	.0045010	.0003063	.0012947
%RSD	.4569043	3.293829	.2802456
#1	.9898929	.0089469	.4613729
#2	.9809644	.0094656	.4634714
#3	.9844355	.0094887	.4611085

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2646.214	91900.90	12806.18	3444.174	4718.392
Stddev	11.875	461.02	23.56	22.104	20.363
%RSD	.4487530	.5016533	.1839364	.6417848	.4315649
#1	2632.835	91701.39	12806.16	3450.768	4697.862
#2	2650.307	91573.22	12782.64	3419.523	4718.732
#3	2655.502	92428.07	12829.75	3462.231	4738.583

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3457-02 Acquired: 8/7/2024 19:44:04 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.001796	-.004255	.0001751	.0012284	.0019234	.0428085	.3927475
Stddev	.000731	.001722	.0001818	.0013286	.0017897	.0120608	.0047670
%RSD	40.72952	40.46866	103.8218	108.1495	93.04638	28.17379	1.213752
#1	-.000985	-.002957	-.000034	.0025862	.0036210	.0566289	.3935679
#2	-.002406	-.003600	.000263	.0011679	.0000540	.0344118	.3970510
#3	-.001997	-.006209	.000296	-.000069	.0020953	.0373847	.3876236

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000212	.0000501	73.28622	.0027100	.0044849	.0005648	9.297937
Stddev	.000013	.0001158	.69971	.0001169	.0000505	.0002425	.045837
%RSD	6.264989	231.2258	.9547691	4.312844	1.125526	42.93822	.4929787
#1	-.000203	-.000036	73.42188	.0026700	.0044269	.0005825	9.247316
#2	-.000227	.000004	73.90817	.0028416	.0045190	.0007981	9.309860
#3	-.000205	.000182	72.52861	.0026184	.0045088	.0003140	9.336633

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.687144	19.32544	.0056360	.0010362	321.3888	.0013746	.0122922
Stddev	.042304	.30239	.0004600	.0004252	4.4655	.0029395	.0002339
%RSD	1.147343	1.564730	8.162182	41.03567	1.389429	213.8530	1.902579
#1	3.680063	19.27744	.0054110	.0005684	316.2495	.0037048	.0120667
#2	3.732542	19.64897	.0053317	.0011408	324.3201	-.001928	.0125336
#3	3.648828	19.04993	.0061652	.0013993	323.5969	.002347	.0122764

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.874995	.1656774	.0006066	-.006152	-.000493	4.951905	.0970737
Stddev	.086594	.0004411	.0001043	.000195	.000542	.016735	.0016956
%RSD	.8768991	.2662137	17.18906	3.167653	109.9132	.3379601	1.746707
#1	9.775068	.1658987	.0006238	-.005954	-.000008	4.932617	.0985333
#2	9.928028	.1659640	.0007012	-.006344	-.001077	4.962569	.0952138
#3	9.921890	.1651695	.0004948	-.006157	-.000393	4.960530	.0974741

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: P3457-02 Acquired: 8/7/2024 19:44:04 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	1.292977	.0090260	.5024761
Stddev	.025468	.0011237	.0065851
%RSD	1.969730	12.44981	1.310526
#1	1.283294	.0099394	.5024066
#2	1.273770	.0077711	.5090957
#3	1.321866	.0093674	.4959261

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2532.613	94757.10	12852.25	3536.202	4469.007
Stddev	43.811	502.85	179.38	21.135	83.766
%RSD	1.729882	.5306737	1.395688	.5976812	1.874373
#1	2540.485	95293.08	12841.71	3560.266	4490.691
#2	2571.954	94295.71	12678.37	3520.650	4539.798
#3	2485.399	94682.50	13036.66	3527.689	4376.531

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: CCV04 Acquired: 8/7/2024 19:48:36 Type: Unk
Method: NON EPA-6010-200.7(v2342) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.736491	5.024569	5.004903	4.690939	4.784970	9.192762
Stddev	.021043	.035369	.014654	.024592	.016697	.145143
%RSD	.4442827	.7039291	.2927996	.5242442	.3489389	1.578885
#1	4.741221	5.057320	5.003281	4.678111	4.780425	9.360190
#2	4.713485	4.987062	4.991128	4.675413	4.771017	9.115548
#3	4.754767	5.029323	5.020302	4.719292	4.803469	9.102546

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.878383	.2415191	2.456213	24.62556	.9954956	2.434848
Stddev	.325416	.0037722	.007967	.45062	.0140971	.008522
%RSD	3.294219	1.561860	.3243572	1.829894	1.416085	.3499990
#1	10.21720	.2456329	2.458279	25.13483	.9896252	2.438007
#2	9.84967	.2407021	2.447416	24.46338	.9852824	2.425197
#3	9.56827	.2382224	2.462943	24.27848	1.011579	2.441339

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.198248	5.104744	2.436786	23.86816	2.450410	1.239063
Stddev	.003429	.102991	.043904	.41363	.007224	.019292
%RSD	.2861935	2.017554	1.801705	1.732994	.2948191	1.556956
#1	1.197990	5.069037	2.486987	24.34514	2.452790	1.224338
#2	1.194955	5.024358	2.417801	23.65111	2.442296	1.231949
#3	1.201799	5.220836	2.405570	23.60822	2.456144	1.260901

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.88950	2.407907	2.501987	24.56625	4.698525	4.945224
Stddev	.39871	.045722	.030263	.42324	.068847	.011869
%RSD	1.668966	1.898845	1.209571	1.722832	1.465282	.2400110
#1	23.75682	2.460330	2.485869	24.38990	4.768051	4.948298
#2	23.57404	2.387125	2.483194	24.25970	4.697145	4.932120
#3	24.33763	2.376267	2.536898	25.04914	4.630378	4.955254

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: CCV04 Acquired: 8/7/2024 19:48:36 Type: Unk
Method: NON EPA-6010-200.7(v2342) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.895710	4.857913	4.842371	4.976170	F 4.482540	F 4.112950
Stddev	.020112	.091792	.107743	.022306	.007990	.065735
%RSD	.4108174	1.889529	2.225002	.4482507	.1782573	1.598249
#1	4.904248	4.963640	4.784729	4.981082	4.480856	4.188840
#2	4.872737	4.811544	4.775710	4.951817	4.475526	4.076308
#3	4.910144	4.798556	4.966672	4.995610	4.491238	4.073703

Elem	Sr4077
Units	ppm
Avg	4.892043
Stddev	.111196
%RSD	2.272988
#1	5.010885
#2	4.874714
#3	4.790529

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2802.938	95658.43	14078.15	3677.440	5077.238
Stddev	12.018	1559.03	205.00	59.586	22.749
%RSD	.4287468	1.629785	1.456147	1.620307	.4480508
#1	2807.087	96728.95	13856.55	3721.938	5082.384
#2	2812.332	96376.59	14116.87	3700.638	5096.973
#3	2789.396	93869.75	14261.03	3609.744	5052.357

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: CCB04 Acquired: 8/7/2024 19:52:54 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	.0001600	.0008296	.0001849	.0005847	.0006339	.0046916	.0003226
Stddev	.0015345	.0018666	.0004140	.0010539	.0001400	.0012964	.0012587
%RSD	959.3519	225.0075	223.9355	180.2588	22.08573	27.63214	390.1187
#1	-.000083	.0029835	-.000274	.0017946	.0007582	.0031993	.0005905
#2	-.001239	-.000315	.000529	.0000930	.0004823	.0053354	.0014258
#3	.001801	-.000180	.000300	-.000134	.0006613	.0055401	-.001048

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000223	-.000007	-.003734	-.000154	.0001094	-.000442	-.001195
Stddev	.0000273	.000051	.006525	.000100	.0000829	.000224	.001997
%RSD	122.2383	686.3183	174.7529	64.69779	75.74007	50.56743	167.0549
#1	.0000275	-.000061	-.000128	-.000041	.0001816	-.000252	-.002208
#2	.0000466	.000040	.000192	-.000228	.0001276	-.000386	.001105
#3	-.000007	-.000001	-.011265	-.000194	.0000190	-.000688	-.002483

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000670	-.005525	-.000003	.0002285	.4627515	.0004945	-.000112
Stddev	.0000415	.014072	.000263	.0000793	.0188412	.0007342	.000050
%RSD	61.93378	254.6936	8100.544	34.72466	4.071558	148.4592	44.91425
#1	.0000669	.005469	.000239	.0002954	.4433168	-.000153	-.000087
#2	.0000256	-.000659	.000035	.0002491	.4640005	.000344	-.000170
#3	.0001086	-.021385	-.000284	.0001409	.4809371	.001292	-.000079

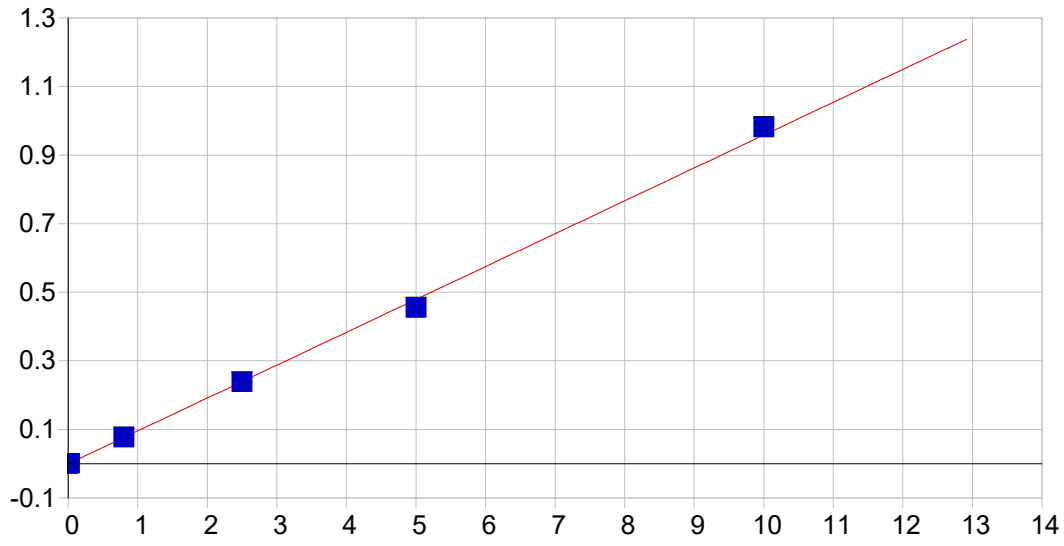
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7190283	.0047351	.0002933	-.003640	-.000060	-.000549	-.004990
Stddev	.0596489	.0006138	.0001011	.000123	.000407	.008090	.000854
%RSD	8.295767	12.96371	34.46221	3.382236	674.8013	1473.707	17.10591
#1	.6542358	.0049124	.0003220	-.003779	.000327	.001139	-.005569
#2	.7311897	.0052408	.0003769	-.003543	-.000023	-.009350	-.005393
#3	.7716593	.0040521	.0001810	-.003599	-.000484	.006564	-.004010

Reviewed By:Mohan
On:8/8/2024 5:24:08 AM
Inst Id :P4
LB :LB131900

Sample Name: CCB04 Acquired: 8/7/2024 19:52:54 Type: Unk
Method: NON EPA-6010-200.7(v2342) 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	-.002020	-.000980	.0000256
Stddev	.003082	.000835	.0000052
%RSD	152.5666	85.20761	20.16908
#1	-.000041	-.001878	.0000261
#2	-.005570	-.000835	.0000202
#3	-.000448	-.000227	.0000305

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2914.028	99014.07	13846.38	3825.398	5495.786
Stddev	27.822	421.32	100.77	14.533	39.608
%RSD	.9547638	.4255188	.7277464	.3798970	.7206989
#1	2882.201	99253.12	13906.24	3828.262	5451.257
#2	2933.730	98527.59	13902.85	3809.646	5527.089
#3	2926.154	99261.49	13730.04	3838.285	5509.010

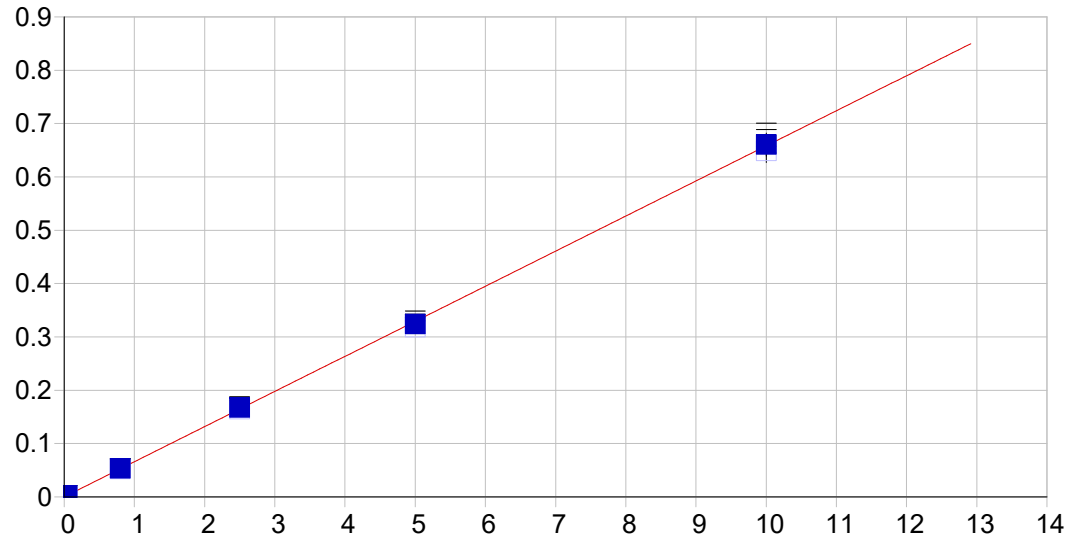


As 189.042 {479}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000241	Re-Slope:	1.000000
A1 (Gain):	0.095859	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999502	Status:	OK.
Std Error of Est:	0.000071		
Predicted MDL:	0.001609		
Predicted MQL:	0.005363		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00024	.000	1
S1	.02000	.01960	-.000	-2.00	.00163	.000	1
S3	2.5000	2.4946	-.005	-.214	.23863	.001	1
S4	5.0000	4.7543	-.246	-4.91	.45498	.001	1
S5	10.000	10.247	.247	2.47	.98096	.001	1
S2	.80000	.80480	.005	.600	.07682	.000	1

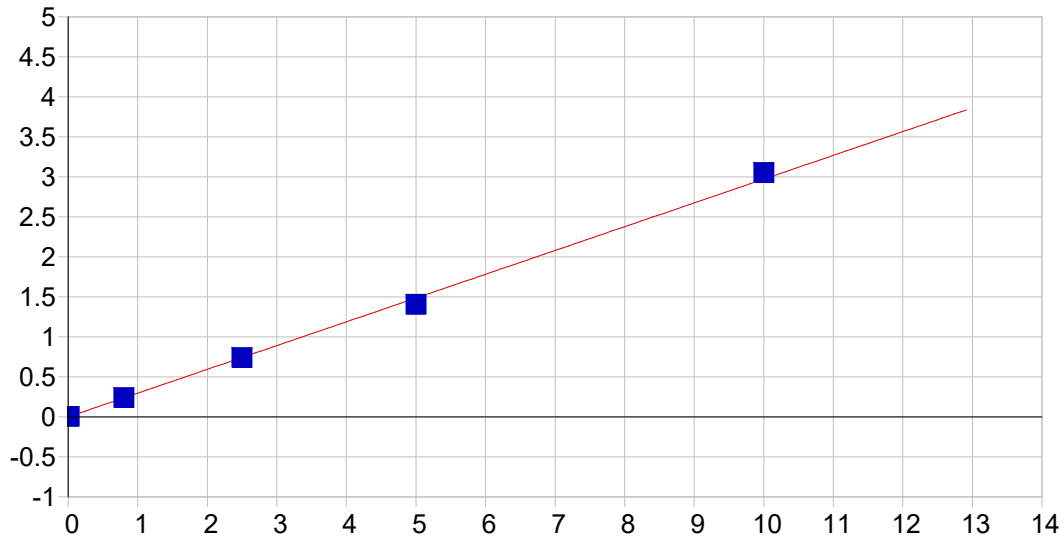


Tl 190.856 {477}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000234	Re-Slope:	1.000000
A1 (Gain):	0.065796	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999942	Status:	OK.
Std Error of Est:	0.000023		
Predicted MDL:	0.001530		
Predicted MQL:	0.005100		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00023	.000	1
S1	.04000	.04009	.000	.235	.00270	.000	1
S3	2.5000	2.5366	.037	1.46	.16410	.002	1
S4	5.0000	4.9188	-.081	-1.62	.31782	.006	1
S5	10.000	10.040	.040	.400	.64871	.022	1
S2	.80000	.80451	.005	.564	.05220	.000	1

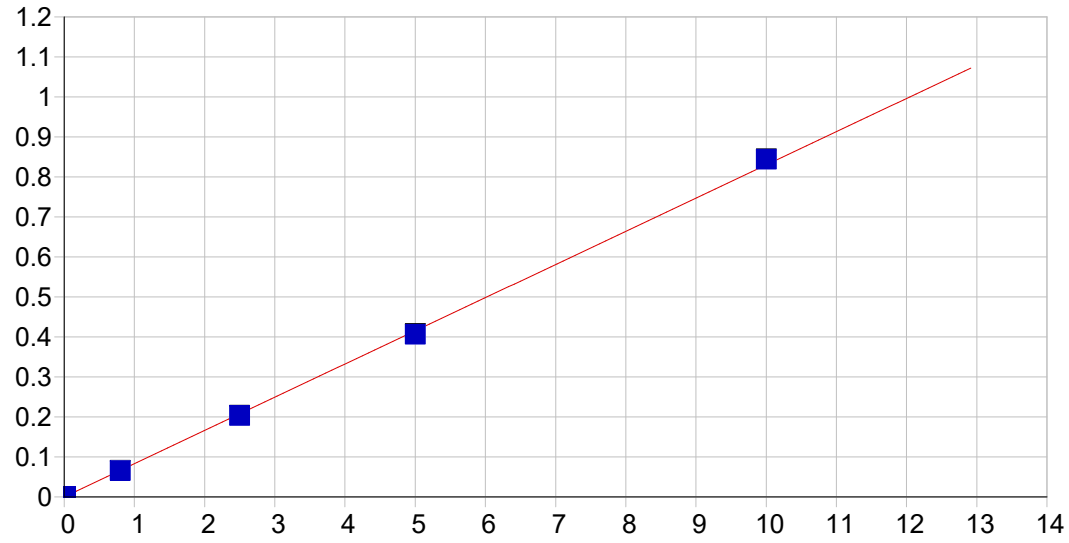


Pb 220.353 {453}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000170	Re-Slope:	1.000000
A1 (Gain):	0.297212	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999387	Status:	OK.
Std Error of Est:	0.000189		
Predicted MDL:	0.000976		
Predicted MQL:	0.003254		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00017	.000	1
S1	.01200	.01354	.002	12.8	.00378	.000	1
S3	2.5000	2.4950	-.005	-.198	.74060	.001	1
S4	5.0000	4.7280	-.272	-5.44	1.4035	.002	1
S5	10.000	10.272	.272	2.72	3.0497	.003	1
S2	.80000	.80328	.003	.411	.23833	.000	1

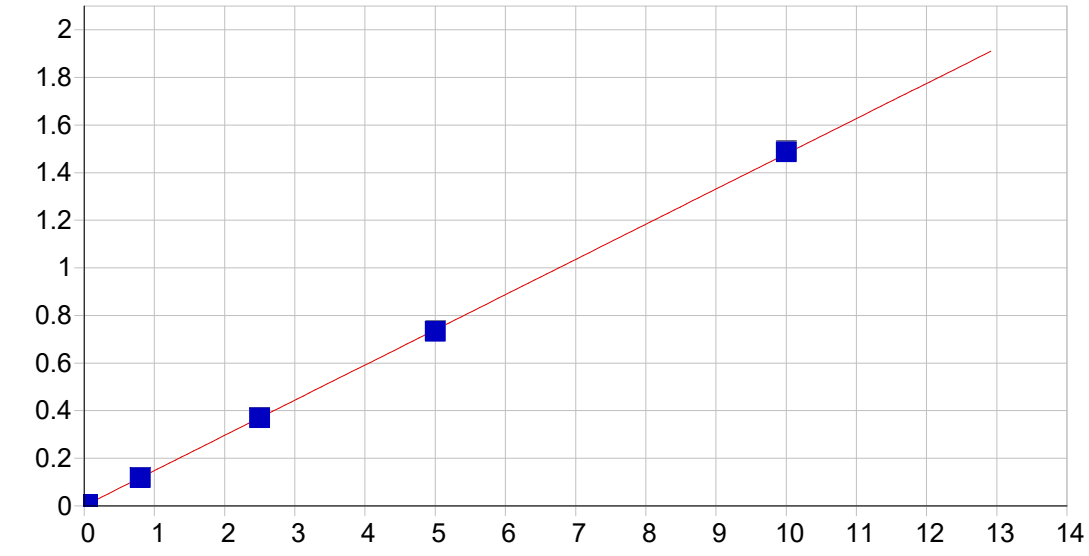


Se 196.090 {472}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000318	Re-Slope:	1.000000
A1 (Gain):	0.082965	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999829	Status:	OK.
Std Error of Est:	0.000036		
Predicted MDL:	0.002199		
Predicted MQL:	0.007330		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00032	.000	1
S1	.02000	.01823	-.002	-8.87	.00183	.000	1
S3	2.5000	2.4488	-.051	-2.05	.20343	.000	1
S4	5.0000	4.8985	-.102	-2.03	.40661	.001	1
S5	10.000	10.167	.167	1.67	.84362	.001	1
S2	.80000	.78742	-.013	-1.57	.06563	.001	1

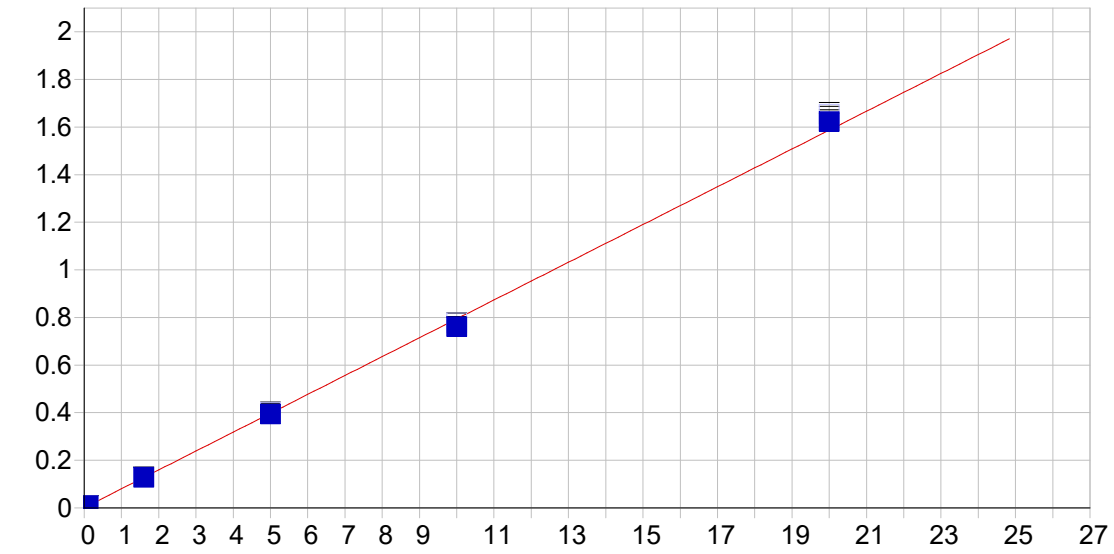


Sb 206.833 {463}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000435	Re-Slope:	1.000000
A1 (Gain):	0.147869	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999982	Status:	OK.
Std Error of Est:	0.000033		
Predicted MDL:	0.001553		
Predicted MQL:	0.005175		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00044	.000	1
S1	.05000	.04969	-.000	-.613	.00780	.000	1
S3	2.5000	2.4935	-.007	-.261	.37015	.001	1
S4	5.0000	4.9566	-.043	-.867	.73538	.001	1
S5	10.000	10.052	.052	.516	1.4908	.001	1
S2	.80000	.79863	-.001	-.172	.11885	.000	1

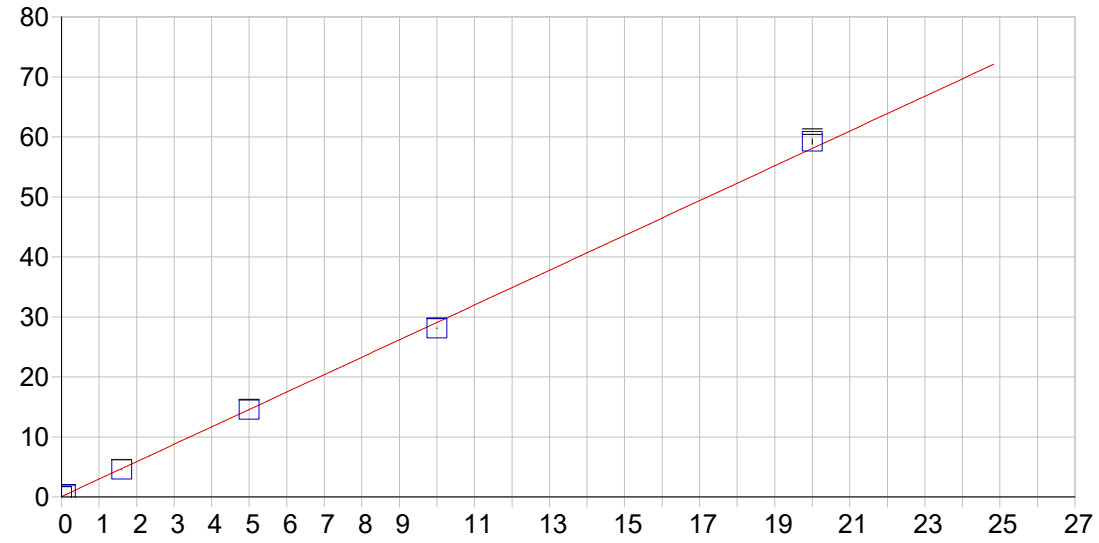


Al 396.152 { 85}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001114	Re-Slope:	1.000000
A1 (Gain):	0.079304	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999637	Status:	OK.
Std Error of Est:	0.000162		
Predicted MDL:	0.011213		
Predicted MQL:	0.037376		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00111	.001	1
S1	.10000	.10476	.005	4.76	.01004	.000	1
S3	5.0000	4.9546	-.045	-.907	.40173	.002	1
S4	10.000	9.5887	-.411	-4.11	.77693	.000	1
S5	20.000	20.450	.450	2.25	1.6537	.008	1
S2	1.6000	1.6016	.002	.097	.13059	.000	1

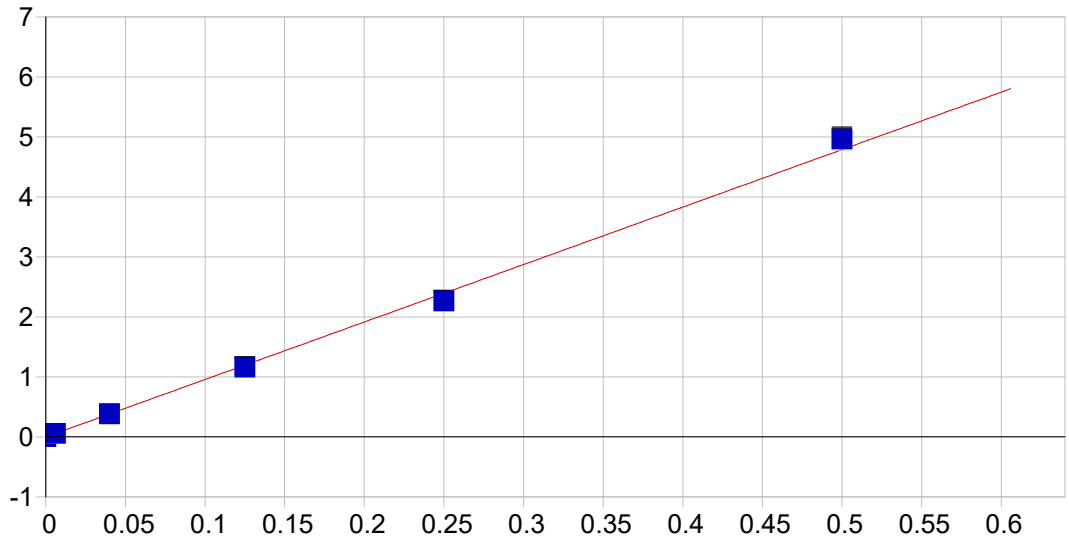


Ba 493.409 { 68}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.072746	Re-Slope:	1.000000
A1 (Gain):	2.900282	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999717	Status:	OK.
Std Error of Est:	0.005119		
Predicted MDL:	0.000836		
Predicted MQL:	0.002788		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.07277	.004	1
S1	.10000	.09679	-.003	-3.21	.35347	.003	1
S3	5.0000	4.9914	-.009	-.173	14.549	.048	1
S4	10.000	9.6648	-.335	-3.35	28.104	.075	1
S5	20.000	20.397	.397	1.98	59.230	.439	1
S2	1.6000	1.5500	-.050	-3.12	4.5682	.014	1

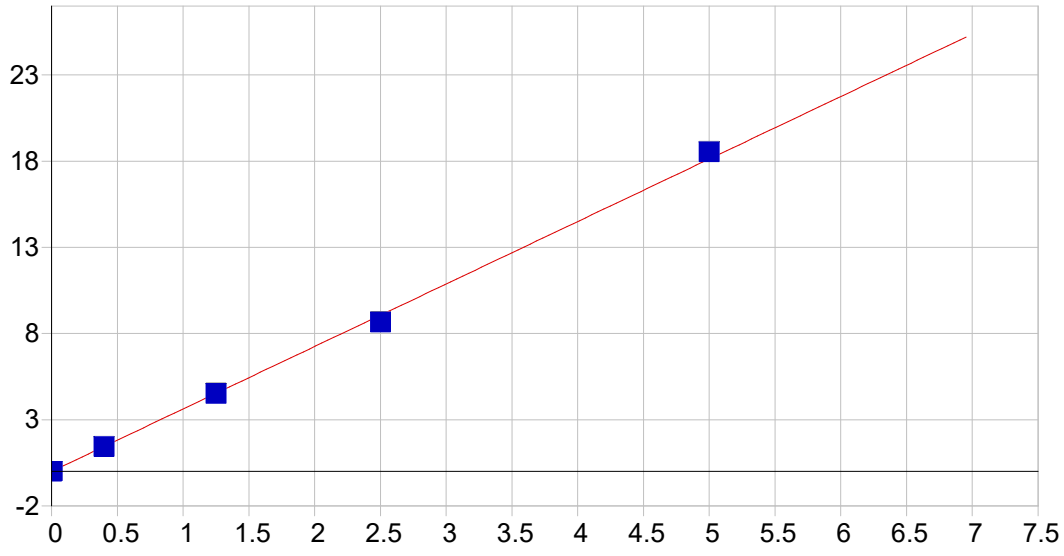


Be 234.861 {144}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000879	Re-Slope:	1.000000
A1 (Gain):	9.579008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999171	Status:	OK.
Std Error of Est:	0.001118		
Predicted MDL:	0.000044		
Predicted MQL:	0.000148		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00087	.000	1
S1	.00600	.00582	-.000	-3.03	.05442	.001	1
S3	.12500	.12097	-.004	-3.23	1.1525	.013	1
S4	.25000	.23651	-.013	-5.40	2.2539	.016	1
S5	.50000	.51800	.018	3.60	4.9396	.041	1
S2	.04000	.03970	-.000	-.743	.37772	.002	1

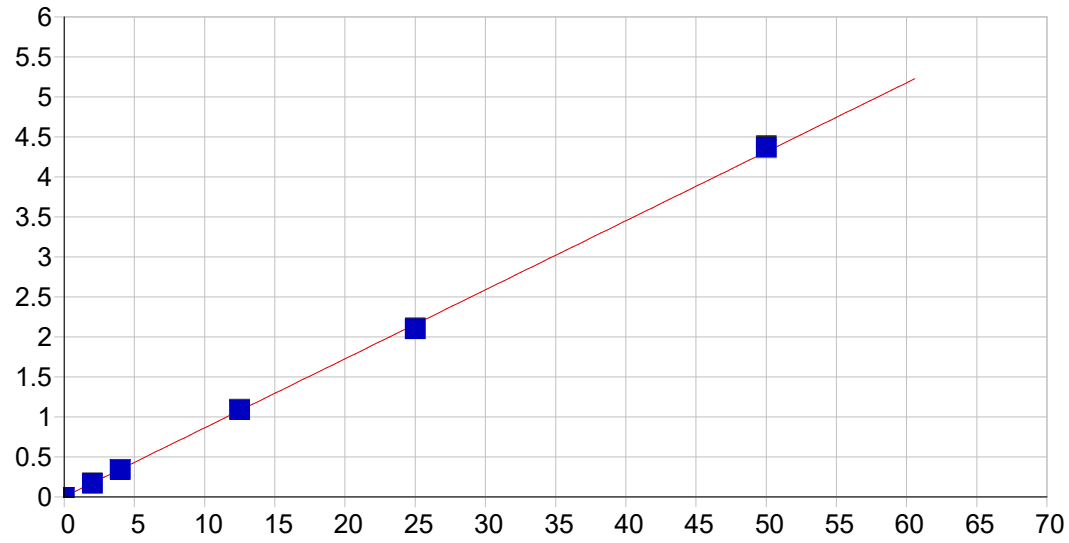


Cd 226.502 {449}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000112	Re-Slope:	1.000000
A1 (Gain):	3.625224	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999591	Status:	OK.
Std Error of Est:	0.000942		
Predicted MDL:	0.000064		
Predicted MQL:	0.000214		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00011	.000	1
S1	.00600	.00595	-.000	-.873	.02153	.000	1
S3	1.2500	1.2472	-.003	-.227	4.5242	.006	1
S4	2.5000	2.3898	-.110	-4.41	8.6697	.009	1
S5	5.0000	5.1149	.115	2.30	18.555	.010	1
S2	.40000	.39816	-.002	-.461	1.4443	.004	1

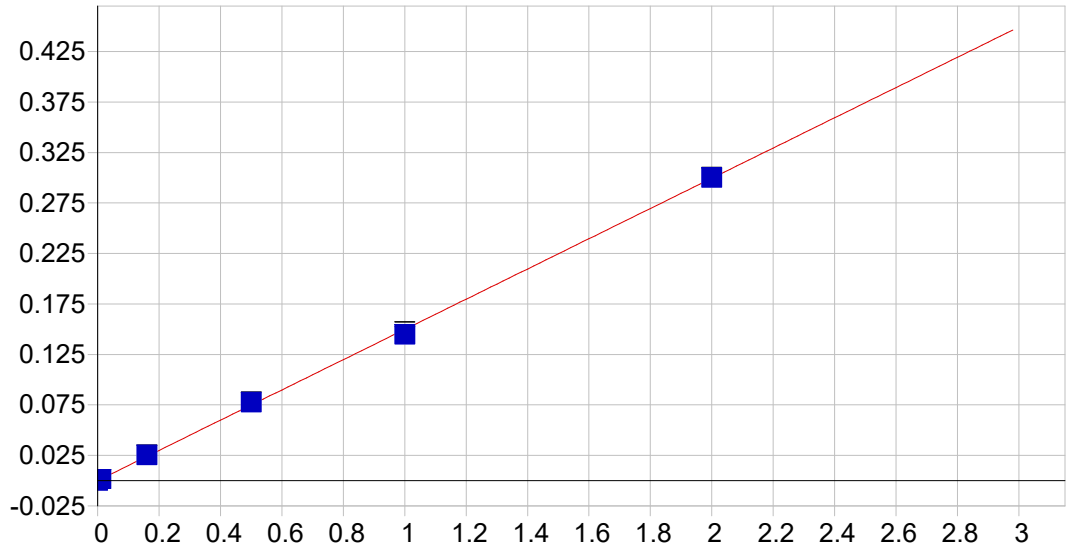


Ca 373.690 { 90}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000871	Re-Slope:	1.000000
A1 (Gain):	0.086254	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999847	Status:	OK.
Std Error of Est:	0.000796		
Predicted MDL:	0.009426		
Predicted MQL:	0.031421		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00008	.000	.000	.00088	.001	1
S2	4.0000	3.9468	-.053	-1.33	.34032	.002	1
S3	12.500	12.618	.118	.945	1.0862	.008	1
S4	25.000	24.345	-.655	-2.62	2.0946	.009	1
S5	50.000	50.641	.641	1.28	4.3566	.019	1
S1	2.0000	1.9499	-.050	-2.51	.16893	.003	1

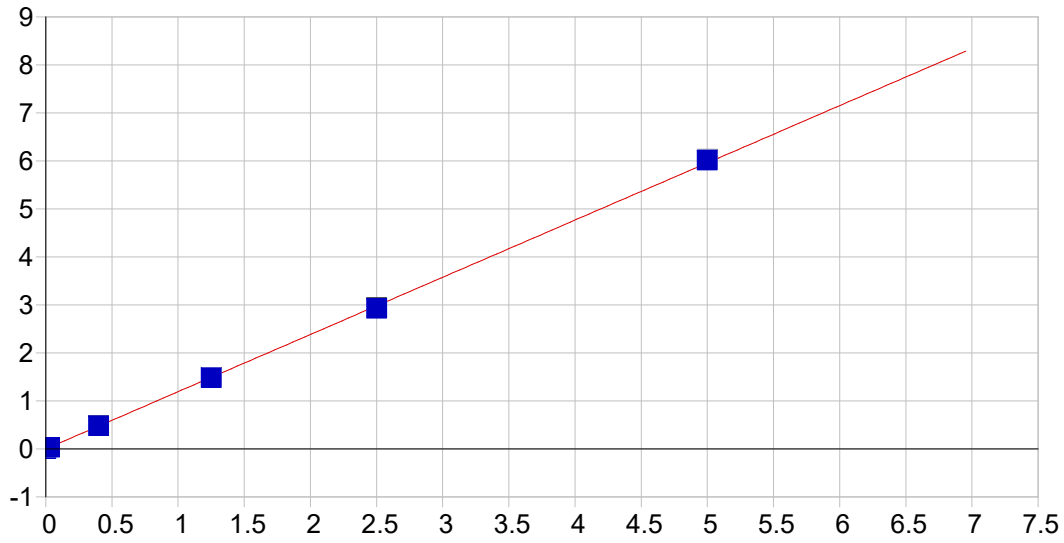


Cr 267.716 {126}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000032	Re-Slope:	1.000000
A1 (Gain):	0.149732	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999675	Status:	OK.
Std Error of Est:	0.000028		
Predicted MDL:	0.000348		
Predicted MQL:	0.001159		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00003	.000	1
S1	.01000	.01013	.000	1.27	.00155	.000	1
S3	.50000	.51886	.019	3.77	.07774	.000	1
S4	1.0000	.96771	-.032	-3.23	.14497	.002	1
S5	2.0000	2.0033	.003	.166	.30008	.000	1
S2	.16000	.16999	.010	6.24	.02549	.000	1

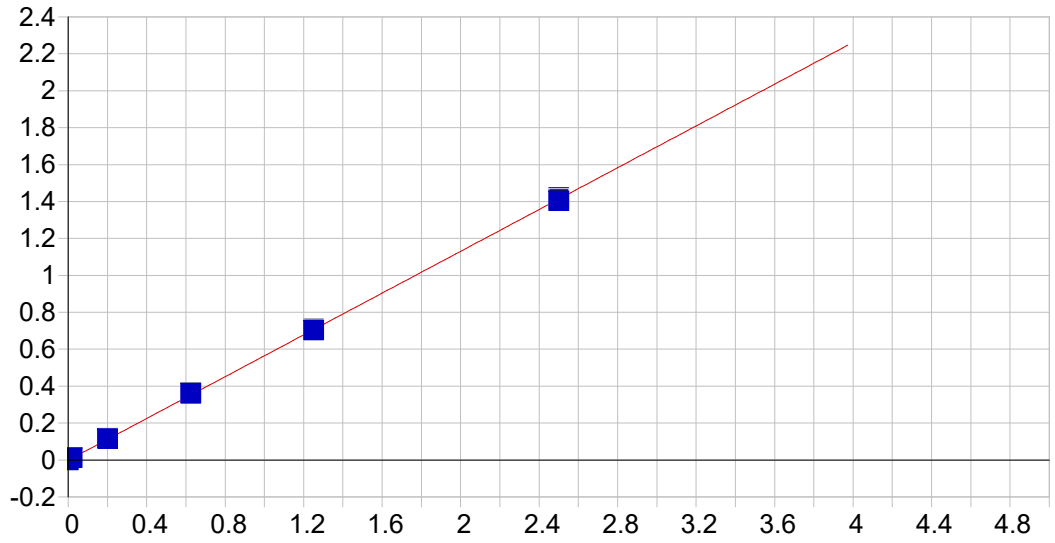


Co 228.616 {448}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000065	Re-Slope:	1.000000
A1 (Gain):	1.191858	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999936	Status:	OK.
Std Error of Est:	0.000274		
Predicted MDL:	0.000177		
Predicted MQL:	0.000589		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00007	.000	1
S1	.03000	.02960	-.000	-1.32	.03520	.000	1
S3	1.2500	1.2445	-.006	-.443	1.4858	.002	1
S4	2.5000	2.4582	-.042	-1.67	2.9349	.002	1
S5	5.0000	5.0473	.047	.945	6.0258	.007	1
S2	.40000	.40048	.000	.121	.47819	.002	1

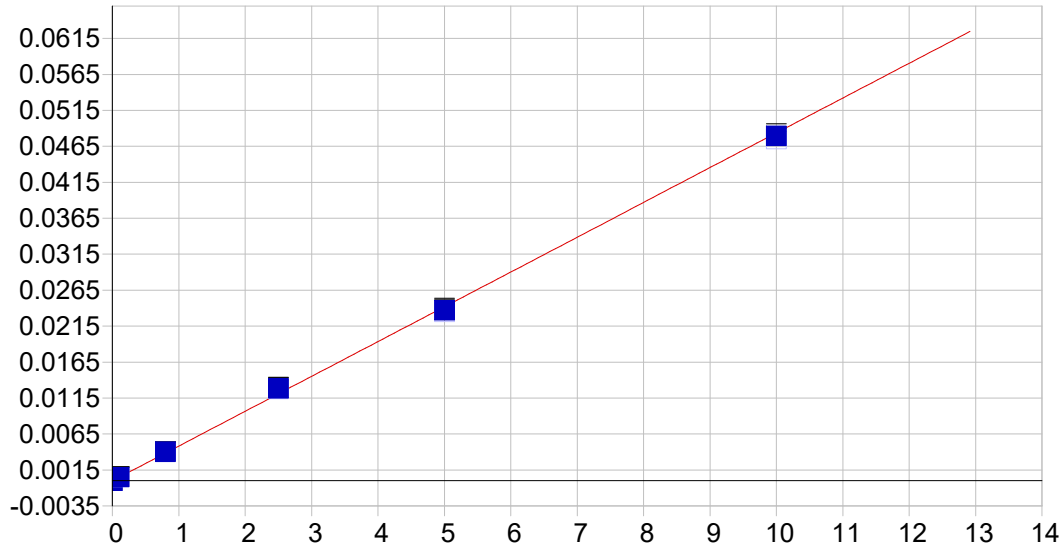


Cu 224.700 {450}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001467	Re-Slope:	1.000000
A1 (Gain):	0.565897	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999908	Status:	OK.
Std Error of Est:	0.000091		
Predicted MDL:	0.000541		
Predicted MQL:	0.001803		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00147	.000	1
S1	.02000	.02187	.002	9.36	.01104	.000	1
S3	.62500	.63920	.014	2.27	.36334	.000	1
S4	1.2500	1.2438	-.006	-.496	.70857	.001	1
S5	2.5000	2.4835	-.017	-.662	1.4163	.004	1
S2	.20000	.20667	.007	3.33	.11647	.000	1

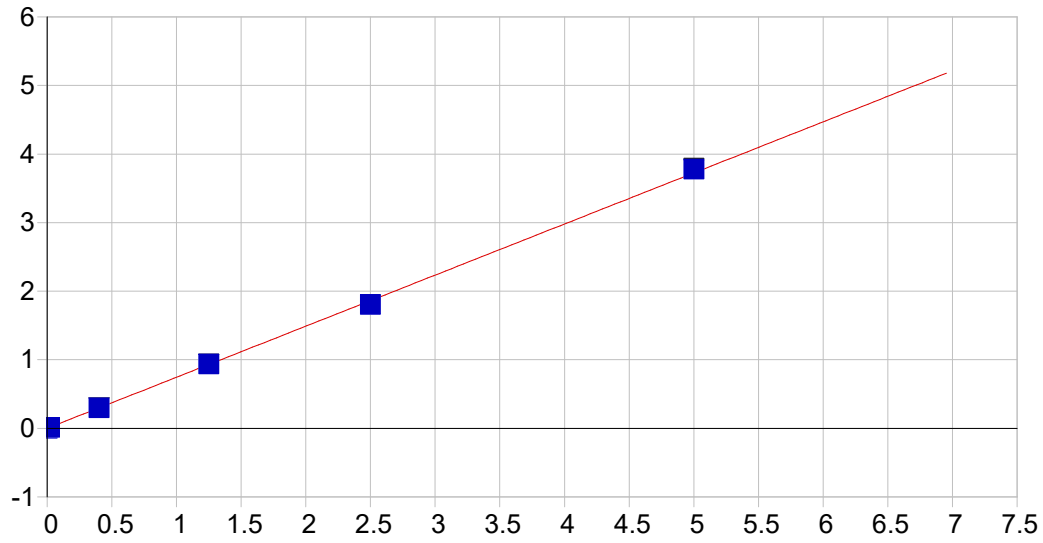


Fe 240.488 {140}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000014	Re-Slope:	1.000000
A1 (Gain):	0.004839	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999602	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	0.004790		
Predicted MQL:	0.015966		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00002	-.000	.000	-.00001	.000	1
S1	.10000	.10896	.009	8.96	.00051	.000	1
S3	2.5000	2.6552	.155	6.21	.01273	.000	1
S4	5.0000	4.8990	-.101	-2.02	.02348	.000	1
S5	10.000	9.9076	-.092	-.924	.04751	.000	1
S2	.80000	.82931	.029	3.66	.00397	.000	1

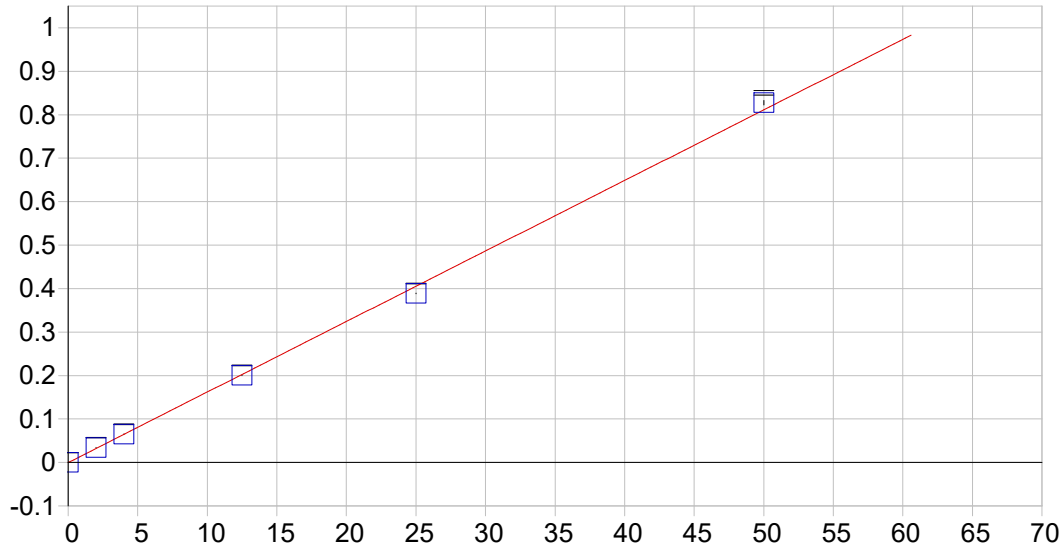


Mn 257.610 {131}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000043	Re-Slope:	1.000000
A1 (Gain):	0.744907	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999796	Status:	OK.
Std Error of Est:	0.000249		
Predicted MDL:	0.000374		
Predicted MQL:	0.001247		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00004	.000	1
S1	.02000	.01964	-.000	-1.81	.01467	.000	1
S3	1.2500	1.2554	.005	.429	.93527	.004	1
S4	2.5000	2.4196	-.080	-3.22	1.8026	.004	1
S5	5.0000	5.0749	.075	1.50	3.7807	.011	1
S2	.40000	.40052	.001	.131	.29843	.002	1

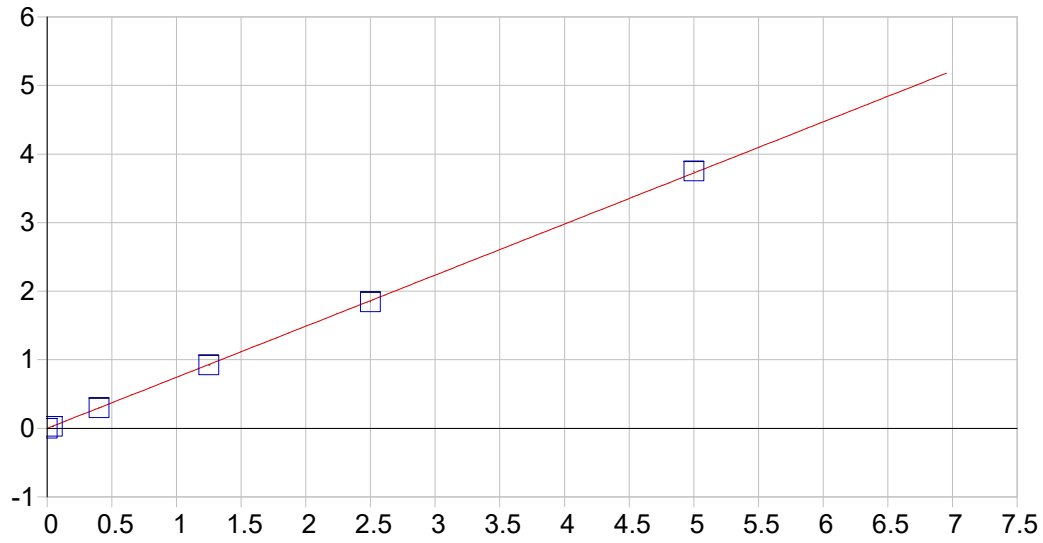


Mg 279.079 {121}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000223	Re-Slope:	1.000000
A1 (Gain):	0.016225	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999618	Status:	OK.
Std Error of Est:	0.000237		
Predicted MDL:	0.019139		
Predicted MQL:	0.063797		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00007	-.000	.000	-.00022	.000	1
S2	4.0000	4.0056	.006	.141	.06477	.001	1
S3	12.500	12.373	-.127	-1.02	.20052	.001	1
S4	25.000	23.982	-1.02	-4.07	.38888	.001	1
S5	50.000	51.012	1.01	2.02	.82744	.005	1
S1	2.0000	2.1279	.128	6.40	.03430	.000	1

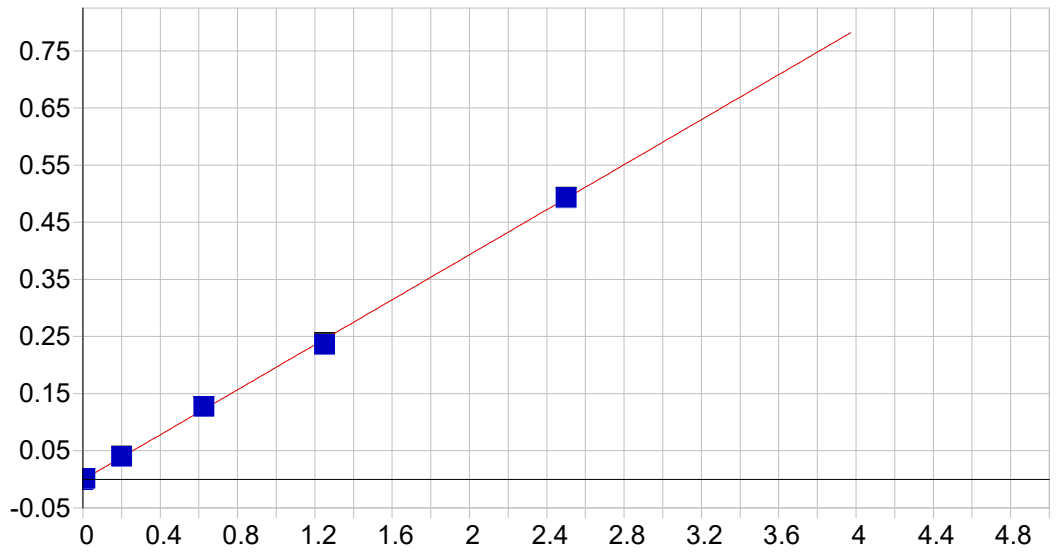


Ni 231.604 {446}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000052	Re-Slope:	1.000000
A1 (Gain):	0.744772	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999968	Status:	OK.
Std Error of Est:	0.000139		
Predicted MDL:	0.000278		
Predicted MQL:	0.000928		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00005	.000	1
S1	.04000	.03865	-.001	-3.37	.02884	.000	1
S3	1.2500	1.2402	-.010	-.788	.92368	.001	1
S4	2.5000	2.4761	-.024	-.957	1.8442	.002	1
S5	5.0000	5.0333	.033	.665	3.7487	.003	1
S2	.40000	.40185	.002	.464	.29934	.001	1

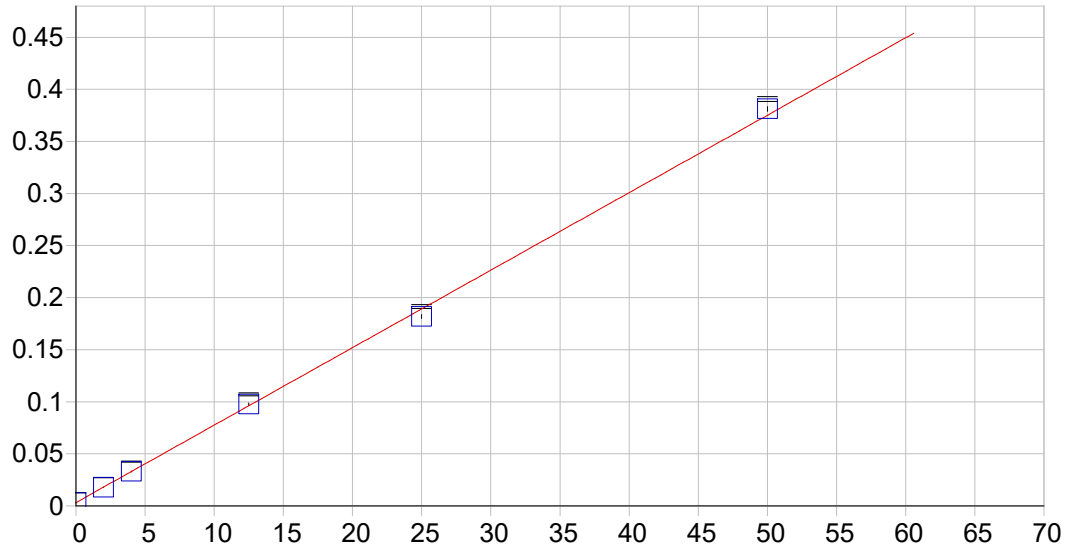


Ag 328.068 {103}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000859	Re-Slope:	1.000000
A1 (Gain):	0.197034	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999542	Status:	OK.
Std Error of Est:	0.000049		
Predicted MDL:	0.000502		
Predicted MQL:	0.001673		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00086	.000	1
S1	.01000	.01273	.003	27.3	.00164	.000	1
S3	.62500	.65111	.026	4.18	.12696	.000	1
S4	1.2500	1.2021	-.048	-3.83	.23505	.003	1
S5	2.5000	2.5093	.009	.374	.49167	.000	1
S2	.20000	.20969	.010	4.85	.04031	.000	1

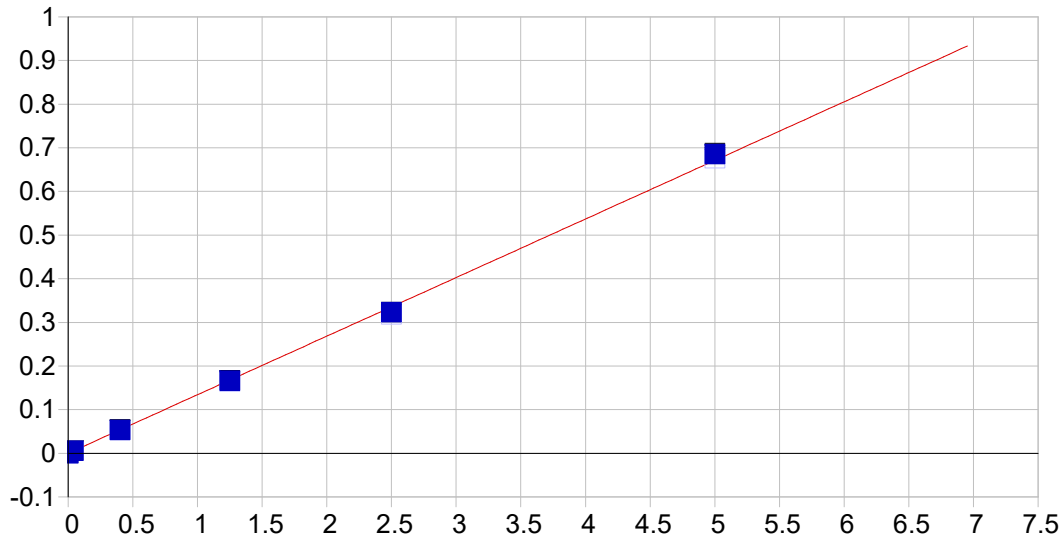


Na 589.592 { 57}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.003209	Re-Slope:	1.000000
A1 (Gain):	0.007439	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999700	Status:	OK.
Std Error of Est:	0.000096		
Predicted MDL:	0.017420		
Predicted MQL:	0.058067		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00006	.000	.000	.00321	.000	1
S2	4.0000	4.0124	.012	.309	.03306	.000	1
S3	12.500	12.701	.201	1.61	.09769	.001	1
S4	25.000	24.025	-.975	-3.90	.18193	.002	1
S5	50.000	50.816	.816	1.63	.38123	.002	1
S1	2.0000	1.9456	-.054	-2.72	.01768	.000	1

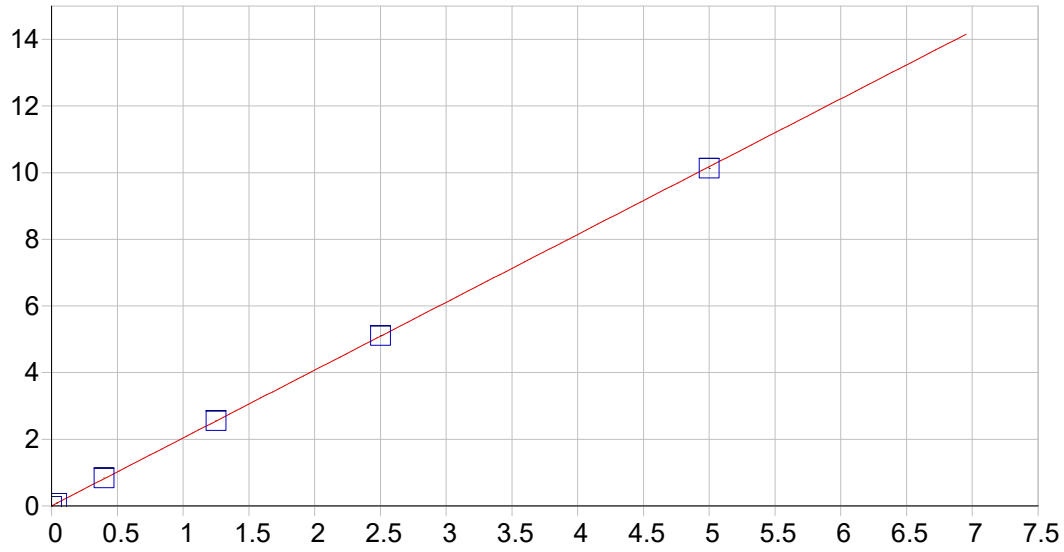


V 292.402 {115}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000034	Re-Slope:	1.000000
A1 (Gain):	0.134228	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999664	Status:	OK.
Std Error of Est:	0.000080		
Predicted MDL:	0.002704		
Predicted MQL:	0.009015		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00003	.000	1
S1	.04000	.04074	.001	1.86	.00523	.000	1
S3	1.2500	1.2397	-.010	-.824	.16392	.001	1
S4	2.5000	2.4057	-.094	-3.77	.31798	.001	1
S5	5.0000	5.1073	.107	2.15	.67573	.002	1
S2	.40000	.39657	-.003	-.858	.05241	.001	1

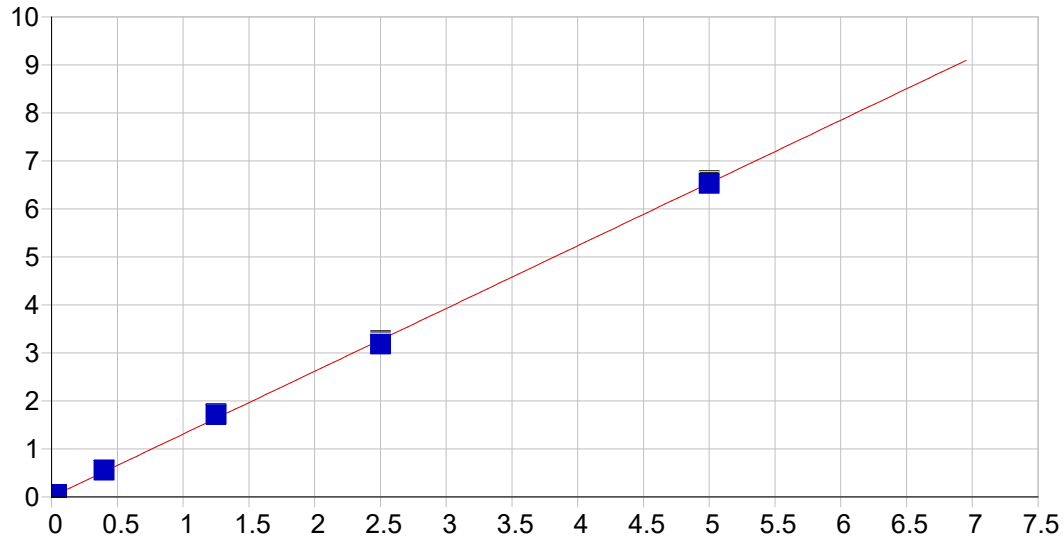


Zn 206.200 {464}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.002675	Re-Slope:	1.000000
A1 (Gain):	2.035704	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999974	Status:	OK.
Std Error of Est:	0.000347		
Predicted MDL:	0.000110		
Predicted MQL:	0.000367		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00267	.000	1
S1	.04000	.04111	.001	2.78	.08637	.000	1
S3	1.2500	1.2552	.005	.416	2.5579	.002	1
S4	2.5000	2.5069	.007	.274	5.1059	.002	1
S5	5.0000	4.9759	-.024	-.482	10.132	.002	1
S2	.40000	.41092	.011	2.73	.83919	.004	1

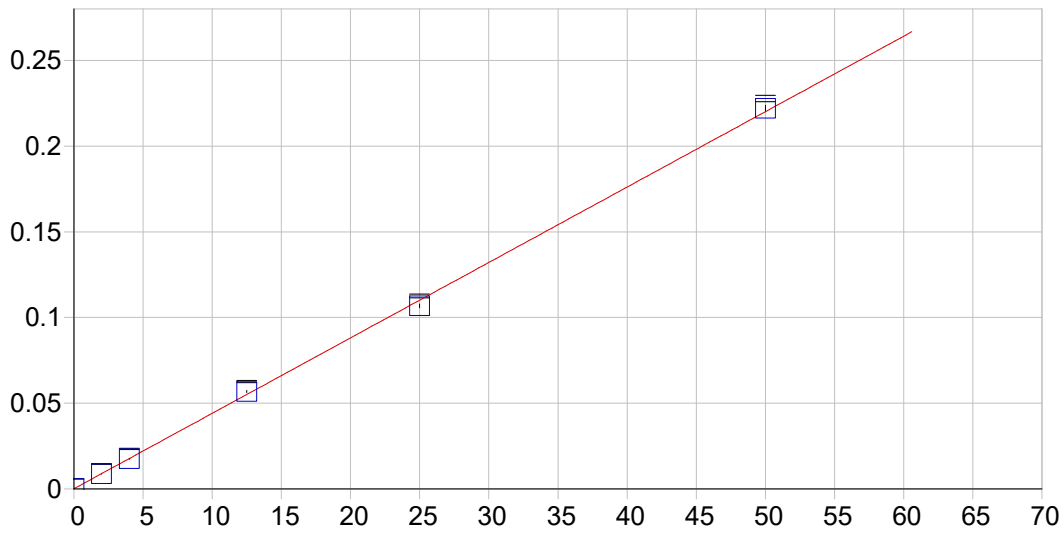


Zn 213.856 {158}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001398	Re-Slope:	1.000000
A1 (Gain):	1.307846	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999703	Status:	OK.
Std Error of Est:	0.000754		
Predicted MDL:	0.000372		
Predicted MQL:	0.001241		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00139	.001	1
S1	.04000	.04144	.001	3.61	.05597	.001	1
S3	1.2500	1.3070	.057	4.56	1.7221	.009	1
S4	2.5000	2.4319	-.068	-2.72	3.2047	.047	1
S5	5.0000	4.9895	-.010	-.210	6.5724	.014	1
S2	.40000	.42015	.020	5.04	.55453	.004	1

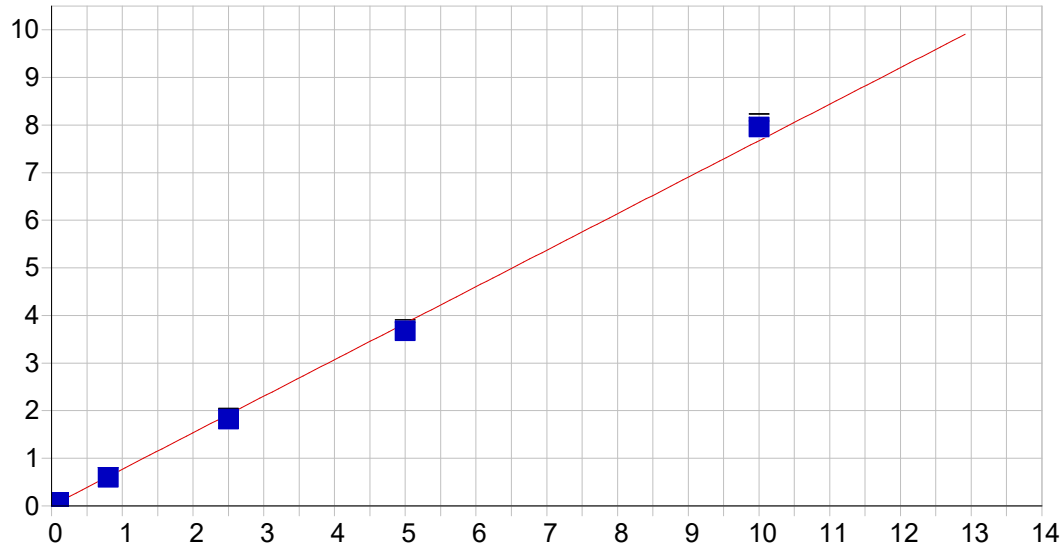


K 766.490 { 44}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000116	Re-Slope:	1.000000
A1 (Gain):	0.004400	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999783	Status:	OK.
Std Error of Est:	0.000049		
Predicted MDL:	0.038913		
Predicted MQL:	0.129709		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00003	.000	.000	.00012	.000	1
S2	4.0000	3.9624	-.038	-.940	.01755	.000	1
S3	12.500	12.894	.394	3.15	.05685	.001	1
S4	25.000	24.235	-.765	-3.06	.10675	.001	1
S5	50.000	50.442	.442	.885	.22206	.002	1
S1	2.0000	1.9658	-.034	-1.71	.00877	.000	1

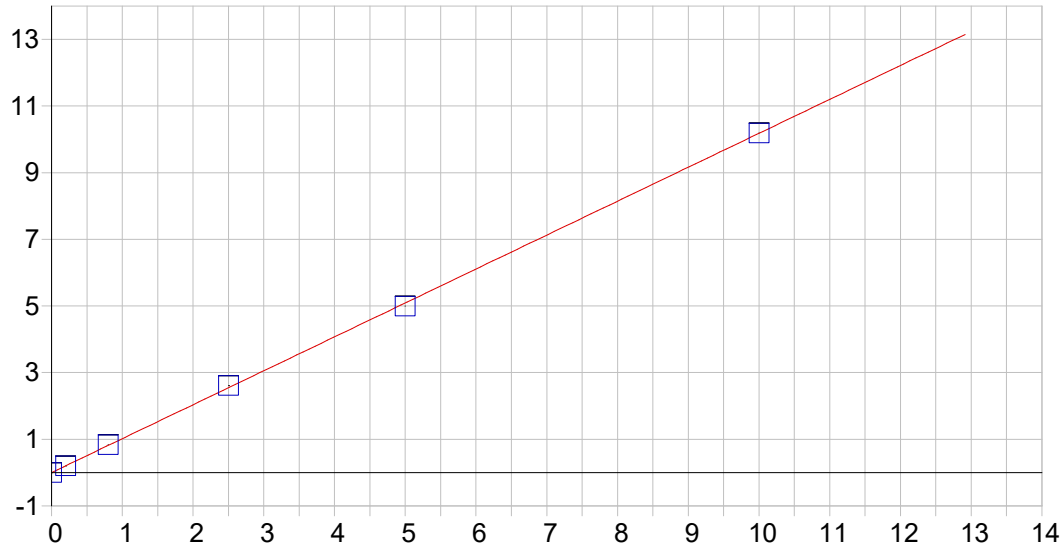


B 249.678 {135}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.003237	Re-Slope:	1.000000
A1 (Gain):	0.766869	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999143	Status:	OK.
Std Error of Est:	0.001665		
Predicted MDL:	0.000671		
Predicted MQL:	0.002238		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00002	.000	.000	.00325	.000	1
S1	.10000	.09013	-.010	-9.87	.07203	.002	1
S3	2.5000	2.3697	-.130	-5.21	1.8168	.023	1
S4	5.0000	4.7911	-.209	-4.18	3.6699	.028	1
S5	10.000	10.375	.375	3.75	7.9449	.072	1
S2	.80000	.77352	-.026	-3.31	.59523	.003	1

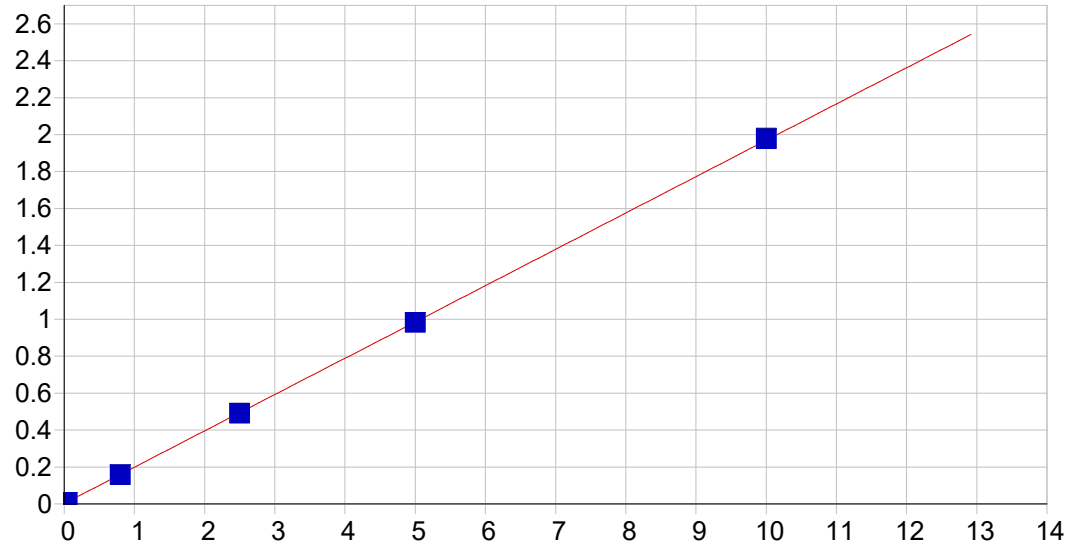


Mo 202.030 {467}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000122	Re-Slope:	1.000000
A1 (Gain):	1.018135	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999893	Status:	OK.
Std Error of Est:	0.001108		
Predicted MDL:	0.000225		
Predicted MQL:	0.000750		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	-.00013	.000	1
S1	.20000	.19852	-.001	-.741	.20200	.000	1
S3	2.5000	2.5637	.064	2.55	2.6100	.004	1
S4	5.0000	4.9064	-.094	-1.87	4.9952	.004	1
S5	10.000	10.010	.010	.104	10.192	.008	1
S2	.80000	.82103	.021	2.63	.83580	.004	1

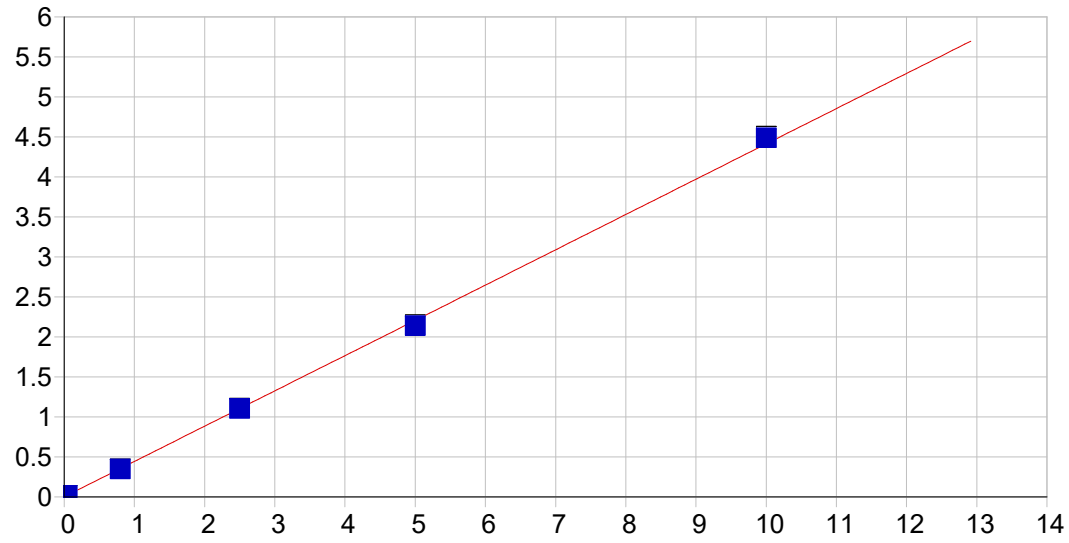


Sn 189.989 {478}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.002027	Re-Slope:	1.000000
A1 (Gain):	0.196682	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999982	Status:	OK.
Std Error of Est:	0.000039		
Predicted MDL:	0.000509		
Predicted MQL:	0.001698		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00203	.000	1
S1	.04000	.03735	-.003	-6.62	.00937	.000	1
S3	2.5000	2.4824	-.018	-.705	.48976	.001	1
S4	5.0000	4.9819	-.018	-.361	.98088	.001	1
S5	10.000	10.046	.046	.459	1.9759	.003	1
S2	.80000	.79242	-.008	-.948	.15772	.001	1

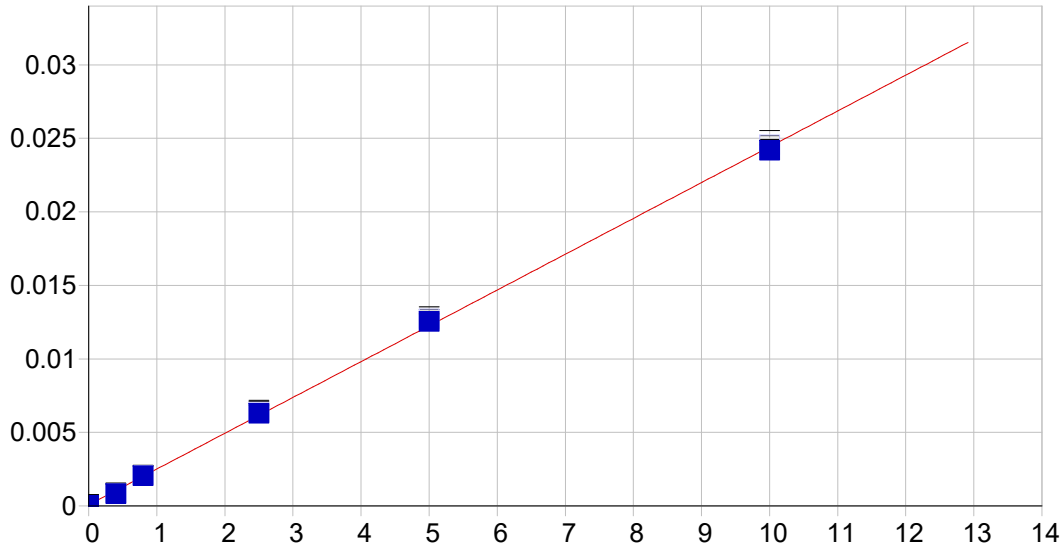


Ti 336.121 {100}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001991	Re-Slope:	1.000000
A1 (Gain):	0.441013	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999776	Status:	OK.
Std Error of Est:	0.000309		
Predicted MDL:	0.001199		
Predicted MQL:	0.003996		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00199	.000	1
S1	.04000	.03687	-.003	-7.82	.01824	.000	1
S3	2.5000	2.4967	-.003	-.133	1.1027	.005	1
S4	5.0000	4.8485	-.152	-3.03	2.1394	.010	1
S5	10.000	10.174	.174	1.74	4.4874	.019	1
S2	.80000	.78372	-.016	-2.03	.34749	.002	1

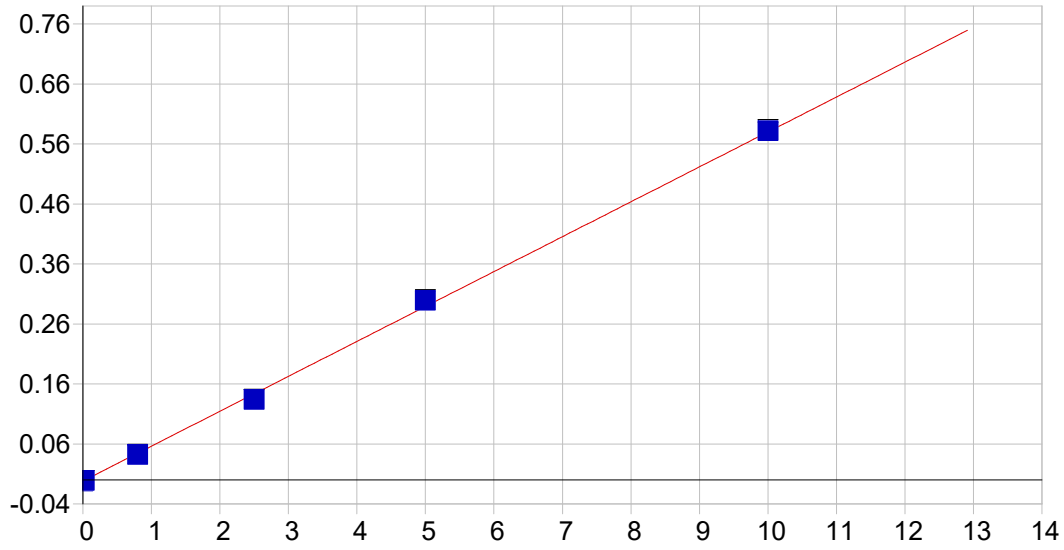


Si 288.158 {117}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000068	Re-Slope:	1.000000
A1 (Gain):	0.002436	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999389	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	0.012480		
Predicted MQL:	0.041599		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00007	.000	.000	.00007	.000	1
S1	.40000	.31395	-.086	-21.5	.00083	.000	1
S3	2.5000	2.5563	.056	2.25	.00639	.000	1
S4	5.0000	5.1170	.117	2.34	.01272	.000	1
S5	10.000	9.9036	-.096	-.964	.02456	.000	1
S2	.80000	.80802	.008	1.00	.00207	.000	1

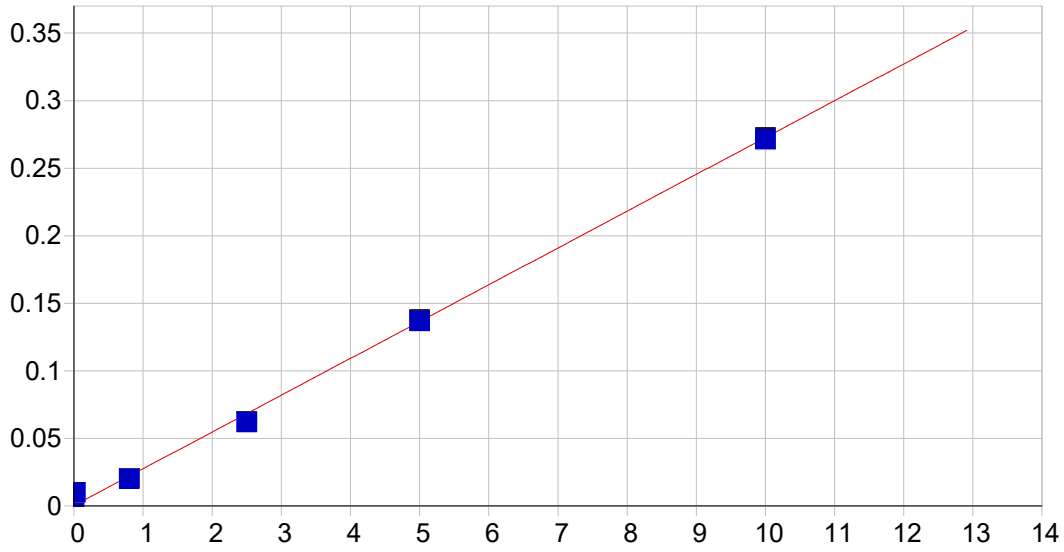


P 177.495 {490}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001914	Re-Slope:	1.000000
A1 (Gain):	0.058190	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999464	Status:	OK.
Std Error of Est:	0.000045		
Predicted MDL:	0.001549		
Predicted MQL:	0.005162		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00191	.000	1
S1	.02000	.01714	-.003	-14.3	-.00092	.000	1
S3	2.5000	2.3350	-.165	-6.60	.13394	.000	1
S4	5.0000	5.1762	.176	3.52	.29925	.001	1
S5	10.000	10.032	.032	.319	.58175	.002	1
S2	.80000	.75977	-.040	-5.03	.04229	.000	1

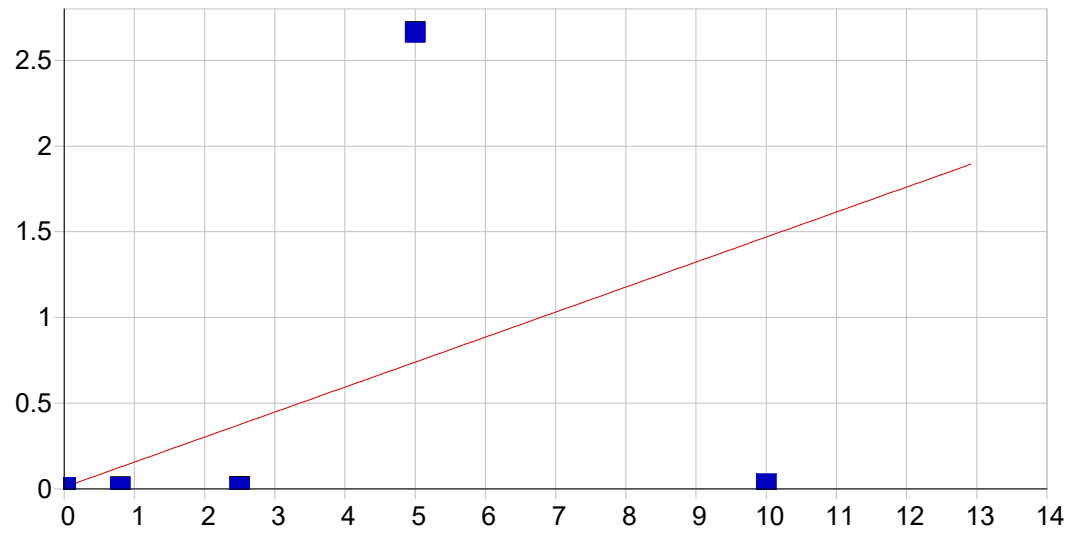


S 182.034 {485}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000253	Re-Slope:	1.000000
A1 (Gain):	0.027239	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.871114	Status:	OK.
Std Error of Est:	0.000359		
Predicted MDL:	0.002966		
Predicted MQL:	0.009886		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00034	-.000	.000	.00024	.000	1
S1	.02000	.35934	.339	1700.	.01002	.000	1
S3	2.5000	2.2690	-.231	-9.24	.06188	.000	1
S4	5.0000	5.0177	.018	.355	.13658	.001	1
S5	10.000	9.9595	-.040	-.405	.27083	.001	1
S2	.80000	.72801	-.072	-9.00	.02003	.000	1

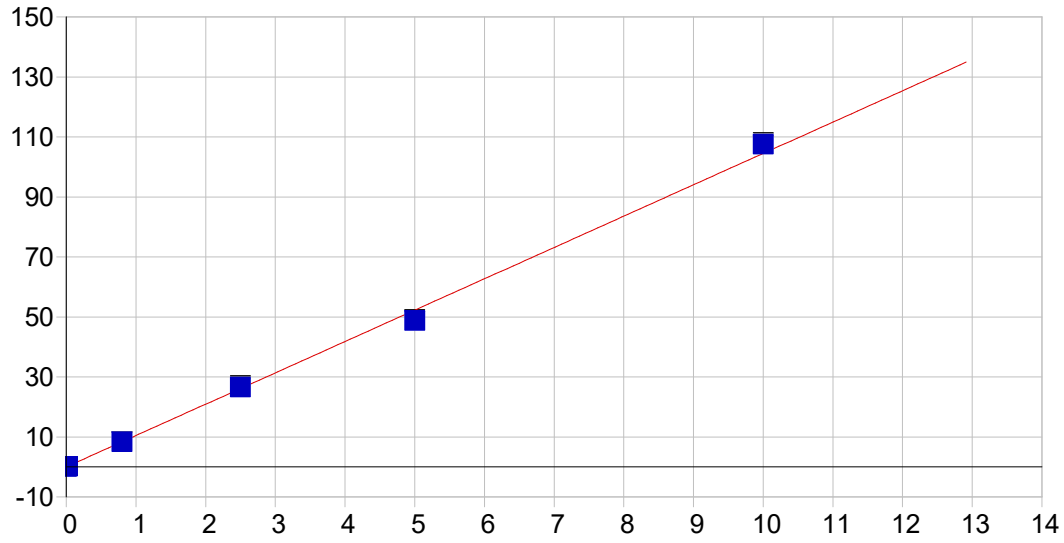


Li 670.784 { 50}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.010495	Re-Slope:	1.000000
A1 (Gain):	0.145844	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.526900	Status:	OK.
Std Error of Est:	0.005517		
Predicted MDL:	0.012553		
Predicted MQL:	0.041844		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00002	.000	.000	.01050	.001	1
S5	10.000	.13815	-9.86	-98.6	.03196	.001	1
S4	5.0000	18.176	13.2	264.	2.6620	.005	1
S3	2.5000	.00206	-2.50	-99.9	.01112	.002	1
S1	.02000	.00362	-.016	-81.9	.01108	.000	1
S2	.80000	.00052	-.799	-99.9	.01068	.000	1

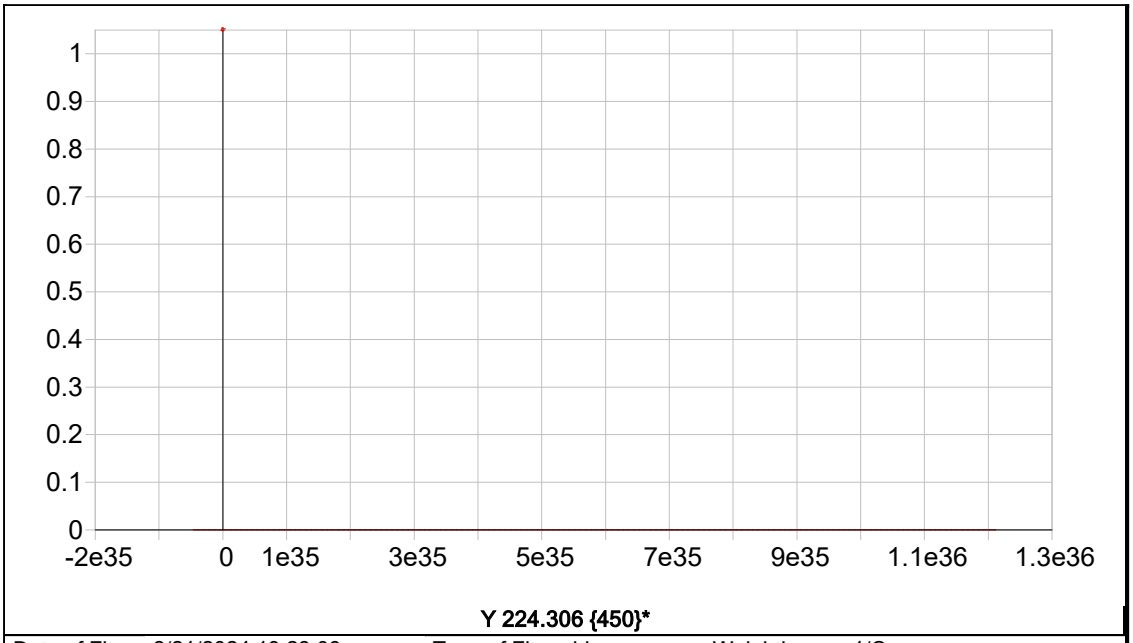


Sr 407.771 { 83}

Date of Fit:	8/21/2024 19:23:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001414	Re-Slope:	1.000000
A1 (Gain):	10.448835	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999136	Status:	OK.
Std Error of Est:	0.010195		
Predicted MDL:	0.000085		
Predicted MQL:	0.000284		

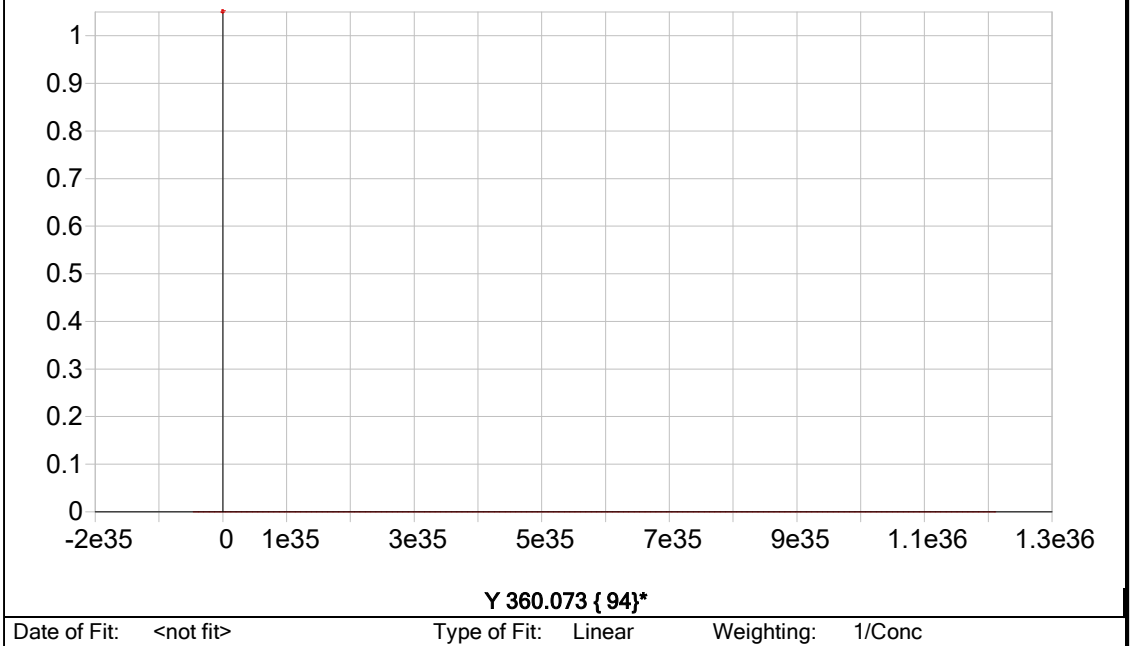
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00140	.001	1
S1	.02000	.01908	-.001	-4.59	.19901	.003	1
S3	2.5000	2.5462	.046	1.85	26.629	.411	1
S4	5.0000	4.6658	-.334	-6.68	48.803	.277	1
S5	10.000	10.292	.292	2.92	107.64	.490	1
S2	.80000	.79710	-.003	-.362	8.3358	.033	1



Y 224.306 {450}*

Date of Fit:	8/21/2024 19:23:09	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

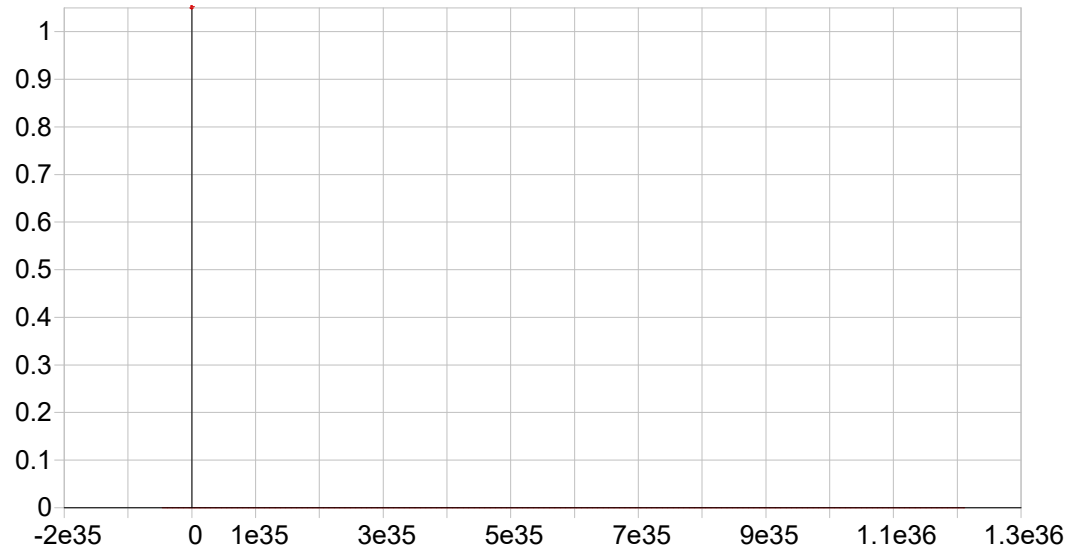


Y 360.073 { 94}*

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	

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

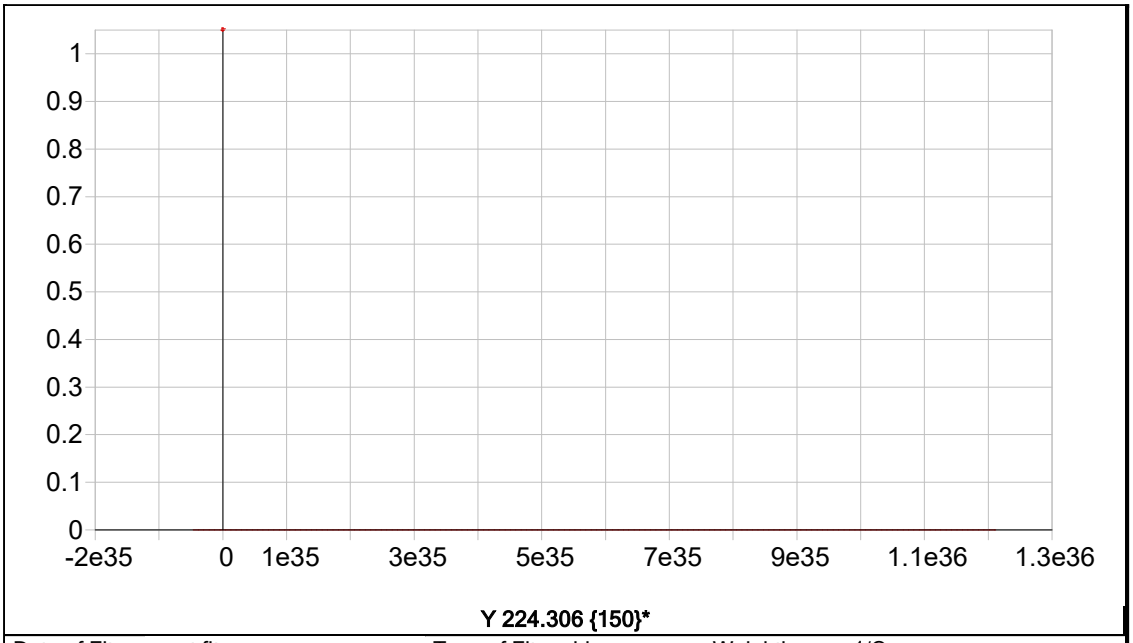


Y 371.030 { 91}*

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		

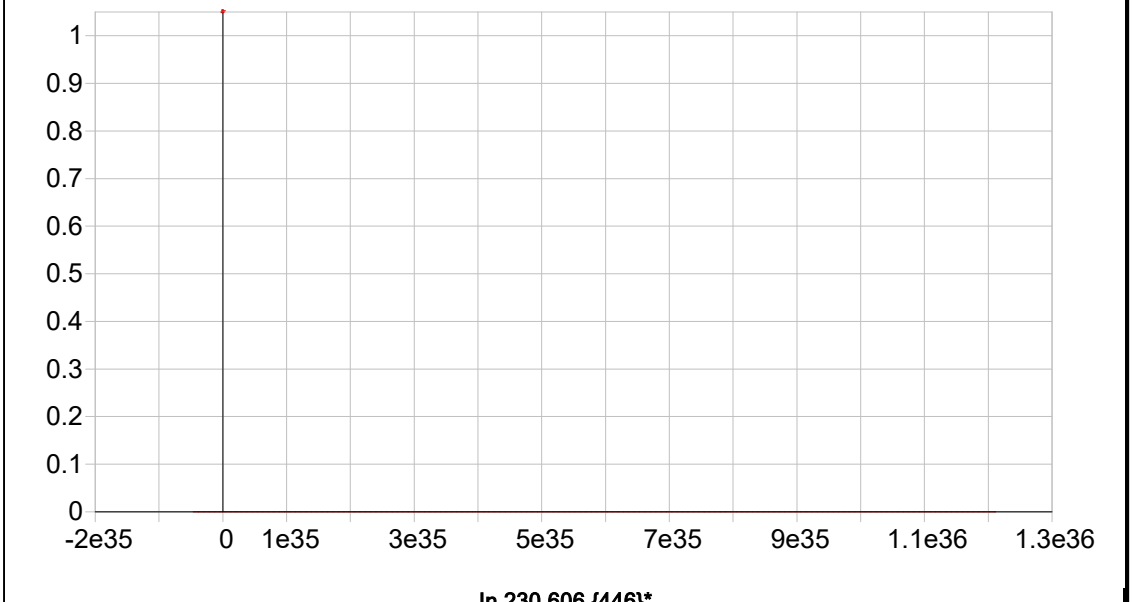
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis



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



ln 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:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: S0 Acquired: 8/21/2024 12:09:06 Type: Cal
Method: NON EPA-6010-200.7(v2351) 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	-.00024	.00023	-.00017	.00032	.00044	.00111	.07277	-.00087
Stddev	.00009	.00006	.00009	.00013	.00011	.00073	.00374	.00027
%RSD	38.850	25.600	54.095	41.567	24.253	65.334	5.1454	31.275
#1	-.00028	.00030	-.00010	.00019	.00036	.00152	.06952	-.00082
#2	-.00013	.00019	-.00027	.00045	.00056	.00027	.07686	-.00117
#3	-.00031	.00021	-.00014	.00031	.00039	.00155	.07192	-.00063

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	-.00011	.00088	.00003	.00007	-.00147	-.00001	.00004	-.00022
Stddev	.00027	.00064	.00005	.00031	.00008	.00001	.00010	.00015
%RSD	238.40	72.742	163.89	466.03	5.7356	95.525	226.22	68.895
#1	-.00018	.00065	-.00003	.00017	-.00138	-.00002	.00004	-.00027
#2	-.00033	.00160	.00008	.00031	-.00154	.00000	-.00005	-.00035
#3	.00018	.00038	.00005	-.00028	-.00149	-.00002	.00014	-.00005

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	.00005	-.00086	.00321	-.00003	.00139	.00012	.00325	-.00013
Stddev	.00015	.00011	.00018	.00021	.00053	.00008	.00029	.00015
%RSD	276.16	12.580	5.7506	612.64	38.026	67.395	9.0153	120.77
#1	-.00009	-.00087	.00300	.00013	.00184	.00003	.00323	.00004
#2	.00020	-.00096	.00333	.00004	.00153	.00013	.00297	-.00017
#3	.00005	-.00075	.00330	-.00027	.00081	.00018	.00355	-.00025

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	.00203	.00199	.00007	-.00191	.00024	.01050	-.00140
Stddev	.00005	.00045	.00001	.00007	.00007	.00066	.00052
%RSD	2.4702	22.534	17.938	3.9126	30.398	6.3151	36.944
#1	.00197	.00234	.00006	-.00198	.00020	.00973	-.00108
#2	.00205	.00148	.00007	-.00193	.00033	.01084	-.00200
#3	.00207	.00216	.00008	-.00183	.00020	.01092	-.00112

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: S0 Acquired: 8/21/2024 12:09:06 Type: Cal
Method: NON EPA-6010-200.7(v2351) 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	4180.9	115770.	9504.5	5852.0	6913.5
Stddev	6.3	418.	46.0	8.7	20.4
%RSD	.15046	.36148	.48445	.14815	.29571
#1	4174.8	116250.	9484.0	5843.1	6894.3
#2	4187.3	115460.	9557.3	5860.4	6935.0
#3	4180.6	115600.	9472.3	5852.5	6911.3

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: S1 Acquired: 8/21/2024 12:13:30 Type: Cal
Method: NON EPA-6010-200.7(v2351) 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	.00163	.00270	.00378	.00183	.00780	.01004	.35347	.05442
Stddev	.00002	.00004	.00004	.00015	.00009	.00048	.00263	.00079
%RSD	1.3111	1.5053	1.1317	8.1423	1.1987	4.7448	.74279	1.4565
#1	.00161	.00266	.00383	.00168	.00773	.00996	.35408	.05402
#2	.00165	.00270	.00378	.00183	.00776	.00960	.35574	.05534
#3	.00163	.00274	.00374	.00198	.00791	.01055	.35059	.05391

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	.02153	.16893	.00155	.03520	.01104	.00051	.01467	.03430
Stddev	.00012	.00261	.00006	.00025	.00020	.00002	.00042	.00038
%RSD	.54834	1.5479	4.0340	.71311	1.8328	4.7543	2.8348	1.1035
#1	.02153	.16993	.00150	.03509	.01092	.00052	.01447	.03408
#2	.02140	.17091	.00162	.03548	.01093	.00048	.01515	.03474
#3	.02164	.16597	.00152	.03501	.01128	.00052	.01440	.03409

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	.02884	.00164	.01768	.00523	.05597	.00877	.07203	.20200
Stddev	.00012	.00003	.00013	.00007	.00118	.00010	.00160	.00046
%RSD	.40922	2.0856	.71388	1.2504	2.1097	1.1761	2.2196	.22812
#1	.02871	.00161	.01770	.00528	.05497	.00882	.07139	.20242
#2	.02894	.00163	.01755	.00516	.05727	.00865	.07385	.20207
#3	.02887	.00167	.01780	.00526	.05566	.00883	.07085	.20151

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	.00937	.01824	.00083	-.00092	.01002	.01108	.19901
Stddev	.00021	.00040	.00003	.00006	.00008	.00015	.00250
%RSD	2.2682	2.2044	3.6041	6.5982	.76665	1.3366	1.2569
#1	.00925	.01825	.00087	-.00098	.01000	.01111	.20067
#2	.00924	.01864	.00082	-.00090	.01010	.01091	.20023
#3	.00961	.01783	.00081	-.00087	.00995	.01121	.19614

Sample Name: S1 Acquired: 8/21/2024 12:13:30 Type: Cal
Method: NON EPA-6010-200.7(v2351) 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	4383.2	118880.	9704.2	5941.5	7301.9
Stddev	11.1	421.	77.4	16.3	25.2
%RSD	.25323	.35436	.79755	.27473	.34492
#1	4372.1	118680.	9701.0	5927.5	7277.3
#2	4383.2	119360.	9628.4	5959.4	7300.8
#3	4394.3	118600.	9783.1	5937.5	7327.6

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: S2 Acquired: 8/21/2024 12:17:53 Type: Cal
Method: NON EPA-6010-200.7(v2351) 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	.07682	.05220	.23833	.06563	.11885	.13059	4.5682	.37772
Stddev	.00028	.00046	.00036	.00058	.00028	.00049	.0137	.00246
%RSD	.36099	.87519	.15262	.88281	.23335	.37208	.29994	.65163
#1	.07708	.05273	.23855	.06630	.11902	.13094	4.5617	.37508
#2	.07686	.05191	.23853	.06529	.11900	.13003	4.5590	.37995
#3	.07653	.05197	.23791	.06530	.11853	.13079	4.5840	.37812

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	1.4443	.34032	.02549	.47819	.11647	.00397	.29843	.06477
Stddev	.0045	.00156	.00004	.00151	.00038	.00004	.00167	.00083
%RSD	.31012	.45915	.15719	.31498	.33004	1.1060	.55820	1.2779
#1	1.4493	.33913	.02549	.47993	.11688	.00397	.29736	.06440
#2	1.4426	.33975	.02545	.47722	.11642	.00392	.29758	.06419
#3	1.4408	.34209	.02553	.47743	.11612	.00401	.30035	.06572

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	.29934	.04031	.03306	.05241	.55453	.01755	.59523	.83580
Stddev	.00083	.00013	.00040	.00057	.00379	.00029	.00349	.00413
%RSD	.27758	.33283	1.2071	1.0894	.68258	1.6482	.58607	.49390
#1	.30028	.04028	.03312	.05279	.55261	.01748	.59129	.84015
#2	.29869	.04018	.03263	.05176	.55209	.01730	.59795	.83532
#3	.29906	.04045	.03342	.05269	.55889	.01787	.59644	.83194

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	.15772	.34749	.00207	.04229	.02003	.01068	8.3358
Stddev	.00072	.00152	.00001	.00024	.00007	.00038	.0335
%RSD	.45496	.43629	.72538	.57771	.36408	3.5271	.40165
#1	.15851	.34662	.00206	.04255	.02010	.01061	8.3179
#2	.15753	.34662	.00208	.04224	.01995	.01108	8.3150
#3	.15712	.34925	.00206	.04207	.02003	.01033	8.3744

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: S2 Acquired: 8/21/2024 12:17:53 Type: Cal
Method: NON EPA-6010-200.7(v2351) 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	4184.9	114700.	9125.6	5745.9	6842.4
Stddev	17.0	484.	33.0	35.3	18.7
%RSD	.40515	.42237	.36135	.61481	.27370
#1	4165.5	114690.	9163.7	5726.8	6820.8
#2	4192.2	115190.	9106.9	5786.7	6852.2
#3	4196.9	114220.	9106.2	5724.3	6854.2

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: S3 Acquired: 8/21/2024 12:22:02 Type: Cal
Method: NON EPA-6010-200.7(v2351) 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	.23863	.16410	.74060	.20343	.37015	.40173	14.549	1.1525
Stddev	.00078	.00222	.00068	.00034	.00070	.00181	.048	.0133
%RSD	.32655	1.3546	.09185	.16567	.18823	.45131	.33191	1.1495
#1	.23789	.16161	.74111	.20310	.36934	.40106	14.518	1.1377
#2	.23945	.16589	.74088	.20378	.37057	.40035	14.524	1.1565
#3	.23857	.16480	.73983	.20340	.37053	.40378	14.605	1.1633

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	4.5242	1.0862	.07774	1.4858	.36334	.01273	.93527	.20052
Stddev	.0060	.0077	.00024	.0022	.00029	.00018	.00356	.00076
%RSD	.13350	.70931	.31240	.14818	.07978	1.3859	.38043	.37841
#1	4.5279	1.0776	.07802	1.4882	.36335	.01293	.93123	.19970
#2	4.5275	1.0885	.07763	1.4854	.36363	.01264	.93665	.20068
#3	4.5172	1.0925	.07758	1.4838	.36305	.01262	.93793	.20119

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	.92368	.12696	.09769	.16392	1.7221	.05685	1.8168	2.6100
Stddev	.00083	.00018	.00136	.00082	.0095	.00072	.0233	.0037
%RSD	.08979	.14385	1.3892	.50270	.55047	1.2626	1.2830	.14292
#1	.92410	.12710	.09926	.16360	1.7323	.05767	1.7908	2.6058
#2	.92422	.12675	.09695	.16331	1.7204	.05634	1.8235	2.6129
#3	.92273	.12703	.09687	.16486	1.7135	.05654	1.8359	2.6114

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	.48976	1.1027	.00639	.13394	.06188	.01112	26.629
Stddev	.00069	.0046	.00012	.00022	.00018	.00235	.411
%RSD	.14005	.41552	1.8112	.16746	.29090	21.092	1.5447
#1	.48973	1.0985	.00652	.13417	.06167	.00843	26.186
#2	.49046	1.1018	.00629	.13392	.06200	.01224	27.000
#3	.48909	1.1076	.00636	.13372	.06197	.01270	26.701

Sample Name: S3 Acquired: 8/21/2024 12:22:02 Type: Cal
Method: NON EPA-6010-200.7(v2351) 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	4241.7	115710.	9412.7	5675.8	6916.0
Stddev	10.7	911.	73.5	36.2	21.2
%RSD	.25118	.78699	.78044	.63781	.30582
#1	4242.8	114660.	9491.3	5634.2	6910.5
#2	4230.5	116330.	9401.1	5693.6	6898.1
#3	4251.7	116130.	9345.7	5699.6	6939.3

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: S4 Acquired: 8/21/2024 12:26:14 Type: Cal
Method: NON EPA-6010-200.7(v2351) 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	.45498	.31782	1.4035	.40661	.73538	.77693	28.104	2.2539
Stddev	.00104	.00619	.0022	.00139	.00072	.00039	.075	.0160
%RSD	.22934	1.9465	.15342	.34169	.09792	.05047	.26754	.71157
#1	.45617	.32428	1.4030	.40801	.73594	.77673	28.061	2.2682
#2	.45421	.31722	1.4016	.40659	.73457	.77667	28.190	2.2569
#3	.45457	.31195	1.4058	.40524	.73562	.77738	28.059	2.2366

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	8.6697	2.0946	.14497	2.9349	.70857	.02348	1.8026	.38888
Stddev	.0091	.0093	.00234	.0018	.00050	.00031	.0041	.00072
%RSD	.10501	.44552	1.6159	.05972	.07126	1.3038	.22604	.18517
#1	8.6714	2.0925	.14665	2.9342	.70909	.02353	1.8019	.38941
#2	8.6599	2.1048	.14597	2.9336	.70808	.02376	1.8070	.38806
#3	8.6778	2.0865	.14230	2.9369	.70854	.02316	1.7990	.38918

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	1.8442	.23505	.18193	.31798	3.2047	.10675	3.6699	4.9952
Stddev	.0018	.00346	.00175	.00060	.0467	.00115	.0278	.0045
%RSD	.09770	1.4737	.96458	.18833	1.4585	1.0783	.75604	.08905
#1	1.8429	.23731	.18230	.31736	3.2372	.10693	3.6951	5.0003
#2	1.8434	.23678	.18347	.31802	3.2258	.10780	3.6744	4.9935
#3	1.8462	.23106	.18002	.31856	3.1511	.10552	3.6402	4.9919

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	.98088	2.1394	.01272	.29925	.13658	2.6620	48.803
Stddev	.00082	.0100	.00015	.00097	.00087	.0049	.277
%RSD	.08320	.46687	1.1908	.32425	.63736	.18346	.56767
#1	.98182	2.1396	.01267	.30034	.13756	2.6664	49.032
#2	.98045	2.1493	.01289	.29890	.13629	2.6567	48.495
#3	.98037	2.1294	.01260	.29850	.13589	2.6629	48.881

Sample Name: S4 Acquired: 8/21/2024 12:26:14 Type: Cal
Method: NON EPA-6010-200.7(v2351) 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	3917.8	118150.	9118.4	5751.2	6161.1
Stddev	2.0	1564.	46.4	66.8	2.4
%RSD	.04990	1.3236	.50891	1.1612	.03870
#1	3919.0	117500.	9086.6	5734.6	6159.7
#2	3918.8	117030.	9097.0	5694.4	6163.9
#3	3915.5	119940.	9171.7	5824.8	6159.9

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: S5 Acquired: 8/21/2024 12:30:26 Type: Cal
Method: NON EPA-6010-200.7(v2351) 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	.98096	.64871	3.0497	.84362	1.4908	1.6537	59.230	4.9396
Stddev	.00126	.02160	.0031	.00132	.0014	.0076	.439	.0407
%RSD	.12796	3.3299	.10241	.15691	.09584	.45658	.74118	.82413
#1	.98213	.64804	3.0514	.84311	1.4897	1.6486	58.917	4.9422
#2	.97964	.67063	3.0517	.84513	1.4902	1.6623	59.732	4.9790
#3	.98112	.62745	3.0461	.84264	1.4924	1.6501	59.040	4.8977

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	18.555	4.3566	.30008	6.0258	1.4163	.04751	3.7807	.82744
Stddev	.010	.0194	.00043	.0070	.0036	.00032	.0113	.00510
%RSD	.05154	.44651	.14392	.11622	.25184	.67346	.29817	.61596
#1	18.566	4.3346	.29984	6.0269	1.4157	.04737	3.7725	.82992
#2	18.548	4.3717	.30058	6.0183	1.4130	.04729	3.7936	.83081
#3	18.550	4.3635	.29982	6.0322	1.4201	.04788	3.7761	.82157

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	3.7487	.49167	.38123	.67573	6.5724	.22206	7.9449	10.192
Stddev	.0028	.00044	.00240	.00196	.0143	.00187	.0724	.008
%RSD	.07529	.09050	.63056	.29021	.21683	.84015	.91095	.07759
#1	3.7510	.49212	.38077	.67638	6.5868	.22100	7.9500	10.186
#2	3.7455	.49166	.37909	.67728	6.5720	.22096	8.0146	10.201
#3	3.7495	.49123	.38383	.67353	6.5583	.22421	7.8701	10.189

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	1.9759	4.4874	.02456	.58175	.27083	.03196	107.64
Stddev	.0028	.0192	.00031	.00219	.00119	.00062	.49
%RSD	.14030	.42768	1.2465	.37631	.43796	1.9268	.45481
#1	1.9766	4.4656	.02432	.58224	.27045	.03180	108.19
#2	1.9782	4.5019	.02446	.58365	.27216	.03144	107.49
#3	1.9728	4.4947	.02490	.57936	.26989	.03264	107.25

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: S5 Acquired: 8/21/2024 12:30:26 Type: Cal
Method: NON EPA-6010-200.7(v2351) 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	4082.9	115730.	8572.8	5622.6	6373.9
Stddev	5.9	114.	82.9	16.3	15.3
%RSD	.14479	.09837	.96743	.28942	.24038
#1	4076.2	115650.	8562.4	5604.2	6358.9
#2	4087.5	115680.	8495.6	5628.8	6373.4
#3	4084.9	115860.	8660.5	5634.9	6389.5

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: ICV01 Acquired: 8/21/2024 12:34:45 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	1.000808	1.025063	.9926273	1.023906	1.009286	2.448277
Stddev	.001365	.011285	.0027922	.003089	.001557	.015925
%RSD	.1364274	1.100876	.2812952	.3017078	.1542970	.6504443
#1	1.000761	1.021525	.9901237	1.020339	1.008145	2.457648
#2	.999467	1.037693	.9921198	1.025689	1.008652	2.457292
#3	1.002196	1.015972	.9956385	1.025691	1.011060	2.429890

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5009956	F .4745918	.4981578	9.931718	.5286651	.5217415
Stddev	.0006644	.0017148	.0014513	.021637	.0009233	.0012371
%RSD	.1326222	.3613303	.2913386	.2178617	.1746517	.2371003
#1	.5010036	.4735508	.4975626	9.911441	.5278121	.5211418
#2	.5003272	.4765710	.4970986	9.929214	.5285375	.5209186
#3	.5016560	.4736535	.4998121	9.954498	.5296455	.5231641

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5318017	10.33094	.5066915	5.855546	.5269793	.2554474
Stddev	.0019420	.05161	.0016852	.032698	.0018943	.0006375
%RSD	.3651733	.4995676	.3325862	.5584091	.3594695	.2495519
#1	.5305315	10.36577	.5070497	5.827463	.5261341	.2554339
#2	.5308366	10.27165	.5048560	5.847733	.5256547	.2548167
#3	.5340373	10.35540	.5081688	5.891443	.5291491	.2560915

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.714444	.4921548	1.013980	9.955416	2.406069	F 2.671888
Stddev	.054858	.0022402	.004982	.037569	.010045	.003573
%RSD	.5647011	.4551867	.4913537	.3773760	.4174857	.1337287
#1	9.763266	.4924961	1.018465	9.950856	2.397331	2.668040
#2	9.655081	.4897636	1.014857	9.920334	2.417044	2.672522
#3	9.724985	.4942049	1.008617	9.995057	2.403834	2.675102

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: ICV01 Acquired: 8/21/2024 12:34:45 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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 2.684627	2.546852	F 2.147996	F -.000326	F -.007298	F .0051679
Stddev	.003027	.005327	.017082	.001227	.002764	.0028977
%RSD	.1127475	.2091578	.7952469	376.2769	37.87134	56.07197
#1	2.683716	2.543299	2.159245	.000009	-.010331	.0034982
#2	2.682160	2.544280	2.128340	.000699	-.006642	.0085139
#3	2.688005	2.552977	2.156403	-.001685	-.004922	.0034915

Elem	Sr4077
Units	ppm
Avg	F 2.272464
Stddev	.028477
%RSD	1.253154
#1	2.271694
#2	2.301319
#3	2.244380

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4113.417	121597.3	9833.779	5971.985	6616.163
Stddev	5.952	536.6	5.754	25.157	12.483
%RSD	.1447022	.4412635	.0585162	.4212515	.1886795
#1	4113.201	121296.9	9840.078	5949.023	6619.693
#2	4119.475	122216.8	9832.461	5998.875	6626.501
#3	4107.576	121278.1	9828.798	5968.056	6602.294

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: LLICV01 Acquired: 8/21/2024 13:18:53 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0205573	.0389404	.0134075	.0192734	.0464366	.0929390
Stddev	.0011736	.0011851	.0006781	.0019743	.0017133	.0154899
%RSD	5.709077	3.043276	5.057492	10.24386	3.689450	16.66674
#1	.0194782	.0399432	.0129902	.0182993	.0445333	.0885044
#2	.0203867	.0376326	.0141899	.0179753	.0478555	.1101626
#3	.0218068	.0392452	.0130424	.0215454	.0469212	.0801501

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0902455	.0057129	.0056539	1.833298	.0090771	.0281646
Stddev	.0017002	.0001329	.0000260	.034256	.0002106	.0000965
%RSD	1.883919	2.326822	.4589116	1.868531	2.320411	.3425881
#1	.0913758	.0058599	.0056818	1.869610	.0090312	.0280567
#2	.0882903	.0056011	.0056305	1.801558	.0088933	.0281949
#3	.0910705	.0056778	.0056494	1.828726	.0093069	.0282424

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0209595	.0917716	.0186823	1.973799	.0371219	.0112139
Stddev	.0004529	.0042321	.0006215	.053884	.0001797	.0002952
%RSD	2.160628	4.611555	3.326839	2.729969	.4841949	2.632742
#1	.0208692	.0909720	.0191292	2.015978	.0372210	.0108991
#2	.0205586	.0879964	.0179725	1.913096	.0369144	.0114846
#3	.0214507	.0963465	.0189452	1.992323	.0372302	.0112580

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.603043	.0355262	.0382704	1.634837	.0866381	.1856615
Stddev	.017789	.0008950	.0002643	.021139	.0010722	.0003682
%RSD	1.109722	2.519295	.6907254	1.293046	1.237593	.1983250
#1	1.620815	.0364465	.0383042	1.657051	.0878193	.1856048
#2	1.585237	.0354733	.0385163	1.614968	.0857262	.1853249
#3	1.603077	.0346588	.0379909	1.632492	.0863689	.1860548

Sample Name: LLICV01 Acquired: 8/21/2024 13:18:53 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0353984	.0353295	F .2661605	F .0158748	F .3680879	F -.008993
Stddev	.0001535	.0007944	.0044914	.0020520	.0040665	.000647
%RSD	.4337003	2.248590	1.687490	12.92604	1.104751	7.199604
#1	.0354528	.0360278	.2712668	.0144662	.3644231	-.008415
#2	.0352250	.0354955	.2628218	.0149292	.3673781	-.009693
#3	.0355172	.0344652	.2643930	.0182292	.3724626	-.008871

Elem	Sr4077
Units	ppm
Avg	.0178112
Stddev	.0004527
%RSD	2.541428
#1	.0182805
#2	.0173772
#3	.0177758

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4147.771	123909.3	9301.824	6062.518	6769.830
Stddev	5.756	331.3	157.319	27.736	8.382
%RSD	.1387693	.2673352	1.691275	.4574932	.1238122
#1	4151.359	123699.2	9138.025	6033.579	6772.686
#2	4150.823	124291.2	9451.745	6088.869	6776.411
#3	4141.132	123737.6	9315.703	6065.106	6760.394

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: ICB01 Acquired: 8/21/2024 13:23:15 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0015327	-.000377	.0000051	.0014079	.0002131	.0026762	.0000813
Stddev	.0007859	.000813	.0008183	.0021959	.0010969	.0064561	.0003523
%RSD	51.27844	215.5067	16163.79	155.9616	514.6832	241.2407	433.4636
#1	.0006338	-.000677	.0009499	-.000703	.0010127	.0085710	-.000288
#2	.0020901	.000543	-.000469	.001248	-.001037	-.004223	.000118
#3	.0018742	-.000998	-.000466	.003680	.000664	.003681	.000414

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000232	.0000370	-.000051	-.000403	.0001169	.0002672	.0007849
Stddev	.0000077	.0000483	.007756	.000320	.0000762	.0002220	.0046375
%RSD	33.31795	130.3860	15091.08	79.50344	65.17153	83.08281	590.8165
#1	.0000304	.0000896	.007262	-.000617	.0001575	.0000564	-.003764
#2	.0000240	.0000267	.000768	-.000035	.0000290	.0004989	.005507
#3	.0000150	-.000005	-.008185	-.000557	.0001641	.0002462	.000612

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000360	-.006179	.0000399	-.000050	-.181242	.0011612	-.000245
Stddev	.000137	.011675	.0001643	.000271	.000956	.0007297	.000365
%RSD	37.88096	188.9445	411.4190	538.3138	.5277474	62.83858	148.8532
#1	-.000313	-.018208	-.000075	-.000363	-.180156	.0019932	-.000657
#2	-.000514	.005107	.000228	.000108	-.181962	.0008608	.000038
#3	-.000254	-.005436	-.000033	.000104	-.181606	.0006297	-.000116

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.153368	-.001467	.0000650	-.000974	-.000029	-.005998	-.001800
Stddev	.025399	.000323	.0001985	.000311	.001347	.002057	.000616
%RSD	16.56047	22.04817	305.3557	31.95407	4620.358	34.28720	34.23841
#1	-.137759	-.001533	-.000014	-.001324	.001251	-.004677	-.001382
#2	-.139671	-.001115	.000291	-.000870	.000096	-.004950	-.002508
#3	-.182675	-.001752	-.000082	-.000728	-.001435	-.008367	-.001510

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: ICB01 Acquired: 8/21/2024 13:23:15 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	-.003066	-.009446	.0000517
Stddev	.001272	.006438	.0000598
%RSD	41.50666	68.15637	115.5059
#1	-.002011	-.010312	.0000751
#2	-.002708	-.002619	-.000016
#3	-.004479	-.015407	.000096

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4427.617	117800.9	9907.251	5882.137	7470.633
Stddev	17.082	460.2	48.613	26.506	21.509
%RSD	.3857974	.3906684	.4906801	.4506147	.2879152
#1	4411.533	117402.1	9942.530	5859.581	7451.769
#2	4425.770	118304.5	9851.799	5911.331	7466.074
#3	4445.547	117696.0	9927.423	5875.500	7494.057

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: CRI01 Acquired: 8/21/2024 13:33:07 Type: Unk
Method: NON EPA-6010-200.7(v2351) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0194021	.0394380	.0133641	.0186429	.0468530	.1038706
Stddev	.0018399	.0009041	.0012829	.0008328	.0006848	.0104127
%RSD	9.483013	2.292555	9.599335	4.467097	1.461599	10.02471
#1	.0174655	.0386256	.0143510	.0178734	.0472194	.1158867
#2	.0196140	.0404120	.0119140	.0195271	.0472767	.0974957
#3	.0211269	.0392764	.0138273	.0185282	.0460629	.0982293

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0909194	.0055598	.0056475	1.837345	.0092161	.0281677
Stddev	.0018677	.0000471	.0000311	.024986	.0003878	.0000546
%RSD	2.054212	.8477579	.5500223	1.359876	4.208293	.1937411
#1	.0927435	.0055838	.0056734	1.862536	.0095286	.0281182
#2	.0890110	.0055055	.0056559	1.812570	.0093377	.0281587
#3	.0910038	.0055902	.0056130	1.836929	.0087821	.0282262

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0209004	.0990338	.0182046	1.944543	.0371557	.0118130
Stddev	.0004373	.0001903	.0002501	.022729	.0005286	.0001689
%RSD	2.092313	.1922079	1.373672	1.168846	1.422659	1.430054
#1	.0204011	.0989761	.0184798	1.948031	.0366751	.0116657
#2	.0212151	.0992463	.0179912	1.920271	.0370701	.0117760
#3	.0210851	.0988790	.0181429	1.965326	.0377219	.0119974

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.616383	.0352278	.0389745	1.717246	.0841041	.1865655
Stddev	.004402	.0008076	.0004930	.032437	.0004468	.0014291
%RSD	.2723343	2.292558	1.264868	1.888891	.5312950	.7659954
#1	1.612573	.0351831	.0395428	1.754472	.0839137	.1854169
#2	1.615374	.0344435	.0387186	1.702206	.0837839	.1861137
#3	1.621201	.0360568	.0386620	1.695059	.0846145	.1881659

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: CRI01 Acquired: 8/21/2024 13:33:07 Type: Unk
Method: NON EPA-6010-200.7(v2351) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0352569	.0353545	F .2759221	.0161463	F .3677238	F -.006775
Stddev	.0000512	.0009286	.0070050	.0010207	.0053914	.006647
%RSD	.1452824	2.626505	2.538758	6.321616	1.466163	98.10163
#1	.0352941	.0357486	.2679678	.0160708	.3634312	-.014355
#2	.0351985	.0342939	.2811709	.0151654	.3659654	-.001944
#3	.0352781	.0360211	.2786275	.0172027	.3737750	-.004026

Elem	Sr4077
Units	ppm
Avg	.0178871
Stddev	.0002028
%RSD	1.133815
#1	.0180304
#2	.0176550
#3	.0179757

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4187.713	122937.5	9646.208	5999.746	6860.301
Stddev	15.009	493.0	58.390	19.610	24.011
%RSD	.3584143	.4009821	.6053135	.3268459	.3499942
#1	4203.434	122582.4	9609.459	5991.913	6886.791
#2	4186.171	122729.8	9713.537	5985.263	6854.143
#3	4173.534	123500.3	9615.628	6022.062	6839.970

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: ICSA01 Acquired: 8/21/2024 13:37:31 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0050639	.0078675	.0032238	-.006484	-.001877	258.5205
Stddev	.0005067	.0025872	.0009816	.001170	.002262	1.6747
%RSD	10.00593	32.88452	30.44970	18.04749	120.5235	.6477935
#1	.0046223	.0048839	.0035971	-.005144	-.000878	257.5969
#2	.0049524	.0094893	.0021103	-.007303	-.004466	257.5111
#3	.0056171	.0092295	.0039640	-.007004	-.000286	260.4536

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0066826	.0010862	-.002471	244.2091	.0587061	.0023516
Stddev	.0004103	.0000402	.000133	1.7688	.0008927	.0000945
%RSD	6.139174	3.702406	5.376021	.7242768	1.520677	4.018123
#1	.0062284	.0011327	-.002587	243.8380	.0592396	.0024428
#2	.0070264	.0010636	-.002326	242.6554	.0576755	.0023579
#3	.0067928	.0010624	-.002499	246.1340	.0592033	.0022542

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0218398	108.1509	.0151817	257.5638	.0033654	.0038841
Stddev	.0011796	1.4030	.0002169	2.6753	.0002461	.0004571
%RSD	5.400951	1.297239	1.428599	1.038687	7.311608	11.76736
#1	.0204846	109.7609	.0154280	256.1276	.0031168	.0042863
#2	.0226355	107.1901	.0150976	255.9134	.0033706	.0033870
#3	.0223993	107.5017	.0150194	260.6505	.0036088	.0039788

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.079594	.0050457	.0072122	-.093074	.0291896	.0007199
Stddev	.007751	.0019416	.0002299	.050553	.0019530	.0002440
%RSD	9.738115	38.47983	3.187724	54.31442	6.690755	33.89105
#1	-.087947	.0060238	.0069640	-.151362	.0313706	.0004566
#2	-.078200	.0028096	.0074179	-.066671	.0285956	.0007648
#3	-.072634	.0063037	.0072546	-.061191	.0276025	.0009383

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: ICSA01 Acquired: 8/21/2024 13:37:31 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	-.002317	-.000614	.0090522	.0050418	F -.024010	F .2084058
Stddev	.000234	.000440	.0048986	.0019473	.000755	.0093650
%RSD	10.11310	71.61581	54.11494	38.62180	3.144828	4.493633
#1	-.002254	-.000380	.0140092	.0071470	-.024202	.2004432
#2	-.002576	-.001122	.0089334	.0046735	-.023177	.2187235
#3	-.002120	-.000341	.0042141	.0033051	-.024650	.2060506

Elem	Sr4077
Units	ppm
Avg	-.010360
Stddev	.001590
%RSD	15.34831
#1	-.012179
#2	-.009663
#3	-.009237

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3882.095	106953.6	9208.918	5266.497	5988.236
Stddev	2.615	1525.7	114.517	49.672	6.595
%RSD	.0673625	1.426508	1.243545	.9431711	.1101253
#1	3885.082	105358.9	9235.909	5219.729	5985.512
#2	3880.987	108399.4	9307.529	5318.636	5995.757
#3	3880.217	107102.5	9083.317	5261.126	5983.441

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: ICSAB01 Acquired: 8/21/2024 14:00:05 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.1027270	.1079163	.0500289	.0379501	.6056724	248.4613
Stddev	.0020330	.0041200	.0006058	.0045385	.0053363	.6727
%RSD	1.979007	3.817800	1.210865	11.95918	.8810480	.2707409
#1	.1015554	.1124909	.0500309	.0330487	.6111804	247.7473
#2	.1050745	.1044978	.0506336	.0387944	.6005263	248.5533
#3	.1015512	.1067602	.0494221	.0420072	.6053105	249.0832

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4928402	.4973283	.9443335	234.8757	.5460220	.4976706
Stddev	.0028272	.0035453	.0060631	.3351	.0018172	.0038422
%RSD	.5736587	.7128635	.6420511	.1426754	.3328018	.7720414
#1	.4897332	.4932350	.9510121	234.5923	.5474039	.5019511
#2	.4935260	.4993190	.9391752	234.7893	.5466986	.4945200
#3	.4952614	.4994308	.9428133	235.2456	.5439636	.4965409

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5112535	97.74452	.4947449	247.0830	.9876516	.2152523
Stddev	.0019505	.55382	.0021626	.2751	.0073031	.0006072
%RSD	.3815212	.5665992	.4371174	.1113355	.7394384	.2820791
#1	.5130293	98.37893	.4922638	246.7930	.9953179	.2158828
#2	.5091658	97.49705	.4962302	247.1157	.9807761	.2152028
#3	.5115652	97.35759	.4957408	247.3403	.9868608	.2146714

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.135281	.4716744	1.062200	-.210559	1.030578	1.102089
Stddev	.021544	.0032124	.001306	.009757	.003932	.006545
%RSD	15.92510	.6810622	.1229341	4.633629	.3814914	.5938730
#1	-.150290	.4679705	1.063368	-.199432	1.026040	1.108986
#2	-.144956	.4733515	1.060790	-.217650	1.032710	1.095965
#3	-.110596	.4737012	1.062441	-.214594	1.032982	1.101316

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: ICSAB01 Acquired: 8/21/2024 14:00:05 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	1.100906	1.062797	.8747082	F .0047698	F -.021359	F .2104989
Stddev	.007690	.003217	.0130581	.0008188	.005384	.0064130
%RSD	.6985429	.3026672	1.492848	17.16570	25.20954	3.046580
#1	1.109112	1.059493	.8636268	.0056742	-.015337	.2169210
#2	1.093864	1.062981	.8713937	.0045565	-.023029	.2104806
#3	1.099742	1.065918	.8891041	.0040789	-.025710	.2040950

Elem	Sr4077
Units	ppm
Avg	1.062626
Stddev	.003410
%RSD	.3208881
#1	1.059720
#2	1.061779
#3	1.066380

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3766.223	109536.6	8830.139	5331.405	5831.861
Stddev	15.837	200.1	53.669	10.023	34.861
%RSD	.4205131	.1826400	.6077879	.1879932	.5977737
#1	3749.567	109352.1	8891.917	5341.116	5793.160
#2	3781.090	109508.6	8803.479	5332.002	5860.802
#3	3768.013	109749.3	8795.021	5321.097	5841.622

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: ICSADLX20 Acquired: 8/21/2024 14:23:11 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0006345	.0010543	.0006396	-.000007	-.000751	12.76653	.0023346
Stddev	.0011058	.0008093	.0002628	.001186	.001287	.05389	.0002585
%RSD	174.2981	76.76237	41.09491	15997.13	171.4535	.4221091	11.07033
#1	.0010664	.0016825	.0009416	-.000971	-.001961	12.70891	.0025631
#2	-.000622	.0013392	.0004627	-.000368	.000602	12.77498	.0020541
#3	.001459	.0001411	.0005144	.001317	-.000893	12.81569	.0023865

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001239	-.000113	12.76635	.0025148	.0002778	.0020947	5.085428
Stddev	.0000249	.000036	.07630	.0002585	.0001880	.0004165	.012812
%RSD	20.08188	32.23117	.5976815	10.28036	67.65039	19.88457	.2519294
#1	.0001005	-.000082	12.67840	.0023511	.0003784	.0016586	5.083067
#2	.0001500	-.000153	12.80579	.0023804	.0000610	.0021372	5.099255
#3	.0001212	-.000103	12.81487	.0028128	.0003942	.0024884	5.073961

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008795	13.09726	.0004455	.0006384	-.201787	-.000252	.0008871
Stddev	.0001868	.09076	.0002224	.0002019	.013261	.001579	.0001973
%RSD	21.23478	.6929852	49.92780	31.63442	6.571537	626.0856	22.23645
#1	.0009757	13.01006	.0006973	.0006168	-.206715	-.000428	.0010784
#2	.0006643	13.09052	.0002759	.0008502	-.211878	.001408	.0006844
#3	.0009986	13.19121	.0003633	.0004481	-.186768	-.001737	.0008985

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.155801	-.001105	.0000076	-.000876	-.000938	.0004250	-.002160
Stddev	.018424	.000559	.0001086	.000445	.000841	.0125684	.001058
%RSD	11.82568	50.54320	1425.950	50.84437	89.69769	2957.281	48.98525
#1	-.176726	-.001162	-.000086	-.000707	-.001838	.0077075	-.003371
#2	-.148664	-.000520	-.000018	-.000539	-.000173	.0076552	-.001692
#3	-.142012	-.001633	.000127	-.001380	-.000802	-.014088	-.001417

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: ICSADLX20 Acquired: 8/21/2024 14:23:11 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	-.002786	.0209524	-.000076
Stddev	.001571	.0079441	.000030
%RSD	56.39478	37.91502	39.57113
#1	-.000985	.0300576	-.000066
#2	-.003496	.0154346	-.000052
#3	-.003878	.0173651	-.000110

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4286.685	120263.0	9115.718	5847.778	7058.025
Stddev	32.131	267.8	34.478	5.532	60.169
%RSD	.7495419	.2226996	.3782301	.0946021	.8524847
#1	4250.833	120277.2	9154.868	5854.150	6990.203
#2	4296.347	119988.3	9089.878	5844.205	7078.881
#3	4312.876	120523.4	9102.409	5844.978	7104.991

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: ICSABDLX20 Acquired: 8/21/2024 14:28:45 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0067995	.0062327	.0022195	.0025838	.0287290	12.50722	.0259728
Stddev	.0004625	.0009534	.0007848	.0025572	.0007462	.03118	.0002410
%RSD	6.801919	15.29736	35.35882	98.97246	2.597321	.2492937	.9277319
#1	.0072864	.0051843	.0028556	.0016756	.0279309	12.48796	.0262283
#2	.0063660	.0064657	.0013425	.0054712	.0288471	12.49050	.0257497
#3	.0067462	.0070479	.0024603	.0006046	.0294092	12.54319	.0259405

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0257905	.0484743	12.57833	.0294935	.0255241	.0275892	5.443897
Stddev	.0001448	.0001891	.01148	.0002110	.0000591	.0003097	.027094
%RSD	.5614059	.3901739	.0912765	.7153020	.2314973	1.122619	.4976980
#1	.0257461	.0485514	12.58134	.0297221	.0255871	.0273281	5.449568
#2	.0259523	.0486128	12.56564	.0294521	.0254700	.0279314	5.414416
#3	.0256730	.0482588	12.58800	.0293063	.0255151	.0275081	5.467706

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0265982	12.87178	.0514617	.0113937	-.200392	.0254853	.0554604
Stddev	.0003353	.01069	.0001196	.0001189	.010074	.0018727	.0001839
%RSD	1.260548	.0830295	.2324170	1.043600	5.026957	7.347947	.3315068
#1	.0269593	12.88121	.0513246	.0113691	-.211036	.0262054	.0555375
#2	.0262968	12.87397	.0515159	.0115230	-.191008	.0233595	.0555932
#3	.0265386	12.86017	.0515446	.0112891	-.199133	.0268910	.0552506

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.187778	.0465216	.0517388	.0486319	.0479207	.0344001	-.000986
Stddev	.011489	.0003582	.0002794	.0001298	.0007154	.0084511	.001233
%RSD	6.118464	.7699489	.5400316	.2668495	1.492925	24.56714	125.1302
#1	-.199101	.0461359	.0519366	.0486451	.0487450	.0422274	-.001183
#2	-.188102	.0468438	.0518605	.0484960	.0474610	.0254395	-.002108
#3	-.176130	.0465850	.0514191	.0487545	.0475561	.0355335	.000335

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: ICSABDLX20 Acquired: 8/21/2024 14:28:45 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	-.002513	.0056907	.0490227
Stddev	.002540	.0039815	.0001690
%RSD	101.0391	69.96570	.3446636
#1	-.001268	.0035237	.0490769
#2	-.000837	.0032626	.0491580
#3	-.005435	.0102857	.0488333

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4289.957	115847.1	9572.876	5721.700	7053.592
Stddev	11.601	582.7	8.339	32.166	24.319
%RSD	.2704280	.5030067	.0871100	.5621814	.3447701
#1	4279.398	115603.1	9563.919	5695.613	7031.394
#2	4288.095	116512.2	9574.291	5757.641	7049.797
#3	4302.376	115426.1	9580.416	5711.847	7079.585

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: CCV01 Acquired: 8/21/2024 15:39:00 Type: Unk
Method: NON EPA-6010-200.7(v2351) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.957047	4.958543	4.990890	5.072315	5.210263	10.18835
Stddev	.007506	.065102	.010565	.012394	.005544	.02131
%RSD	.1514135	1.312927	.2116901	.2443557	.1064028	.2091426
#1	4.958765	5.021136	4.983137	5.070963	5.207821	10.16380
#2	4.948831	4.891193	4.986610	5.060651	5.206359	10.19924
#3	4.963544	4.963301	5.002924	5.085330	5.216609	10.20201

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.36473	.2516029	2.490981	25.53917	1.036616	2.552370
Stddev	.04136	.0009334	.005346	.13602	.002977	.006577
%RSD	.3990211	.3709668	.2145946	.5326127	.2872225	.2576728
#1	10.32115	.2505324	2.486066	25.44426	1.039943	2.545849
#2	10.40344	.2520307	2.490205	25.69501	1.035705	2.552260
#3	10.36959	.2522457	2.496672	25.47823	1.034201	2.559001

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.300912	5.335658	2.575237	25.43645	2.585701	1.242512
Stddev	.002745	.009565	.008447	.08600	.005421	.002611
%RSD	.2109946	.1792616	.3280115	.3380872	.2096694	.2101621
#1	1.297757	5.338063	2.565490	25.35067	2.580082	1.244822
#2	1.302749	5.325121	2.579807	25.43599	2.586122	1.239679
#3	1.302230	5.343791	2.580415	25.52267	2.590900	1.243035

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.63806	2.584720	2.551526	26.56439	5.070451	5.176649
Stddev	.11622	.013955	.012511	.03881	.021890	.004265
%RSD	.4362951	.5399075	.4903249	.1460906	.4317249	.0823874
#1	26.73333	2.570175	2.561914	26.59769	5.045336	5.177862
#2	26.50857	2.585985	2.537638	26.52177	5.080542	5.171909
#3	26.67227	2.597999	2.555025	26.57369	5.085477	5.180177

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: CCV01 Acquired: 8/21/2024 15:39:00 Type: Unk
Method: NON EPA-6010-200.7(v2351) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.143255	5.152008	F 5.654382	5.323501	5.106484	F 19.69178
Stddev	.008068	.025846	.031319	.001648	.009718	.02960
%RSD	.1568614	.5016686	.5538937	.0309599	.1903084	.1503270
#1	5.137228	5.127779	5.683553	5.325071	5.109904	19.66599
#2	5.140117	5.179213	5.621285	5.321784	5.095519	19.68526
#3	5.152420	5.149033	5.658308	5.323648	5.114030	19.72410

Elem	Sr4077
Units	ppm
Avg	5.017460
Stddev	.029101
%RSD	.5799974
#1	5.013287
#2	4.990670
#3	5.048422

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4289.316	121839.0	9640.627	5919.374	6760.330
Stddev	6.374	811.0	20.458	25.086	6.461
%RSD	.1485954	.6656253	.2122063	.4237906	.0955796
#1	4285.124	120907.3	9631.412	5891.024	6755.218
#2	4286.174	122223.4	9626.397	5938.699	6758.178
#3	4296.651	122386.3	9664.072	5928.397	6767.592

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: CCB01 Acquired: 8/21/2024 15:43:37 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0008757	.0006551	.0003748	.0027180	.0003442	-.004682	.0000175
Stddev	.0006610	.0003206	.0003263	.0008166	.0005334	.012623	.0009472
%RSD	75.48023	48.93283	87.06009	30.04557	154.9482	269.5816	5414.149
#1	.0001127	.0008985	.0007011	.0022967	.0009583	-.014865	.0006293
#2	.0012430	.0002919	.0003747	.0021980	.0000780	.009440	-.001074
#3	.0012716	.0007749	.0000485	.0036592	-.000004	-.008622	.000497

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000378	-.000029	.0030118	-.000006	.0000415	.0001472	.0046759
Stddev	.0000274	.000039	.0032776	.000094	.0000758	.0004471	.0023333
%RSD	72.57719	134.3160	108.8269	1523.538	182.7055	303.7994	49.90177
#1	.0000402	-.000074	.0027718	-.000105	.0001192	-.000177	.0021951
#2	.0000640	-.000016	-.000139	.000082	-.000032	-.000039	.0050058
#3	.0000092	.000001	.006403	.000004	.000038	.000657	.0068267

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000065	.0044933	-.000050	.0009606	-.253960	-.001279	.0003438
Stddev	.000260	.0142166	.000016	.0002582	.006527	.001587	.0000895
%RSD	400.5848	316.3945	33.08521	26.87574	2.570284	124.0491	26.04606
#1	-.000160	-.008729	-.000068	.0006658	-.259587	-.002837	.0004432
#2	-.000264	.002678	-.000039	.0010697	-.255488	-.001335	.0003187
#3	.000229	.019530	-.000041	.0011464	-.246804	.000335	.0002695

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.153676	.0096358	.0003446	-.000929	-.000340	-.001480	-.001925
Stddev	.024182	.0003255	.0000769	.000665	.001706	.006129	.000755
%RSD	15.73567	3.378238	22.31611	71.57513	502.2529	414.2158	39.22717
#1	-.169975	.0098277	.0004267	-.001671	.000937	.005293	-.002757
#2	-.125892	.0092599	.0002743	-.000725	.000321	-.003089	-.001736
#3	-.165160	.0098197	.0003329	-.000390	-.002277	-.006644	-.001282

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: CCB01 Acquired: 8/21/2024 15:43:37 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	-.001316	-.011197	.0000669
Stddev	.000655	.008709	.0000505
%RSD	49.77995	77.78092	75.45709
#1	-.000664	-.020113	.0000584
#2	-.001310	-.010766	.0000212
#3	-.001975	-.002711	.0001210

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4431.768	126569.5	9902.678	6165.693	7390.580
Stddev	4.569	344.6	25.121	28.008	4.616
%RSD	.1031021	.2722686	.2536787	.4542520	.0624641
#1	4428.292	126367.2	9916.617	6178.714	7386.436
#2	4436.944	126373.8	9917.739	6133.545	7395.556
#3	4430.069	126967.4	9873.678	6184.819	7389.748

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: LR1 Acquired: 8/21/2024 15:48:04 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0242979	.0728109	.0331393	-.085166	.0013664	2074.736
Stddev	.0045755	.0107397	.0053029	.005011	.0046316	19.322
%RSD	18.83101	14.75014	16.00182	5.883582	338.9514	.9313079
#1	.0294689	.0667921	.0344903	-.089734	.0044494	2090.213
#2	.0207737	.0664303	.0272916	-.079806	.0036095	2053.080
#3	.0226512	.0852103	.0376360	-.085958	-.003960	2080.915

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0220370	.0087485	-.010884	1706.318	.0076311	.0363455
Stddev	.0008722	.0000724	.000360	22.068	.0000689	.0003860
%RSD	3.957647	.8273585	3.310548	1.293314	.9030791	1.061911
#1	.0210313	.0087364	-.010967	1723.089	.0075912	.0358999
#2	.0225841	.0088262	-.010489	1681.318	.0077106	.0365643
#3	.0224957	.0086830	-.011195	1714.546	.0075914	.0365725

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1355170	1066.119	.0141044	1756.841	.0361157	.0430075
Stddev	.0034472	6.214	.0004588	11.572	.0005110	.0011234
%RSD	2.543755	.5828311	3.252973	.6586762	1.414853	2.612140
#1	.1350272	1072.436	.0145333	1747.172	.0359275	.0440013
#2	.1391829	1060.015	.0141593	1753.688	.0366941	.0417886
#3	.1323408	1065.906	.0136206	1769.662	.0357255	.0432327

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2113.167	.0116204	.1041178	F 1621.961	.2067284	-.002346
Stddev	14.799	.0053027	.0013430	8.199	.0047859	.000289
%RSD	.7003056	45.63307	1.289865	.5054790	2.315045	12.31795
#1	2108.470	.0083930	.1026028	1628.203	.2122189	-.002013
#2	2101.287	.0177404	.1051621	1612.676	.2034398	-.002532
#3	2129.744	.0087278	.1045884	1625.005	.2045264	-.002493

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: LR1 Acquired: 8/21/2024 15:48:04 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	-.005648	-.048496	.1530623	.0577652	-.257020	1.941856
Stddev	.001319	.000420	.0121255	.0031558	.010286	.041071
%RSD	23.34327	.8665410	7.921914	5.463066	4.001964	2.115048
#1	-.007131	-.048288	.1581733	.0545142	-.261926	1.895998
#2	-.005210	-.048980	.1392181	.0579651	-.245200	1.954316
#3	-.004605	-.048221	.1617955	.0608162	-.263934	1.975254

Elem	Sr4077
Units	ppm
Avg	-1.05404
Stddev	.00629
%RSD	.5969176
#1	-1.06050
#2	-1.04793
#3	-1.05370

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2897.487	87442.18	8238.237	4058.400	4134.559
Stddev	11.059	258.02	36.106	2.362	8.989
%RSD	.3816780	.2950724	.4382687	.0581990	.2174023
#1	2885.072	87738.19	8263.833	4060.208	4124.558
#2	2906.283	87323.46	8253.937	4055.727	4137.156
#3	2901.106	87264.90	8196.939	4059.263	4141.963

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: LR2 Acquired: 8/21/2024 15:53:08 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0153628	.0133213	229.0056	.0154820	-.000338	.0747591
Stddev	.0011732	.0011782	1.1563	.0014819	.001334	.0019959
%RSD	7.636877	8.844561	.5049428	9.572015	394.7585	2.669812
#1	.0157256	.0130351	228.0835	.0161312	-.000753	.0757616
#2	.0163118	.0146162	228.6303	.0137862	.001154	.0760550
#3	.0140510	.0123125	230.3030	.0165285	-.001416	.0724606

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	94.04748	-.002322	-.001755	.1516357	.0208626	-.025870
Stddev	.66171	.000045	.000017	.0061493	.0003529	.000357
%RSD	.7035893	1.954410	.9592114	4.055287	1.691601	1.379138
#1	93.46317	-.002286	-.001737	.1446534	.0207183	-.025668
#2	94.76601	-.002373	-.001770	.1540091	.0206046	-.025660
#3	93.91325	-.002306	-.001758	.1562445	.0212647	-.026282

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	265.0043	.0924270	43.17121	-.007261	46.87176	.0062746
Stddev	1.4463	.0043897	.14402	.013862	.30808	.0003873
%RSD	.5457703	4.749335	.3335951	190.9091	.6572912	6.171843
#1	263.5915	.0919871	43.01064	-.015840	46.57071	.0058601
#2	264.9395	.0882738	43.28896	-.014675	46.85813	.0066272
#3	266.4820	.0970200	43.21402	.008731	47.18643	.0063366

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2719493	-.007698	F 27.68331	.3177523	.0022417	-.001960
Stddev	.0365479	.001677	.15046	.0664051	.0006936	.000310
%RSD	13.43923	21.78666	.5434988	20.89838	30.94168	15.82131
#1	.3045066	-.008308	27.69303	.3804723	.0028772	-.001907
#2	.2789248	-.005801	27.52823	.3245930	.0015018	-.002294
#3	.2324163	-.008984	27.82868	.2481917	.0023461	-.001681

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: LR2 Acquired: 8/21/2024 15:53:08 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	-.007283	-.043681	-.014292	-.215970	-.020833	-.016521
Stddev	.000099	.000245	.004291	.005421	.004721	.006432
%RSD	1.359491	.5603177	30.02378	2.509979	22.66338	38.93460
#1	-.007392	-.043701	-.013754	-.210108	-.025646	-.021070
#2	-.007257	-.043915	-.018826	-.217002	-.020642	-.019330
#3	-.007199	-.043427	-.010295	-.220801	-.016209	-.009161

Elem	Sr4077
Units	ppm
Avg	.0016211
Stddev	.0000848
%RSD	5.228347
#1	.0015380
#2	.0017074
#3	.0016177

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4057.645	127490.3	10570.81	5928.746	7264.490
Stddev	10.109	93.1	146.56	5.916	19.856
%RSD	.2491368	.0730546	1.386424	.0997862	.2733329
#1	4068.634	127389.5	10729.91	5934.896	7287.079
#2	4055.562	127508.2	10541.21	5928.244	7256.600
#3	4048.740	127573.2	10441.31	5923.096	7249.792

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3612-01 Acquired: 8/21/2024 15:58:17 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0050484	.0018796	.0056666	.0041416	.0160970	.3359638	.2369515
Stddev	.0014393	.0005935	.0005857	.0022185	.0012688	.0073335	.0012629
%RSD	28.50955	31.57231	10.33616	53.56555	7.882129	2.182816	.5329713
#1	.0033911	.0012004	.0062094	.0029599	.0170565	.3433405	.2383286
#2	.0057690	.0022979	.0057446	.0067008	.0146584	.3286743	.2358474
#3	.0059851	.0021406	.0050458	.0027641	.0165761	.3358765	.2366786

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000001	.0152894	29.47542	.0101908	.0044002	.0069592	1.382041
Stddev	.000056	.0000880	.05986	.0002764	.0000771	.0001263	.007468
%RSD	8865.656	.5759184	.2030757	2.712468	1.751200	1.814153	.5403958
#1	.000004	.0151882	29.54452	.0099601	.0043129	.0068208	1.373425
#2	-.000058	.0153318	29.44215	.0101152	.0044585	.0069888	1.386029
#3	.000052	.0153483	29.43959	.0104972	.0044294	.0070680	1.386669

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2203196	3.286365	.0412753	.0007982	690.2338	.0007081	15.26444
Stddev	.0005769	.020927	.0003936	.0001419	4.6580	.0022280	.04640
%RSD	.2618631	.6367917	.9535244	17.78183	.6748421	314.6523	.3039769
#1	.2202343	3.264363	.0408212	.0009526	687.6505	.0031747	15.31519
#2	.2209345	3.288714	.0414860	.0007684	695.6110	-.001158	15.22419
#3	.2197901	3.306019	.0415186	.0006735	687.4399	.000108	15.25394

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.925831	.9188319	.4962403	-.006261	.0010242	.6942203	2.696766
Stddev	.008996	.0070280	.0022207	.000254	.0014742	.0046315	.009841
%RSD	.1135011	.7648887	.4475021	4.061826	143.9303	.6671549	.3649181
#1	7.921742	.9236752	.4940403	-.005968	.0009930	.6890222	2.696418
#2	7.919606	.9107711	.4961995	-.006391	-.000434	.6979082	2.687104
#3	7.936146	.9220494	.4984811	-.006424	.002514	.6957305	2.706777

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3612-01 Acquired: 8/21/2024 15:58:17 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	5.627153	1.070274	.0763788
Stddev	.027382	.015777	.0001140
%RSD	.4865989	1.474135	.1493235
#1	5.603425	1.088406	.0765051
#2	5.620921	1.062735	.0763480
#3	5.657114	1.059680	.0762833

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4030.997	119347.8	9878.904	5847.244	6140.752
Stddev	7.828	527.0	24.607	7.153	17.829
%RSD	.1941872	.4415541	.2490813	.1223231	.2903461
#1	4032.533	119905.2	9902.142	5855.250	6151.775
#2	4037.943	118857.6	9881.442	5844.998	6150.300
#3	4022.515	119280.6	9853.126	5841.484	6120.182

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3655-01 Acquired: 8/21/2024 16:02:44 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0193382	.0006960	.0455692	.0034490	.0109607	.1320972
Stddev	.0012649	.0007463	.0013089	.0009614	.0011426	.0040760
%RSD	6.540901	107.2310	2.872323	27.87364	10.42424	3.085621
#1	.0190467	-.000098	.0442856	.0033317	.0120326	.1367246
#2	.0207233	.001384	.0469020	.0044637	.0097586	.1305283
#3	.0182444	.000802	.0455201	.0025517	.0110907	.1290388

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.280518	-.000037	.0026558	.9705572	.0035965	-.001093
Stddev	.016389	.000037	.0000921	.0034112	.0001180	.000090
%RSD	.4995835	99.07545	3.466344	.3514652	3.281535	8.204706
#1	3.262604	-.000047	.0025503	.9720932	.0034605	-.000992
#2	3.284191	.000004	.0026975	.9729303	.0036714	-.001164
#3	3.294759	-.000069	.0027197	.9666480	.0036577	-.001122

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0073999	.0696081	.0794069	.4149702	.0012100	.0004057
Stddev	.0002198	.0029785	.0001861	.0154224	.0001264	.0001051
%RSD	2.970218	4.278936	.2343075	3.716513	10.44914	25.89921
#1	.0073217	.0678673	.0794140	.4191310	.0012160	.0004501
#2	.0072299	.0730473	.0795893	.3978943	.0013333	.0002857
#3	.0076481	.0679099	.0792174	.4278854	.0010806	.0004813

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	641.7499	.0009045	F 40.70981	.6617427	.2938087	-.008129
Stddev	5.5283	.0004156	.11833	.0622173	.0017063	.000328
%RSD	.8614418	45.95309	.2906663	9.402032	.5807477	4.029907
#1	636.2269	.0007736	40.73632	.6138685	.2956513	-.008275
#2	641.7392	.0005701	40.81265	.6392898	.2922833	-.008359
#3	647.2835	.0013698	40.58048	.7320698	.2934913	-.007754

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3655-01 Acquired: 8/21/2024 16:02:44 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	-.008239	.0015409	.7323515	.0935190	1.398322	-.008553
Stddev	.000387	.0007442	.0151571	.0029561	.016186	.001394
%RSD	4.696096	48.29521	2.069643	3.160943	1.157548	16.29944
#1	-.008579	.0006821	.7208290	.0904273	1.379712	-.006979
#2	-.008321	.0019953	.7267040	.0938122	1.406127	-.009050
#3	-.007818	.0019452	.7495215	.0963176	1.409127	-.009631

Elem	Sr4077
Units	ppm
Avg	.0644435
Stddev	.0002726
%RSD	.4229705
#1	.0642073
#2	.0643814
#3	.0647418

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4231.684	116864.3	10490.92	5818.277	6495.245
Stddev	47.025	591.2	73.90	9.861	76.675
%RSD	1.111253	.5058552	.7043714	.1694902	1.180476
#1	4281.779	117055.3	10405.62	5828.212	6576.772
#2	4188.492	117336.4	10531.95	5808.491	6424.580
#3	4224.782	116201.3	10535.21	5818.127	6484.384

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3655-02 Acquired: 8/21/2024 16:09:09 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0326474	.0011089	44.18739	.0008693	.1080012	.4135830
Stddev	.0015262	.0009222	.19506	.0012617	.0009772	.0107937
%RSD	4.674873	83.16602	.4414390	145.1327	.9048460	2.609797
#1	.0309744	.0002189	43.97012	.0003205	.1071250	.4047952
#2	.0330044	.0010475	44.24461	-.000025	.1078236	.4103227
#3	.0339636	.0020602	44.34744	.002312	.1090552	.4256309

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1988236	-.000033	.0293656	1.566498	.0047550	.0158987
Stddev	.0003973	.000029	.0001565	.012238	.0001533	.0000493
%RSD	.1998458	88.72600	.5328155	.7812297	3.225107	.3101885
#1	.1986270	-.000004	.0292051	1.564429	.0048265	.0159520
#2	.1992810	-.000032	.0293741	1.579639	.0045790	.0158892
#3	.1985630	-.000062	.0295176	1.555427	.0048597	.0158547

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0904202	.0825171	.1652116	.7923314	.0021408	.0003982
Stddev	.0005218	.0022623	.0010428	.0156171	.0001539	.0003359
%RSD	.5771270	2.741646	.6311747	1.971032	7.190060	84.35756
#1	.0907163	.0839307	.1650392	.7743655	.0021403	.0004297
#2	.0907266	.0799078	.1663298	.8026612	.0022950	.0007173
#3	.0898176	.0837127	.1642658	.7999675	.0019871	.0000477

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	720.3554	.0024772	F 49.87642	1.155051	.0902807	-.012398
Stddev	3.4892	.0030364	.64536	.027233	.0017480	.000110
%RSD	.4843652	122.5744	1.293910	2.357767	1.936207	.8834732
#1	723.3187	-.000728	50.41309	1.180302	.0883037	-.012396
#2	721.2378	.002850	49.16034	1.158656	.0909169	-.012289
#3	716.5098	.005310	50.05582	1.126195	.0916215	-.012508

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3655-02 Acquired: 8/21/2024 16:09:09 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	-.008797	.0007664	1.144875	.1947510	2.560131	-.003606
Stddev	.000115	.0016034	.017537	.0013299	.002766	.006352
%RSD	1.312472	209.2237	1.531742	.6828500	.1080342	176.1461
#1	-.008898	.0024773	1.160798	.1936776	2.557924	-.001316
#2	-.008671	-.000702	1.126079	.1962386	2.559236	.001284
#3	-.008821	.000524	1.147748	.1943366	2.563234	-.010786

Elem	Sr4077
Units	ppm
Avg	.0138297
Stddev	.0000523
%RSD	.3785262
#1	.0137692
#2	.0138593
#3	.0138605

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4110.052	115013.0	9795.763	5771.860	6234.069
Stddev	9.823	649.2	93.925	37.837	25.512
%RSD	.2389994	.5644359	.9588353	.6555390	.4092378
#1	4120.935	114333.4	9897.777	5738.480	6263.523
#2	4101.844	115626.8	9712.869	5812.962	6219.787
#3	4107.375	115078.8	9776.643	5764.138	6218.896

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3655-03 Acquired: 8/21/2024 16:13:53 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0275884	.0008721	17.23577	.0016642	.1428057	.7431294
Stddev	.0003398	.0010324	.01889	.0010531	.0009322	.0085781
%RSD	1.231617	118.3792	.1096199	63.27818	.6527630	1.154315
#1	.0271985	.0003950	17.23121	.0020527	.1434700	.7359332
#2	.0277451	.0020567	17.21957	.0024679	.1432069	.7526219
#3	.0278215	.0001646	17.25652	.0004721	.1417400	.7408331

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3245979	.0000091	.0485830	.9950956	.0083102	.0280332
Stddev	.0010021	.0000374	.0000403	.0038161	.0002456	.0000080
%RSD	.3087245	409.4363	.0829173	.3834892	2.955763	.0286623
#1	.3243157	.0000380	.0486295	.9912329	.0081667	.0280385
#2	.3237672	-.000033	.0485589	.9988633	.0081701	.0280372
#3	.3257109	.000023	.0485606	.9951906	.0085939	.0280240

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0382366	.2084098	.1034603	.6110386	.0017749	.0003577
Stddev	.0002434	.0025119	.0008062	.0109399	.0001746	.0002497
%RSD	.6365374	1.205252	.7791998	1.790376	9.836112	69.79979
#1	.0381389	.2068958	.1025637	.6122302	.0015786	.0006298
#2	.0385137	.2113093	.1036917	.6213339	.0018334	.0001393
#3	.0380572	.2070242	.1041255	.5995517	.0019127	.0003039

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	590.1618	-.000454	F 47.76388	.7880273	.0792571	-.011095
Stddev	2.9453	.001251	.33791	.0323149	.0008328	.000042
%RSD	.4990639	275.8772	.7074551	4.100739	1.050770	.3762843
#1	589.2052	-.001453	47.38281	.7511047	.0790987	-.011057
#2	587.8137	-.000858	48.02703	.8018197	.0785149	-.011139
#3	593.4665	.000950	47.88179	.8111574	.0801577	-.011088

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3655-03 Acquired: 8/21/2024 16:13:53 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	-.008599	.0002360	.9177259	.0634158	2.892929	-.003255
Stddev	.000168	.0005405	.0179479	.0006455	.012320	.008037
%RSD	1.952197	229.0273	1.955688	1.017910	.4258829	246.9536
#1	-.008738	-.000097	.9370874	.0626752	2.907139	-.002300
#2	-.008413	.000860	.9144464	.0637129	2.886418	-.011727
#3	-.008647	-.000054	.9016440	.0638592	2.885231	.004263

Elem	Sr4077
Units	ppm
Avg	.0129835
Stddev	.0000511
%RSD	.3933129
#1	.0129246
#2	.0130152
#3	.0130108

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4344.659	117430.8	9899.393	5910.011	6635.960
Stddev	5.510	410.9	86.537	11.994	6.030
%RSD	.1268180	.3499136	.8741648	.2029412	.0908673
#1	4347.161	117448.2	9942.200	5901.456	6640.494
#2	4338.342	117832.7	9956.184	5923.721	6629.117
#3	4348.474	117011.4	9799.796	5904.857	6638.270

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3610-01 Acquired: 8/21/2024 16:18:39 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0060922	.0015942	.0014573	.0043288	.0004709	.3664150
Stddev	.0006947	.0003887	.0007338	.0032389	.0004236	.0229759
%RSD	11.40237	24.37867	50.35326	74.82351	89.95650	6.270473
#1	.0067776	.0013605	.0006406	.0011619	.0009525	.3695781
#2	.0061103	.0013794	.0020611	.0076352	.0003044	.3420213
#3	.0053887	.0020429	.0016703	.0041892	.0001559	.3876455

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0710135	-.000029	.0004290	69.27361	.0389995	.0141560
Stddev	.0007709	.000014	.0000441	.46910	.0002443	.0001609
%RSD	1.085543	47.84269	10.27085	.6771738	.6262848	1.136501
#1	.0705421	-.000041	.0004794	68.74113	.0392704	.0142697
#2	.0719031	-.000031	.0003978	69.62591	.0389317	.0139719
#3	.0705952	-.000014	.0004097	69.45379	.0387962	.0142263

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1238356	.9933329	.4238300	47.88006	.0341806	.0005659
Stddev	.0008610	.0098295	.0029419	.61572	.0001516	.0003737
%RSD	.6952766	.9895440	.6941115	1.285970	.4435396	66.03878
#1	.1229255	1.001686	.4204721	47.16909	.0340890	.0002243
#2	.1239440	.982502	.4250640	48.23377	.0340972	.0009651
#3	.1246372	.995811	.4259538	48.23732	.0343556	.0005084

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	863.7526	.0100499	.4947268	31.00904	.1928903	.0089066
Stddev	12.2895	.0004094	.0024140	.29901	.0035071	.0002042
%RSD	1.422803	4.074067	.4879489	.9642742	1.818201	2.293088
#1	869.4838	.0102113	.4926841	31.33033	.1888900	.0090564
#2	872.1296	.0103540	.4973907	30.73891	.1954366	.0089894
#3	849.6444	.0095843	.4941055	30.95787	.1943443	.0086739

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3610-01 Acquired: 8/21/2024 16:18:39 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	-.008646	.0075217	F 11.94392	.1906680	F 40.25934	.0764282
Stddev	.000670	.0011564	.08505	.0008792	.08217	.0136871
%RSD	7.755285	15.37391	.7120620	.4611171	.2040908	17.90841
#1	-.009179	.0063726	12.03328	.1909823	40.20833	.0619468
#2	-.007893	.0075074	11.86397	.1913468	40.35413	.0891510
#3	-.008865	.0086852	11.93449	.1896748	40.21557	.0781867

Elem	Sr4077
Units	ppm
Avg	.4557790
Stddev	.0025065
%RSD	.5499316
#1	.4528849
#2	.4572502
#3	.4572018

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3912.036	110553.4	9158.009	5535.673	5906.115
Stddev	3.348	201.2	145.229	32.054	7.410
%RSD	.0855823	.1820327	1.585813	.5790483	.1254675
#1	3908.509	110377.9	9316.288	5535.293	5899.118
#2	3912.428	110509.4	9030.888	5503.811	5913.879
#3	3915.170	110773.1	9126.850	5567.916	5905.347

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3610-02 Acquired: 8/21/2024 16:23:06 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0041947	.0012234	.0093951	.0029691	.0007632	.1166611	.0836850
Stddev	.0004083	.0021019	.0007662	.0008547	.0008757	.0080281	.0013768
%RSD	9.733973	171.8039	8.155141	28.78715	114.7317	6.881565	1.645182
#1	.0041050	.0023732	.0097960	.0023031	.0007920	.1120971	.0852719
#2	.0038387	.0024996	.0098777	.0039329	.0016242	.1259308	.0829734
#3	.0046404	-.001203	.0085117	.0026714	-.000126	.1119555	.0828096

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000171	-.000135	48.11338	.0431766	.0010685	.0092777	1.680078
Stddev	.000042	.000055	.22732	.0001132	.0001033	.0003356	.011255
%RSD	24.76065	40.45964	.4724676	.2620814	9.670053	3.616859	.6699145
#1	-.000190	-.000072	48.33253	.0432647	.0011776	.0092889	1.672374
#2	-.000199	-.000161	48.12891	.0432162	.0009721	.0089367	1.674866
#3	-.000122	-.000171	47.87868	.0430490	.0010558	.0096075	1.692995

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3013501	23.35872	.0175803	.0004227	204.4263	.0090609	.0948122
Stddev	.0017847	.13518	.0002224	.0004581	.4966	.0027115	.0006731
%RSD	.5922281	.5787267	1.264743	108.3553	.2429217	29.92520	.7099397
#1	.3034108	23.49879	.0178103	.0000488	204.2298	.0099730	.0940627
#2	.3003142	23.34833	.0175640	.0002858	204.9911	.0111988	.0950088
#3	.3003252	23.22903	.0173665	.0009337	204.0580	.0060110	.0953651

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.28924	.1798101	.0142406	-.007191	.0026300	5.519361	.8112930
Stddev	.03688	.0012006	.0001678	.000181	.0008143	.013714	.0016851
%RSD	.3001131	.6677150	1.178606	2.510124	30.96042	.2484772	.2076990
#1	12.27707	.1810949	.0142799	-.007005	.0030124	5.529591	.8102097
#2	12.25999	.1796188	.0143854	-.007204	.0016949	5.503778	.8104349
#3	12.33068	.1787166	.0140566	-.007365	.0031827	5.524716	.8132343

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3610-02 Acquired: 8/21/2024 16:23:06 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	4.219716	.0450538	.2535310
Stddev	.022578	.0090726	.0017409
%RSD	.5350569	20.13735	.6866758
#1	4.205759	.0438544	.2554981
#2	4.207625	.0546664	.2529064
#3	4.245765	.0366405	.2521886

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4400.723	116039.2	8589.628	5852.632	6898.898
Stddev	5.581	142.1	64.883	12.129	12.192
%RSD	.1268208	.1224585	.7553619	.2072445	.1767184
#1	4400.506	116139.2	8530.870	5854.824	6897.929
#2	4395.254	115876.5	8578.753	5839.557	6887.220
#3	4406.410	116101.9	8659.261	5863.516	6911.545

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3655-04 Acquired: 8/21/2024 16:27:34 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0749851	.0043116	.8338642	-.000008	.0283217	24.33595
Stddev	.0016887	.0010535	.0012682	.002014	.0021919	.02354
%RSD	2.252047	24.43502	.1520906	26638.59	7.739136	.0967309
#1	.0741625	.0053938	.8324038	.000612	.0303096	24.34227
#2	.0738653	.0042516	.8345005	-.002259	.0259711	24.35568
#3	.0769275	.0032893	.8346883	.001623	.0286844	24.30989

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	79.47708	.0011844	.0200023	25.39700	.0355619	-.021025
Stddev	.45823	.0000467	.0000968	.03867	.0000775	.000266
%RSD	.5765548	3.946663	.4840312	.1522791	.2179936	1.265025
#1	79.41782	.0012233	.0199273	25.35297	.0356204	-.020725
#2	79.96206	.0011325	.0199680	25.41257	.0355914	-.021120
#3	79.05137	.0011972	.0201116	25.42547	.0354740	-.021231

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1004928	31.27903	1.397135	113.0753	.0243489	.0286948
Stddev	.0006594	.10885	.001382	.0777	.0002431	.0005118
%RSD	.6561755	.3479994	.0988931	.0686880	.9984238	1.783681
#1	.0998795	31.39510	1.396311	113.0521	.0242931	.0291644
#2	.1004086	31.17923	1.398730	113.1619	.0241386	.0287707
#3	.1011902	31.26276	1.396364	113.0119	.0246150	.0281492

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.541957	.0628873	F 91.94653	3.951989	3.405479	-.015969
Stddev	.023526	.0015779	.18627	.039187	.011256	.000191
%RSD	.4245024	2.509028	.2025839	.9915734	.3305194	1.194218
#1	5.550652	.0610874	92.09438	3.919214	3.394108	-.015799
#2	5.515321	.0635423	91.73732	3.995394	3.416616	-.016175
#3	5.559898	.0640321	92.00788	3.941361	3.405712	-.015932

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3655-04 Acquired: 8/21/2024 16:27:34 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0189914	1.270202	9.240202	1.610064	F 14.84398	.4367424
Stddev	.0003627	.005970	.045086	.005972	.06315	.0055505
%RSD	1.909625	.4699656	.4879369	.3709345	.4254539	1.270893
#1	.0185837	1.265262	9.288779	1.614453	14.84427	.4304555
#2	.0192781	1.268507	9.199697	1.603263	14.78068	.4409651
#3	.0191124	1.276835	9.232129	1.612477	14.90699	.4388065

Elem	Sr4077
Units	ppm
Avg	1.342902
Stddev	.000536
%RSD	.0398964
#1	1.342287
#2	1.343265
#3	1.343154

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4315.347	122765.3	9374.895	6181.126	6615.829
Stddev	7.721	115.2	39.127	22.634	10.714
%RSD	.1789304	.0938420	.4173548	.3661821	.1619500
#1	4324.217	122661.2	9418.213	6158.370	6626.167
#2	4311.687	122745.7	9342.120	6203.636	6616.545
#3	4310.135	122889.1	9364.353	6181.371	6604.775

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3655-05 Acquired: 8/21/2024 16:32:09 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.2430732	.0348484	F 781.6251	.0014842	F 59.16422	584.8197
Stddev	.0134289	.0030063	51.6405	.0024729	4.24273	8.4754
%RSD	5.524617	8.626684	6.606815	166.6103	7.171111	1.449237
#1	.2576554	.0370662	830.3353	-.000626	63.46048	575.1394
#2	.2403488	.0360522	787.0564	.004205	59.05505	590.9058
#3	.2312155	.0314268	727.4836	.000873	54.97713	588.4138

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.47794	.0027888	.5223207	44.36846	F 6.716432	.8752623
Stddev	.78445	.0000652	.0424946	.50138	.118672	.0697713
%RSD	3.652352	2.338072	8.135727	1.130036	1.766896	7.971478
#1	20.68235	.0027660	.5647670	43.79134	6.665664	.9458040
#2	22.25075	.0027380	.5224171	44.61731	6.631589	.8736954
#3	21.50072	.0028623	.4797780	44.69674	6.852044	.8062877

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.911743	143.5407	2.165590	107.2459	.1268963	.0586777
Stddev	.216117	2.5651	.024126	1.0628	.0099300	.0013512
%RSD	7.422271	1.787024	1.114067	.9909639	7.825316	2.302777
#1	3.139023	141.7562	2.139201	106.0660	.1368483	.0582313
#2	2.887348	142.3858	2.171051	107.5437	.1268522	.0576062
#3	2.708858	146.4803	2.186517	108.1280	.1169884	.0601956

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.78432	.1681463	F 114.0258	4.407567	.2168268	.0063011
Stddev	.29352	.0062316	1.6712	.085262	.0050278	.0000769
%RSD	1.748787	3.706068	1.465615	1.934448	2.318798	1.220651
#1	16.59905	.1611597	115.8950	4.348036	.2132382	.0062876
#2	16.63118	.1701485	113.5064	4.369422	.2146690	.0063838
#3	17.12274	.1731307	112.6760	4.505242	.2225734	.0062318

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3655-05 Acquired: 8/21/2024 16:32:09 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	1.428046	5.031670	8.991386	4.222913	F 54.26473	.4961255
Stddev	.115128	.069388	.237697	.326192	4.07687	.0097128
%RSD	8.061925	1.379032	2.643607	7.724337	7.512932	1.957727
#1	1.543637	4.952488	8.810491	4.544764	58.27102	.4856307
#2	1.427115	5.060661	8.903067	4.231429	54.40240	.5047981
#3	1.313387	5.081862	9.260600	3.892547	50.12077	.4979476

Elem	Sr4077
Units	ppm
Avg	1.155398
Stddev	.015439
%RSD	1.336287
#1	1.137785
#2	1.161814
#3	1.166595

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3931.595	125730.1	9214.159	5958.046	6058.920
Stddev	313.057	1131.5	25.694	49.477	482.688
%RSD	7.962600	.8999424	.2788519	.8304258	7.966562
#1	3614.403	125479.2	9208.608	5968.025	5569.923
#2	3940.034	126966.0	9191.695	6001.773	6071.796
#3	4240.347	124745.1	9242.175	5904.340	6535.041

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: CCV02 Acquired: 8/21/2024 16:59:30 Type: Unk
Method: NON EPA-6010-200.7(v2351) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV02 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.772501	5.030455	4.725831	4.980815	4.916635	9.798235
Stddev	.083983	.130304	.095837	.088583	.079377	.014434
%RSD	1.759728	2.590297	2.027929	1.778477	1.614453	.1473161
#1	4.859256	5.180914	4.819264	5.075132	5.000325	9.795568
#2	4.691596	4.954436	4.627759	4.899376	4.842422	9.785320
#3	4.766651	4.956014	4.730471	4.967938	4.907157	9.813817

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.535860	.2671701	2.380894	24.63734	.9707361	2.441072
Stddev	.017442	.0017283	.048826	.09522	.0043613	.050516
%RSD	.1829137	.6468830	2.050757	.3864863	.4492737	2.069437
#1	9.540663	.2673528	2.428482	24.68553	.9748083	2.490777
#2	9.516519	.2653577	2.330917	24.52766	.9712658	2.389782
#3	9.550398	.2687998	2.383284	24.69884	.9661342	2.442656

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.232370	4.527387	2.455215	24.51329	2.461565	1.198748
Stddev	.022533	.039562	.004728	.08676	.050753	.005741
%RSD	1.828406	.8738472	.1925803	.3539293	2.061811	.4789153
#1	1.256006	4.531993	2.455308	24.43826	2.511299	1.199062
#2	1.211133	4.564445	2.450441	24.49332	2.409852	1.204326
#3	1.229972	4.485723	2.459896	24.60829	2.463545	1.192857

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.66723	2.436720	2.363397	22.98033	5.383186	4.858913
Stddev	.18914	.001513	.031545	.18946	.039944	.082711
%RSD	.8344109	.0621091	1.334731	.8244608	.7420134	1.702244
#1	22.66386	2.437463	2.366997	22.95868	5.388446	4.944810
#2	22.85803	2.434978	2.392987	23.17968	5.340872	4.779808
#3	22.47980	2.437718	2.330206	22.80261	5.420239	4.852121

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: CCV02 Acquired: 8/21/2024 16:59:30 Type: Unk
Method: NON EPA-6010-200.7(v2351) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV02 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.985017	4.905217	4.770272	5.041997	5.062335	F 18.97221
Stddev	.106771	.011951	.026003	.099514	.083698	.01828
%RSD	2.141841	.2436459	.5451037	1.973693	1.653339	.0963530
#1	5.093522	4.908220	4.759923	5.145974	5.153618	18.98551
#2	4.880068	4.892051	4.799857	4.947647	4.989200	18.95136
#3	4.981460	4.915381	4.751038	5.032371	5.044187	18.97976

Elem	Sr4077
Units	ppm
Avg	4.728492
Stddev	.021272
%RSD	.4498708
#1	4.736435
#2	4.744650
#3	4.704392

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4323.626	126207.4	8808.023	6160.923	6776.733
Stddev	71.110	780.3	37.095	38.725	127.871
%RSD	1.644691	.6182639	.4211546	.6285542	1.886915
#1	4248.677	125949.1	8793.245	6155.950	6648.172
#2	4390.147	125589.1	8850.230	6124.925	6903.903
#3	4332.052	127084.1	8780.594	6201.894	6778.123

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: CCB02 Acquired: 8/21/2024 17:03:39 Type: Unk
Method: NON EPA-6010-200.7(v2351) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001453	.0013916	.0005551	.0019895	.0006092	-.000976	.0015353
Stddev	.0006176	.0018371	.0007344	.0012040	.0008465	.002826	.0007836
%RSD	424.9958	132.0119	132.3062	60.51965	138.9411	289.7166	51.04291
#1	-.000518	-.000022	.0010248	.0028135	.0000853	-.003204	.0020810
#2	.000249	.003468	-.000291	.0006077	.0015858	.002204	.0018876
#3	.000705	.000729	.000932	.0025472	.0001566	-.001926	.0006373

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000711	.0000044	.0072032	.0000654	-.000035	.0002206	.0031374
Stddev	.0000275	.0000388	.0026222	.0001965	.000073	.0003287	.0058920
%RSD	38.63496	884.0379	36.40327	300.3530	208.2515	148.9955	187.8003
#1	.0000452	-.000039	.0093374	.0002402	.000031	.0000562	-.003035
#2	.0000681	.000015	.0042760	.0001032	-.000023	.0005992	.003745
#3	.0000999	.000037	.0079961	-.000147	-.000113	.0000066	.008702

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000274	-.002746	.0001399	.0001242	-.098338	.0010335	-.000277
Stddev	.000370	.010478	.0002277	.0002917	.017043	.0018052	.000161
%RSD	134.8478	381.5787	162.7465	234.9168	17.33148	174.6632	58.14808
#1	-.000696	-.000376	.0000880	.0001562	-.117503	.0012283	-.000229
#2	-.000005	.006344	-.000057	-.000182	-.084880	.0027334	-.000457
#3	-.000122	-.014206	.000389	.000398	-.092631	-.000861	-.000146

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0065634	.0123115	.0003540	-.000190	-.001113	-.004779	-.001718
Stddev	.0214359	.0006766	.0000705	.000559	.001282	.001299	.000585
%RSD	326.5954	5.495675	19.92399	294.1445	115.1645	27.18572	34.06375
#1	-.013168	.0130861	.0003996	-.000176	-.001299	-.005441	-.002114
#2	.003486	.0120125	.0002728	-.000755	-.002291	-.005614	-.001993
#3	.029372	.0118358	.0003897	.000362	.000252	-.003282	-.001046

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: CCB02 Acquired: 8/21/2024 17:03:39 Type: Unk
Method: NON EPA-6010-200.7(v2351) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.000496	-.004893	.0001113
Stddev	.002381	.006413	.0000345
%RSD	479.9973	131.0712	31.03439
#1	.000811	-.008886	.0000983
#2	.000945	.002505	.0000851
#3	-.003244	-.008296	.0001505

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4406.243	131447.5	9861.339	6446.690	7218.366
Stddev	15.606	751.5	88.495	48.883	22.909
%RSD	.3541878	.5717405	.8973983	.7582580	.3173661
#1	4388.229	132275.6	9777.482	6498.381	7192.114
#2	4414.811	131258.1	9852.697	6440.480	7228.672
#3	4415.688	130808.7	9953.838	6401.209	7234.311

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3655-06 Acquired: 8/21/2024 17:08:06 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.2316697	.0479694	F 690.8411	.0086111	F 44.07272	778.9386
Stddev	.0039635	.0015343	16.6067	.0014336	1.72441	22.4007
%RSD	1.710851	3.198443	2.403843	16.64824	3.912643	2.875792
#1	.2362323	.0494965	709.5426	.0069562	45.32502	796.5259
#2	.2290782	.0479837	685.1610	.0094046	42.10590	753.7192
#3	.2296985	.0464280	677.8197	.0094725	44.78723	786.5707

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.59054	.0028194	.5442689	41.60300	F 8.602832	1.155097
Stddev	.40429	.0001546	.0241135	.75437	.245073	.048659
%RSD	2.174718	5.482005	4.430433	1.813256	2.848753	4.212572
#1	18.73684	.0029304	.5674235	41.00732	8.869797	1.200685
#2	18.13347	.0028849	.5192991	41.35043	8.550640	1.103859
#3	18.90133	.0026429	.5460841	42.45124	8.388059	1.160747

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.594127	162.8718	2.284993	121.6157	.1130836	.0606756
Stddev	.134789	2.8661	.044850	1.7437	.0047359	.0012081
%RSD	5.195921	1.759712	1.962793	1.433774	4.187926	1.991024
#1	2.683182	161.3797	2.247897	120.4043	.1172621	.0620705
#2	2.439056	161.0595	2.272247	120.8287	.1079393	.0599850
#3	2.660144	166.1761	2.334837	123.6142	.1140494	.0599712

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.18030	.1682274	F 115.3648	5.580542	.2773622	.0034134
Stddev	.39148	.0035242	3.3185	.177283	.0036763	.0001951
%RSD	2.278647	2.094886	2.876522	3.176799	1.325437	5.714360
#1	16.87308	.1678834	119.1932	5.428421	.2786713	.0033410
#2	17.04674	.1648878	113.5911	5.537972	.2732106	.0032649
#3	17.62108	.1719109	113.3100	5.775234	.2802048	.0036343

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3655-06 Acquired: 8/21/2024 17:08:06 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	1.180176	4.495252	8.027485	3.655334	F 68.65714	.5653838
Stddev	.049713	.101975	.135263	.126932	3.05406	.0041912
%RSD	4.212360	2.268502	1.684999	3.472526	4.448283	.7413072
#1	1.228985	4.405472	7.919540	3.767791	71.32811	.5607140
#2	1.129605	4.474159	7.983699	3.517700	65.32748	.5688192
#3	1.181937	4.606123	8.179218	3.680513	69.31583	.5666182

Elem	Sr4077
Units	ppm
Avg	1.131762
Stddev	.027426
%RSD	2.423261
#1	1.107158
#2	1.126796
#3	1.161331

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4466.796	120136.2	9439.645	5710.772	6924.363
Stddev	100.659	3163.4	208.210	168.352	174.175
%RSD	2.253492	2.633188	2.205697	2.947965	2.515389
#1	4360.929	116519.2	9210.099	5519.951	6738.678
#2	4561.279	121502.9	9492.509	5774.046	7084.121
#3	4478.180	122386.4	9616.328	5838.319	6950.289

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3655-05DLX10 Acquired: 8/21/2024 17:12:56 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0545658	.0038972	82.15450	-.001220	5.293282	55.68812
Stddev	.0020280	.0008668	.08291	.001712	.016289	.08519
%RSD	3.716540	22.24202	.1009143	140.3135	.3077314	.1529828
#1	.0534973	.0046936	82.10328	.000555	5.279484	55.63151
#2	.0532954	.0040241	82.11008	-.002862	5.289111	55.78610
#3	.0569045	.0029739	82.25016	-.001355	5.311251	55.64676

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.070822	.0002934	.0458203	4.497552	.6753654	.0780510
Stddev	.001563	.0000040	.0000594	.013371	.0008022	.0001386
%RSD	.0754679	1.363437	.1295999	.2972848	.1187755	.1775201
#1	2.069298	.0002979	.0458544	4.494461	.6745700	.0779167
#2	2.070746	.0002921	.0457517	4.485997	.6761742	.0780430
#3	2.072421	.0002903	.0458548	4.512197	.6753522	.0781934

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2478503	15.08265	.2170435	10.62539	.0111820	.0060074
Stddev	.0015709	.13036	.0005990	.04527	.0001932	.0002926
%RSD	.6338210	.8643026	.2759753	.4260502	1.727519	4.871042
#1	.2464547	15.11274	.2176805	10.58421	.0110977	.0059665
#2	.2475446	14.93988	.2169583	10.67386	.0110453	.0063183
#3	.2495516	15.19534	.2164916	10.61811	.0114030	.0057374

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.429019	.0167886	F 36.34072	.3126737	.0268712	-.011606
Stddev	.016511	.0008675	.73661	.0217729	.0008565	.000302
%RSD	1.155421	5.167252	2.026960	6.963470	3.187313	2.606247
#1	1.424125	.0170288	36.28417	.3154268	.0274509	-.011280
#2	1.415507	.0158263	35.63402	.2896551	.0272753	-.011878
#3	1.447424	.0175107	37.10398	.3329390	.0258874	-.011662

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3655-05DLX10 Acquired: 8/21/2024 17:12:56 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.1249406	.4958740	.8905098	.3493331	4.577683	.0464283
Stddev	.0001696	.0060055	.0092089	.0034570	.020513	.0081427
%RSD	.1357525	1.211085	1.034117	.9896117	.4481001	17.53828
#1	.1249523	.5015667	.8821245	.3473078	4.562357	.0406363
#2	.1247654	.4964568	.8890395	.3473667	4.569706	.0557386
#3	.1251040	.4895983	.9003654	.3533248	4.600986	.0429100

Elem	Sr4077
Units	ppm
Avg	.1105286
Stddev	.0001397
%RSD	.1264167
#1	.1104027
#2	.1105042
#3	.1106789

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4490.048	129699.4	9872.813	6428.962	7207.930
Stddev	7.864	375.5	80.064	18.304	8.615
%RSD	.1751450	.2894893	.8109519	.2847156	.1195235
#1	4482.118	129271.8	9850.299	6408.225	7198.449
#2	4497.844	129975.0	9806.416	6435.789	7215.279
#3	4490.183	129851.5	9961.723	6442.871	7210.060

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3655-06DLX10 Acquired: 8/21/2024 17:21:01 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0551935	.0034116	81.25548	.0004180	4.409422	74.37776
Stddev	.0006261	.0017152	.15033	.0010297	.008701	.19320
%RSD	1.134341	50.27641	.1850119	246.3415	.1973216	.2597505
#1	.0547073	.0047820	81.12946	.0010089	4.404237	74.15649
#2	.0559000	.0014880	81.21509	.0010161	4.404561	74.51297
#3	.0549733	.0039646	81.42188	-.000771	4.419467	74.46384

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.735130	.0003116	.0534768	4.103066	.8143895	.1143392
Stddev	.004811	.0000055	.0001600	.020832	.0009085	.0003888
%RSD	.2772805	1.779528	.2992563	.5077292	.1115580	.3400700
#1	1.730327	.0003170	.0533081	4.079174	.8150300	.1139089
#2	1.735114	.0003059	.0534959	4.117436	.8147887	.1146655
#3	1.739949	.0003118	.0536264	4.112587	.8133497	.1144430

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2291985	15.36070	.2252630	11.94234	.0110815	.0057119
Stddev	.0003511	.10633	.0006020	.07096	.0001595	.0000219
%RSD	.1531950	.6922464	.2672341	.5941881	1.439251	.3834298
#1	.2289332	15.47428	.2245836	11.86427	.0112380	.0057348
#2	.2295966	15.34431	.2257300	11.95983	.0110873	.0056912
#3	.2290656	15.26352	.2254755	12.00292	.0109192	.0057098

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.347015	.0152343	F 40.86915	.3721638	.0279829	-.012017
Stddev	.006925	.0015108	.68206	.0151171	.0011135	.000454
%RSD	.5140700	9.916883	1.668875	4.061947	3.979348	3.780384
#1	1.347825	.0169688	41.60166	.3761953	.0267128	-.012525
#2	1.339721	.0142056	40.25236	.3554396	.0287914	-.011648
#3	1.353499	.0145286	40.75345	.3848564	.0284445	-.011880

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3655-06DLX10 Acquired: 8/21/2024 17:21:01 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.1143565	.4283187	.7041989	.3610426	6.990051	.0463071
Stddev	.0003005	.0026591	.0142765	.0008988	.025277	.0075836
%RSD	.2628077	.6208302	2.027333	.2489558	.3616076	16.37681
#1	.1140439	.4264909	.7203049	.3605424	6.971562	.0433685
#2	.1143821	.4313692	.6991894	.3605052	6.979737	.0549202
#3	.1146434	.4270959	.6931022	.3620803	7.018854	.0406325

Elem	Sr4077
Units	ppm
Avg	.1069757
Stddev	.0005431
%RSD	.5076365
#1	.1063519
#2	.1073429
#3	.1072324

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4409.997	128290.2	9549.425	6374.108	7037.397
Stddev	1.568	774.3	96.867	20.401	10.926
%RSD	.0355451	.6035784	1.014377	.3200533	.1552628
#1	4411.333	128135.5	9654.183	6376.919	7047.441
#2	4408.272	127604.8	9463.097	6352.448	7025.762
#3	4410.387	129130.1	9530.994	6392.957	7038.986

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3612-01DLX10 Acquired: 8/21/2024 17:25:33 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0000043	-.000426	.0017780	.0015805	.0016904	.0294756	.0238435
Stddev	.0015418	.001124	.0001676	.0010110	.0002715	.0054658	.0005934
%RSD	36278.02	263.8243	9.427165	63.96674	16.06365	18.54359	2.488576
#1	-.000667	.000852	.0015852	.0004134	.0018468	.0246047	.0232794
#2	-.001088	-.000868	.0018593	.0021874	.0013769	.0353869	.0244623
#3	.001768	-.001262	.0018894	.0021407	.0018476	.0284353	.0237888

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000500	.0014784	3.016217	.0017985	.0005814	.0008249	.1406837
Stddev	.0000416	.0000191	.005318	.0001765	.0001589	.0002421	.0019774
%RSD	83.23805	1.290976	.1763021	9.816056	27.32434	29.34788	1.405559
#1	.0000853	.0014571	3.018557	.0019795	.0007349	.0005518	.1429490
#2	.0000041	.0014941	3.019964	.0016268	.0004177	.0009101	.1393031
#3	.0000606	.0014839	3.010131	.0017892	.0005915	.0010129	.1397990

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0214159	.3372595	.0041300	.0006396	64.80753	-.000419	.7809560
Stddev	.0003900	.0122513	.0001302	.0001965	.47816	.001037	.0062875
%RSD	1.821272	3.632611	3.152646	30.71810	.7378190	247.4513	.8050967
#1	.0209693	.3268586	.0039831	.0005017	64.41002	-.001414	.7742459
#2	.0215889	.3341557	.0041753	.0005526	64.67443	.000655	.7867117
#3	.0216895	.3507643	.0042314	.0008646	65.33814	-.000499	.7819104

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5738263	.1002031	.0480286	-.000990	-.000016	.0531314	.2347777
Stddev	.0142327	.0008251	.0000484	.000216	.000311	.0046066	.0010092
%RSD	2.480314	.8234575	.1006926	21.82971	2003.727	8.670238	.4298422
#1	.5575283	.1010027	.0480768	-.000744	.000290	.0568824	.2359420
#2	.5801446	.1002520	.0479801	-.001148	-.000005	.0545223	.2342367
#3	.5838060	.0993546	.0480288	-.001078	-.000332	.0479896	.2341543

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3612-01DLX10 Acquired: 8/21/2024 17:25:33 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.5165961	.0896999	.0075690
Stddev	.0035002	.0059440	.0001130
%RSD	.6775412	6.626511	1.492786
#1	.5197859	.0958904	.0074425
#2	.5128518	.0891716	.0076044
#3	.5171507	.0840377	.0076600

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4535.906	130556.4	10236.56	6451.188	7197.994
Stddev	5.375	383.6	80.49	9.075	13.471
%RSD	.1184880	.2938032	.7862695	.1406755	.1871469
#1	4538.866	130132.1	10152.65	6458.989	7202.447
#2	4539.150	130658.7	10243.89	6441.228	7208.675
#3	4529.702	130878.5	10313.13	6453.346	7182.861

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3506-01 Acquired: 8/21/2024 17:29:57 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0047293	.0029015	.1346895	-.015585	.0010253	53.03663	.1706364
Stddev	.0014134	.0006665	.0020992	.001264	.0009469	.17923	.0003698
%RSD	29.88571	22.97046	1.558523	8.109418	92.35596	.3379351	.2167011
#1	.0052858	.0033653	.1322667	-.014672	.0013100	53.23454	.1702145
#2	.0057798	.0021377	.1359637	-.017028	-.000031	52.99008	.1707907
#3	.0031224	.0032016	.1358382	-.015056	.001797	52.88527	.1709041

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0028884	-.001602	53.75637	.1257908	.1235951	.7583548	130.6104
Stddev	.0000833	.000271	.20614	.0042020	.0032554	.0182560	.1378
%RSD	2.882646	16.94817	.3834656	3.340468	2.633879	2.407315	.1055037
#1	.0028606	-.001894	53.99315	.1209445	.1199082	.7384717	130.5916
#2	.0029820	-.001554	53.61686	.1284189	.1248043	.7622319	130.4830
#3	.0028225	-.001357	53.65912	.1280089	.1260728	.7743609	130.7566

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.465689	78.94870	.3392586	.0075065	5.239576	.1682497	.5236891
Stddev	.003503	.32921	.0073664	.0002684	.010267	.0009573	.0039716
%RSD	.2389846	.4169872	2.171321	3.576236	.1959489	.5689726	.7583808
#1	1.469720	79.25146	.3311583	.0073377	5.247787	.1679811	.5200611
#2	1.463961	78.99638	.3410608	.0073658	5.228065	.1693126	.5230737
#3	1.463386	78.59825	.3455567	.0078161	5.242876	.1674554	.5279324

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.935478	.0409372	.0007753	.0159805	5.243532	3.540979	3.852710
Stddev	.010380	.0011657	.0001229	.0005578	.021560	.008368	.098663
%RSD	.5363111	2.847438	15.84997	3.490644	.4111809	.2363232	2.560885
#1	1.929406	.0407927	.0008982	.0154891	5.267626	3.532761	3.743780
#2	1.929565	.0398505	.0007751	.0165868	5.236913	3.549490	3.878275
#3	1.947464	.0421684	.0006524	.0158656	5.226057	3.540685	3.936074

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3506-01 Acquired: 8/21/2024 17:29:57 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.8099204	.2441483	.2108882
Stddev	.0201464	.0139045	.0012137
%RSD	2.487460	5.695105	.5755131
#1	.7877864	.2381554	.2122653
#2	.8147872	.2342451	.2104250
#3	.8271876	.2600443	.2099743

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4688.251	142510.9	10606.24	6969.551	6791.571
Stddev	92.859	512.7	13.63	34.222	151.553
%RSD	1.980681	.3597658	.1285372	.4910265	2.231491
#1	4789.314	142993.2	10616.99	7003.338	6958.092
#2	4668.742	142567.2	10610.82	6970.407	6754.910
#3	4606.696	141972.4	10590.90	6934.909	6661.711

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: CCV03 Acquired: 8/21/2024 17:51:53 Type: Unk
Method: NON EPA-6010-200.7(v2351) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.851411	5.060381	4.875436	5.034203	5.059142	9.850695
Stddev	.018713	.044653	.003648	.010377	.015907	.110023
%RSD	.3857138	.8824086	.0748194	.2061364	.3144297	1.116907
#1	4.830298	5.039222	4.878924	5.023350	5.041337	9.852401
#2	4.865948	5.111681	4.875739	5.044029	5.064137	9.739829
#3	4.857987	5.030240	4.871647	5.035229	5.071953	9.959855

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.847930	.2619784	2.449527	24.98747	.9929885	2.522419
Stddev	.108275	.0020085	.002934	.29534	.0047625	.001132
%RSD	1.099466	.7666754	.1197613	1.181936	.4796158	.0448943
#1	9.852338	.2611148	2.446713	24.89909	.9946046	2.521296
#2	9.737518	.2605460	2.452567	24.74641	.9967327	2.523561
#3	9.953933	.2642742	2.449302	25.31690	.9876282	2.522399

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.263504	4.785324	2.496504	24.75361	2.532063	1.231775
Stddev	.002264	.002699	.028812	.32502	.002208	.000937
%RSD	.1792015	.0563937	1.154102	1.313008	.0872039	.0760755
#1	1.261550	4.786123	2.492463	24.63894	2.531469	1.232288
#2	1.265986	4.782316	2.469925	24.50146	2.534507	1.232344
#3	1.262978	4.787532	2.527123	25.12041	2.530212	1.230694

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.58514	2.475263	2.323679	23.89967	5.297121	5.063326
Stddev	.09271	.029420	.031389	.11235	.047741	.008681
%RSD	.3930708	1.188551	1.350836	.4700988	.9012579	.1714456
#1	23.68852	2.473884	2.353720	24.00401	5.281683	5.056755
#2	23.50939	2.446557	2.291096	23.78074	5.259010	5.073167
#3	23.55750	2.505348	2.326222	23.91425	5.350670	5.060057

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: CCV03 Acquired: 8/21/2024 17:51:53 Type: Unk
Method: NON EPA-6010-200.7(v2351) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.109066	4.992300	5.019929	5.019877	5.040177	F 18.88389
Stddev	.008799	.056054	.011800	.019691	.025867	.21345
%RSD	.1722216	1.122815	.2350616	.3922652	.5132079	1.130353
#1	5.102766	4.985609	5.013019	5.020498	5.010956	18.86869
#2	5.119119	4.939892	5.013214	5.039250	5.060142	18.67844
#3	5.105312	5.051400	5.033554	4.999883	5.049434	19.10454

Elem	Sr4077
Units	ppm
Avg	4.793377
Stddev	.069003
%RSD	1.439548
#1	4.763033
#2	4.744745
#3	4.872352

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4448.191	127147.0	9259.834	6190.105	7007.433
Stddev	19.578	681.8	64.631	12.504	28.534
%RSD	.4401304	.5362249	.6979765	.2019959	.4071943
#1	4431.718	126515.9	9264.556	6175.668	6982.516
#2	4443.021	127055.0	9321.975	6197.196	7001.222
#3	4469.836	127870.2	9192.971	6197.451	7038.560

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: CCB03 Acquired: 8/21/2024 17:56:03 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0009179	-.000543	.0004486	.0018437	-.000222	-.009345	.0020143
Stddev	.0006640	.000931	.0008970	.0008194	.000875	.013360	.0009513
%RSD	72.33952	171.4228	199.9681	44.44535	394.5433	142.9557	47.22891
#1	.0016337	-.001145	.0009736	.0025728	.000671	-.015199	.0030544
#2	.0007979	-.001013	.0009593	.0009569	-.001078	.005942	.0011882
#3	.0003221	.000529	-.000587	.0020014	-.000259	-.018779	.0018003

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000215	.0000435	.0041081	.0000470	.0001474	.0003455	.0020983
Stddev	.0000287	.0000476	.0067083	.0001900	.0001527	.0001027	.0017435
%RSD	133.5285	109.4491	163.2932	403.7770	103.6501	29.72719	83.09038
#1	-.000011	.0000927	.0118442	-.000160	-.000026	.0004578	.0015625
#2	.000035	.0000403	.0005809	.000213	.000261	.0003225	.0006856
#3	.000041	-.000002	-.000101	.000088	.000208	.0002562	.0040468

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000430	-.003081	.0000184	.0005624	-.190801	.0009543	-.000316
Stddev	.000187	.015842	.0000837	.0002678	.020397	.0011479	.000033
%RSD	43.45543	514.2673	453.9728	47.62443	10.69015	120.2843	10.55612
#1	-.000228	-.021356	.0000883	.0008223	-.210586	.0010372	-.000295
#2	-.000465	.006749	.0000413	.0002873	-.169843	-.000233	-.000298
#3	-.000597	.005366	-.000074	.0005777	-.191975	.002059	-.000354

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.102993	.0106646	.0003774	-.000346	-.000438	-.003465	-.000692
Stddev	.040478	.0007250	.0001504	.000455	.000306	.002108	.000784
%RSD	39.30115	6.798349	39.84699	131.4555	69.76127	60.84584	113.2829
#1	-.149705	.0112989	.0005162	.000070	-.000205	-.001445	.000111
#2	-.081028	.0108207	.0003983	-.000832	-.000325	-.003298	-.000731
#3	-.078246	.0098743	.0002176	-.000276	-.000784	-.005652	-.001457

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: CCB03 Acquired: 8/21/2024 17:56:03 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	-.002001	-.005059	.0000589
Stddev	.002537	.014412	.0000439
%RSD	126.8287	284.8799	74.42825
#1	-.000100	-.006917	.0000670
#2	-.001019	.010192	.0000982
#3	-.004882	-.018452	.0000116

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4489.988	136315.3	9821.791	6606.977	7353.063
Stddev	10.079	147.4	11.385	22.057	13.315
%RSD	.2244757	.1081224	.1159135	.3338509	.1810862
#1	4479.045	136333.3	9813.250	6612.096	7339.289
#2	4498.890	136159.7	9834.716	6582.810	7365.867
#3	4492.030	136452.8	9817.408	6626.024	7354.034

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3536-01 Acquired: 8/21/2024 18:10:09 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0015645	-.001511	.0523421	.0017638	.0041484	3.465198
Stddev	.0010224	.000224	.0009923	.0028433	.0010602	.071636
%RSD	65.34969	14.82292	1.895865	161.2021	25.55782	2.067290
#1	.0003843	-.001769	.0514018	.0001136	.0049274	3.422950
#2	.0021814	-.001400	.0522452	.0001309	.0045767	3.547910
#3	.0021276	-.001365	.0533793	.0050469	.0029410	3.424735

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1272495	.0002727	-.000703	105.4751	.0166530	.0055064
Stddev	.0017886	.0000291	.000039	1.0204	.0001914	.0001519
%RSD	1.405611	10.65144	5.615929	.9673931	1.149448	2.757702
#1	.1268793	.0002427	-.000660	105.3949	.0164323	.0056298
#2	.1291943	.0003007	-.000737	106.5332	.0167528	.0055526
#3	.1256750	.0002747	-.000710	104.4972	.0167739	.0053369

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0702655	26.16672	.5587100	10.13465	.0157805	.0017211
Stddev	.0002516	.08025	.0052917	.11130	.0003704	.0000951
%RSD	.3580281	.3066839	.9471329	1.098251	2.347519	5.522831
#1	.0705154	26.24725	.5592136	10.10696	.0153771	.0016496
#2	.0702690	26.08675	.5637319	10.25719	.0161053	.0018289
#3	.0700122	26.16618	.5531845	10.03981	.0158592	.0016847

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	33.44154	.0124770	.7167495	13.72973	.0745429	.0051308
Stddev	.08661	.0013574	.0028536	.11383	.0009758	.0002283
%RSD	.2589962	10.87924	.3981324	.8290862	1.309097	4.450657
#1	33.54150	.0134463	.7141374	13.85805	.0735852	.0048868
#2	33.38862	.0130591	.7163160	13.69021	.0755359	.0051661
#3	33.39451	.0109257	.7197950	13.64092	.0745075	.0053394

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3536-01 Acquired: 8/21/2024 18:10:09 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	-.004903	.1604630	F 13.06780	4.087932	4.493718	.1636779
Stddev	.000370	.0023212	.05444	.004485	.002750	.0063491
%RSD	7.544443	1.446562	.4166232	.1097169	.0611906	3.879017
#1	-.004959	.1618309	13.11147	4.082970	4.490739	.1576412
#2	-.004509	.1617752	13.00680	4.091699	4.494257	.1702990
#3	-.005243	.1577829	13.08513	4.089126	4.496158	.1630934

Elem	Sr4077
Units	ppm
Avg	.2704196
Stddev	.0036897
%RSD	1.364449
#1	.2697697
#2	.2743910
#3	.2670979

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4337.362	117690.7	9375.767	5781.038	6991.837
Stddev	7.013	108.3	123.124	11.078	14.307
%RSD	.1616866	.0920607	1.313215	.1916282	.2046309
#1	4337.356	117815.7	9447.180	5768.267	6992.966
#2	4330.352	117631.3	9233.596	5788.060	6976.998
#3	4344.378	117625.0	9446.525	5786.787	7005.546

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3549-01 Acquired: 8/21/2024 18:21:07 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0314152	.0010809	.2211751	-.020799	.0015507	127.5580	.3776702
Stddev	.0012584	.0018029	.0011705	.003808	.0017989	.2791	.0009430
%RSD	4.005598	166.7976	.5292269	18.30950	116.0088	.2188198	.2496902
#1	.0326433	.0009708	.2199606	-.018795	-.000053	127.3113	.3768652
#2	.0314738	.0029363	.2222960	-.025191	.001209	127.5018	.3774376
#3	.0301286	-.000664	.2212686	-.018413	.003496	127.8610	.3787077

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0067130	-.002127	25.07180	.2549755	.1407704	.4314108	238.4975
Stddev	.0000507	.000165	.07823	.0006194	.0010890	.0021553	.7651
%RSD	.7557723	7.770567	.3120291	.2429174	.7735934	.4995962	.3207928
#1	.0067305	-.002202	24.98833	.2556706	.1396631	.4290109	239.1936
#2	.0067527	-.002241	25.08360	.2547736	.1408080	.4320399	237.6784
#3	.0066559	-.001937	25.14346	.2544822	.1418401	.4331816	238.6205

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.993205	33.02770	.2023241	.0111061	7.937055	.5065682	.4254967
Stddev	.013220	.07907	.0014643	.0001090	.041164	.0017054	.0017441
%RSD	.3310523	.2394159	.7237206	.9814283	.5186267	.3366488	.4098917
#1	3.979185	33.04567	.2012747	.0110778	7.983925	.5046913	.4250399
#2	3.994988	32.94118	.2017008	.0112265	7.906777	.5069907	.4274237
#3	4.005443	33.09624	.2039969	.0110140	7.920462	.5080226	.4240265

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.429688	.0637757	.0038332	.0219747	5.923112	9.925267	5.611339
Stddev	.026071	.0030214	.0001366	.0002892	.022714	.051144	.046691
%RSD	.4801587	4.737474	3.562704	1.315858	.3834743	.5152923	.8320753
#1	5.436429	.0670626	.0037125	.0221942	5.897771	9.980848	5.569342
#2	5.400908	.0611195	.0039815	.0220828	5.929925	9.880191	5.603061
#3	5.451726	.0631450	.0038057	.0216471	5.941638	9.914763	5.661616

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3549-01 Acquired: 8/21/2024 18:21:07 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	3.081929	.3053760	-.136857
Stddev	.024257	.0079200	.000790
%RSD	.7870839	2.593507	.5770289
#1	3.062507	.2998536	-.137740
#2	3.074161	.3018242	-.136218
#3	3.109119	.3144501	-.136614

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5175.032	152894.2	11723.56	7507.491	6722.983
Stddev	14.669	361.4	43.72	33.673	32.112
%RSD	.2834522	.2363973	.3729336	.4485247	.4776434
#1	5191.338	152555.2	11766.40	7524.840	6756.283
#2	5170.847	152852.9	11679.01	7468.681	6720.456
#3	5162.910	153274.5	11725.29	7528.952	6692.209

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3549-01DUP Acquired: 8/21/2024 18:25:19 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0301771	.0045231	.2152739	-.022720	.0004749	130.0747
Stddev	.0005425	.0019982	.0002863	.001273	.0018590	.2293
%RSD	1.797670	44.17779	.1329786	5.602604	391.4614	.1762465
#1	.0302427	.0060197	.2151318	-.022390	.0017893	130.0425
#2	.0296048	.0022540	.2156034	-.024126	.0012874	130.3183
#3	.0306838	.0052956	.2150864	-.021646	-.001652	129.8632

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3810900	.0067343	-.003894	25.87419	.2601267	.1364395
Stddev	.0009706	.0000469	.000122	.10245	.0004915	.0002687
%RSD	.2546889	.6962004	3.138019	.3959378	.1889565	.1968974
#1	.3799968	.0067169	-.003918	25.75590	.2596194	.1364462
#2	.3814227	.0067874	-.004003	25.93237	.2601600	.1361676
#3	.3818505	.0066986	-.003762	25.93430	.2606008	.1367048

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4076350	250.7165	4.007000	33.36671	.1968094	.0126452
Stddev	.0011342	1.0876	.005685	.08120	.0003359	.0002233
%RSD	.2782360	.4337994	.1418808	.2433591	.1706533	1.765956
#1	.4064888	251.4505	4.000464	33.45491	.1964251	.0124027
#2	.4076595	251.2319	4.009733	33.29506	.1969564	.0128424
#3	.4087568	249.4670	4.010802	33.35015	.1970467	.0126905

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.347883	.5063410	.4356988	5.806217	.0828508	.0037040
Stddev	.065408	.0020738	.0021958	.018822	.0018399	.0001809
%RSD	.7835304	.4095671	.5039776	.3241695	2.220804	4.883957
#1	8.401682	.5080308	.4380630	5.804396	.0841059	.0035613
#2	8.366889	.5069654	.4353103	5.825883	.0837078	.0039075
#3	8.275076	.5040267	.4337232	5.788371	.0807386	.0036433

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3549-01DUP Acquired: 8/21/2024 18:25:19 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0183887	6.157628	F 14.38414	5.171647	2.787508	.3053555
Stddev	.0005223	.020681	.06583	.008390	.006981	.0023710
%RSD	2.840549	.3358578	.4576248	.1622222	.2504482	.7764541
#1	.0185088	6.133787	14.44285	5.162546	2.781102	.3028849
#2	.0188405	6.168350	14.39659	5.173324	2.786472	.3076123
#3	.0178168	6.170745	14.31298	5.179072	2.794949	.3055694

Elem	Sr4077
Units	ppm
Avg	-.147149
Stddev	.001286
%RSD	.8737422
#1	-.148323
#2	-.147349
#3	-.145775

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5513.595	147283.6	11776.93	7297.749	7237.172
Stddev	9.374	679.6	28.88	42.663	5.391
%RSD	.1700193	.4614119	.2451997	.5846014	.0744852
#1	5502.796	146505.2	11780.67	7248.626	7231.205
#2	5518.350	147586.2	11803.75	7319.101	7241.690
#3	5519.639	147759.2	11746.36	7325.519	7238.620

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3549-01LX5 Acquired: 8/21/2024 18:29:29 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0084696	.0017131	.0468233	-.004252	-.001369	29.19772	.0915092
Stddev	.0007592	.0021614	.0010428	.001018	.000991	.04738	.0006769
%RSD	8.963986	126.1642	2.227192	23.94485	72.37079	.1622610	.7397150
#1	.0084390	-.000483	.0473618	-.003991	-.002468	29.18464	.0915193
#2	.0092437	.003838	.0456213	-.005376	-.001094	29.15825	.0921809
#3	.0077262	.001784	.0474868	-.003390	-.000545	29.25026	.0908272

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0017200	-.001583	5.946965	.0624300	.0282666	.1039109	58.23383
Stddev	.0000626	.000044	.025727	.0001387	.0001339	.0001997	.45890
%RSD	3.636611	2.765707	.4326081	.2222244	.4737249	.1921606	.7880298
#1	.0017022	-.001569	5.932807	.0625797	.0284100	.1038716	57.97612
#2	.0017894	-.001548	5.976661	.0623058	.0282448	.1037338	57.96172
#3	.0016682	-.001632	5.931427	.0624044	.0281448	.1041273	58.76366

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9706554	8.002540	.0412366	.0029101	1.739643	.1220371	.0777479
Stddev	.0033206	.039375	.0004068	.0003138	.027753	.0009542	.0004570
%RSD	.3421015	.4920360	.9864003	10.78421	1.595313	.7818806	.5877722
#1	.9714723	7.975008	.0407707	.0026758	1.720098	.1213318	.0774484
#2	.9734913	8.047641	.0415212	.0027879	1.727422	.1216566	.0775214
#3	.9670025	7.984971	.0414178	.0032667	1.771409	.1231228	.0782739

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.180294	.0157530	.0008016	.0033616	1.362836	1.602306	1.111814
Stddev	.003101	.0016657	.0001664	.0005013	.009119	.028916	.002118
%RSD	.2627033	10.57373	20.76184	14.91138	.6690902	1.804657	.1905141
#1	1.181154	.0150417	.0007499	.0033787	1.353827	1.586925	1.112392
#2	1.182874	.0145610	.0009877	.0028520	1.372061	1.584331	1.109467
#3	1.176854	.0176562	.0006671	.0038541	1.362621	1.635662	1.113583

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3549-01LX5 Acquired: 8/21/2024 18:29:29 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.5959872	.0679365	-.034034
Stddev	.0046207	.0101409	.000412
%RSD	.7753034	14.92694	1.209876
#1	.5907372	.0792217	-.033832
#2	.5994360	.0649996	-.033761
#3	.5977885	.0595883	-.034507

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4756.219	128956.2	10020.43	6496.189	7361.961
Stddev	8.004	499.7	90.44	23.979	9.949
%RSD	.1682936	.3874940	.9025307	.3691294	.1351472
#1	4748.908	128509.8	9957.54	6483.610	7364.023
#2	4764.772	129496.0	9979.68	6523.841	7370.717
#3	4754.978	128862.9	10124.08	6481.117	7351.142

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3549-01MS Acquired: 8/21/2024 18:33:42 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.7035270	2.013435	1.188325	1.622500	.6768923	126.4478
Stddev	.0022384	.003447	.001909	.001243	.0020435	.3246
%RSD	.3181623	.1711849	.1606806	.0766401	.3018943	.2566730
#1	.7055872	2.012309	1.188914	1.623341	.6792516	126.0998
#2	.7011453	2.017304	1.186190	1.621071	.6757493	126.5014
#3	.7038484	2.010692	1.189871	1.623087	.6756761	126.7422

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5370130	.1759635	.1943613	25.03514	.5812158	.3458951
Stddev	.0012426	.0014968	.0003323	.06258	.0008078	.0001145
%RSD	.2313952	.8506275	.1709640	.2499760	.1389895	.0331068
#1	.5356193	.1742704	.1940965	25.00183	.5821474	.3458142
#2	.5374146	.1765093	.1942532	24.99626	.5807917	.3458450
#3	.5380052	.1771108	.1947341	25.10734	.5807084	.3460261

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6848926	228.5730	4.145291	34.44556	.7132672	.0726067
Stddev	.0015643	1.1627	.010694	.11410	.0011385	.0001629
%RSD	.2284032	.5086783	.2579750	.3312335	.1596248	.2244169
#1	.6832809	229.9152	4.137422	34.39895	.7134873	.0725414
#2	.6849920	227.9298	4.140985	34.36214	.7120347	.0724865
#3	.6864048	227.8739	4.157467	34.57558	.7142796	.0727922

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.911161	.7496099	.5910717	13.31953	.2690123	.3438370
Stddev	.051743	.0026921	.0017883	.05919	.0033633	.0004651
%RSD	.5220687	.3591323	.3025588	.4444189	1.250246	.1352780
#1	9.970844	.7489527	.5899889	13.38755	.2728814	.3443468
#2	9.878902	.7525697	.5931359	13.27972	.2673680	.3437284
#3	9.883738	.7473072	.5900904	13.29132	.2667875	.3434357

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3549-01MS Acquired: 8/21/2024 18:33:42 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.7342440	5.817043	6.670451	F 11.65210	3.059532	.9138083
Stddev	.0005118	.010874	.040701	.01817	.003307	.0127361
%RSD	.0697104	.1869353	.6101620	.1559415	.1080867	1.393734
#1	.7336713	5.812658	6.714885	11.64695	3.055744	.9106728
#2	.7346568	5.809045	6.661492	11.63706	3.061008	.9029328
#3	.7344038	5.829424	6.634977	11.67229	3.061843	.9278193

Elem	Sr4077
Units	ppm
Avg	.0278451
Stddev	.0013059
%RSD	4.689748
#1	.0263461
#2	.0287364
#3	.0284528

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5115.800	156009.9	11435.16	7589.184	6652.307
Stddev	1.449	531.3	55.12	18.560	1.047
%RSD	.0283215	.3405820	.4820021	.2445622	.0157464
#1	5115.955	155426.0	11484.85	7573.573	6653.315
#2	5114.280	156465.0	11444.78	7584.273	6651.224
#3	5117.165	156138.9	11375.87	7609.706	6652.382

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3549-01MSD Acquired: 8/21/2024 18:41:50 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.6845733	1.991037	1.177437	1.577817	.6701684	126.0189
Stddev	.0028722	.014293	.001769	.000816	.0014426	.3334
%RSD	.4195626	.7178774	.1502802	.0517160	.2152529	.2645269
#1	.6812617	1.974604	1.175700	1.577486	.6687332	125.6463
#2	.6863858	1.997924	1.177375	1.578746	.6716182	126.1215
#3	.6860725	2.000583	1.179237	1.577218	.6701540	126.2889

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5397773	.1775040	.1910994	25.29511	.5931888	.3421644
Stddev	.0012573	.0010363	.0003340	.09928	.0019235	.0008211
%RSD	.2329272	.5838447	.1747785	.3924967	.3242578	.2399635
#1	.5383324	.1765982	.1908665	25.26638	.5924138	.3414424
#2	.5403773	.1772796	.1909497	25.21336	.5917737	.3419932
#3	.5406223	.1786341	.1914821	25.40559	.5953788	.3430576

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6693324	240.8424	4.152348	34.29982	.7043577	.0765390
Stddev	.0005955	.1674	.014265	.19469	.0008997	.0004784
%RSD	.0889732	.0695217	.3435388	.5676216	.1277305	.6250610
#1	.6694314	240.8312	4.138049	34.11609	.7037940	.0760022
#2	.6686936	241.0152	4.152417	34.27949	.7038839	.0769203
#3	.6698723	240.6809	4.166579	34.50388	.7053953	.0766945

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.43675	.7517107	.6195582	14.12023	.2968313	.3496455
Stddev	.04414	.0036061	.0019864	.04247	.0007253	.0003462
%RSD	.4229449	.4797184	.3206126	.3007528	.2443348	.0990084
#1	10.42085	.7485594	.6213735	14.07296	.2960879	.3493937
#2	10.48664	.7556435	.6198647	14.13257	.2975370	.3495026
#3	10.40276	.7509292	.6174364	14.15516	.2968691	.3500403

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3549-01MSD Acquired: 8/21/2024 18:41:50 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.7401601	5.834575	7.072610	F 11.08836	2.887549	.9148352
Stddev	.0012059	.014348	.018196	.02176	.009244	.0082867
%RSD	.1629306	.2459148	.2572722	.1962259	.3201337	.9058114
#1	.7402070	5.823905	7.054254	11.07974	2.876990	.9053668
#2	.7389314	5.828933	7.090641	11.07223	2.891477	.9207658
#3	.7413419	5.850886	7.072934	11.11310	2.894180	.9183730

Elem	Sr4077
Units	ppm
Avg	.0183151
Stddev	.0007328
%RSD	4.000900
#1	.0177753
#2	.0180207
#3	.0191493

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5355.200	149157.9	11515.94	7334.297	7012.043
Stddev	1.792	377.3	77.01	14.464	6.045
%RSD	.0334683	.2529653	.6686927	.1972046	.0862022
#1	5354.180	149355.8	11569.24	7329.559	7015.914
#2	5354.151	149395.1	11550.92	7322.796	7015.137
#3	5357.270	148722.8	11427.65	7350.535	7005.078

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3549-01A Acquired: 8/21/2024 18:45:52 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.7010574	2.049656	1.196070	1.630263	.6853185	126.6987
Stddev	.0016881	.012476	.004638	.003811	.0016950	.2468
%RSD	.2407969	.6087031	.3877393	.2337517	.2473286	.1947671
#1	.7006327	2.037044	1.194136	1.634059	.6854573	126.4632
#2	.7029174	2.061992	1.192712	1.626438	.6835584	126.6777
#3	.6996223	2.049932	1.201362	1.630291	.6869399	126.9554

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5401832	.1804982	.1955814	25.16193	.5838478	.3460913
Stddev	.0015541	.0003743	.0003555	.04440	.0007369	.0004177
%RSD	.2876897	.2073858	.1817786	.1764478	.1262133	.1206890
#1	.5386873	.1800666	.1953859	25.12959	.5831693	.3459267
#2	.5400726	.1807339	.1953665	25.14365	.5846317	.3457810
#3	.5417895	.1806941	.1959918	25.21255	.5837423	.3465662

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6840071	227.5052	4.158497	34.33255	.7150473	.0732892
Stddev	.0004259	.2919	.008698	.01462	.0017862	.0002303
%RSD	.0622710	.1283192	.2091512	.0425776	.2498053	.3142742
#1	.6839005	227.1967	4.152132	34.32597	.7136985	.0730237
#2	.6836446	227.7772	4.154953	34.34930	.7143705	.0734358
#3	.6844763	227.5418	4.168407	34.32238	.7170731	.0734080

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.847592	.7507221	.6001179	13.40585	.2731043	.3498246
Stddev	.030161	.0025288	.0012434	.04708	.0020874	.0002191
%RSD	.3062741	.3368519	.2071898	.3512143	.7643369	.0626438
#1	9.817434	.7481685	.6015536	13.35247	.2754632	.3498660
#2	9.877755	.7532254	.5993997	13.44147	.2714959	.3495877
#3	9.847586	.7507725	.5994003	13.42361	.2723537	.3500200

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3549-01A Acquired: 8/21/2024 18:45:52 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.7445658	5.876858	6.935631	F 11.52797	2.993751	.9167313
Stddev	.0007428	.017417	.011720	.02514	.002804	.0047639
%RSD	.0997588	.2963708	.1689823	.2180871	.0936501	.5196643
#1	.7444244	5.868699	6.929412	11.50378	2.993106	.9120940
#2	.7439040	5.865018	6.928332	11.52617	2.996820	.9164873
#3	.7453692	5.896857	6.949150	11.55397	2.991325	.9216125

Elem	Sr4077
Units	ppm
Avg	.0323207
Stddev	.0008598
%RSD	2.660227
#1	.0320024
#2	.0316654
#3	.0332943

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5205.177	155908.6	11351.69	7567.681	6787.016
Stddev	17.937	339.2	38.48	6.614	21.505
%RSD	.3446068	.2175794	.3389566	.0874038	.3168598
#1	5191.484	156295.5	11382.53	7563.350	6772.639
#2	5225.481	155767.9	11363.97	7575.295	6811.739
#3	5198.565	155662.3	11308.57	7564.399	6776.670

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3467-01 Acquired: 8/21/2024 18:49:54 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0088138	-.000950	.0362514	.0029175	.0023053	3.640674	.1564306
Stddev	.0006490	.000939	.0004593	.0008249	.0001639	.015308	.0005227
%RSD	7.363896	98.85850	1.267093	28.27459	7.108829	.4204820	.3341744
#1	.0086639	-.000059	.0367134	.0020061	.0024892	3.655909	.1568644
#2	.0095247	-.000860	.0362461	.0036128	.0022518	3.640820	.1565771
#3	.0082528	-.001931	.0357948	.0031336	.0021748	3.625293	.1558502

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003121	-.000255	31.74917	.0106459	.0050414	.0594998	21.24743
Stddev	.0000222	.000041	.18294	.0000927	.0001237	.0003173	.10267
%RSD	7.114030	16.15850	.5762113	.8706436	2.454395	.5333316	.4832092
#1	.0003001	-.000222	31.69798	.0107432	.0050061	.0597868	21.20552
#2	.0002985	-.000242	31.95225	.0106358	.0051789	.0595535	21.17233
#3	.0003378	-.000301	31.59727	.0105586	.0049391	.0591590	21.36442

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.059224	5.710203	.0105316	.0015041	92.21454	.0115654	.3778319
Stddev	.004085	.015771	.0004470	.0002017	.35630	.0020892	.0010037
%RSD	.3856935	.2761980	4.244660	13.40789	.3863785	18.06427	.2656397
#1	1.058398	5.705562	.0103177	.0014539	92.10711	.0096739	.3772637
#2	1.063659	5.727774	.0110454	.0013323	91.92432	.0112145	.3789907
#3	1.055614	5.697273	.0102318	.0017261	92.61219	.0138079	.3772412

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.933071	.1217621	.0013782	-.004796	.0767119	6.838663	.7145917
Stddev	.034227	.0005649	.0000938	.000077	.0004076	.030896	.0005229
%RSD	.6938289	.4639009	6.804149	1.614859	.5312688	.4517845	.0731703
#1	4.916854	.1218045	.0012740	-.004727	.0767093	6.854689	.7150291
#2	4.909968	.1223045	.0014558	-.004779	.0763057	6.803047	.7140126
#3	4.972393	.1211772	.0014049	-.004880	.0771208	6.858254	.7147335

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3467-01 Acquired: 8/21/2024 18:49:54 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	5.658897	.0311091	.1821841
Stddev	.011933	.0070620	.0010166
%RSD	.2108712	22.70062	.5580055
#1	5.647001	.0361232	.1825548
#2	5.670867	.0230329	.1829634
#3	5.658824	.0341713	.1810342

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4310.711	124912.7	9687.222	6140.785	6834.379
Stddev	17.438	328.6	63.843	20.242	26.937
%RSD	.4045263	.2630425	.6590468	.3296256	.3941327
#1	4290.724	125220.6	9710.408	6161.285	6805.594
#2	4318.594	124950.7	9615.026	6120.812	6838.567
#3	4322.816	124566.8	9736.233	6140.260	6858.976

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: CCV04 Acquired: 8/21/2024 19:03:46 Type: Unk
Method: NON EPA-6010-200.7(v2351) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.613832	4.937488	4.705428	4.766046	4.853477	9.426285
Stddev	.022077	.024218	.020188	.030685	.031661	.040091
%RSD	.4784854	.4904914	.4290380	.6438202	.6523394	.4253126
#1	4.596441	4.915050	4.692147	4.735041	4.825646	9.386868
#2	4.606386	4.963161	4.695477	4.766696	4.846863	9.424969
#3	4.638669	4.934252	4.728660	4.796400	4.887923	9.467018

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.481033	.2406261	2.378435	24.01134	.9786243	2.454179
Stddev	.076253	.0033931	.011393	.07510	.0044016	.012702
%RSD	.8042670	1.410098	.4790115	.3127598	.4497739	.5175851
#1	9.501119	.2445133	2.370899	23.96294	.9750211	2.445601
#2	9.545231	.2382582	2.372865	23.97323	.9773215	2.448164
#3	9.396747	.2391067	2.391542	24.09785	.9835302	2.468772

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.208135	4.941027	2.391870	23.73560	2.445740	1.233983
Stddev	.005572	.066448	.011088	.10223	.011773	.001344
%RSD	.4612427	1.344823	.4635860	.4307063	.4813541	.1089000
#1	1.203132	4.865770	2.382503	23.73832	2.436477	1.234367
#2	1.207131	4.965711	2.388992	23.63203	2.441755	1.232489
#3	1.214141	4.991601	2.404113	23.83644	2.458988	1.235093

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.07451	2.384287	2.659687	24.57405	4.870042	4.930926
Stddev	.39560	.014463	.020878	.42478	.070161	.023470
%RSD	1.643222	.6065763	.7849633	1.728587	1.440666	.4759815
#1	23.61777	2.367604	2.683668	24.08953	4.949512	4.908916
#2	24.29627	2.393277	2.645561	24.75019	4.816669	4.928238
#3	24.30948	2.391980	2.649833	24.88243	4.843945	4.955625

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: CCV04 Acquired: 8/21/2024 19:03:46 Type: Unk
Method: NON EPA-6010-200.7(v2351) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.972920	4.782712	5.182555	4.838900	4.798893	F 17.70456
Stddev	.020558	.020557	.097389	.021101	.024612	.05959
%RSD	.4134062	.4298149	1.879166	.4360774	.5128754	.3365588
#1	4.955642	4.763187	5.070105	4.815501	4.772472	17.63650
#2	4.967462	4.780784	5.239690	4.844715	4.803035	17.74734
#3	4.995657	4.804165	5.237869	4.856484	4.821171	17.72983

Elem	Sr4077
Units	ppm
Avg	4.636066
Stddev	.055646
%RSD	1.200294
#1	4.679275
#2	4.573275
#3	4.655647

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4634.743	126508.3	9947.937	6259.385	7298.873
Stddev	4.329	201.7	115.591	15.101	9.479
%RSD	.0934027	.1594040	1.161959	.2412512	.1298663
#1	4637.343	126720.8	9816.081	6262.331	7301.027
#2	4637.140	126484.7	10031.80	6272.795	7307.089
#3	4629.746	126319.6	9995.92	6243.028	7288.503

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: CCB04 Acquired: 8/21/2024 19:07:58 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0003356	.0004930	.0000079	.0020210	.0003194	-.002432	.0018561
Stddev	.0003162	.0005951	.0004714	.0005740	.0008377	.006022	.0009549
%RSD	94.23069	120.6998	6000.695	28.40311	262.2529	247.5987	51.44758
#1	-.000011	.0000288	.0005463	.0014246	-.000643	-.009105	.0010337
#2	.000408	.0011638	-.000331	.0025696	.000886	.002600	.0016312
#3	.000609	.0002863	-.000192	.0020686	.000715	-.000792	.0029033

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000261	-.000013	.0159000	.0001667	.0000529	.0001356	.0063184
Stddev	.0000183	.000018	.0055293	.0002184	.0001728	.0002314	.0036408
%RSD	70.26824	136.1292	34.77525	130.9953	326.8026	170.5623	57.62252
#1	.0000419	.000006	.0108938	.0002071	.0002491	.0000825	.0049893
#2	.0000302	-.000015	.0218348	.0003621	-.000077	-.000065	.0035288
#3	.0000060	-.000030	.0149714	-.000069	-.000013	.000389	.0104370

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000247	.0024671	.0002650	.0002417	-.216060	.0003368	-.000697
Stddev	.000189	.0076260	.0000818	.0000996	.006515	.0030727	.000178
%RSD	76.42058	309.1090	30.85968	41.19022	3.015187	912.1955	25.49149
#1	-.000463	.0008432	.0002770	.0002665	-.216810	.0023993	-.000504
#2	-.000169	.0107743	.0003401	.0001321	-.222167	.0018058	-.000855
#3	-.000110	-.004216	.0001779	.0003266	-.209203	-.003195	-.000732

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.074992	.0107165	.0002998	-.000556	.0001573	-.007517	-.000716
Stddev	.043692	.0008061	.0000769	.000344	.0008530	.007328	.000663
%RSD	58.26275	7.521641	25.64509	61.80856	542.2674	97.48806	92.61820
#1	-.123362	.0116308	.0002822	-.000163	.0010333	.000917	-.000254
#2	-.063229	.0101085	.0003839	-.000799	.0001094	-.012325	-.001475
#3	-.038385	.0104103	.0002332	-.000707	-.000671	-.011144	-.000418

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: CCB04 Acquired: 8/21/2024 19:07:58 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	-.002994	-.002662	.0002154
Stddev	.001883	.009271	.0001493
%RSD	62.89398	348.2515	69.30999
#1	-.000828	.007445	.0001305
#2	-.003905	-.004661	.0001279
#3	-.004247	-.010771	.0003878

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4713.968	133547.9	9973.895	6591.561	7833.349
Stddev	8.932	766.5	9.133	19.454	15.198
%RSD	.1894803	.5739889	.0915701	.2951423	.1940170
#1	4723.049	134310.9	9966.962	6595.207	7849.174
#2	4713.662	133554.7	9984.244	6608.935	7832.006
#3	4705.193	132777.9	9970.479	6570.542	7818.867

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: PB162556TB Acquired: 8/21/2024 19:12:24 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0001290	-.001369	.0017544	.0015611	-.000713	.0055160
Stddev	.0007778	.001083	.0012648	.0012737	.000461	.0048524
%RSD	603.1429	79.16705	72.09289	81.59486	64.57801	87.96932
#1	-.000198	-.001756	.0030227	.0013206	-.000982	.0111074
#2	.001017	-.002205	.0004931	.0004246	-.000181	.0024073
#3	-.000432	-.000145	.0017473	.0029379	-.000976	.0030334

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0013898	-.000152	-.000088	.0632047	.1592061	.0020775
Stddev	.0003828	.000025	.000045	.0068871	.0006453	.0000088
%RSD	27.54003	16.65004	50.55125	10.89657	.4053470	.4243429
#1	.0012392	-.000133	-.000062	.0556854	.1585809	.0020866
#2	.0018249	-.000143	-.000140	.0647222	.1591677	.0020767
#3	.0011052	-.000181	-.000063	.0692065	.1598699	.0020691

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0121804	.6706566	.0314411	.0222758	.1279006	.0003566
Stddev	.0002046	.0013363	.0002835	.0073001	.0013465	.0004135
%RSD	1.679599	.1992506	.9017799	32.77119	1.052736	115.9733
#1	.0119491	.6691486	.0314713	.0300574	.1267777	.0006108
#2	.0122548	.6716936	.0317083	.0211916	.1275307	.0005795
#3	.0123375	.6711277	.0311437	.0155785	.1293933	-.000121

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.332297	.0003598	.0172258	-.155599	.0056463	.0028974
Stddev	.009340	.0023029	.0002766	.023308	.0001650	.0001321
%RSD	2.810791	640.0738	1.605716	14.97960	2.922188	4.560638
#1	-.338088	.0022152	.0171862	-.148509	.0055279	.0027669
#2	-.321522	.0010818	.0169712	-.136659	.0055763	.0030311
#3	-.337280	-.002218	.0175201	-.181629	.0058348	.0028940

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: PB162556TB Acquired: 8/21/2024 19:12:24 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	-.004978	-.000848	.2294633	.0056103	F 17.66880	-.012433
Stddev	.000554	.000818	.0052461	.0009670	.16277	.004813
%RSD	11.13812	96.50511	2.286234	17.23543	.9212439	38.70780
#1	-.005139	.000096	.2344675	.0046184	17.52111	-.017618
#2	-.004361	-.001288	.2240049	.0065503	17.64198	-.011573
#3	-.005435	-.001352	.2299174	.0056622	17.84332	-.008109

Elem	Sr4077
Units	ppm
Avg	-.000524
Stddev	.000041
%RSD	7.737439
#1	-.000547
#2	-.000548
#3	-.000477

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4859.440	130784.5	9949.622	6466.889	8315.146
Stddev	35.680	130.1	14.051	11.027	61.679
%RSD	.7342473	.0994919	.1412194	.1705160	.7417726
#1	4887.766	130638.1	9943.617	6454.305	8368.866
#2	4871.186	130828.6	9939.573	6474.865	8328.782
#3	4819.367	130886.9	9965.678	6471.496	8247.790

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3577-01 Acquired: 8/21/2024 19:16:47 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	-.000678	-.000048	.0725629	.0024350	.0010059	.1103182	.1753908
Stddev	.001327	.001028	.0015997	.0004958	.0015951	.0119603	.0015612
%RSD	195.6243	2121.778	2.204575	20.35977	158.5832	10.84160	.8901518
#1	-.001977	.000948	.0707500	.0028661	-.000757	.1126746	.1765007
#2	-.000732	-.001106	.0731622	.0025457	.002349	.0973552	.1736056
#3	.000675	.000013	.0737764	.0018933	.001426	.1209249	.1760661

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000939	.0229596	20.85631	.0064345	.0098861	.0417972	3.648741
Stddev	.0000237	.0001959	.19747	.0003278	.0000952	.0002161	.074235
%RSD	25.24826	.8533852	.9467990	5.093992	.9625763	.5171111	2.034549
#1	.0000711	.0227673	21.08431	.0063721	.0097777	.0415937	3.602555
#2	.0000923	.0229526	20.73939	.0061424	.0099247	.0420241	3.734373
#3	.0001184	.0231590	20.74525	.0067890	.0099558	.0417740	3.609297

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0544681	.6538549	.0046881	.0001793	570.4909	.0038730	1.844811
Stddev	.0007980	.0169340	.0003148	.0002575	3.5510	.0017459	.008511
%RSD	1.465029	2.589866	6.714495	143.6466	.6224429	45.07849	.4613238
#1	.0549526	.6734078	.0043247	-.000046	567.2968	.0057186	1.850232
#2	.0549047	.6439278	.0048742	.000123	574.3145	.0036528	1.849198
#3	.0535471	.6442292	.0048654	.000460	569.8615	.0022477	1.835002

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.932362	.0761897	.0009655	-.009700	.0003799	.3250483	.2548023
Stddev	.046582	.0009713	.0001615	.000151	.0010805	.0119806	.0031971
%RSD	2.410634	1.274795	16.72839	1.553282	284.4095	3.685779	1.254734
#1	1.902242	.0773111	.0011360	-.009529	-.000306	.3115004	.2520665
#2	1.986016	.0756417	.0009457	-.009760	.001625	.3293986	.2540237
#3	1.908828	.0756162	.0008148	-.009812	-.000180	.3342459	.2583168

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3577-01 Acquired: 8/21/2024 19:16:47 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	4.557390	.0179610	.1235412
Stddev	.026662	.0084507	.0002885
%RSD	.5850206	47.05059	.2335360
#1	4.526885	.0103152	.1237339
#2	4.576234	.0165330	.1236802
#3	4.569053	.0270347	.1232095

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4386.516	126080.6	10539.79	6281.357	6685.180
Stddev	14.286	1124.4	164.58	42.292	24.224
%RSD	.3256844	.8917863	1.561480	.6732888	.3623593
#1	4400.983	126472.6	10361.34	6280.065	6710.958
#2	4372.417	124812.8	10685.60	6239.727	6662.887
#3	4386.149	126956.6	10572.44	6324.280	6681.695

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3577-02 Acquired: 8/21/2024 19:21:16 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0004007	.0008447	.0008077	.0008860	-.002061	.0009474	3.145107
Stddev	.0005502	.0008331	.0001747	.0008812	.000478	.0143865	.045892
%RSD	137.2877	98.62528	21.63473	99.46367	23.19843	1518.593	1.459147
#1	.0009315	.0000341	.0009725	.0004668	-.002407	.0169858	3.119243
#2	.0004376	.0016987	.0006245	.0002925	-.001515	-.010820	3.117985
#3	-.000167	.0008014	.0008261	.0018985	-.002261	-.003324	3.198093

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000067	.0000062	2.315498	.0002435	-.000516	.0012077	1.402477
Stddev	.000033	.0000144	.040000	.0000824	.000074	.0003331	.011311
%RSD	49.03037	233.3624	1.727483	33.83451	14.42503	27.57960	.8065260
#1	-.000035	-.000007	2.285450	.0002797	-.000435	.0008232	1.389519
#2	-.000101	.000005	2.300145	.0003016	-.000582	.0014061	1.410377
#3	-.000067	.000021	2.360900	.0001492	-.000532	.0013939	1.407534

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.541031	.7036691	.0056508	.0003875	4.814209	-.000013	.1595326
Stddev	.026021	.0235269	.0001246	.0004853	.044682	.002481	.0005960
%RSD	1.688549	3.343461	2.205806	125.2324	.9281302	18443.18	.3736151
#1	1.526434	.6771127	.0055728	-.000173	4.767499	-.000655	.1597618
#2	1.525585	.7119891	.0055850	.000681	4.856541	.002725	.1599800
#3	1.571074	.7219055	.0057945	.000654	4.818587	-.002110	.1588560

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.407931	.0946595	-.000134	-.009130	-.000770	.1356248	.0018698
Stddev	.021877	.0011958	.000229	.000076	.000483	.0071891	.0007980
%RSD	.9085194	1.263305	171.0583	.8338681	62.72530	5.300727	42.67580
#1	2.386392	.0948798	-.000022	-.009091	-.001221	.1434945	.0023565
#2	2.407269	.0933689	-.000398	-.009218	-.000260	.1294023	.0009489
#3	2.430130	.0957299	.000017	-.009081	-.000830	.1339775	.0023041

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3577-02 Acquired: 8/21/2024 19:21:16 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.6621732	.0756890	.1683214
Stddev	.0023667	.0032590	.0026926
%RSD	.3574095	4.305772	1.599697
#1	.6629530	.0737311	.1667775
#2	.6640517	.0738847	.1667561
#3	.6595151	.0794511	.1714305

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4882.076	127946.3	9350.584	6526.778	8083.070
Stddev	3.122	302.2	146.609	30.930	3.625
%RSD	.0639453	.2361994	1.567908	.4738912	.0448490
#1	4880.444	128219.0	9394.075	6527.933	8086.796
#2	4880.109	127621.4	9470.527	6495.286	8079.555
#3	4885.676	127998.5	9187.151	6557.114	8082.859

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3597-02 Acquired: 8/21/2024 19:25:38 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	-.001296	.0002551	.0018207	.0007893	.0007745	-.012444	.4190202
Stddev	.001322	.0010392	.0008459	.0009759	.0006125	.010411	.0004348
%RSD	102.0062	407.3983	46.46333	123.6409	79.08819	83.66289	.1037608
#1	.000100	.0010816	.0026747	.0013924	.0001489	-.003231	.4188130
#2	-.002529	.0005953	.0009831	-.000337	.0008014	-.010363	.4195198
#3	-.001459	-.000912	.0018042	.001312	.0013731	-.023738	.4187277

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000528	.0008523	215.4716	.0014331	.0013911	.0079019	.0108090
Stddev	.0000295	.0000524	.7502	.0003333	.0000510	.0001296	.0009232
%RSD	55.87398	6.146843	.3481896	23.25340	3.668442	1.640317	8.541055
#1	.0000485	.0009000	214.6712	.0017674	.0013396	.0080492	.0117313
#2	.0000257	.0008608	216.1588	.0014310	.0013921	.0078514	.0108109
#3	.0000842	.0007962	215.5849	.0011009	.0014417	.0078052	.0098849

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8426211	10.24924	.0093603	.0000627	560.3904	-.000352	.2658142
Stddev	.0014090	.02207	.0000889	.0003282	2.9905	.001451	.0012391
%RSD	.1672210	.2153739	.9494621	523.3867	.5336537	412.4140	.4661695
#1	.8412006	10.26046	.0094593	.0004041	561.3634	.000767	.2669787
#2	.8440184	10.26345	.0092873	-.000251	557.0345	-.001992	.2659518
#3	.8426443	10.22381	.0093344	.000035	562.7733	.000169	.2645119

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.910697	.0983421	.0003671	-.009331	-.003981	7.857241	.0282498
Stddev	.037817	.0006245	.0001500	.000269	.000981	.025497	.0013400
%RSD	1.979251	.6350447	40.85867	2.878595	24.65055	.3245076	4.743306
#1	1.883539	.0988848	.0002659	-.009381	-.004577	7.834060	.0280737
#2	1.894663	.0984821	.0002960	-.009041	-.002848	7.853112	.0270066
#3	1.953890	.0976595	.0005395	-.009571	-.004517	7.884551	.0296691

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3597-02 Acquired: 8/21/2024 19:25:38 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	6.276681	.1884243	.8472917
Stddev	.046242	.0093151	.0022018
%RSD	.7367306	4.943687	.2598598
#1	6.312443	.1942202	.8453312
#2	6.224461	.1933734	.8468701
#3	6.293138	.1776792	.8496737

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4250.907	120705.9	9607.689	6059.239	6361.053
Stddev	16.676	306.7	53.734	19.792	17.950
%RSD	.3922974	.2540775	.5592845	.3266387	.2821852
#1	4232.028	121044.7	9611.095	6036.750	6340.491
#2	4263.630	120447.2	9552.333	6074.007	6373.592
#3	4257.063	120625.9	9659.639	6066.959	6369.077

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3597-02DUP Acquired: 8/21/2024 19:30:05 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	-.000581	.0008831	.0012291	.0014036	-.000040	.0153885	.4140193
Stddev	.001396	.0003163	.0004480	.0007380	.000754	.0106067	.0003388
%RSD	240.1822	35.81110	36.44961	52.57607	1887.156	68.92590	.0818354
#1	.000832	.0007553	.0017258	.0009281	-.000094	.0115104	.4144035
#2	-.000617	.0006508	.0008556	.0022538	-.000766	.0273885	.4137633
#3	-.001959	.0012433	.0011060	.0010290	.000740	.0072667	.4138911

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000279	.0008105	213.0826	.0013208	.0014589	.0078995	.0149035
Stddev	.0000484	.0000144	.6348	.0001803	.0001737	.0003205	.0015746
%RSD	173.7219	1.773075	.2978929	13.65140	11.90351	4.056750	10.56521
#1	.0000598	.0007946	213.3147	.0015190	.0014485	.0081969	.0147952
#2	-.000028	.0008225	213.5686	.0011665	.0012907	.0079416	.0133858
#3	.000052	.0008145	212.3644	.0012770	.0016375	.0075601	.0165294

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8349097	10.18582	.0094662	-.000143	544.6495	.0003228	.2635867
Stddev	.0011926	.01984	.0000782	.000168	2.3502	.0008872	.0009137
%RSD	.1428407	.1947780	.8262740	117.9058	.4315003	274.8243	.3466519
#1	.8358051	10.19817	.0095483	-.000332	544.7650	.0004220	.2646399
#2	.8353680	10.19634	.0094577	-.000013	546.9398	-.000610	.2631160
#3	.8335559	10.16293	.0093925	-.000082	542.2437	.001156	.2630044

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.000513	.0991367	.0005670	-.010144	-.003937	7.665501	.0285952
Stddev	.025261	.0015084	.0002245	.000573	.000721	.042567	.0013234
%RSD	1.262705	1.521551	39.58837	5.647801	18.31842	.5553082	4.627975
#1	1.985399	.0997976	.0005913	-.009495	-.004561	7.653486	.0282809
#2	2.029675	.1002019	.0003313	-.010358	-.003147	7.630232	.0300475
#3	1.986465	.0974107	.0007783	-.010579	-.004102	7.712784	.0274573

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3597-02DUP Acquired: 8/21/2024 19:30:05 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	6.132346	.1905268	.8362630
Stddev	.002636	.0019026	.0015873
%RSD	.0429865	.9985834	.1898094
#1	6.135390	.1883515	.8364917
#2	6.130884	.1918805	.8377236
#3	6.130766	.1913485	.8345738

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4368.278	123247.8	9595.444	6234.507	6530.769
Stddev	17.983	301.5	26.484	5.481	25.806
%RSD	.4116676	.2446163	.2760062	.0879093	.3951418
#1	4349.194	123374.4	9570.590	6228.580	6501.055
#2	4370.733	123465.3	9592.439	6235.548	6543.680
#3	4384.907	122903.6	9623.302	6239.392	6547.570

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3597-02LX5 Acquired: 8/21/2024 19:34:32 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	-.000123	.0001887	-.000263	.0017250	-.001190	-.001902	.0863607
Stddev	.000796	.0010718	.000483	.0009716	.001860	.007934	.0005413
%RSD	645.9196	568.0896	183.7328	56.32592	156.3194	417.2116	.6267839
#1	-.000475	-.000801	-.000420	.0019485	-.000648	.005005	.0866702
#2	.000788	.001327	-.000649	.0006611	.000339	-.010568	.0866761
#3	-.000683	.000040	.000279	.0025653	-.003261	-.000142	.0857356

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000359	.0001648	43.56376	-.000107	.0004088	.0017726	.0066962
Stddev	.0000377	.0000190	.43698	.000144	.0000693	.0000792	.0023818
%RSD	104.9357	11.55875	1.003091	134.5282	16.95800	4.470464	35.56899
#1	.0000537	.0001864	44.02620	-.000274	.0004758	.0018641	.0085466
#2	.0000614	.0001578	43.15771	-.000034	.0003374	.0017265	.0075331
#3	-.000007	.0001503	43.50736	-.000014	.0004133	.0017271	.0040089

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1703163	2.115617	.0021040	.0000381	108.0053	-.002161	.0425658
Stddev	.0006604	.011567	.0001048	.0004360	.1662	.002306	.0001972
%RSD	.3877575	.5467417	4.981385	1145.294	.1538828	106.6868	.4632813
#1	.1709647	2.104684	.0019909	-.000349	108.0572	-.001114	.0427599
#2	.1696445	2.114439	.0021979	-.000047	108.1394	-.000565	.0423656
#3	.1703397	2.127728	.0021231	.000510	107.8194	-.004805	.0425719

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7741367	.0225833	.0002062	-.003576	-.000722	1.438001	.0025813
Stddev	.0732469	.0002949	.0001294	.000341	.000791	.012216	.0018540
%RSD	9.461757	1.305984	62.75776	9.526574	109.4676	.8495455	71.82507
#1	.6951683	.0227247	.0000850	-.003892	-.001520	1.432250	.0004433
#2	.7873892	.0227810	.0003425	-.003215	.000061	1.452031	.0035552
#3	.8398527	.0222443	.0001912	-.003622	-.000708	1.429720	.0037453

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3597-02LX5 Acquired: 8/21/2024 19:34:32 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	1.086574	.0543930	.1677203
Stddev	.006133	.0067356	.0013318
%RSD	.5644739	12.38326	.7940747
#1	1.092344	.0484412	.1692553
#2	1.087245	.0617048	.1668714
#3	1.080132	.0530328	.1670341

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4689.841	124644.0	9173.224	6387.577	7298.033
Stddev	21.708	276.9	80.780	13.029	31.920
%RSD	.4628826	.2221512	.8806059	.2039674	.4373781
#1	4664.777	124338.6	9082.951	6373.427	7261.214
#2	4702.046	124878.6	9238.695	6390.225	7314.971
#3	4702.700	124714.9	9198.025	6399.078	7317.913

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3597-02MS Acquired: 8/21/2024 19:38:53 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.8587593	2.024151	1.017999	2.161300	.8281843	1.989634	.6048153
Stddev	.0044824	.005671	.004169	.004869	.0006217	.009291	.0008063
%RSD	.5219577	.2801735	.4095526	.2252892	.0750650	.4669579	.1333161
#1	.8638946	2.027737	1.022622	2.164465	.8287809	1.979468	.6052451
#2	.8556323	2.027103	1.016849	2.163742	.8282317	1.997683	.6053157
#3	.8567510	2.017613	1.014525	2.155693	.8275403	1.991753	.6038852

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2146845	.2098961	213.8449	.4163809	.2159278	.3127212	3.063019
Stddev	.0006370	.0005188	1.1749	.0013306	.0005610	.0006511	.014752
%RSD	.2967150	.2471450	.5493949	.3195517	.2598126	.2081940	.4816056
#1	.2153556	.2102433	215.1994	.4172045	.2162287	.3127911	3.046963
#2	.2140882	.2101452	213.2325	.4170923	.2162741	.3133344	3.075973
#3	.2146097	.2092998	213.1028	.4148459	.2152805	.3120380	3.066120

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.025700	12.10835	.5453023	.0800890	539.6108	.3000795	.5014059
Stddev	.002991	.04642	.0018404	.0001551	4.6618	.0040355	.0020534
%RSD	.2915802	.3833533	.3374978	.1936715	.8639174	1.344803	.4095364
#1	1.029151	12.14702	.5465085	.0799930	534.7189	.2981121	.5012208
#2	1.024092	12.05687	.5462144	.0802679	540.1113	.3047214	.4994513
#3	1.023857	12.12116	.5431840	.0800059	544.0021	.2974051	.5035457

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.21721	.3802520	.4099883	.7549276	.1915432	8.330897	7.170264
Stddev	.02674	.0014575	.0004656	.0014184	.0013980	.025540	.028967
%RSD	.2023397	.3833112	.1135698	.1878821	.7298633	.3065727	.4039948
#1	13.23879	.3817623	.4094809	.7555688	.1930685	8.301789	7.188060
#2	13.22554	.3788537	.4100881	.7559122	.1912383	8.341342	7.185893
#3	13.18729	.3801399	.4103960	.7533019	.1903228	8.349559	7.136838

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3597-02MS Acquired: 8/21/2024 19:38:53 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	6.110586	.9054024	1.015474
Stddev	.010022	.0210221	.003321
%RSD	.1640184	2.321856	.3270782
#1	6.117642	.9224525	1.018748
#2	6.115002	.8819141	1.015566
#3	6.099114	.9118407	1.012107

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4286.129	120680.3	9400.497	6156.494	6397.147
Stddev	17.062	49.7	36.560	31.060	29.292
%RSD	.3980641	.0411778	.3889182	.5045081	.4578884
#1	4303.556	120693.3	9358.318	6159.593	6422.232
#2	4269.458	120722.3	9423.125	6185.888	6364.956
#3	4285.373	120625.5	9420.048	6124.000	6404.254

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3597-02MSD Acquired: 8/21/2024 19:43:04 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.8857178	2.052911	1.039725	2.230563	.8536172	2.013846	.6130659
Stddev	.0033938	.005168	.003155	.009402	.0028555	.009508	.0006992
%RSD	.3831680	.2517499	.3034567	.4214910	.3345194	.4721281	.1140480
#1	.8894854	2.057114	1.043269	2.238870	.8569075	2.002898	.6135559
#2	.8847676	2.047141	1.037220	2.232462	.8521581	2.020028	.6122652
#3	.8829004	2.054478	1.038687	2.220357	.8517861	2.018613	.6133767

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2164911	.2146215	214.6138	.4264845	.2213091	.3266655	3.194594
Stddev	.0008428	.0002001	.5799	.0009477	.0004431	.0010034	.028441
%RSD	.3893047	.0932225	.2702133	.2222084	.2002129	.3071728	.8902857
#1	.2170070	.2148017	214.0764	.4269347	.2217682	.3277501	3.161865
#2	.2155185	.2146567	215.2285	.4253956	.2212753	.3264764	3.208620
#3	.2169478	.2144062	214.5366	.4271231	.2208839	.3257701	3.213299

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.034600	12.16738	.5618344	.0826870	555.6537	.3060827	.5135950
Stddev	.002135	.01835	.0012038	.0005752	3.2589	.0016733	.0028314
%RSD	.2063358	.1508482	.2142582	.6956226	.5865013	.5466757	.5512972
#1	1.032860	12.18736	.5631123	.0820911	552.2169	.3053401	.5103826
#2	1.036982	12.15128	.5616692	.0832389	558.6994	.3079987	.5146742
#3	1.033958	12.16349	.5607218	.0827310	556.0447	.3049091	.5157281

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.81142	.3841453	.4213153	.7717653	.1967180	8.514875	7.258385
Stddev	.06373	.0010154	.0005734	.0013904	.0012190	.034949	.028178
%RSD	.4614539	.2643181	.1360882	.1801543	.6196790	.4104468	.3882178
#1	13.74609	.3850819	.4215294	.7729689	.1953132	8.479372	7.279126
#2	13.87343	.3830663	.4206657	.7702434	.1974969	8.549242	7.269725
#3	13.81473	.3842877	.4217508	.7720837	.1973440	8.516013	7.226303

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3597-02MSD Acquired: 8/21/2024 19:43:04 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	6.159294	.9319335	1.027692
Stddev	.028239	.0079490	.001544
%RSD	.4584790	.8529555	.1502726
#1	6.191421	.9298779	1.028210
#2	6.148059	.9407083	1.028910
#3	6.138401	.9252142	1.025955

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4300.688	121074.1	9604.288	6163.109	6431.682
Stddev	10.848	736.5	46.152	32.405	18.704
%RSD	.2522372	.6083025	.4805344	.5257959	.2908144
#1	4290.766	121813.2	9631.371	6198.830	6417.262
#2	4299.028	121068.8	9630.494	6154.900	6424.967
#3	4312.270	120340.2	9550.999	6135.598	6452.816

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3597-02A Acquired: 8/21/2024 19:47:16 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.8720951	2.048697	1.032149	2.204316	.8390067	1.997983	.6068062
Stddev	.0056387	.010041	.005649	.016422	.0055706	.021433	.0011711
%RSD	.6465657	.4901228	.5473405	.7449963	.6639520	1.072751	.1929933
#1	.8665274	2.039370	1.025767	2.187589	.8332307	1.995851	.6075554
#2	.8719557	2.059325	1.034168	2.204946	.8394432	1.977695	.6074065
#3	.8778022	2.047395	1.036511	2.220415	.8443463	2.020402	.6054566

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2169342	.2134415	213.4788	.4200298	.2193206	.3169593	3.093367
Stddev	.0010280	.0013093	.5286	.0008225	.0010734	.0017907	.027296
%RSD	.4738899	.6134166	.2476085	.1958258	.4894386	.5649485	.8824068
#1	.2165033	.2120816	213.9514	.4209774	.2183603	.3149160	3.102983
#2	.2161917	.2135494	213.5769	.4196110	.2191220	.3177074	3.114555
#3	.2181075	.2146935	212.9080	.4195009	.2204794	.3182547	3.062565

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.027370	12.04271	.5539221	.0807797	533.7665	.3033096	.5135913
Stddev	.004382	.02192	.0030471	.0010771	9.3562	.0040512	.0028207
%RSD	.4265388	.1820494	.5500930	1.333346	1.752861	1.335673	.5492114
#1	1.032161	12.06801	.5507018	.0817736	542.4051	.3064459	.5160436
#2	1.026386	12.03070	.5543046	.0809303	535.0657	.2987356	.5142214
#3	1.023564	12.02940	.5567599	.0796353	523.8286	.3047473	.5105088

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.40018	.3838622	.4156441	.7672916	.1925953	8.285724	7.225810
Stddev	.12602	.0027969	.0012049	.0051086	.0012069	.053130	.042166
%RSD	.9404315	.7286173	.2898866	.6657914	.6266281	.6412197	.5835475
#1	13.44338	.3828342	.4144131	.7617907	.1934141	8.285356	7.180882
#2	13.49891	.3817247	.4156982	.7681974	.1931625	8.339036	7.232024
#3	13.25824	.3870276	.4168211	.7718866	.1912093	8.232779	7.264524

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3597-02A Acquired: 8/21/2024 19:47:16 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	6.116363	.9298825	1.017220
Stddev	.056467	.0158530	.001565
%RSD	.9232087	1.704835	.1538451
#1	6.052286	.9452723	1.018684
#2	6.137960	.9307714	1.017405
#3	6.158845	.9136038	1.015571

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4324.175	122058.9	9452.507	6223.172	6453.332
Stddev	18.386	744.9	13.646	51.941	28.837
%RSD	.4251877	.6102833	.1443628	.8346377	.4468484
#1	4344.821	121878.3	9455.502	6232.729	6485.681
#2	4318.135	121420.8	9464.407	6167.117	6443.994
#3	4309.569	122877.5	9437.612	6269.671	6430.322

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3637-01DLX10 Acquired: 8/21/2024 19:55:57 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0026534	.0030417	.0291480	-.001491	-.000645	15.00528	.0925475
Stddev	.0007073	.0018113	.0007611	.000840	.000311	.12110	.0010673
%RSD	26.65694	59.54698	2.611223	56.36287	48.24336	.8070518	1.153295
#1	.0033701	.0037553	.0300264	-.001049	-.001002	14.86635	.0913229
#2	.0026345	.0043876	.0286840	-.002460	-.000501	15.06104	.0930392
#3	.0019558	.0009824	.0287336	-.000964	-.000432	15.08846	.0932803

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0021910	-.000907	4.682962	.0358934	.0260353	.0257938	32.21229
Stddev	.0000295	.000110	.043798	.0002932	.0002623	.0005281	.01013
%RSD	1.344008	12.12525	.9352670	.8169885	1.007408	2.047289	.0314485
#1	.0021758	-.000970	4.641365	.0357204	.0263380	.0262939	32.21981
#2	.0022249	-.000780	4.678849	.0357278	.0258748	.0258458	32.21630
#3	.0021722	-.000971	4.728671	.0362320	.0258932	.0252416	32.20077

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7969069	11.58897	.0625746	.0007816	1.009940	.0237726	.1251673
Stddev	.0051625	.08934	.0001121	.0002449	.040520	.0022436	.0006245
%RSD	.6478130	.7709180	.1790877	31.33715	4.012096	9.437878	.4989013
#1	.7916910	11.48636	.0627007	.0010585	.963407	.0212245	.1252637
#2	.7970156	11.63106	.0625364	.0006929	1.028980	.0254516	.1257379
#3	.8020142	11.64949	.0624865	.0005933	1.037433	.0246419	.1245002

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.813210	.0062208	.0003548	-.002124	.2705839	.4056151	1.132671
Stddev	.092181	.0006629	.0001701	.000060	.0036716	.0223015	.001720
%RSD	3.276729	10.65572	47.94150	2.821411	1.356916	5.498200	.1518340
#1	2.708023	.0066469	.0001714	-.002073	.2677841	.4290839	1.133072
#2	2.851693	.0065585	.0003859	-.002190	.2747409	.4030606	1.134155
#3	2.879915	.0054571	.0005073	-.002110	.2692268	.3847008	1.130787

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: P3637-01DLX10 Acquired: 8/21/2024 19:55:57 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0557837	.3801236	-.016593
Stddev	.0039045	.0129798	.000047
%RSD	6.999330	3.414635	.2854831
#1	.0549818	.3654535	-.016606
#2	.0600269	.3901170	-.016632
#3	.0523424	.3848005	-.016540

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4654.460	130522.2	9208.533	6709.285	7257.717
Stddev	13.579	188.7	73.662	29.262	17.062
%RSD	.2917493	.1445865	.7999321	.4361407	.2350838
#1	4641.148	130600.8	9282.336	6727.332	7248.855
#2	4653.939	130659.0	9208.250	6675.523	7246.910
#3	4668.292	130306.9	9135.013	6725.000	7277.386

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: CCV05 Acquired: 8/21/2024 20:21:50 Type: Unk
Method: NON EPA-6010-200.7(v2351) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.751593	5.100193	4.960335	4.909068	4.851756	9.841827
Stddev	.013687	.044100	.008249	.018987	.020682	.022193
%RSD	.2880432	.8646643	.1662959	.3867679	.4262788	.2254945
#1	4.748866	5.133721	4.964863	4.895626	4.832701	9.848939
#2	4.739475	5.050237	4.950814	4.900791	4.848815	9.859592
#3	4.766437	5.116622	4.965328	4.930788	4.873750	9.816950

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.675041	.2270227	2.510550	25.28218	1.024477	2.542263
Stddev	.010188	.0004164	.001679	.05887	.001709	.001811
%RSD	.1053037	.1834037	.0668847	.2328595	.1668507	.0712194
#1	9.663278	.2275017	2.511226	25.24334	1.026258	2.540247
#2	9.681052	.2267480	2.508638	25.34991	1.022850	2.542791
#3	9.680793	.2268183	2.511785	25.25328	1.024323	2.543751

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.242800	4.677953	2.503190	25.66604	2.547644	1.268218
Stddev	.002513	.026362	.002889	.06254	.003814	.004716
%RSD	.2022212	.5635315	.1154198	.2436836	.1496951	.3718633
#1	1.240893	4.648393	2.501953	25.73438	2.545341	1.269533
#2	1.241859	4.699027	2.506492	25.61165	2.545545	1.272137
#3	1.245648	4.686438	2.501125	25.65208	2.552046	1.262984

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.64721	2.476643	2.405631	23.16882	5.247177	4.940888
Stddev	.06658	.011494	.027053	.06672	.023869	.015681
%RSD	.2939881	.4640869	1.124551	.2879713	.4548917	.3173821
#1	22.57096	2.489147	2.400198	23.09241	5.274591	4.932499
#2	22.67687	2.474243	2.434988	23.19854	5.231002	4.931186
#3	22.69381	2.466538	2.381707	23.21553	5.235937	4.958979

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: CCV05 Acquired: 8/21/2024 20:21:50 Type: Unk
Method: NON EPA-6010-200.7(v2351) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.241436	4.930681	4.886134	5.275897	5.052822	F 18.23243
Stddev	.004184	.006338	.023120	.007036	.009360	.02678
%RSD	.0798304	.1285496	.4731718	.1333611	.1852505	.1468758
#1	5.246236	4.926302	4.863307	5.283289	5.048740	18.26124
#2	5.239509	4.937949	4.885559	5.269281	5.046196	18.20830
#3	5.238562	4.927791	4.909536	5.275122	5.063530	18.22774

Elem	Sr4077
Units	ppm
Avg	4.742329
Stddev	.027166
%RSD	.5728438
#1	4.726042
#2	4.773690
#3	4.727256

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4651.098	124941.4	8806.573	6424.698	7205.676
Stddev	16.700	369.8	42.149	33.994	34.452
%RSD	.3590471	.2960046	.4786082	.5291121	.4781176
#1	4634.983	124784.6	8765.740	6414.437	7172.135
#2	4649.983	124675.8	8804.053	6397.016	7203.923
#3	4668.327	125363.8	8849.925	6462.640	7240.971

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: CCB05 Acquired: 8/21/2024 20:30:55 Type: Unk
Method: NON EPA-6010-200.7(v2351) 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	.0019156	.0012511	.0005343	.0001756	-.001083	.0026486	.0037357
Stddev	.0013409	.0001987	.0003500	.0017063	.001693	.0044716	.0006959
%RSD	70.00018	15.88489	65.50965	971.7874	156.2637	168.8258	18.62953
#1	.0004367	.0011066	.0003715	.0021378	-.000660	.0078116	.0032058
#2	.0030521	.0014777	.0002954	-.000960	-.002948	.0001219	.0034775
#3	.0022579	.0011690	.0009360	-.000651	.000357	.0000124	.0045239

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000342	.0000281	.0013371	-.000182	.0000950	.0000161	.0022272
Stddev	.0000644	.0000270	.0093583	.000116	.0001875	.0000869	.0008160
%RSD	188.2185	95.86367	699.8877	63.63831	197.4800	539.8247	36.63627
#1	-.000033	.0000558	.0007834	-.000315	.0002957	-.000012	.0027198
#2	.000095	.0000020	-.007732	-.000133	-.000076	.000114	.0026766
#3	.000041	.0000266	.010960	-.000100	.000065	-.000053	.0012854

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000296	-.005537	.0002500	.0002173	-.126787	-.000993	-.000565
Stddev	.000262	.020265	.0001373	.0001413	.002663	.000384	.000056
%RSD	88.62785	365.9642	54.90021	65.01658	2.100531	38.69422	9.992918
#1	-.000212	.013241	.0003011	.0003787	-.126386	-.001354	-.000629
#2	-.000086	-.027018	.0003544	.0001572	-.124347	-.001035	-.000523
#3	-.000590	-.002835	.0000945	.0001160	-.129628	-.000589	-.000543

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.008894	.0059438	.0000428	.0002658	-.000914	-.004363	-.003183
Stddev	.008404	.0004466	.0000848	.0003329	.000531	.006481	.001071
%RSD	94.49730	7.513756	197.8595	125.2243	58.07402	148.5489	33.64101
#1	.000178	.0062604	.0000746	-.000111	-.001501	.000022	-.002185
#2	-.016414	.0061382	.0001071	.000387	-.000769	-.001303	-.004314
#3	-.010445	.0054330	-.000053	.000521	-.000470	-.011807	-.003051

Reviewed By:Mohan
On:8/22/2024 5:18:57 AM
Inst Id :P4
LB :LB132113

Sample Name: CCB05 Acquired: 8/21/2024 20:30:55 Type: Unk
Method: NON EPA-6010-200.7(v2351) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB05 Custom ID2: Custom ID3:
Comment:

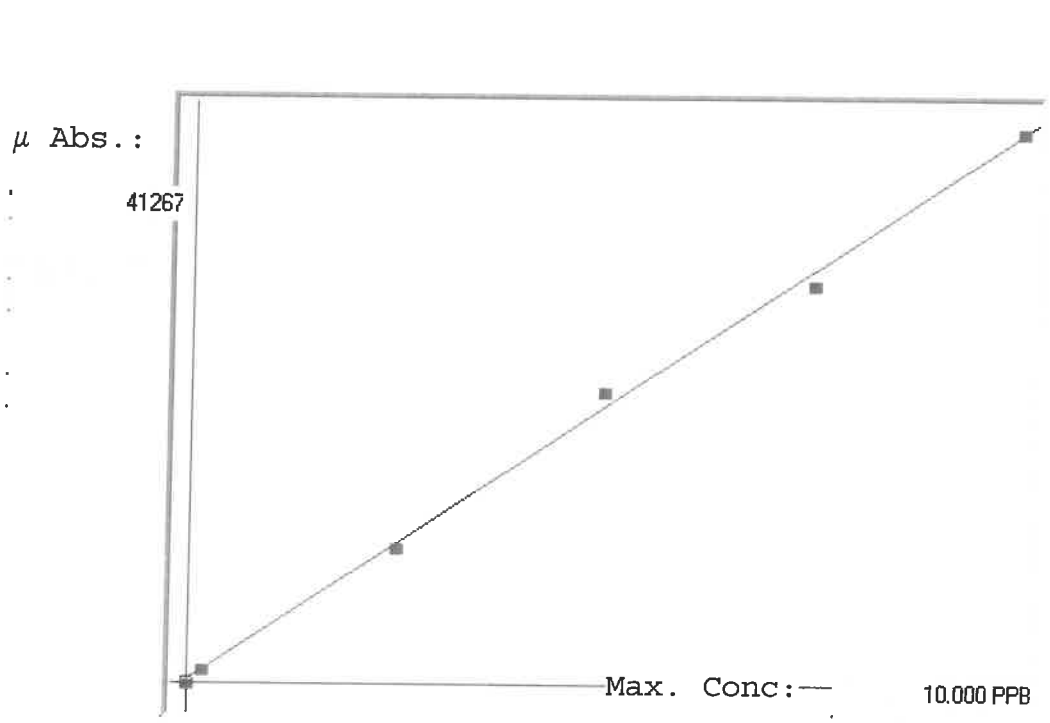
Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.001160	.0046883	.0001871
Stddev	.003032	.0033671	.0000487
%RSD	261.3582	71.81870	26.03498
#1	-.001733	.0070158	.0001736
#2	-.003865	.0062217	.0001466
#3	.002118	.0008275	.0002412

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4635.779	129717.2	9512.234	6624.742	7533.209
Stddev	20.203	490.5	62.899	25.228	34.021
%RSD	.4358019	.3781273	.6612411	.3808104	.4516084
#1	4613.388	129177.3	9583.633	6595.905	7494.671
#2	4641.304	129838.9	9488.063	6635.594	7545.884
#3	4652.645	130135.4	9465.006	6642.729	7559.073

Reviewed By:mohan
On:8/13/2024 10:47:32 PM
Inst Id :CV1
LB :LB131960

LB131960

7470A INSTRUMENT ID: CV1



Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	%D
0.0	0.000	-0.028	-0.028	123	0.000	123	0				1
0.2	0.200	0.194	-0.006	1032	0.0 %	1032					3
2.5	2.500	2.456	-0.044	10275	0.0 %	10275					2
5.0	5.000	5.292	0.292	21867	0.0 %	21867					6
7.5	7.500	7.247	-0.253	29857	0.0 %	29857					3
10.0	10.000	10.039	0.039	41267	0.0 %	41267					0

Reviewed By:mohan
On:8/13/2024 10:47:32 PM
Inst Id :CV1
LB :LB131960

LB131960 INSTRUMKENT ID : CV1

Method: 7470A Operator: Admin Date of Analysis: 13 Aug 2024 08:29:57

Sample ID	Extended ID	µ Abs.	Conc.	Stnd Conc	Method	Units	Date	Type	Type
0.0 - 1	50	123	-	0.00000	7470A	PPB	13 Aug 2024 08:36:49	S	Std
0.2 - 1	50.2	1032	-	0.20000	7470A	PPB	13 Aug 2024 08:39:05	S	Std
2.5 - 1	52.5	10275	-	2.50000	7470A	PPB	13 Aug 2024 08:41:23	S	Std
5.0 - 1	55	21867	-	5.00000	7470A	PPB	13 Aug 2024 08:43:40	S	Std
7.5 - 1	57.5	29857	-	7.50000	7470A	PPB	13 Aug 2024 08:45:57	S	Std
10.0 - 1	510	41267	-	10.00000	7470A	PPB	13 Aug 2024 08:50:50	S	Std
ICV72 - 1	ICV72	16618	4.0078		-7470A	PPB	13 Aug 2024 08:53:41	U	SMPL
ICB72 - 1	ICB72	-81	-0.0784		-7470A	PPB	13 Aug 2024 08:55:55	U	SMPL
CCV35 - 1	CCV35	18763	4.5327		-7470A	PPB	13 Aug 2024 08:58:12	U	SMPL
CCB35 - 1	CCB35	-64	-0.0742		-7470A	PPB	13 Aug 2024 09:03:02	U	SMPL
CRA - 1	CRA	1203	0.2358		-7470A	PPB	13 Aug 2024 09:10:24	U	SMPL
HighStd - 1	HighStd	41121	10.0035		-7470A	PPB	13 Aug 2024 09:12:39	U	SMPL
ChkStd - 1	ChkStd	27661	6.7100		-7470A	PPB	13 Aug 2024 09:14:54	U	SMPL
PB162665BL - 1	PBW	-169	-0.0999		-7470A	PPB	13 Aug 2024 09:17:12	U	SMPL
PB162665BS - 1	LCSW	16637	4.0124		-7470A	PPB	13 Aug 2024 09:19:29	U	SMPL
P3526-02 - 1	SP-1-COMP	-178	-0.1021		-7470A	PPB	13 Aug 2024 09:21:45	U	SMPL
P3534-01 - 1	PIPE-BLAST-GRIT	6	-0.0571		-7470A	PPB	13 Aug 2024 09:24:03	U	SMPL
P3534-03 - 1	HP-IP	24	-0.0527		-7470A	PPB	13 Aug 2024 09:26:20	U	SMPL
P3534-03DUP - 1	HP-IPDUP	31	-0.0510		-7470A	PPB	13 Aug 2024 09:28:37	U	SMPL
P3534-03MS - 1	HP-IPMS	19735	4.7705		-7470A	PPB	13 Aug 2024 09:30:53	U	SMPL
CCV36 - 1	CCV36	19728	4.7688		-7470A	PPB	13 Aug 2024 09:33:08	U	SMPL
CCB36 - 1	CCB36	-104	-0.0840		-7470A	PPB	13 Aug 2024 09:35:25	U	SMPL
P3534-03MSD - 1	HP-IPMSD	15594	3.7572		-7470A	PPB	13 Aug 2024 09:37:42	U	SMPL
PB162681BL - 1	PBW	-62	-0.0737		-7470A	PPB	13 Aug 2024 09:39:57	U	SMPL
PB162681BS - 1	LCSW	16751	4.0403		-7470A	PPB	13 Aug 2024 09:42:14	U	SMPL
P3530-02 - 1	WC-A-04-202408	-188	-0.1045		-7470A	PPB	13 Aug 2024 09:44:29	U	SMPL
P3530-02DUP - 1	WC-A-04-202408DUP	-28	-0.0654		-7470A	PPB	13 Aug 2024 09:46:47	U	SMPL
P3530-02MS - 1	WC-A-04-202408MS	14987	3.6087		-7470A	PPB	13 Aug 2024 09:49:03	U	SMPL
P3530-02MSD - 1	WC-A-04-202408MSD	13826	3.3246		-7470A	PPB	13 Aug 2024 09:51:19	U	SMPL
P3530-03 - 1	WC-A-05-202408	-95	-0.0818		-7470A	PPB	13 Aug 2024 09:53:38	U	SMPL
P3534-05 - 1	PIPE-BLAST-GRIT(FB)	11	-0.0558		-7470A	PPB	13 Aug 2024 09:55:57	U	SMPL
P3534-06 - 1	HP-IP(FB)	32	-0.0507		-7470A	PPB	13 Aug 2024 09:58:13	U	SMPL
CCV37 - 1	CCV37	20451	4.9457		-7470A	PPB	13 Aug 2024 10:00:28	U	SMPL
CCB37 - 1	CCB37	14	-0.0551		-7470A	PPB	13 Aug 2024 10:05:27	U	SMPL
PB162680BL - 1	PBW	120	-0.0292		-7470A	PPB	13 Aug 2024 10:07:43	U	SMPL
PB162680BS - 1	LCSW	15043	3.6224		-7470A	PPB	13 Aug 2024 10:09:58	U	SMPL
P3426-01 - 1	927-K1-WS-073124	-94	-0.0815		-7470A	PPB	13 Aug 2024 10:12:13	U	SMPL
P3426-02 - 1	927-K1-WS-073124-FD	31	-0.0510		-7470A	PPB	13 Aug 2024 10:14:30	U	SMPL
P3429-01 - 1	926-K1-WS-073124	6	-0.0571		-7470A	PPB	13 Aug 2024 10:16:46	U	SMPL
P3429-02 - 1	931-K1-WS-073124	309	0.0171		-7470A	PPB	13 Aug 2024 10:19:02	U	SMPL
P3429-03 - 1	925-K1-WS-073124	778	0.1318		-7470A	PPB	13 Aug 2024 10:21:19	U	SMPL
P3440-01 - 1	923-K1-WS-080124	-109	-0.0852		-7470A	PPB	13 Aug 2024 10:23:35	U	SMPL
P3440-01DUP - 1	923-K1-WS-080124DUP	17	-0.0544		-7470A	PPB	13 Aug 2024 10:25:53	U	SMPL
P3440-02 - 1	P3440-01MS	13643	3.2798		-7470A	PPB	13 Aug 2024 10:28:09	U	SMPL
CCV38 - 1	CCV38	20089	4.8571		-7470A	PPB	13 Aug 2024 10:30:24	U	SMPL
CCB38 - 1	CCB38	14	-0.0551		-7470A	PPB	13 Aug 2024 10:35:27	U	SMPL
P3440-03 - 1	P3440-01MSD	13205	3.1727		-7470A	PPB	13 Aug 2024 10:37:42	U	SMPL
P3440-04 - 1	922-K1-WS-080124	-73	-0.0764		-7470A	PPB	13 Aug 2024 10:39:57	U	SMPL
P3451-01 - 1	921-J-WS-080124	37	-0.0495		-7470A	PPB	13 Aug 2024 10:42:15	U	SMPL
P3457-01 - 1	924-K1-WS-080224	100	-0.0341		-7470A	PPB	13 Aug 2024 10:44:30	U	SMPL
P3457-02 - 1	932-K1-WS-080224	141	-0.0240		-7470A	PPB	13 Aug 2024 10:46:46	U	SMPL
P3467-01 - 1	919-J-WS-080224	1257	0.2490		-7470A	PPB	13 Aug 2024 10:49:02	U	SMPL
P3497-02 - 1	COMP	33	-0.0505		-7470A	PPB	13 Aug 2024 10:51:19	U	SMPL
P3532-01 - 1	806-C	950	0.1739		-7470A	PPB	13 Aug 2024 10:53:36	U	SMPL
P3545-01 - 1	BUR-1295	914	0.1651		-7470A	PPB	13 Aug 2024 10:55:52	U	SMPL
CCV39 - 1	CCV39	21395	5.1767		-7470A	PPB	13 Aug 2024 10:58:08	U	SMPL
CCB39 - 1	CCB39	221	-0.0045		-7470A	PPB	13 Aug 2024 11:04:09	U	SMPL
PB162588TB - 1	PB162588TB	-23	-0.0642		-7470A	PPB	13 Aug 2024 11:06:24	U	SMPL
PB162590TB - 1	PB162590TB	-2	-0.0590		-7470A	PPB	13 Aug 2024 11:08:39	U	SMPL
P3534-03LX5 - 1		-32	-0.0664		-7470A	PPB	13 Aug 2024 11:10:54	U	SMPL
P3534-03A - 1		15658	3.7729		-7470A	PPB	13 Aug 2024 11:13:10	U	SMPL
P3530-02LX5 - 1		-459	-0.1709		-7470A	PPB	13 Aug 2024 11:15:25	U	SMPL
P3530-02A - 1		16246	3.9168		-7470A	PPB	13 Aug 2024 11:17:42	U	SMPL
P3440-01LX5 - 1		-388	-0.1535		-7470A	PPB	13 Aug 2024 11:19:58	U	SMPL
P3440-01A - 1		16290	3.9275		-7470A	PPB	13 Aug 2024 11:22:17	U	SMPL
CCV40 - 1	CCV40	21055	5.0935		-7470A	PPB	13 Aug 2024 11:24:33	U	SMPL
CCB40 - 1	CCB40	-469	-0.1733		-7470A	PPB	13 Aug 2024 11:26:51	U	SMPL

Alliance TECHNICAL GROUP

Water Metals Preparation Sheet

PB162493

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 : M4909

Hood ID : #3

Block ID: 1. HOT BLOCK #3 2. N/A

Start Digest Date: 08/05/2024 **Time :** 09:15 **Temp :** 94 °C

End Digest Date: ~~08/06/2024~~ 08/05/2024 **Time :** 11:30 **Temp :** 95 °C

Digestion tube ID: M5586

Block thermometer ID: N/A

Dig Technician Signature:

Supervisor Signature:

Temp : 1. 96°C 2. N/A

Standared Name	MLS USED	STD REF. # FROM LOG
LFS-1	0.25	M5643
LFS-2	0.25	M5649
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	M5904
1:1 HCL	5.00	MP81559
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:

N/A

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
08/05/24 12:10		
	Preparation Group	Analysis Group

Lab Sample ID	Client Sample ID	pH	Initial Vol (ml)	Final Vol (ml)	Color Before	Color After	Clarity Before	Clarity After	Comment	Prep Pos
P3426-01	927-K1-WS-073124	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	21
P3426-02	927-K1-WS-073124-FD	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	22
P3429-01	926-K1-WS-073124	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	23
P3429-02	931-K1-WS-073124	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	24
P3429-03	925-K1-WS-073124	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	25
P3440-01	923-K1-WS-080124	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	26
P3440-01DUP	923-K1-WS-080124DUP	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	20
P3440-02	P3440-01MS	<2	50	25	Colorless	Colorless	Clear	Clear	M5643,M5649	27
P3440-03	P3440-01MSD	<2	50	25	Colorless	Colorless	Clear	Clear	M5643,M5649	28
P3440-04	922-K1-WS-080124	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	29
P3443-01	WATER TREATMENT DISCHARGE	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	30
P3451-01	921-J-WS-080124	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	31
P3455-01	RW7-SP100-50-20240801	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	32
P3455-03	RW7-S301A-50-20240801	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	33
P3455-04	RW7-SP303-50-20240801	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	34
P3455-05	RW7-SP100-90-20240801	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	35
P3455-07	RW7-SP301A-90-20240801	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	36
P3455-08	RW7-SP303-90-20240801	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	37
P3457-01	924-KI-WS-080224	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	38
P3457-02	932-KI-WS-080224	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	39
P3467-01	919-J-WS-080224	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	40
PB162493BL	PBW493	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	41
PB162493BS	LCS493	<2	50	25	Colorless	Colorless	Clear	Clear	M5643,M5649	42

WORKLIST(Hardcopy Internal Chain)

WorkList Name : PB162493 **WorkList ID :** 182358 **Department :** Digestion **Date :** 08-05-2024 08:44:50

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P3426-01	927-K1-WS-073124	Water	Metals Group4	1:1 HNO3 to pH < 2	JACO05	E21	07/31/2024	6010D
P3426-02	927-K1-WS-073124-FD	Water	Metals Group4	1:1 HNO3 to pH < 2	JACO05	E21	07/31/2024	6010D
P3429-01	926-K1-WS-073124	Water	Metals Group4	1:1 HNO3 to pH < 2	JACO05	D31	07/31/2024	6010D
P3429-02	931-K1-WS-073124	Water	Metals Group4	1:1 HNO3 to pH < 2	JACO05	D31	07/31/2024	6010D
P3429-03	925-K1-WS-073124	Water	Metals Group4	1:1 HNO3 to pH < 2	JACO05	D31	07/31/2024	6010D
P3440-01	923-K1-WS-080124	Water	Metals Group4	1:1 HNO3 to pH < 2	JACO05	D31	07/31/2024	6010D
P3440-02	P3440-01MS	Water	Metals Group4	1:1 HNO3 to pH < 2	JACO05	D31	08/01/2024	6010D
P3440-03	P3440-01MSD	Water	Metals Group4	1:1 HNO3 to pH < 2	JACO05	D31	08/01/2024	6010D
P3440-04	922-K1-WS-080124	Water	Metals Group4	1:1 HNO3 to pH < 2	JACO05	D31	08/01/2024	6010D
P3443-01	Water Treatment Discharge	Water	Metals Group4	1:1 HNO3 to pH < 2	JACO05	D31	08/01/2024	6010D
P3451-01	921-J-WS-080124	Water	Metals Group4	1:1 HNO3 to pH < 2	VERI01	K11	08/01/2024	6010D
P3455-01	RW7-SP100-50-20240801	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	JACO05	D31	08/01/2024	6010D
P3455-03	RW7-S301A-50-20240801	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	TETR06	D31	08/01/2024	6010D
P3455-04	RW7-SP303-50-20240801	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	TETR06	D31	08/01/2024	6010D
P3455-05	RW7-SP100-90-20240801	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	TETR06	D31	08/01/2024	6010D
P3455-07	RW7-SP301A-90-20240801	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	TETR06	D31	08/01/2024	6010D
P3455-08	RW7-SP303-90-20240801	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	TETR06	D31	08/01/2024	6010D
P3457-01	924-KI-WS-080224	Water	Metals Group4	1:1 HNO3 to pH < 2	JACO05	J21	08/02/2024	6010D
P3457-02	932-KI-WS-080224	Water	Metals Group4	1:1 HNO3 to pH < 2	JACO05	J21	08/02/2024	6010D
P3467-01	919-J-WS-080224	Water	Metals Group4	1:1 HNO3 to pH < 2	JACO05	D21	08/02/2024	6010D

Date/Time 08/05/24 08:50

Raw Sample Received by: [illegible]

Raw Sample Relinquished by: JT (SM)

Date/Time 08/05/24 13:00

Raw Sample Received by: JT (SM)

Raw Sample Relinquished by: [illegible]

Alliance TECHNICAL GROUP

Water Mercury Preparation Sheet

PB162680

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 : M4909

Hood ID : #1

Block ID: 1. HG HOT BLOCK#3 2. N/A

Start Digest Date: 08/12/2024 **Time :** 16:13 **Temp :** 94 °C

End Digest Date: 08/12/2024 **Time :** 18:13 **Temp :** 95 °C

Digestion tube ID: M5586

Block thermometer ID: HG-DIG#3

Dig Technician Signature: pB

Supervisor Signature: JL

Temp : 1. 94°C 2. N/A

Standared Name	MLS USED	STD REF. # FROM LOG
ICV	30mL	MP81786
CCV	30mL	MP81788
CRA	30mL	MP81790
Blank Spike	0.48mL	MP81779
Matrix Spike	0.48mL	MP81779

Chemical Used	ML/SAMPLE USED	Lot Number
HNO3/H2SO4(1:2)	2.5mL	MP81818
KMnO4	4.5mL	MP81819
K2S2O8	2.5mL	MP81820
Hydroxylamine HCL	2.0mL	MP81821
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	MP81780
0.05 ppb	S0.05	N/A	N/A
0.2 ppb	S0.2	30mL	MP81781
2.5 ppb	S2.5	30mL	MP81782
5.0 ppb	S5.0	30mL	MP81783
7.5 ppb	S7.5	30mL	MP81784
10.0 ppb	S10.0	30mL	MP81785
ICV	ICV	30mL	MP81786
ICB	ICB	30mL	MP81787
CCV	CCV	30mL	MP81788
CCB	CCB	30mL	MP81789
CRI	CRI	30mL	MP81790
CHK STD	CHK STD	30mL	MP81791

Extraction Conformance/Non-Conformance Comments:

N/A

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
8/13/24 @ 7:40	pB Dig. Lab	PRO - Metals Lab
	Preparation Group	**Analysis Group**

Alliance TECHNICAL GROUP

Water Mercury Preparation Sheet

PB162680

Lab Sample ID	Client Sample ID	Initial Vol (ml)	Final Vol (ml)	pH	Comment	Prep Pos
P3426-01	927-K1-WS-073124	30	30	<2	N/A	3-20
P3426-02	927-K1-WS-073124-FD	30	30	<2	N/A	21
P3429-01	926-K1-WS-073124	30	30	<2	N/A	22
P3429-02	931-K1-WS-073124	30	30	<2	N/A	23
P3429-03	925-K1-WS-073124	30	30	<2	N/A	24
P3440-01	923-K1-WS-080124	30	30	<2	N/A	25
P3440-01DUP	923-K1-WS-080124DUP	30	30	<2	N/A	26
P3440-02	P3440-01MS	30	30	<2	MP81779	27
P3440-03	P3440-01MSD	30	30	<2	MP81779	28
P3440-04	922-K1-WS-080124	30	30	<2	N/A	29
P3451-01	921-J-WS-080124	30	30	<2	N/A	30
P3457-01	924-K1-WS-080224	30	30	<2	N/A	31
P3457-02	932-K1-WS-080224	30	30	<2	N/A	32
P3467-01	919-J-WS-080224	30	30	<2	N/A	33
P3497-02	COMP	30	30	<2	N/A	34
P3532-01	806-C	30	30	<2	N/A	35
P3545-01	BUR-1295	30	30	<2	N/A	36
PB162680BL	PBW680	30	30	<2	N/A	37
PB162680BS	LCS680	30	30	<2	MP81779	38

WORKLIST(Hardcopy Internal Chain)

WorkList Name : 081224_7470 **WorkList ID :** 182542 **Department :** Digestion **Date :** 08-12-2024 07:28:42

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P3497-02	COMP	Water	Mercury	1:1 HNO3 to pH < 2	ARAM01	K11	08/07/2024	7470A
P3426-01	927-K1-WS-073124	Water	Mercury	1:1 HNO3 to pH < 2	JACO05	E21	07/31/2024	7470A
P3426-02	927-K1-WS-073124-FD	Water	Mercury	1:1 HNO3 to pH < 2	JACO05	E21	07/31/2024	7470A
P3429-01	926-K1-WS-073124	Water	Mercury	1:1 HNO3 to pH < 2	JACO05	D31	07/31/2024	7470A
P3429-02	931-K1-WS-073124	Water	Mercury	1:1 HNO3 to pH < 2	JACO05	D31	07/31/2024	7470A
P3429-03	925-K1-WS-073124	Water	Mercury	1:1 HNO3 to pH < 2	JACO05	D31	07/31/2024	7470A
P3440-01	923-K1-WS-080124	Water	Mercury	1:1 HNO3 to pH < 2	JACO05	D31	08/01/2024	7470A
P3467-01	919-J-WS-080224	Water	Mercury	1:1 HNO3 to pH < 2	JACO05	D21	08/02/2024	7470A
P3440-02	P3440-01MS	Water	Mercury	1:1 HNO3 to pH < 2	JACO05	D31	08/01/2024	7470A
P3440-03	P3440-01MSD	Water	Mercury	1:1 HNO3 to pH < 2	JACO05	D31	08/01/2024	7470A
P3440-04	922-K1-WS-080124	Water	Mercury	1:1 HNO3 to pH < 2	JACO05	D31	08/01/2024	7470A
P3451-01	921-J-WS-080124	Water	Mercury	1:1 HNO3 to pH < 2	JACO05	D31	08/01/2024	7470A
P3457-01	924-K1-WS-080224	Water	Mercury	1:1 HNO3 to pH < 2	JACO05	D31	08/01/2024	7470A
P3457-02	932-K1-WS-080224	Water	Mercury	1:1 HNO3 to pH < 2	JACO05	J21	08/02/2024	7470A
P3532-01	806-C	Water	Mercury	1:1 HNO3 to pH < 2	JACO05	J21	08/02/2024	7470A
P3545-01	BUR-1295	Water	Mercury	1:1 HNO3 to pH < 2	PSEG03	D21	08/08/2024	7470A
					PSEG03	D21	08/09/2024	7470A

Date/Time 8/12/24 @ 15:40

Raw Sample Received by: [illegible]

Raw Sample Relinquished by: [illegible]

Date/Time 8/12/24 @ 16:20

Raw Sample Received by: [illegible]

Raw Sample Relinquished by: [illegible]

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 # LB131900

Review By	Jaswal	Review On	8/8/2024 5:19:27 AM
Supervise By	Mohan	Supervise On	8/8/2024 5:24:08 AM

STD. NAME	STD REF.#
ICAL Standard	MP81528,MP81645,MP81646,MP81647,MP81648,MP81650
ICV Standard	MP81651
CCV Standard	MP81654
ICSA Standard	MP81652,MP81653
CRI Standard	MP81650
LCS Standard	
Chk Standard	MP81661,MP81662

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	08/07/24 14:16		Kareem	OK
2	S1	S1	CAL2	08/07/24 14:21		Kareem	OK
3	S2	S2	CAL3	08/07/24 14:25		Kareem	OK
4	S3	S3	CAL4	08/07/24 14:29		Kareem	OK
5	S4	S4	CAL5	08/07/24 14:33		Kareem	OK
6	S5	S5	CAL6	08/07/24 14:38		Kareem	OK
7	ICV01	ICV01	ICV	08/07/24 15:52		Kareem	OK
8	LLICV01	LLICV01	LLICV	08/07/24 15:56		Kareem	OK
9	ICB01	ICB01	ICB	08/07/24 16:03		Kareem	OK
10	CRI01	CRI01	CRDL	08/07/24 16:07		Kareem	OK
11	ICSA01	ICSA01	ICSA	08/07/24 16:12		Kareem	OK
12	ICSAB01	ICSAB01	ICSAB	08/07/24 16:16		Kareem	OK
13	CCV01	CCV01	CCV	08/07/24 16:20		Kareem	OK
14	CCB01	CCB01	CCB	08/07/24 16:25		Kareem	OK
15	PB162493BL	PB162493BL	MB	08/07/24 16:29		Kareem	OK
16	PB162493BS	PB162493BS	LCS	08/07/24 16:34	0.1ML OF M5921 AND M5922 WERE ADDED TO 10ML OF THE SAMPLE	Kareem	OK
17	P3426-01	927-K1-WS-073124	SAM	08/07/24 16:38		Kareem	OK
18	P3426-02	927-K1-WS-073124-F	SAM	08/07/24 16:42		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 # LB131900

Review By	Jaswal	Review On	8/8/2024 5:19:27 AM
Supervise By	Mohan	Supervise On	8/8/2024 5:24:08 AM

STD. NAME	STD REF.#
ICAL Standard	MP81528,MP81645,MP81646,MP81647,MP81648,MP81650
ICV Standard	MP81651
CCV Standard	MP81654
ICSA Standard	MP81652,MP81653
CRI Standard	MP81650
LCS Standard	
Chk Standard	MP81661,MP81662

19	P3429-01	926-K1-WS-073124	SAM	08/07/24 16:47		Kareem	OK
20	P3429-02	931-K1-WS-073124	SAM	08/07/24 16:51		Kareem	OK
21	P3429-03	925-K1-WS-073124	SAM	08/07/24 16:56		Kareem	OK
22	P3440-01	923-K1-WS-080124	SAM	08/07/24 17:00		Kareem	OK
23	P3440-01DUP	923-K1-WS-080124D	DUP	08/07/24 17:05		Kareem	OK
24	P3440-01L	923-K1-WS-080124L	SD	08/07/24 17:09		Kareem	OK
25	CCV02	CCV02	CCV	08/07/24 17:14		Kareem	OK
26	CCB02	CCB02	CCB	08/07/24 17:18		Kareem	OK
27	LR2	LR2	HIGH STD	08/07/24 18:15		Kareem	OK
28	P3440-02	923-K1-WS-080124M	MS	08/07/24 18:20		Kareem	OK
29	P3440-03	923-K1-WS-080124M	MSD	08/07/24 18:24		Kareem	OK
30	P3440-01A	923-K1-WS-080124A	PS	08/07/24 18:33	0.1ML OF M5921 AND M5922 WERE ADDED TO 10ML OF THE SAMPLE	Kareem	OK
31	P3440-04	922-K1-WS-080124	SAM	08/07/24 18:38		Kareem	OK
32	P3443-01	Water Treatment Disc	SAM	08/07/24 18:42		Kareem	OK
33	P3451-01	921-J-WS-080124	SAM	08/07/24 18:47		Kareem	OK
34	CCV03	CCV03	CCV	08/07/24 18:51		Kareem	OK
35	CCB03	CCB03	CCB	08/07/24 18:55		Kareem	OK
36	LR1	LR1	HIGH STD	08/07/24 19:07		Kareem	OK
37	P3455-01	RW7-SP100-50-2024(	SAM	08/07/24 19:12		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 # LB131900

Review By	Jaswal	Review On	8/8/2024 5:19:27 AM
Supervise By	Mohan	Supervise On	8/8/2024 5:24:08 AM

STD. NAME	STD REF.#
ICAL Standard	MP81528,MP81645,MP81646,MP81647,MP81648,MP81650
ICV Standard	MP81651
CCV Standard	MP81654
ICSA Standard	MP81652,MP81653
CRI Standard	MP81650
LCS Standard	
Chk Standard	MP81661,MP81662

38	P3455-03	RW7-SP301A-50-202	SAM	08/07/24 19:17		Kareem	OK
39	P3455-04	RW7-SP303-50-2024(	SAM	08/07/24 19:21		Kareem	OK
40	P3455-05	RW7-SP100-90-2024(	SAM	08/07/24 19:26		Kareem	OK
41	P3455-07	RW7-SP301A-90-202	SAM	08/07/24 19:30		Kareem	OK
42	P3455-08	RW7-SP303-90-2024(	SAM	08/07/24 19:35		Kareem	OK
43	P3457-01	924-K1-WS-080224	SAM	08/07/24 19:39		Kareem	OK
44	P3457-02	932-K1-WS-080224	SAM	08/07/24 19:44		Kareem	OK
45	CCV04	CCV04	CCV	08/07/24 19:48		Kareem	OK
46	CCB04	CCB04	CCB	08/07/24 19:52		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 # LB131960

Review By	jaswal	Review On	8/13/2024 10:45:46 PM
Supervise By	mohan	Supervise On	8/13/2024 10:47:32 PM

STD. NAME	STD REF.#
ICAL Standard	MP81780,MP81781,MP81782,MP81783,MP81784,MP81785
ICV Standard	MP81786
CCV Standard	MP81788
ICSA Standard	
CRI Standard	MP81790
LCS Standard	
Chk Standard	MP81787,MP81789,MP81791,MP81804

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	08/13/24 08:36		mohan	OK
2	S0.2	S0.2	CAL2	08/13/24 08:39		mohan	OK
3	S2.5	S2.5	CAL3	08/13/24 08:41		mohan	OK
4	S5	S5	CAL4	08/13/24 08:43		mohan	OK
5	S7.5	S7.5	CAL5	08/13/24 08:45		mohan	OK
6	S10	S10	CAL6	08/13/24 08:50		mohan	OK
7	ICV72	ICV72	ICV	08/13/24 08:53		mohan	OK
8	ICB72	ICB72	ICB	08/13/24 08:55		mohan	OK
9	CCV35	CCV35	CCV	08/13/24 08:58		mohan	OK
10	CCB35	CCB35	CCB	08/13/24 09:03		mohan	OK
11	CRA	CRA	CRDL	08/13/24 09:10		mohan	OK
12	HighStd	HighStd	HIGH STD	08/13/24 09:12		mohan	OK
13	ChkStd	ChkStd	SAM	08/13/24 09:14		mohan	OK
14	PB162665BL	PB162665BL	MB	08/13/24 09:17		mohan	OK
15	PB162665BS	PB162665BS	LCS	08/13/24 09:19		mohan	OK
16	P3526-02	SP-1-COMP	SAM	08/13/24 09:21		mohan	OK
17	P3534-01	PIPE-BLAST-GRIT	SAM	08/13/24 09:24		mohan	OK
18	P3534-03	HP-IP	SAM	08/13/24 09:26		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 # LB131960

Review By	jaswal	Review On	8/13/2024 10:45:46 PM
Supervise By	mohan	Supervise On	8/13/2024 10:47:32 PM

STD. NAME	STD REF.#
ICAL Standard	MP81780,MP81781,MP81782,MP81783,MP81784,MP81785
ICV Standard	MP81786
CCV Standard	MP81788
ICSA Standard	
CRI Standard	MP81790
LCS Standard	
Chk Standard	MP81787,MP81789,MP81791,MP81804

19	P3534-03DUP	HP-IPDUP	DUP	08/13/24 09:28		mohan	OK
20	P3534-03MS	HP-IPMS	MS	08/13/24 09:30		mohan	OK
21	CCV36	CCV36	CCV	08/13/24 09:33		mohan	OK
22	CCB36	CCB36	CCB	08/13/24 09:35		mohan	OK
23	P3534-03MSD	HP-IPMSD	MSD	08/13/24 09:37		mohan	OK
24	PB162681BL	PB162681BL	MB	08/13/24 09:39		mohan	OK
25	PB162681BS	PB162681BS	LCS	08/13/24 09:42		mohan	OK
26	P3530-02	WC-A-04-202408	SAM	08/13/24 09:44		mohan	OK
27	P3530-02DUP	WC-A-04-202408DUP	DUP	08/13/24 09:46		mohan	OK
28	P3530-02MS	WC-A-04-202408MS	MS	08/13/24 09:49		mohan	OK
29	P3530-02MSD	WC-A-04-202408MSD	MSD	08/13/24 09:51		mohan	OK
30	P3530-03	WC-A-05-202408	SAM	08/13/24 09:53		mohan	OK
31	P3534-05	PIPE-BLAST-GRIT(FB	SAM	08/13/24 09:55		mohan	OK
32	P3534-06	HP-IP(FB)	SAM	08/13/24 09:58		mohan	OK
33	CCV37	CCV37	CCV	08/13/24 10:00		mohan	OK
34	CCB37	CCB37	CCB	08/13/24 10:05		mohan	OK
35	PB162680BL	PB162680BL	MB	08/13/24 10:07		mohan	OK
36	PB162680BS	PB162680BS	LCS	08/13/24 10:09		mohan	OK
37	P3426-01	927-K1-WS-073124	SAM	08/13/24 10:12		mohan	OK
38	P3426-02	927-K1-WS-073124-F	SAM	08/13/24 10:14		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 # LB131960

Review By	jaswal	Review On	8/13/2024 10:45:46 PM
Supervise By	mohan	Supervise On	8/13/2024 10:47:32 PM

STD. NAME	STD REF.#
ICAL Standard	MP81780,MP81781,MP81782,MP81783,MP81784,MP81785
ICV Standard	MP81786
CCV Standard	MP81788
ICSA Standard	
CRI Standard	MP81790
LCS Standard	
Chk Standard	MP81787,MP81789,MP81791,MP81804

39	P3429-01	926-K1-WS-073124	SAM	08/13/24 10:16		mohan	OK
40	P3429-02	931-K1-WS-073124	SAM	08/13/24 10:19		mohan	OK
41	P3429-03	925-K1-WS-073124	SAM	08/13/24 10:21		mohan	OK
42	P3440-01	923-K1-WS-080124	SAM	08/13/24 10:23		mohan	OK
43	P3440-01DUP	923-K1-WS-080124DU	DUP	08/13/24 10:25		mohan	OK
44	P3440-02	923-K1-WS-080124M	MS	08/13/24 10:28		mohan	OK
45	CCV38	CCV38	CCV	08/13/24 10:30		mohan	OK
46	CCB38	CCB38	CCB	08/13/24 10:35		mohan	OK
47	P3440-03	923-K1-WS-080124M	MSD	08/13/24 10:37		mohan	OK
48	P3440-04	922-K1-WS-080124	SAM	08/13/24 10:39		mohan	OK
49	P3451-01	921-J-WS-080124	SAM	08/13/24 10:42		mohan	OK
50	P3457-01	924-K1-WS-080224	SAM	08/13/24 10:44		mohan	OK
51	P3457-02	932-K1-WS-080224	SAM	08/13/24 10:46		mohan	OK
52	P3467-01	919-J-WS-080224	SAM	08/13/24 10:49		mohan	OK
53	P3497-02	COMP	SAM	08/13/24 10:51		mohan	OK
54	P3532-01	806-C	SAM	08/13/24 10:53		mohan	OK
55	P3545-01	BUR-1295	SAM	08/13/24 10:55		mohan	OK
56	CCV39	CCV39	CCV	08/13/24 10:58		mohan	OK
57	CCB39	CCB39	CCB	08/13/24 11:04		mohan	OK
58	PB162588TB	PB162588TB	MB	08/13/24 11:06		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 # LB131960

Review By	jaswal	Review On	8/13/2024 10:45:46 PM
Supervise By	mohan	Supervise On	8/13/2024 10:47:32 PM

STD. NAME	STD REF.#
ICAL Standard	MP81780,MP81781,MP81782,MP81783,MP81784,MP81785
ICV Standard	MP81786
CCV Standard	MP81788
ICSA Standard	
CRI Standard	MP81790
LCS Standard	
Chk Standard	MP81787,MP81789,MP81791,MP81804

59	PB162590TB	PB162590TB	MB	08/13/24 11:08		mohan	OK
60	P3534-03L	HP-IPL	SD	08/13/24 11:10		mohan	OK
61	P3534-03A	HP-IPA	PS	08/13/24 11:13		mohan	OK
62	P3530-02L	WC-A-04-202408L	SD	08/13/24 11:15		mohan	OK
63	P3530-02A	WC-A-04-202408A	PS	08/13/24 11:17		mohan	OK
64	P3440-01L	923-K1-WS-080124L	SD	08/13/24 11:19		mohan	OK
65	P3440-01A	923-K1-WS-080124A	PS	08/13/24 11:22		mohan	OK
66	CCV40	CCV40	CCV	08/13/24 11:24		mohan	OK
67	CCB40	CCB40	CCB	08/13/24 11:26		mohan	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 # LB132113

Review By	jaswal	Review On	8/22/2024 5:16:56 AM
Supervise By	Mohan	Supervise On	8/22/2024 5:18:57 AM

STD. NAME	STD REF.#
ICAL Standard	MP81838,MP81845,MP81843,MP81842,MP81840,MP81839,MP81851
ICV Standard	MP81846
CCV Standard	MP81849
ICSA Standard	MP81847,MP81848
CRI Standard	
LCS Standard	
Chk Standard	MP81852,MP81853

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	08/21/24 12:09		Kareem	OK
2	S1	S1	CAL2	08/21/24 12:13		Kareem	OK
3	S2	S2	CAL3	08/21/24 12:17		Kareem	OK
4	S3	S3	CAL4	08/21/24 12:22		Kareem	OK
5	S4	S4	CAL5	08/21/24 12:26		Kareem	OK
6	S5	S5	CAL6	08/21/24 12:30		Kareem	OK
7	ICV01	ICV01	ICV	08/21/24 12:34	ICV fail for Be,Mo,Sr,Sn (200.7)	Kareem	OK
8	LLICV01	LLICV01	LLICV	08/21/24 13:18		Kareem	OK
9	ICB01	ICB01	ICB	08/21/24 13:23		Kareem	OK
10	CRI01	CRI01	CRDL	08/21/24 13:33		Kareem	OK
11	ICSA01	ICSA01	ICSA	08/21/24 13:37		Kareem	OK
12	ICSAB01	ICSAB01	ICSAB	08/21/24 14:00		Kareem	OK
13	ICSADL	ICSADL	ICSA	08/21/24 14:23		Kareem	OK
14	ICSABDL	ICSABDL	ICSAB	08/21/24 14:28		Kareem	OK
15	CCV01	CCV01	CCV	08/21/24 15:39		Kareem	OK
16	CCB01	CCB01	CCB	08/21/24 15:43		Kareem	OK
17	LR1	LR1	HIGH STD	08/21/24 15:48		Kareem	OK
18	LR2	LR2	HIGH STD	08/21/24 15:53		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 # LB132113

Review By	jaswal	Review On	8/22/2024 5:16:56 AM
Supervise By	Mohan	Supervise On	8/22/2024 5:18:57 AM

STD. NAME	STD REF.#
ICAL Standard	MP81838,MP81845,MP81843,MP81842,MP81840,MP81839,MP81851
ICV Standard	MP81846
CCV Standard	MP81849
ICSA Standard	MP81847,MP81848
CRI Standard	
LCS Standard	
Chk Standard	MP81852,MP81853

19	P3612-01	409	SAM	08/21/24 15:58		Kareem	OK
20	P3655-01	T-1	SAM	08/21/24 16:02		Kareem	OK
21	P3655-02	T-23	SAM	08/21/24 16:09		Kareem	OK
22	P3655-03	T-24	SAM	08/21/24 16:13		Kareem	OK
23	P3610-01	A6934	SAM	08/21/24 16:18		Kareem	OK
24	P3610-02	M21005	SAM	08/21/24 16:23		Kareem	OK
25	P3655-04	T-1	SAM	08/21/24 16:27		Kareem	OK
26	P3655-05	T-23	SAM	08/21/24 16:32	Pb high	Kareem	Dilution
27	CCV02	CCV02	CCV	08/21/24 16:59		Kareem	OK
28	CCB02	CCB02	CCB	08/21/24 17:03		Kareem	OK
29	P3655-06	T-24	SAM	08/21/24 17:08	Pb high	Kareem	Dilution
30	P3655-05DL	T-23DL	SAM	08/21/24 17:12	10x for Pb	Kareem	Dilution
31	P3655-06DL	T-24DL	SAM	08/21/24 17:21	10x for Pb	Kareem	Confirms
32	P3612-01DL	409DL	SAM	08/21/24 17:25	NOT USE	Kareem	Not Ok
33	P3506-01	RT4534	SAM	08/21/24 17:29		Kareem	OK
34	CCV03	CCV03	CCV	08/21/24 17:51		Kareem	OK
35	CCB03	CCB03	CCB	08/21/24 17:56		Kareem	OK
36	P3536-01	MANHOLE	SAM	08/21/24 18:10		Kareem	OK
37	P3549-01	SU-04-080924	SAM	08/21/24 18:21		Kareem	OK
38	P3549-01DUP	SU-04-080924DUP	DUP	08/21/24 18:25		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 # LB132113

Review By	jaswal	Review On	8/22/2024 5:16:56 AM
Supervise By	Mohan	Supervise On	8/22/2024 5:18:57 AM

STD. NAME	STD REF.#
ICAL Standard	MP81838,MP81845,MP81843,MP81842,MP81840,MP81839,MP81851
ICV Standard	MP81846
CCV Standard	MP81849
ICSA Standard	MP81847,MP81848
CRI Standard	
LCS Standard	
Chk Standard	MP81852,MP81853

39	P3549-01L	SU-04-080924L	SD	08/21/24 18:29		Kareem	OK
40	P3549-01MS	SU-04-080924MS	MS	08/21/24 18:33		Kareem	OK
41	P3549-01MSD	SU-04-080924MSD	MSD	08/21/24 18:41		Kareem	OK
42	P3549-01A	SU-04-080924A	PS	08/21/24 18:45		Kareem	OK
43	P3467-01	919-J-WS-080224	SAM	08/21/24 18:49		Kareem	OK
44	CCV04	CCV04	CCV	08/21/24 19:03		Kareem	OK
45	CCB04	CCB04	CCB	08/21/24 19:07		Kareem	OK
46	PB162556TB	PB162556TB	MB	08/21/24 19:12	TB fail for Cr,Fe,Mn,Ni	Kareem	Not Ok
47	P3577-01	OILY-DEBRIS	SAM	08/21/24 19:16		Kareem	OK
48	P3577-02	OILY-WATER	SAM	08/21/24 19:21		Kareem	OK
49	P3597-02	SP-1-COMP	SAM	08/21/24 19:25		Kareem	OK
50	P3597-02DUP	SP-1-COMPDUP	DUP	08/21/24 19:30		Kareem	OK
51	P3597-02L	SP-1-COMPL	SD	08/21/24 19:34		Kareem	OK
52	P3597-02MS	SP-1-COMPMS	MS	08/21/24 19:38		Kareem	OK
53	P3597-02MSD	SP-1-COMPMSD	MSD	08/21/24 19:43		Kareem	OK
54	P3597-02A	SP-1-COMPA	PS	08/21/24 19:47		Kareem	OK
55	P3637-01DL	ETGI - 370DL	SAM	08/21/24 19:55	10x for Mn	Kareem	Confirms
56	CCV05	CCV05	CCV	08/21/24 20:21		Kareem	OK
57	CCB05	CCB05	CCB	08/21/24 20:30		Kareem	OK

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

Prep Standard - Chemical Standard Summary

Order ID : P3467

Test : Mercury,Metals Group4

Prepbatch ID : PB162493,PB162680,

Sequence ID/Qc Batch ID: LB131900,LB131900,LB131960,LB132113,

Standard ID :
MP81528,MP81559,MP81645,MP81646,MP81647,MP81648,MP81649,MP81650,MP81651,MP81652,MP81653,MP81654,
MP81661,MP81662,MP81779,MP81780,MP81781,MP81782,MP81783,MP81784,MP81785,MP81786,MP81787,MP81788,
MP81789,MP81790,MP81791,MP81804,MP81818,MP81819,MP81820,MP81821,MP81838,MP81839,MP81840,MP81842,
MP81843,MP81844,MP81845,MP81846,MP81847,MP81848,MP81849,MP81851,MP81852,MP81853,

Chemical ID :
M4251,M4399,M4465,M4877,M4885,M4889,M4916,M4960,M5062,M5130,M5184,M5192,M5200,M5223,M5224,M5227,M5
288,M5289,M5294,M5295,M5296,M5298,M5387,M5390,M5393,M5395,M5429,M5466,M5473,M5476,M5497,M5498,M5513
,M5515,M5519,M5613,M5643,M5649,M5658,M5697,M5698,M5747,M5748,M5768,M5769,M5776,M5798,M5799,M5800,M5
801,M5802,M5806,M5809,M5814,M5815,M5816,M5817,M5818,M5819,M5820,M5875,M5904,M5929,M5942,M5951,M5953
,M5959,M5961,M5962,M5963,M5965,M5970,M5976,M5982,M5984,M6023,M6025,M6028,M6030,M6033,W 3112,

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
902	ICP AES CAL BLK (SO/ICB/CCB)	MP81528	07/22/2024	08/21/2024	Sarabjit Jaswal	None	None	Mohan Bera 07/23/2024

FROM 125.00000ml of M5929 + 2350.00000ml of W3112 + 25.00000ml of M5963 = Final Quantity: 2500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
170	1:1HCL	MP81559	07/23/2024	12/08/2024	Rubina Mughal	None	None	Mohan Bera 07/23/2024

FROM 1250.00000ml of M5929 + 1250.00000ml of W3112 = 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)	MP81645	07/22/2024	08/21/2024	Sarabjit Jaswal	None	None	Mohan Bera 07/31/2024

FROM 5.00000ml of M5224 + 5.00000ml of M5296 + 5.00000ml of M5393 + 5.00000ml of M5466 + 5.00000ml of M5816 + 5.00000ml of M5820 + 5.00000ml of M5875 + 5.00000ml of M5970 + 5.00000ml of M5982 + 455.00000ml of MP81528 = Final Quantity: 500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
910	ICP AES STD S4	MP81646	07/22/2024	08/21/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 07/31/2024

FROM 50.00000ml of MP81528 + 50.00000ml of MP81645 = 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	MP81647	07/22/2024	08/21/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 07/31/2024

FROM 25.00000ml of MP81645 + 75.00000ml of MP81528 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3913	ICP AES STD S2	MP81648	07/22/2024	08/21/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 07/31/2024

FROM 16.00000ml of MP81645 + 184.00000ml of MP81528 = 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	MP81649	07/22/2024	08/21/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 07/31/2024

FROM 0.03000ml of M4877 + 0.03000ml of M5798 + 0.05000ml of M4885 + 0.05000ml of M5298 + 0.05000ml of M5658 + 0.05000ml of M5809 + 0.06000ml of M5747 + 0.10000ml of M5184 + 0.10000ml of M5697 + 0.10000ml of M5801 + 0.10000ml of M5820 + 0.10000ml of M5962 + 0.10000ml of M5970 + 0.10000ml of M5982 + 0.15000ml of M5800 + 0.20000ml of M4889 + 0.20000ml of M5224 + 0.20000ml of M5227 + 0.20000ml of M5748 + 0.20000ml of M5799 + 0.20000ml of M5819 + 0.25000ml of M5466 + 0.50000ml of M5387 + 0.50000ml of M5814 + 1.00000ml of M5192 + 1.00000ml of M5200 + 1.00000ml of M5288 + 1.00000ml of M5497 + 1.00000ml of M5768 + 1.00000ml of M5942 + 2.00000ml of M5816 + 2.00000ml of M5818 + 86.38000ml of MP81528 = 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	MP81650	07/22/2024	08/21/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 07/31/2024

FROM 2.00000ml of MP81649 + 98.00000ml of MP81528 = 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	MP81651	07/22/2024	08/21/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 07/31/2024

FROM 10.00000ml of M5294 + 90.00000ml of MP81528 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
904	ICP AES ICSA SOLN	MP81652	07/22/2024	08/21/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 07/31/2024

FROM 10.00000ml of M5130 + 90.00000ml of MP81528 = 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
905	ICP AES ICSAB SOLN	MP81653	07/22/2024	08/21/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 07/31/2024

FROM 10.00000ml of M5130 + 10.00000ml of M5223 + 80.00000ml of MP81528 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
911	ICP AES CCV SOLN	MP81654	07/22/2024	08/21/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 07/31/2024

FROM 125.00000ml of MP81528 + 125.00000ml of MP81645 = 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
919	ICP AES INTERNAL STD	MP81661	07/22/2024	08/21/2024	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Mohan Bera 07/31/2024

FROM 1.00000ml of M5959 + 10.00000ml of M4960 + 1969.00000ml of W3112 + 20.00000ml of M5963 = Final Quantity: 2000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
903	ICP AES RINSE SOLN	MP81662	07/22/2024	08/21/2024	Sarabjit Jaswal	None	None	Mohan Bera 07/31/2024

FROM 200.00000ml of M5963 + 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.	MP81779	08/12/2024	08/13/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 08/13/2024

FROM 1.00000ml of M5965 + 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	MP81780	08/12/2024	08/13/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 08/13/2024

FROM 2.50000ml of M5965 + 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	MP81781	08/12/2024	08/13/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 08/13/2024

FROM 2.50000ml of M5965 + 247.30000ml of W3112 + 0.20000ml of MP81779 = 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	MP81782	08/12/2024	08/13/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 08/13/2024

FROM 2.50000ml of M5965 + 245.00000ml of W3112 + 2.50000ml of MP81779 = 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	MP81783	08/12/2024	08/13/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 08/13/2024

FROM 2.50000ml of M5965 + 242.50000ml of W3112 + 5.00000ml of MP81779 = 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	MP81784	08/12/2024	08/13/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 08/13/2024

FROM 2.50000ml of M5965 + 240.00000ml of W3112 + 7.50000ml of MP81779 = 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	MP81785	08/12/2024	08/13/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 08/13/2024

FROM 2.50000ml of M5965 + 237.50000ml of W3112 + 10.00000ml of MP81779 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1346	Hg ICV SOLUTION	MP81786	08/12/2024	08/13/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 08/13/2024

FROM 2.50000ml of M5953 + 2.50000ml of M5965 + 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)	MP81787	08/12/2024	08/13/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 08/13/2024

FROM 2.50000ml of M5965 + 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)	MP81788	08/12/2024	08/13/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 08/13/2024

FROM 485.00000ml of W3112 + 5.00000ml of M5965 + 10.00000ml of MP81779 = 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)	MP81789	08/12/2024	08/13/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 08/13/2024

FROM 495.00000ml of W3112 + 5.00000ml of M5965 = 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)	MP81790	08/12/2024	08/13/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 08/13/2024

FROM 2.50000ml of M5965 + 247.30000ml of W3112 + 0.20000ml of MP81779 = 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)	MP81791	08/12/2024	08/13/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 08/13/2024

FROM 2.50000ml of M5965 + 240.50000ml of W3112 + 7.00000ml of MP81779 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
68	STANNOUS CHLORIDE SOLUTION	MP81804	08/13/2024	08/14/2024	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal 08/13/2024

FROM 450.00000ml of W3112 + 50.00000gram of M5776 + 50.00000ml of M5951 = 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
3965	2:1 H2SO4 : HNO3	MP81818	08/13/2024	01/04/2025	Mohan Bera	None	None	Sarabjit Jaswal 08/13/2024

FROM 1600.00000ml of M5613 + 800.00000ml of M5963 = Final Quantity: 3200.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
65	POTASSIUM PERMANGANATE SOLUTION 5 %	MP81819	08/13/2024	02/13/2025	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal 08/13/2024

FROM 100.00000gram of M4916 + 2000.00000ml of W3112 = Final Quantity: 2000.000 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
66	POTASSIUM PERSULFATE SOLUTION 5 %	MP81820	08/13/2024	02/13/2025	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal 08/13/2024

FROM 100.00000ml of M4465 + 2000.00000ml of W3112 = Final Quantity: 2000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
67	SODIUM CHLORIDE - HYDROXYL- CHLORIDE SOLUTION	MP81821	08/13/2024	02/14/2025	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal 08/13/2024

FROM 2000.00000ml of W3112 + 240.00000gram of M4251 + 240.00000gram of M4399 = Final Quantity: 2000.000 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
902	ICP AES CAL BLK (SO/ICB/CCB)	MP81838	08/05/2024	08/31/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 08/13/2024

FROM 125.00000ml of M5951 + 2350.00000ml of W3112 + 25.00000ml of M5963 = Final Quantity: 2500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1004	ICPAES ISM01.2 (S5)	MP81839	08/07/2024	08/31/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 08/13/2024

FROM 0.25000ml of M5798 + 0.50000ml of M5429 + 0.50000ml of M5476 + 0.50000ml of M5815 + 0.50000ml of M5817 + 12.50000ml of M5519 + 12.50000ml of M5698 + 12.50000ml of M5806 + 12.50000ml of M5819 + 13.75000ml of M5697 + 14.50000ml of M5515 + 14.50000ml of M5658 + 14.50000ml of M6033 + 2.00000ml of M5513 + 22.50000ml of M5498 + 22.50000ml of M5769 + 5.00000ml of M5296 + 5.00000ml of M5395 + 5.00000ml of M5802 + 5.00000ml of M5818 + 5.00000ml of M5875 + 303.50000ml of MP81838 = 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
1005	ICPAES ISM01.2(S4)	MP81840	08/07/2024	08/31/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 08/13/2024

FROM 250.00000ml of MP81838 + 250.00000ml of MP81839 = Final Quantity: 500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1007	ICPAES ISM01.2(S3)	MP81842	08/07/2024	08/31/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 08/13/2024

FROM 25.00000ml of MP81839 + 75.00000ml of MP81838 = 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
1008	ICPAES ISM01.2(S2)	MP81843	08/07/2024	08/31/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 08/13/2024

FROM 12.50000ml of MP81839 + 87.50000ml of MP81838 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
994	ICPAES ISM01.2 S1 (CONC.)	MP81844	08/07/2024	08/31/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 08/13/2024

FROM 0.02000ml of M5815 + 0.03000ml of M5429 + 0.10000ml of M5798 + 0.10000ml of M6028 + 0.14000ml of M5799 + 0.20000ml of M5473 + 0.20000ml of M5515 + 0.20000ml of M5658 + 0.20000ml of M5801 + 0.20000ml of M5817 + 0.20000ml of M5976 + 0.20000ml of M6025 + 0.20000ml of M6030 + 0.30000ml of M5698 + 0.40000ml of M6033 + 0.50000ml of M5697 + 0.50000ml of M6023 + 0.70000ml of M5962 + 0.80000ml of M5961 + 1.00000ml of M5227 + 1.00000ml of M5800 + 1.20000ml of M5802 + 1.20000ml of M5819 + 10.00000ml of M5498 + 10.00000ml of M5519 + 10.00000ml of M5769 + 10.00000ml of M5806 + 10.00000ml of M5818 + 2.00000ml of M5942 + 4.00000ml of M5390 + 34.24000ml of MP81838 = 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
1003	ICPAES ISM01.2 S1	MP81845	08/07/2024	08/31/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 08/13/2024

FROM 0.50000ml of MP81844 + 99.50000ml of MP81838 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1222	ICV ICPAES	MP81846	08/07/2024	08/31/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 08/13/2024

FROM 0.25000ml of M5976 + 5.00000ml of M5295 + 447.75000ml of MP81838 = Final Quantity: 50.000 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
904	ICP AES ICSA SOLN	MP81847	08/07/2024	08/31/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 08/13/2024

FROM 25.00000ml of M5130 + 225.00000ml of MP81838 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
905	ICP AES ICSAB SOLN	MP81848	08/07/2024	08/31/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 08/13/2024

FROM 25.00000ml of M5130 + 25.00000ml of M5223 + 200.00000ml of MP81838 = 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
1119	ICPAES ISM01.2(CCV)	MP81849	08/07/2024	08/31/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 08/13/2024

FROM 0.75000ml of M5498 + 0.75000ml of M5769 + 1.22500ml of M6033 + 1.25000ml of M5515 + 1.25000ml of M5806 + 19.77500ml of MP81838 + 25.00000ml of MP81839 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2480	ICP AES STD 6 ISM01.3	MP81851	08/07/2024	08/31/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 08/13/2024

FROM 4.00000ml of M5289 + 4.00000ml of M5498 + 4.00000ml of M5515 + 4.00000ml of M5769 + 4.00000ml of M5806 + 30.00000ml of MP81838 = Final Quantity: 50.000 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	MP81852	08/07/2024	08/31/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 08/13/2024

FROM 1.00000ml of M5984 + 10.00000ml of M4960 + 1969.00000ml of W3112 + 20.00000ml of M5963 = Final Quantity: 2000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
903	ICP AES RINSE SOLN	MP81853	08/07/2024	08/31/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 08/13/2024

FROM 200.00000ml of M5963 + 9800.00000ml of W3112 = Final Quantity: 10000.000 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 #
Seidler Chemical	BA-2196-01 / Hydroxylamine Hydrochloride, Crystal (cs/4x500g)	0000215387	06/25/2025	12/19/2018 / mohan	12/05/2018 / mohan	M4251

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3624-05 / Sodium Chloride, Crystal (cs/4x2.5kg)	0000187425	08/16/2024	08/16/2019 / RICHARD	07/08/2019 / RICHARD	M4399

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3238-05 / Potassium Persulfate (2.5kg)	0000234156	08/06/2025	07/23/2019 / jaswal	07/25/2019 / manojkumar	M4465

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	072821	08/28/2024	08/06/2021 / jaswal	08/05/2021 / jaswal	M4877

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	072921	08/29/2024	08/06/2021 / jaswal	08/05/2021 / jaswal	M4885

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	073021	08/30/2024	08/06/2021 / jaswal	08/05/2021 / jaswal	M4889

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 #
Seidler Chemical	BA-3227-05 / Potassium Permanganate (2.5kg)	210800	03/31/2026	11/30/2022 / mohan	07/28/2021 / mohan	M4916

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	100721	10/07/2024	10/09/2021 / jaswal	10/08/2021 / jaswal	M4960

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 #
EPA	PART A / ICSA (ICP) STOCK SOLN	ICSA-1211	11/19/2024	05/20/2024 / jaswal	04/20/2021 / bin	M5130

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	060122	06/01/2025	07/01/2022 / bin	06/02/2022 / jaswal	M5184

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57042 / Mo, 1000 PPM, 125 ml	051722	05/17/2025	07/01/2022 / bin	06/17/2022 / jaswal	M5192

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.	58111 / Na, 10000 PPM, 500 ml	092121	09/21/2024	06/23/2022 / bin	10/05/2021 / bin	M5200

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	11/19/2024	05/20/2024 / jaswal	04/20/2021 / bin	M5223

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	101521	10/15/2024	06/29/2022 / bin	10/18/2021 / bin	M5224

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	100121	10/01/2024	07/01/2022 / bin	10/18/2021 / bin	M5227

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	071122	07/11/2025	09/01/2022 / jaswal	07/21/2022 / jaswal	M5288

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58113 / Aluminum (Al) 10,000PPM	070622	07/06/2025	09/02/2022 / jaswal	07/12/2022 / jaswal	M5289

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	ICV-1 / ICV (ICP/ICPMS) STOCK SOLN	ICV-1014	01/01/2025	12/13/2023 / bin	02/20/2020 / bin	M5294

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	ICV-1 / ICV (ICP/ICPMS) STOCK SOLN	ICV-1014	02/05/2025	08/07/2024 / jaswal	02/20/2020 / bin	M5295

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	Z9651Q / CHEM-CLP-4/.25L	S2-MEB711673	11/02/2026	09/19/2022 / jaswal	08/20/2022 / jaswal	M5296

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	020422	02/04/2025	05/02/2023 / jaswal	06/15/2022 / jaswal	M5298

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	072122	07/21/2025	11/01/2022 / jaswal	09/18/2022 / jaswal	M5387

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	072122	07/21/2025	08/07/2024 / jaswal	09/18/2022 / bin	M5390

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	CLPP-CAL-3 / CLP CAL SOLUTION #3, 125mL	T2-MEB714159	01/13/2027	10/12/2022 / bin	09/19/2022 / bin	M5393

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-MEB714159	01/13/2027	01/30/2024 / bin	09/19/2022 / bin	M5395

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.	57138 / Sr, 10000 PPM, 125 ml	082922	08/29/2025	03/16/2023 / jaswal	03/16/2023 / jaswal	M5473

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57138 / Sr, 10000 PPM, 125 ml	082922	08/09/2025	07/29/2024 / jaswal	03/16/2023 / jaswal	M5476

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.	58120 / Ca, 10000 PPM, 500 ml	031523	03/15/2026	03/18/2023 / bin	03/17/2023 / bin	M5497

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	031523	03/15/2026	08/15/2023 / jaswal	03/17/2023 / bin	M5498

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57182 / Pb, 10000 PPM, 125 ml	061522	06/15/2025	03/19/2023 / bin	03/17/2023 / bin	M5513

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	092122	09/21/2025	08/01/2024 / Jaswal	03/17/2023 / bin	M5515

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57119 / Potassium (K) 10,000PPM	120822	12/08/2025	01/08/2024 / bin	03/17/2023 / bin	M5519

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9673-33 / Sulfuric Acid, Instra-Analyzed (cs/6c2.5L)	0000265056	11/05/2025	07/13/2023 / mohan	07/07/2023 / mohan	M5613

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	WW-LFS-1 / Laboratory Fortified Stock Solution 1, 125 ml	T2-MEB723367	08/17/2024	08/18/2023 / bin	04/16/2023 / bin	M5643

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	T2-MEB715594	02/17/2027	12/11/2023 / bin	04/16/2023 / bin	M5649

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.	58029 / Cu, 1000 PPM, 500 ml	102523	10/25/2026	04/03/2024 / jaswal	10/27/2023 / jaswal	M5697

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	102623	10/26/2026	04/18/2024 / jaswal	10/27/2023 / jaswal	M5698

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

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.	/ 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.	58112 / Mg, 10000 PPM, 500 ml	091823	09/18/2026	01/08/2024 / bin	01/03/2024 / bin	M5768

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	091823	09/18/2026	05/24/2024 / Jaswal	01/03/2024 / bin	M5769

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)	0000281938	07/06/2026	06/26/2023 / mohan	07/18/2023 / mohan	M5776

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.	57051 / Sb, 1000 PPM, 125 ml	120523	12/05/2026	08/07/2024 / jaswal	01/03/2024 / jaswal	M5802

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	122223	12/22/2026	08/01/2024 / Jaswal	01/03/2024 / jaswal	M5806

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	122926	12/29/2026	06/28/2024 / Jaswal	01/03/2024 / jaswal	M5809

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

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.	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

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.	57014 / Si, 1000 PPM, 125 ml	122023	12/20/2026	03/06/2024 / jaswal	02/09/2024 / jaswal	M5818

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	111623	11/16/2026	03/20/2024 / jaswal	02/09/2024 / jaswal	M5819

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

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	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-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	11/16/2024	05/15/2024 / Al-Terek	05/07/2024 / Al-Terek	M5904

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	12/08/2024	06/24/2024 / Al-Terek	06/07/2024 / Al-Terek	M5929

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 #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	22G2862015	12/27/2024	07/04/2024 / Jaswal	06/23/2024 / Al-Terek	M5951

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	ICV-5 / ICV (HG) STOCK SOLN	ICV5-0415	01/01/2025	07/01/2024 / mohan	03/30/2023 / mohan	M5953

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	CGY10-1 / YTTRIUM 125mL 10,000ug/mL	V2-Y740548	02/20/2029	07/01/2024 / Jaswal	06/14/2024 / Jaswal	M5959

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57028 / Ni, 1000 PPM, 125 ml	041124	04/11/2027	07/02/2024 / Jaswal	06/11/2024 / Jaswal	M5961

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 #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24B1362001	01/04/2025	07/09/2024 / Al-Terek	07/03/2024 / Al-Terek	M5963

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)	24B1362001	01/04/2025	07/05/2024 / Jaswal	07/03/2024 / Al-Terek	M5965

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

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	CGMO1-1 / MOLYBDENUM 125mL 1000ug/mL	T2-MO720876	07/17/2027	08/07/2024 / jaswal	02/22/2024 / Jaswal	M5976

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	031524	03/15/2027	07/01/2024 / Jaswal	06/11/2024 / Jaswal	M5982

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	08/05/2024 / kareem	06/14/2024 / Jaswal	M5984

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.	57082 / Pb, 1000 PPM, 125 ml	061224	06/12/2027	08/05/2024 / Jaswal	08/05/2024 / Jaswal	M6025

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	01/25/2019 / Jaswal	M6028

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.	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.	58113 / Al, 10000 PPM, 500 ml	011623	01/16/2026	08/07/2024 / Jaswal	01/03/2024 / Jaswal	M6033

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

Sulfuric Acid
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis
Low Selenium

M5613
25

avantor™ | J.T.Baker®

Material No.: 9673-33
Batch No.: 0000265056
Manufactured Date: 2020/05/12
Retest Date: 2025/05/11
Revision No: 1

Certificate of Analysis

Test	Specification	Result
ACS - Assay (H_2SO_4)	95.0 - 98.0 %	96.5
Appearance	Passes Test	PT
ACS - Color (APHA)	<= 10	5
ACS - Residue after Ignition	<= 3 ppm	< 1
ACS - Substances Reducing Permanganate (as SO_2)	<= 2 ppm	< 2
Ammonium (NH_4)	<= 1 ppm	< 1
Chloride (Cl)	<= 0.1 ppm	< 0.1
Nitrate (NO_3)	<= 0.2 ppm	< 0.1
Phosphate (PO_4)	<= 0.5 ppm	< 0.1
Trace Impurities - Aluminum (Al)	<= 30.0 ppb	< 0.2
Arsenic and Antimony (as As)	<= 4 ppb	< 2
Trace Impurities - Barium (Ba)	<= 10.0 ppb	< 1.0
Trace Impurities - Beryllium (Be)	<= 10.0 ppb	< 1.0
Trace Impurities - Bismuth (Bi)	<= 10.0 ppb	< 1.0
Trace Impurities - Boron (B)	<= 10.0 ppb	< 5.0
Trace Impurities - Cadmium (Cd)	<= 2.0 ppb	< 0.3
Trace Impurities - Calcium (Ca)	<= 50.0 ppb	< 1.0
Trace Impurities - Chromium (Cr)	<= 6.0 ppb	< 0.4
Trace Impurities - Cobalt (Co)	<= 0.5 ppb	< 0.3
Trace Impurities - Copper (Cu)	<= 1.0 ppb	< 0.1
Trace Impurities - Gallium (Ga)	<= 10.0 ppb	< 1.0
Trace Impurities - Germanium (Ge)	<= 10.0 ppb	< 10.0
Trace Impurities - Gold (Au)	<= 10.0 ppb	< 0.2
Heavy Metals (as Pb)	<= 500 ppb	< 100

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Material No.: 9673-33
Batch No.: 0000265056

Test	Specification	Result
Trace Impurities - Iron (Fe)	<= 50.0 ppb	3.3
Trace Impurities - Lead (Pb)	<= 0.5 ppb	< 0.5
Trace Impurities - Lithium (Li)	<= 10.0 ppb	< 1.0
Trace Impurities - Magnesium (Mg)	<= 7.0 ppb	< 0.2
Trace Impurities - Manganese (Mn)	<= 1.0 ppb	< 0.4
Trace Impurities - Mercury (Hg)	<= 0.5 ppb	< 0.1
Trace Impurities - Molybdenum (Mo)	<= 10.0 ppb	< 5.0
Trace Impurities - Nickel (Ni)	<= 2.0 ppb	< 0.3
Trace Impurities - Niobium (Nb)	<= 10.0 ppb	< 1.0
Trace Impurities - Potassium (K)	<= 500.0 ppb	< 2.0
Trace Impurities - Selenium (Se)	<= 50.0 ppb	17.8
Trace Impurities - Silicon (Si)	<= 100.0 ppb	< 10.0
Trace Impurities - Silver (Ag)	<= 1.0 ppb	< 0.3
Trace Impurities - Sodium (Na)	<= 500.0 ppb	1.5
Trace Impurities - Strontium (Sr)	<= 5.0 ppb	< 0.2
Trace Impurities - Tantalum (Ta)	<= 10.0 ppb	< 5.0
Trace Impurities - Thallium (Tl)	<= 20.0 ppb	< 5.0
Trace Impurities - Tin (Sn)	<= 5.0 ppb	< 0.8
Trace Impurities - Titanium (Ti)	<= 10.0 ppb	< 1.0
Trace Impurities - Vanadium (V)	<= 10.0 ppb	< 1.0
Trace Impurities - Zinc (Zn)	<= 5.0 ppb	0.4
Trace Impurities - Zirconium (Zr)	<= 10.0 ppb	< 1.0

For Laboratory, Research or Manufacturing Use

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

James Ethier
Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R: 01/03/24 M5808, M5809

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 58113
Lot Number: 122923
Description: Aluminum (Al)

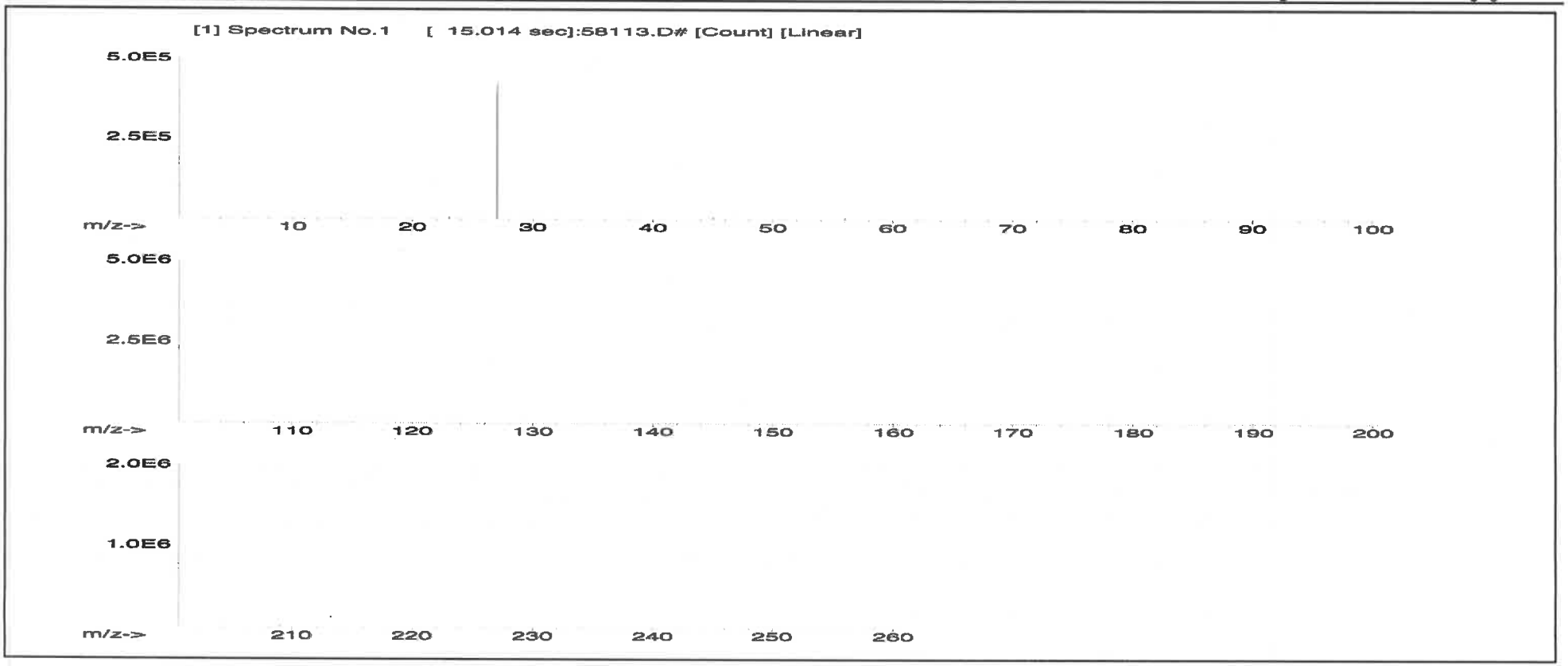
Expiration Date: 122926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.02 ± 0.058 Flask Uncertainty

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	± 5E-05 Balance Uncertainty

Giovanni Esposito
Formulated By: Giovanni Esposito 122923

Pedro Rentas
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. Aluminum nitrate nonahydrate (Al)	IN022	ALM092022A1	10000	99.999	0.10	7.30	273.9779	273.9813	**10000.1**	**20.0**	7784-27-2	2 mg/m3	orl-rat 3671 mg/kg	3101a



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	T	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	17	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	0.03
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	4.5	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	0.56	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 Number: 070124
Description: Cadmium (Cd)

Expiration Date: 070127
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

Weight shown below was diluted to (mL): 2000.07 ± 0.100 Flask Uncertainty

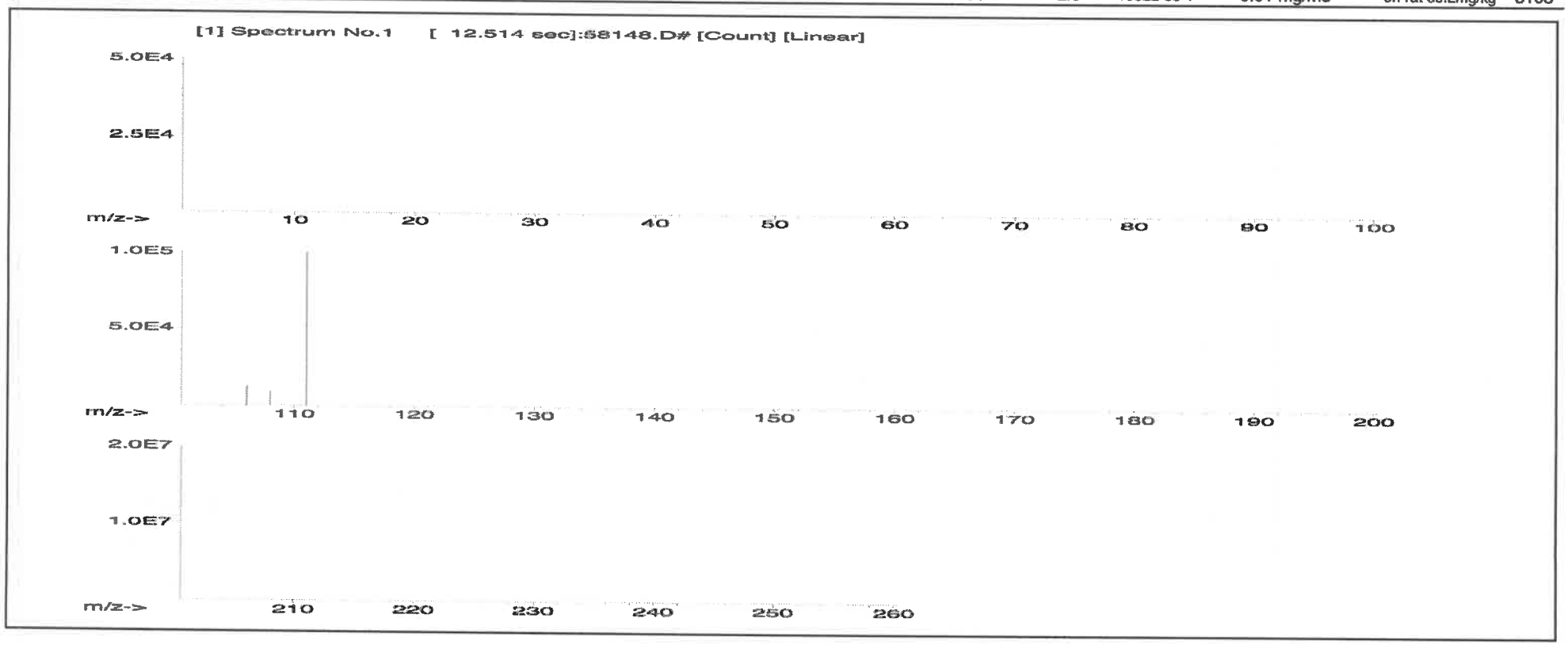
	Lot #		
Solvent:	24002546	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	

5E-05 Balance 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:

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

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:	S2-MEB711673
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 ± 6 µg/mL**	**Molybdenum, Mo**	**1 000 ± 6 µg/mL**
Silicon, Si	**1 000 ± 7 µg/mL**	**Tin, Sn**	**1 000 ± 6 µg/mL**
Titanium, Ti	**1 000 ± 7 µg/mL**		

Density: 1.030 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	110830
Mo	ICP Assay	3134	130418
Si	ICP Assay	3150	130912
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	3162a	130925

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**

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

November 02, 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

- **November 02, 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:

Michael Booth
Director, 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

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 (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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**

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

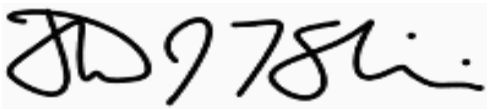
- Sealed TCT Bag Open Date: _____

- 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

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-3
Lot Number:	T2-MEB714159
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 ± 8 µg/mL**	**Cadmium, Cd**	**500.0 ± 2.1 µg/mL**
Lead, Pb	**1 000 ± 5 µg/mL**	**Selenium, Se**	**1 000 ± 8 µg/mL**
Thallium, Tl	**1 000 ± 7 µg/mL**		

Density: 1.043 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
As	ICP Assay	3103a	100818
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:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

$CRM/RM\ Expanded\ Uncertainty\ (\pm) = U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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**

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 13, 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 13, 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

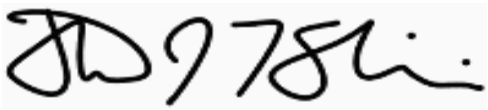
- Sealed TCT Bag Open Date: _____

- 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

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-3
Lot Number:	T2-MEB714159
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 ± 8 µg/mL**	**Cadmium, Cd**	**500.0 ± 2.1 µg/mL**
Lead, Pb	**1 000 ± 5 µg/mL**	**Selenium, Se**	**1 000 ± 8 µg/mL**
Thallium, Tl	**1 000 ± 7 µg/mL**		

Density: 1.043 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
As	ICP Assay	3103a	100818
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:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

$CRM/RM\ Expanded\ Uncertainty\ (\pm) = U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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**

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 13, 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 13, 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

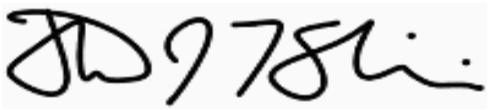
- Sealed TCT Bag Open Date: _____

- 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

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

R: 8/5/24

CERTIFIED WEIGHT REPORT:

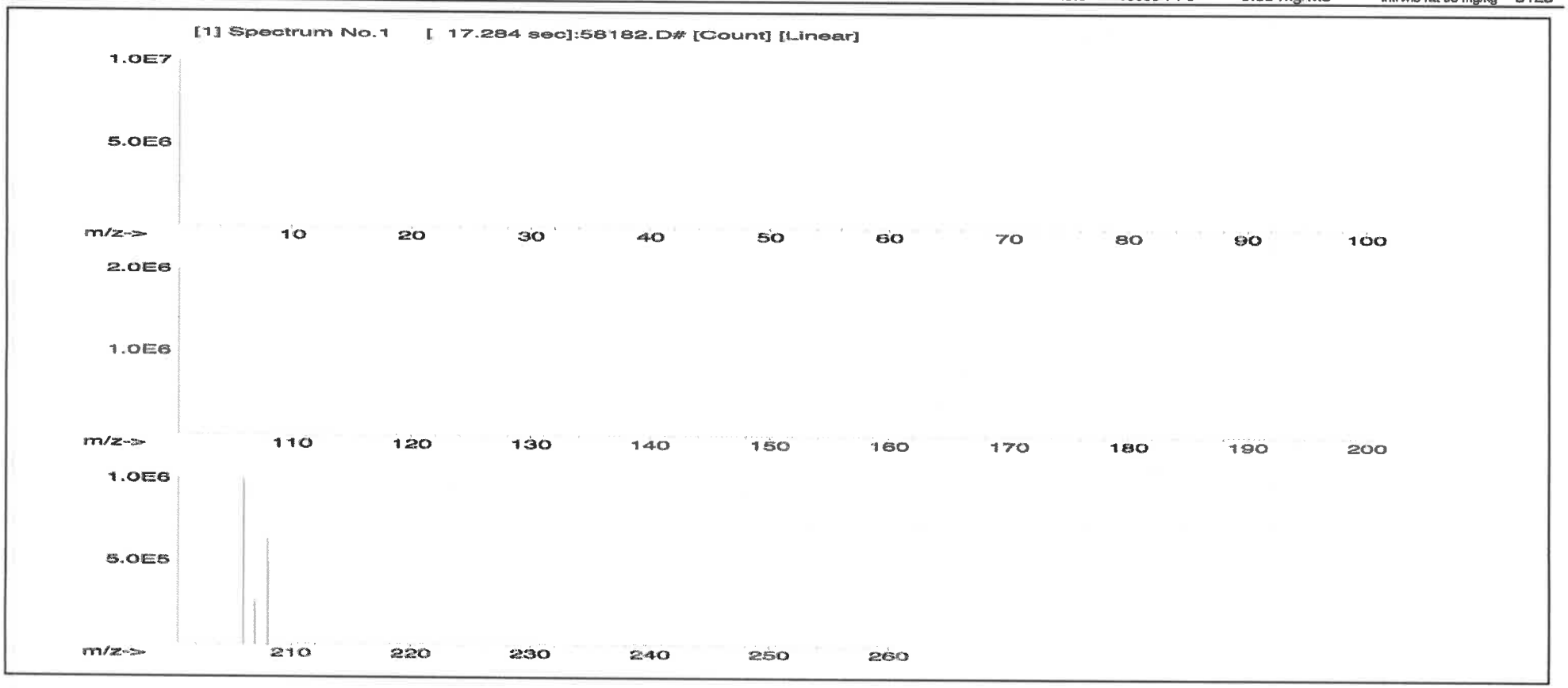
Part Number: 57182
Lot Number: 110923
Description: Lead (Pb)

Expiration Date: 110926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.02

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	
	5E-05	Balance Uncertainty	
	0.058	Flask Uncertainty	

Formulated By:	Lawence Barry	110923
Reviewed By:	Pedro L. Rentas	110923

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	10000	99.999	0.10	62.5	32.0006	32.0040	**10001.1**	**20.0**	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).

Sodium Chloride, Crystal
BAKER ANALYZED® A.C.S. Reagent

M5776-83
MB

avantor™ | J.T.Baker®

Material No.: 3624-01
Batch No.: 0000281938
Manufactured Date: 2021-06-07
Retest Date: 2026-06-07
Revision No.: 1

Certificate of Analysis

Test	Specification	Result
Assay (NaCl) (by Ag titrn)	≥ 99.0 %	100.0 %
pH of 5% Solution at 25°C	5.0 - 9.0	6.3
Insoluble Matter	≤ 0.005 %	0.003 %
Iodide (I)	≤ 0.002 %	< 0.002 %
Bromide (Br)	≤ 0.01 %	< 0.01 %
Chlorate and Nitrate (as NO_3)	≤ 0.003 %	< 0.001 %
ACS - Phosphate (PO_4)	≤ 5 ppm	< 5 ppm
Sulfate (SO_4)	≤ 0.004 %	< 0.004 %
Barium (Ba)	Passes Test	Passes Test
ACS - Heavy Metals (as Pb)	≤ 5 ppm	< 5 ppm
Iron (Fe)	≤ 2 ppm	< 1 ppm
Calcium (Ca)	≤ 0.002 %	< 0.001 %
Magnesium (Mg)	≤ 0.001 %	< 0.001 %
Potassium (K)	≤ 0.005 %	0.001 %

For Laboratory,Research,or Manufacturing Use
Meets Reagent Specifications for testing USP/NF monographs
Country of Origin: USA
Packaging Site: Paris Mfg Ctr & DC

James T Ethier
Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Mansford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone 610.386.1700

Hydroxylamine Hydrochloride, Crystal
BAKER ANALYZED® A.C.S. Reagent
Suitable for Mercury Determination
(hydroxylammonium chloride)

M4251
JB

J.T.Baker® | avantor™

Material No.: 2196-01
Batch No.: 0000215387
Manufactured Date: 2018/06/27
Retest Date: 2025/06/25
Revision No: 1

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Assay ($NH_2OH \cdot HCl$) (by $KMnO_4$ titrn)	>= 96.0 %	99.1
Clarity of Alcohol Solution	Passes Test	PT
Residue after Ignition	<= 0.050 %	0.017
Titrable Free Acid (meq/g)	<= 0.25	0.19
Ammonium (NH_4)	Passes Test	PT
Sulfur Compounds (as SO_4)	<= 0.005 %	< 0.003
Trace Impurities - ACS - Heavy Metals (as Pb)	<= 5 ppm	4
Trace Impurities - Iron (Fe)	<= 5 ppm	< 3
Trace Impurities - Mercury (Hg)	<= 0.050 ppm	< 0.005

For Laboratory, Research or Manufacturing Use

Country of Origin: CN
Packaging Site: Paris Mfg Ctr & DC

ISO
Phillipsburg, NJ 9001:2015, FSSC22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Gliwice, Poland 9001:2015, 13485:2012
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 13485:2003
Mumbai, India, 9001:2015, 17025:2005
Panoli, India 9001:2015

James Ethier
Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Sodium Chloride, Crystal
BAKER ANALYZED® A.C.S. Reagent

IM4399

Supplied – 07.08.19

Material No.: 3624-05
Batch No.: 0000187425
Manufactured Date: 2017/08/03
Retest Date: 2024/08/01

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Assay (NaCl) (by Ag titrn)	>= 99.0 %	99.8
pH of 5% Solution at 25°C	5.0 - 9.0	5.8
ACS - Insoluble Matter	<= 0.005 %	0.003
Iodide (I)	<= 0.002 %	< 0.002
Bromide (Br)	<= 0.01 %	< 0.01
Chlorate and Nitrate (as NO_3)	<= 0.003 %	< 0.003
ACS - Phosphate (PO_4)	<= 5 ppm	< 5
Sulfate (SO_4)	<= 0.004 %	< 0.004
Barium (Ba)	Passes Test	PT
ACS - Heavy Metals (as Pb)	<= 5 ppm	< 5
Iron (Fe)	<= 2 ppm	< 2
Calcium (Ca)	<= 0.002 %	< 0.002
Magnesium (Mg)	<= 0.001 %	< 0.001
Potassium (K)	<= 0.005 %	< 0.005

For Laboratory, Research or Manufacturing Use
Meets Reagent Specifications for testing USP/NF monographs

Country of Origin: US
Packaging Site: Paris Mfg Ctr & DC

RS 08.16.19

ISO
Phillipsburg, NJ 9001:2008, 14001:2004, FSSC 22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 13485:2003
Gliwice, Poland 9001:2008, 13485:2012
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 13485:2003
Mumbai, India, 9001:2008
Panoli, India 9001:2008

James Ethier
Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.573.2600
Avantor Performance Materials, LLC.
3477 Corporate Parkway. Center Valley, PA 18034. U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

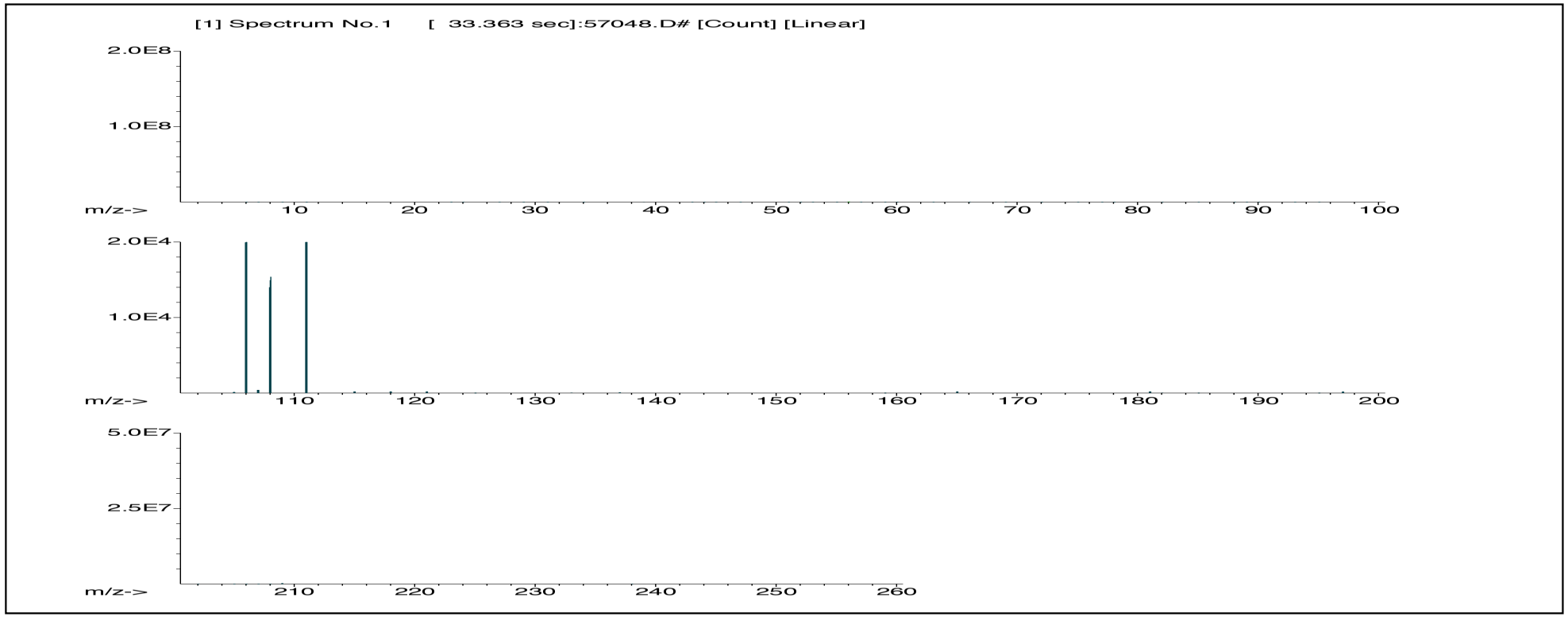
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57048**	20370011	Nitric Acid	
Lot Number:	**072821**			
Description:	**Cadmium (Cd)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	072824			
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:	Giovanni Esposito	072821
Reviewed By:	Pedro L. Rentas	072821

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. Cadmium nitrate tetrahydrate (Cd)	58148	010920	0.1000	200.0	0.084	1000	10000.5	**1000.0**	**2.2**	10022-68-1	0.2 mg/m3	orl-rat 300 mg/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 Spectroscopy (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).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

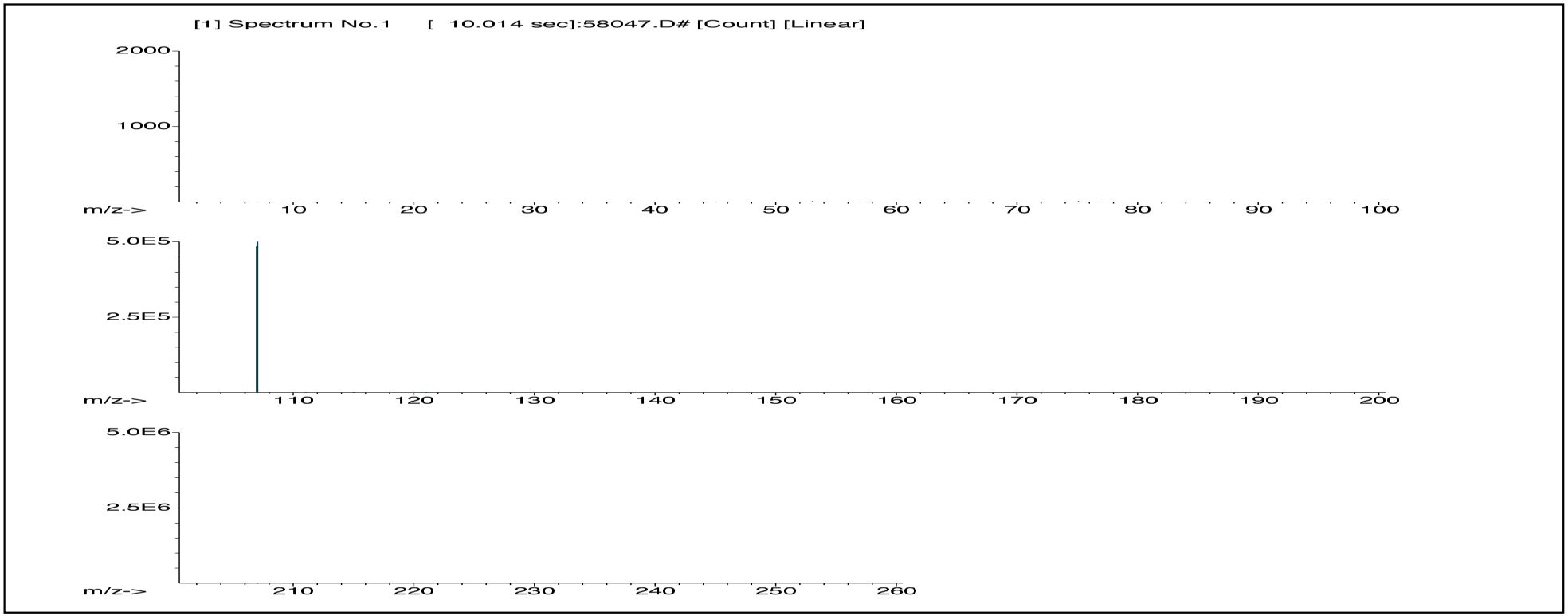
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57047**	20370011	Nitric Acid	
Lot Number:	**072921**			
Description:	**Silver (Ag)**			
		2.0%	40.0	Nitric Acid
Expiration Date:	072924		(mL)	
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:	Giovanni Esposito	072921
Reviewed By:	Pedro L. Rentas	072921

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. Silver nitrate (Ag)	58147	010820	0.1000	200.0	0.084	1000	10000.4	**1000.0**	**2.2**	7761-88-8	10 ug/m3	N/A	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 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	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:

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:

		Lot #	Solvent:	
Part Number:	**57081**	20370011	Nitric Acid	
Lot Number:	**073021**			
Description:	**Thallium (Tl)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	073024			
Recommended Storage:	Ambient (20 ºC)			
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	

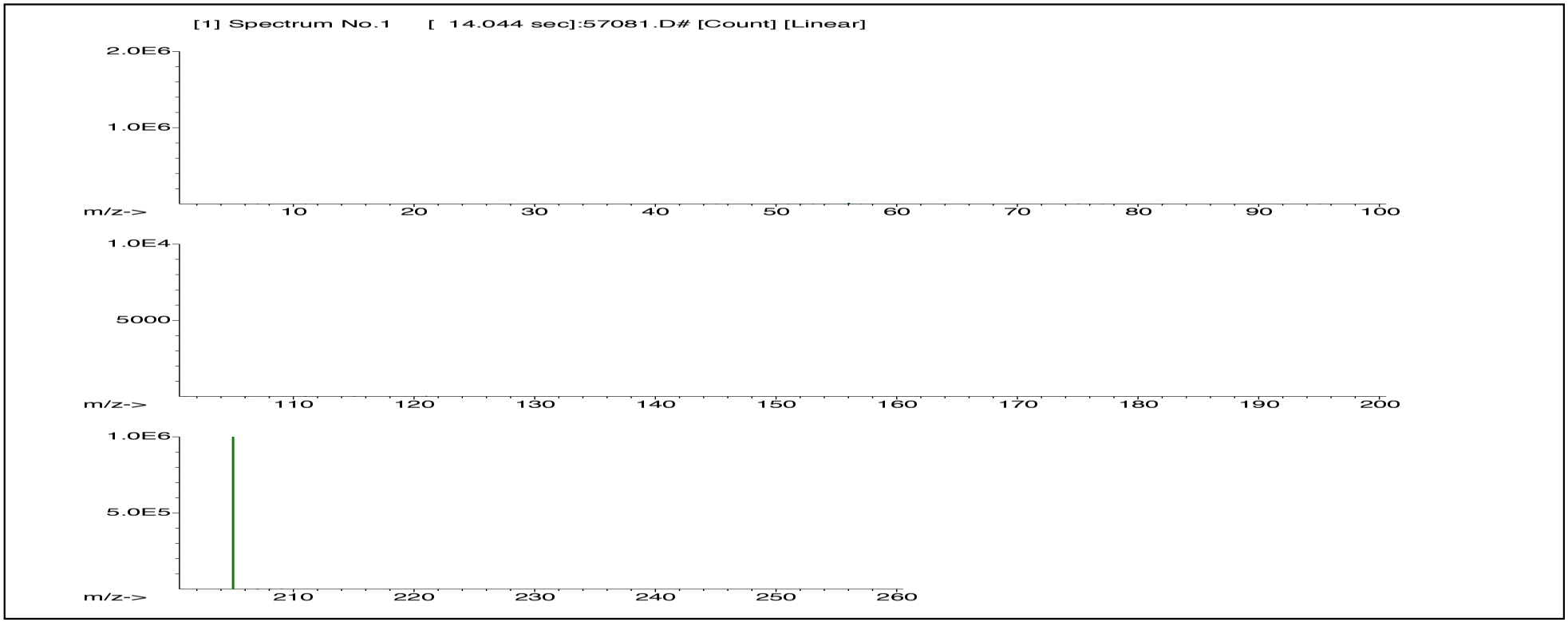
Giovanni Esposito

Formulated By:	Giovanni Esposito	073021

Pedro Rentas

Reviewed By:	Pedro L. Rentas	073021

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. Thallium (Tl)	58181	060920	0.1000	200.0	0.084	1000	10001.0	**1000.0**	**2.2**	7440-28-0	0.1 mg/m3	orl-rat 6700 mg/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 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	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:

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).

ThermoFisher SCIENTIFIC

M4913-16

MB

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 – 0120632

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	P279	Quality Test / Release Date	01/12/2021
Lot Number	210306		
Description	POTASSIUM PERMANGANATE, A.C.S.		
Country of Origin	United States	Suggested Retest Date	Jan/2026

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Dark purple to purple green crystals
ASSAY	%	>= 99	99.3
CHLORIDE & CHLORATE	%	<= 0.005	<0.005
IDENTIFICATION	PASS/FAIL	= PASS TEST	pass test
INSOLUBLE MATTER	%	<= 0.2	<0.2
MERCURY (Hg)	ppm	<= 0.05	<0.004
SULFATE (SO4)	%	<= 0.02	<0.02

Julian Burton

Julian Burton - Quality Control Manager – 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

M4960 R: 10/08/21 BH

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 58149
Lot Number: 100721
Description: Indium (In)

Expiration Date: 100724
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

Weight shown below was diluted to (mL): 500.06 0.058 Flask Uncertainty

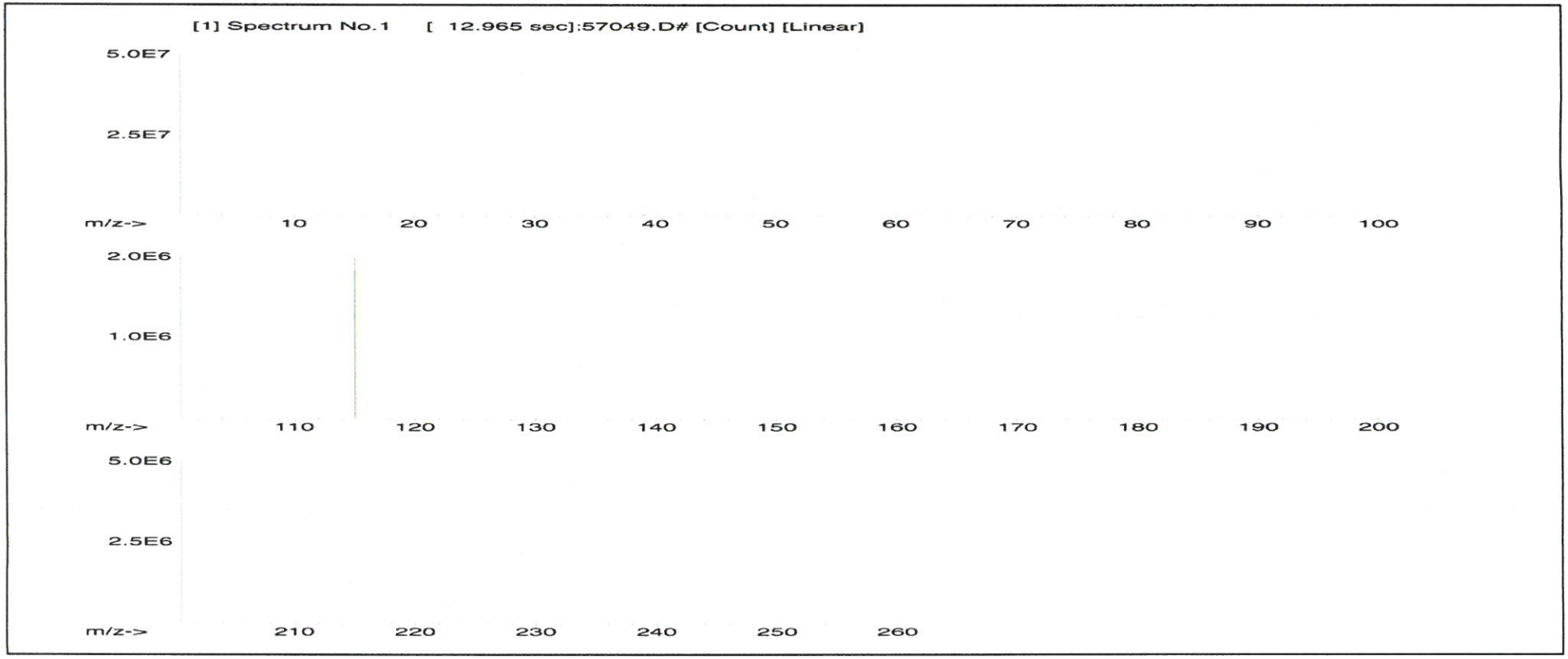
		Lot #	
Solvent:	20370011	Nitric Acid	
5%	25.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Giovanni Esposito

Formulated By:	Giovanni Esposito	100721
Reviewed By:	Pedro L. Rentas	100721

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. Indium Oxide (In)	IN086	W1096A	10000	99.999	0.10	82.6	6.05408	6.05441	**10000.6**	**20.1**	1312-43-2	NA	NA	3124a



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	T	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).

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

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$$

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.

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 HNO3. Avoid basic media forming insoluble carbonate. The sulfide, basic carbonate, oxalate, phosphate, arsenite, arsenate and iodide are insoluble in water.

Stability - 2-100 ppb levels not stable in 1% HNO3 / LDPE container, stable in 10% HNO3 packaged in borosilicate glass. 1-100 ppm levels stable in 7% HNO3 packaged in borosilicate glass. 1000-10,000 ppm solutions are chemically stable for years in 5-10% HNO3 / LDPE container.

Hg Containing Samples (Preparation and Solution) - Metal (soluble in HNO3); Oxide (Soluble in HNO3); Ores and Organic based (The literature has more references to the preparation of Hg containing samples than any other element. Please consult the literature for your specific sample type, since such preparations are prone to error. Or e-mail our technical staff and we will contact you to discuss your particular sample preparation questions in further detail.).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 202 amu	9 ppt	n/a	186W16O
ICP-OES 184.950 nm	0.03 / 0.005 µg/mL	1	
ICP-OES 194.227 nm	0.03 / 0.005 µg/mL	1	V
ICP-OES 253.652 nm	0.1 / 0.03 µg/mL	1	Ta, Co, Th ,Rh , Fe, U

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 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

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.

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

ICSA M5126 M5127 M5128 M5129 M5130

ICSB M5219 M5220 M5221 M5222 M5223

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.

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

R: 6/2/22

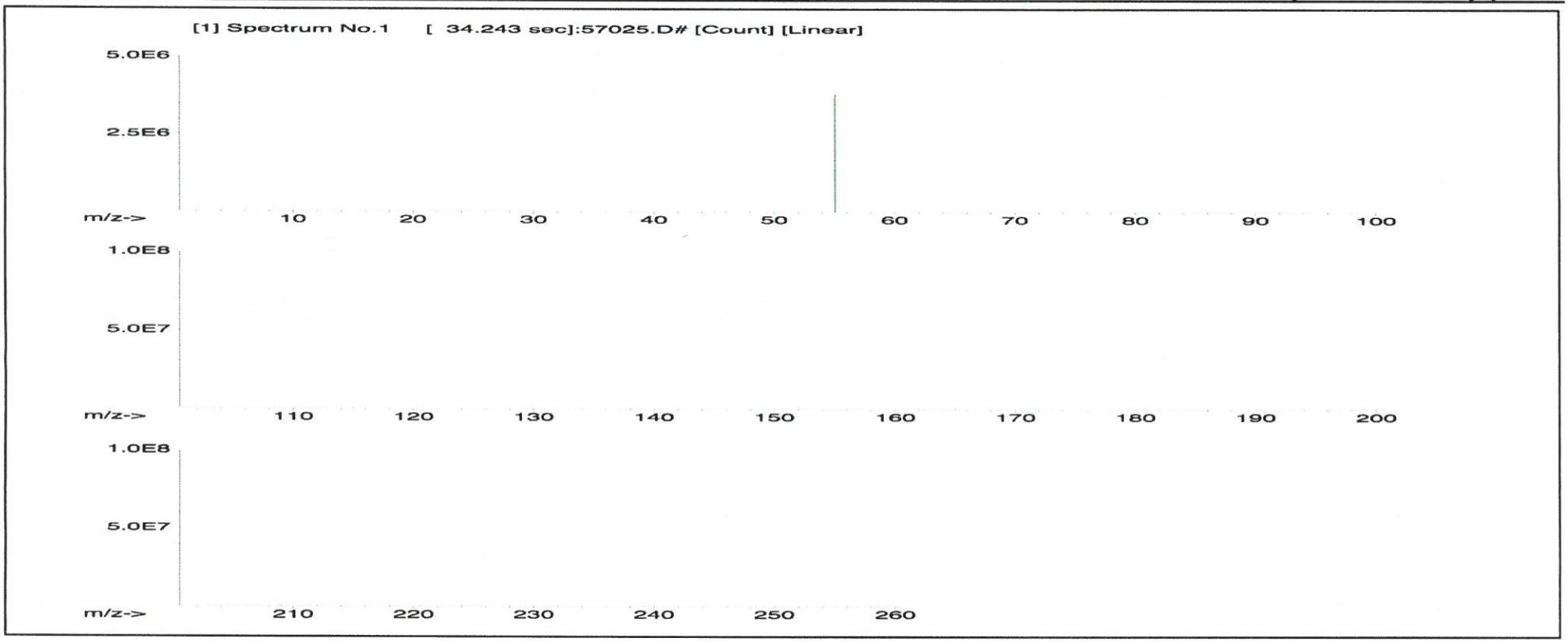
CERTIFIED WEIGHT REPORT:

M5184

		Lot #	Solvent:	
Part Number:	**58025**			
Lot Number:	**060122**	20510011	Nitric Acid	
Description:	**Manganese (Mn)**			
		2.0%	60.0 (mL)	Nitric Acid
Expiration Date:	060125			
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):	3000.41	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	060122
Reviewed By:	Pedro L. Rentas	060122

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. Manganese(II) nitrate tetrahydrate (Mn)	58125	021022	0.1000	300.0	0.084	1000	10000.5	**1000.0**	**2.1**	20694-39-7	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 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	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 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

M5192 R: 06/17/22

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 57042
Lot Number: 051722
Description: Molybdenum (Mo)
Expiration Date: 051725
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 3000.41

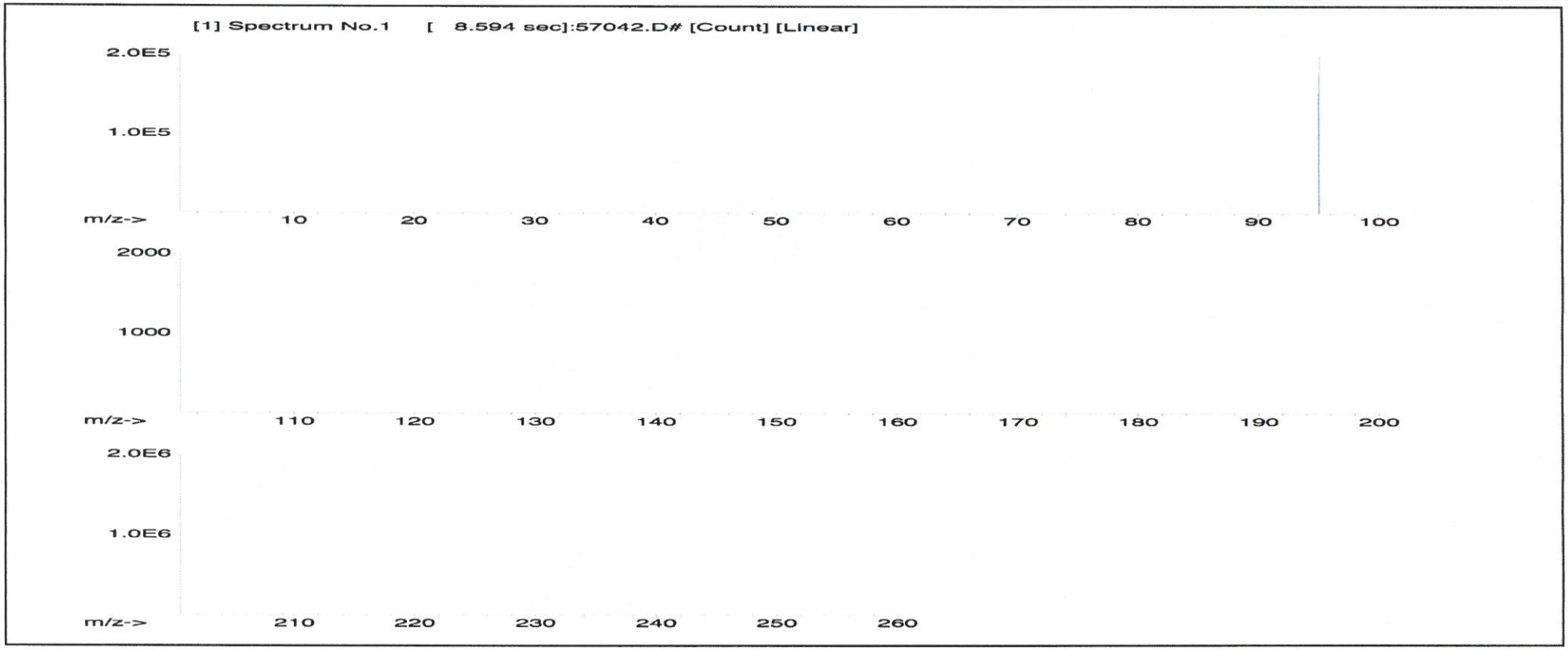
Lot #	Solvent:		
MKBQ8597V	Ammonium hydroxide		
0.5%	15.0 (mL)	Ammonium hydroxide	
5E-05	Balance Uncertainty		
0.058	Flask Uncertainty		

Formulated By: Lawrence Barry 051722

Reviewed By: Pedro L. Rentas 051722

443 of 577

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 molybdate (Mo)	58142	022222	0.1000	300.0	0.084	1000	10001.0	**1000.0**	**2.1**	13106-76-8	5 mg(Mo)/m3	orl-rat 333 mg/kg	3134



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	T	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

M 5700 R: 10/05/21 BH

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 58111
Lot Number: 092121
Description: Sodium (Na)

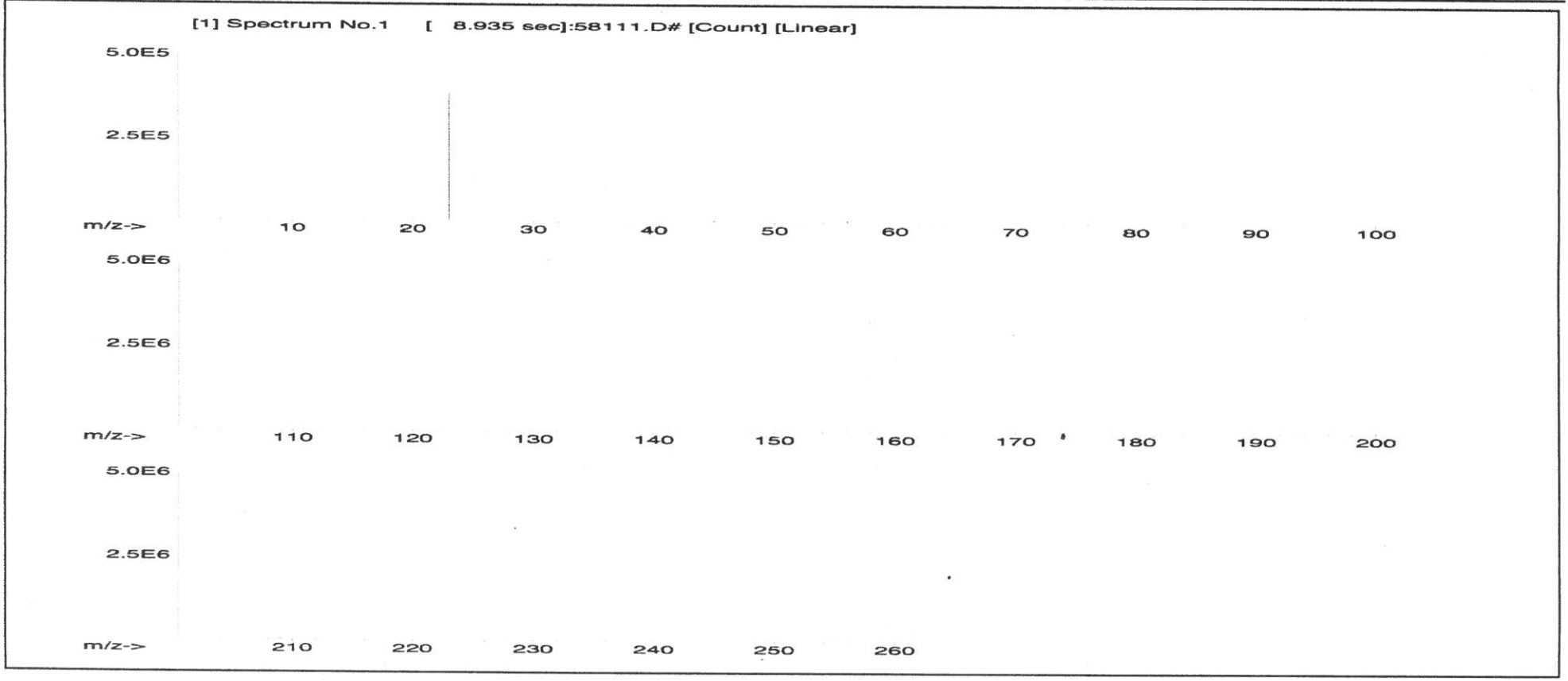
Expiration Date: 092124
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.41

	Lot #		
Solvent:	20370011	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	
	5E-05	Balance Uncertainty	
	0.058	Flask Uncertainty	

Giovanni Esposito

Formulated By:	Giovanni Esposito	092121
Reviewed By:	Pedro L. Rentas	092121

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	27.0	111.1274	111.1433	**10001.4**	**20.0**	7631-99-4	5 mg/m3	orl-rat 3236 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 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	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).

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.

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

ICSA M5126 M5127 M5128 M5129 M5130

ICSB M5219 M5220 M5221 M5222 M5223

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.

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

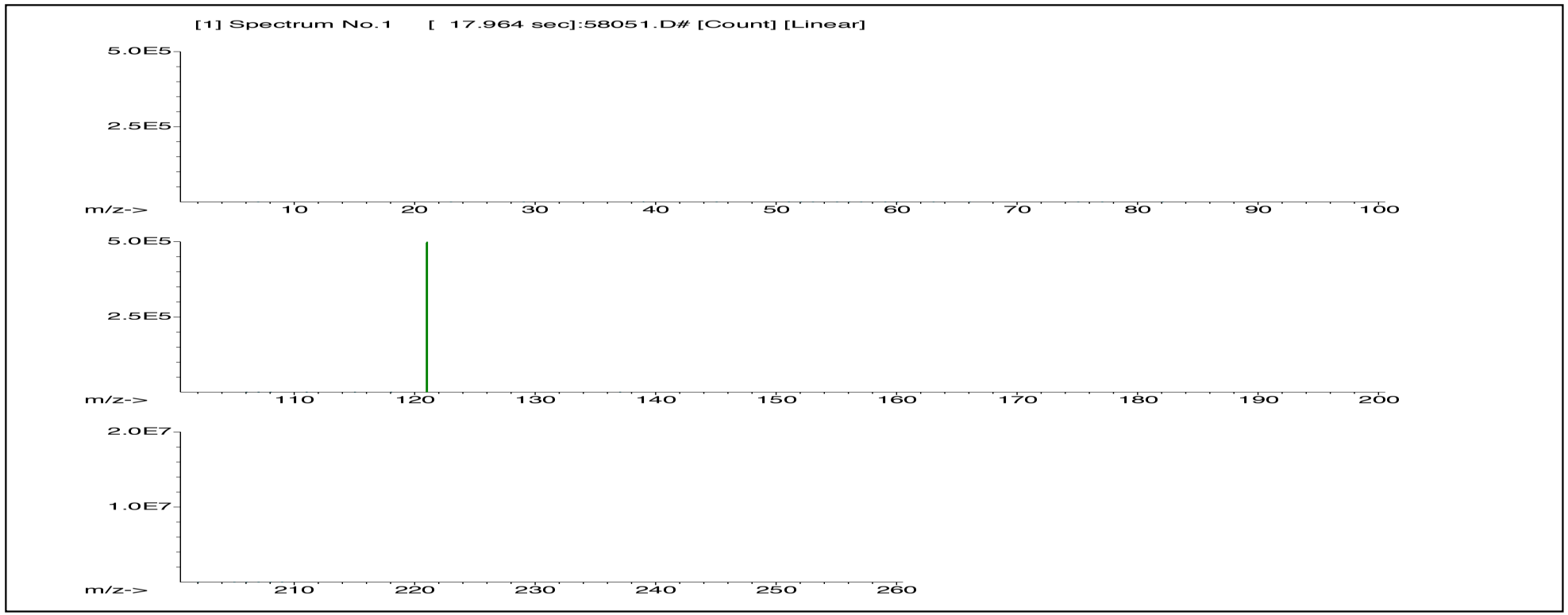
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57051**	20370011	Nitric Acid	
Lot Number:	**101521**			
Description:	**Antimony (Sb)**			
		2.0%	40.0	Nitric Acid
Expiration Date:	101524		(mL)	
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):	2000.25	0.116	Flask Uncertainty	

Formulated By:	Giovanni Esposito	101521
Reviewed By:	Pedro L. Rentas	101521

	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	081820	0.1000	200.0	0.084	1000	10001.5	**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 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	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).

M5227 R: 10/18/2021

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:

		Lot #	Solvent:	
Part Number:	**57023**	20370011	Nitric Acid	
Lot Number:	**100121**			
Description:	**Vanadium (V)**	2.0%	60.0 (mL)	Nitric Acid
Expiration Date:	100124			
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):	3000.4	0.06	Flask Uncertainty	

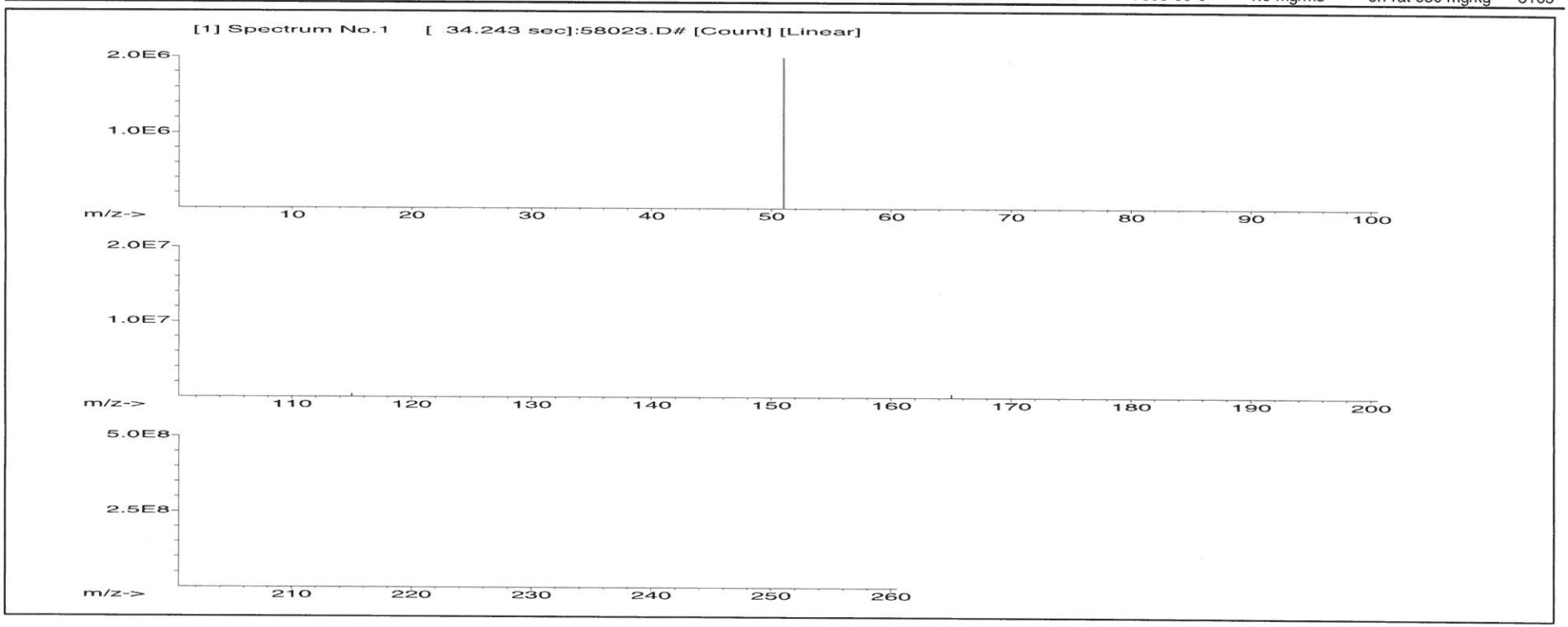
Giovanni Esposito

Formulated By:	Giovanni Esposito	100121

Pedro Rentas

Reviewed By:	Pedro L. Rentas	100121

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	070721	0.1000	300.0	0.084	1000	10000.4	**1000.0**	**2.1**	7803-55-6	1.0 mg/m3	orl-rat 630 mg/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 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	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).

Part # **57023** Lot # **100121**

Printed: 11/18/2021, 11:15:07 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:

Part Number: 58119
Lot Number: 071122
Description: Potassium (K)

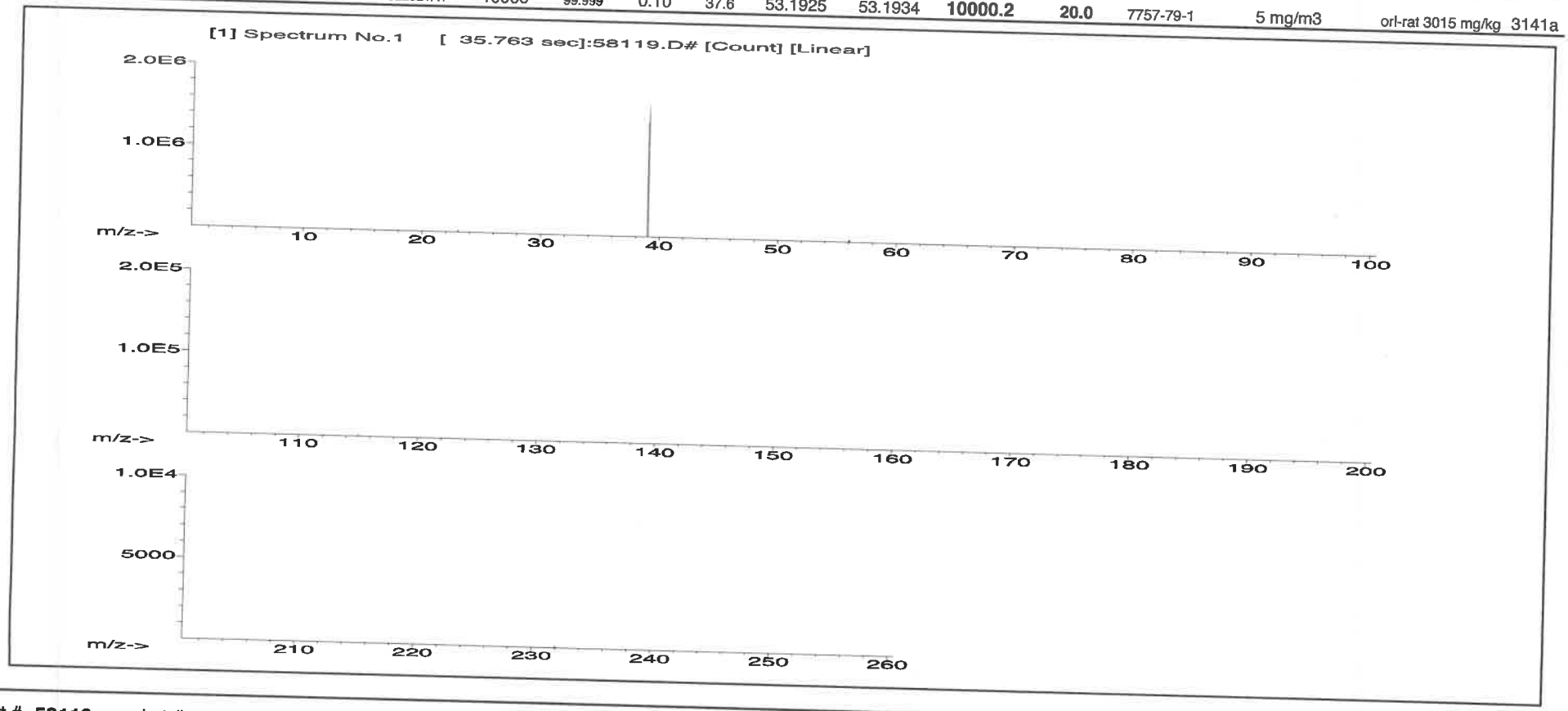
Expiration Date: 071125
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.02

	Lot #		
Solvent:	20510011	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	
	5E-05	Balance Uncertainty	
	0.058	Flask Uncertainty	

Formulated By: Lawrence Barry 071122

Reviewed By: Pedro L. Rentas 071122

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	KD022021A1	10000	99.999	0.10	37.6	53.1925	53.1934	**10000.2**	**20.0**	7757-79-1	5 mg/m3	orl-rat 3015 mg/kg	3141a



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

M5289 R: 07/12/22 BH

Certified Reference Material CRM

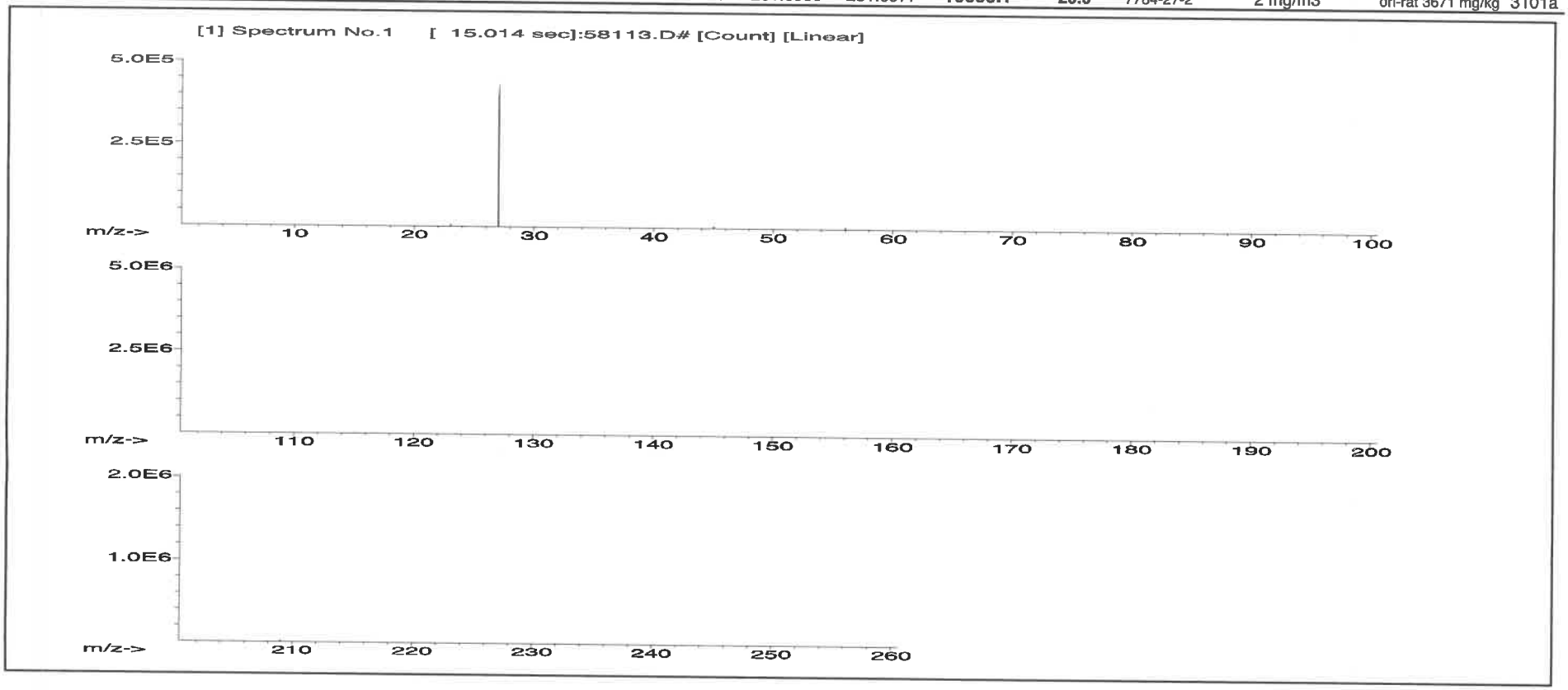
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number:	**58113**			**Lot #**	
Lot Number:	**070622**		**Solvent:**	20370011	Nitric Acid
Description:	**Aluminum (Al)**		2%	40.0 (mL)	Nitric Acid
Expiration Date:	070625				
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	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. Aluminum nitrate nonahydrate (Al)	IN022	ALD012021A1	10000	99.999	0.10	7.10	281.6956	281.6977	**10000.1**	**20.0**	7784-27-2	2 mg/m3	orl-rat 3671 mg/kg	3101a



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	T	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	<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)

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

M5291
M5292
M5293
M5294
M5295

(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

R : 4/20/21

QATS LABORATORY INORGANIC REFERENCE MATERIAL
INITIAL CALIBRATION VERIFICATION SOLUTIONS
(ICV1, ICV5, AND ICV6)

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

M5291
M5292
M5293
M5294
M5295

(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

SJ 6/15/22

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:

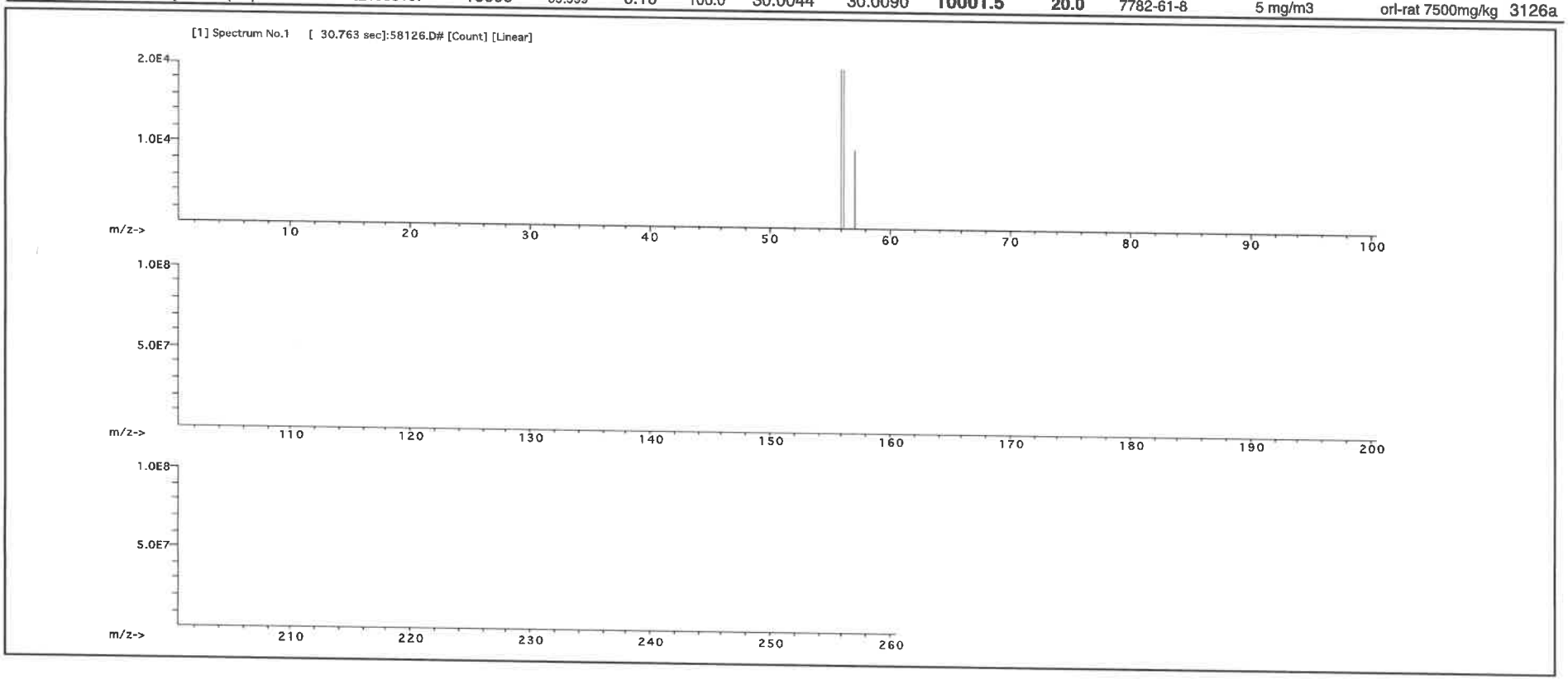
Part Number: 58126
Lot Number: 020422 M5298
Description: Iron (Fe)

Expiration Date: 020425
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.41

	Lot #		
Solvent:	20370011	Nitric Acid	
5.0%	150.0 (mL)	Nitric Acid	
5E-05	Balance Uncertainty		
0.058	Flask Uncertainty		

Giovanni Esposito
Formulated By: Giovanni Esposito 020422
Reviewed By: Pedro L. Rentas 020422

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(III) nitrate nonahydrate (Fe)	IN346	221035107	10000	99.999	0.10	100.0	30.0044	30.0090	**10001.5**	**20.0**	7782-61-8	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	<0.5	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	<0.02
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).

Part # **58126** Lot # **020422**

Printed: 2/16/2022, 11:15:09 PM

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

R:10/18/22 (BA)

Certified Reference Material CRM

M5387 . M5389 . M5390 . M5391 . M5392

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

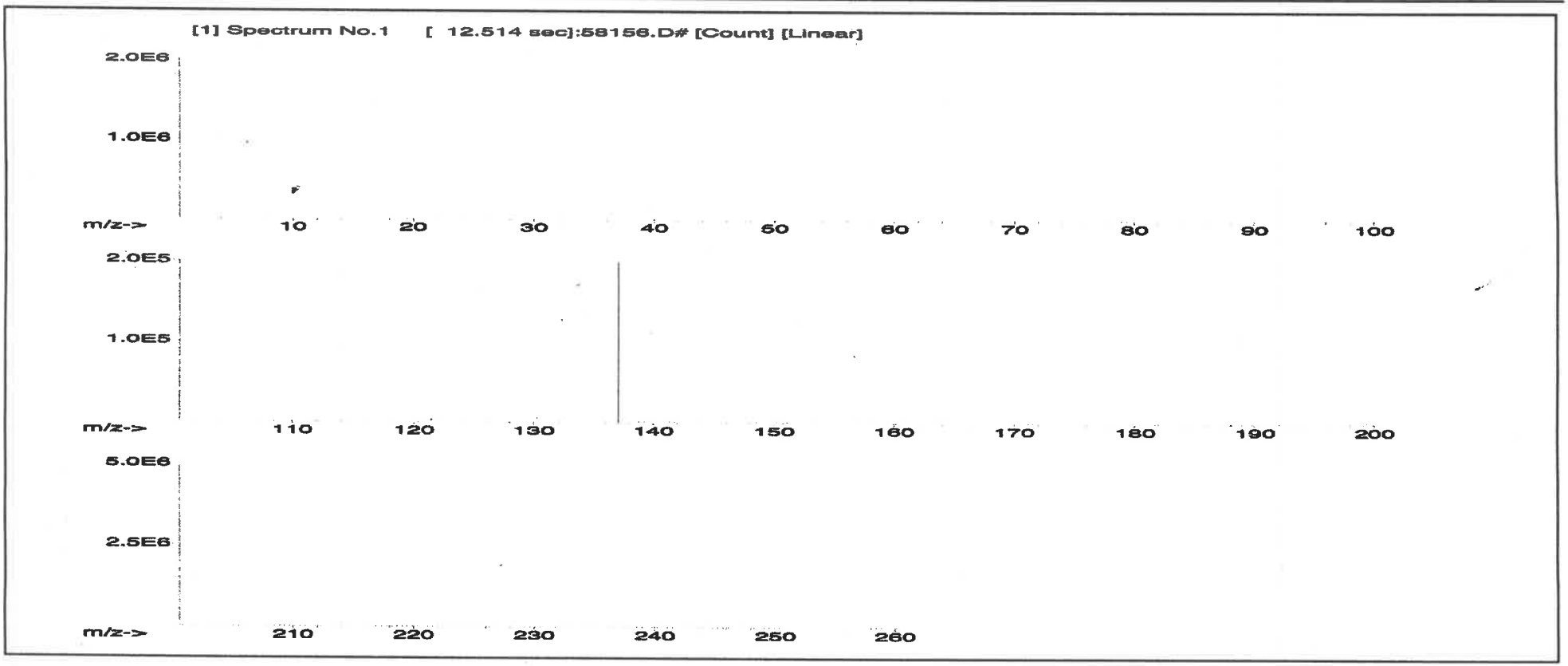
CERTIFIED WEIGHT REPORT:

		Lot #		
Part Number:	**57056**	**Solvent:**	20510011	Nitric Acid
Lot Number:	**072122**			
Description:	**Barium (Ba)**	2%	40.0 (mL)	Nitric Acid
Expiration Date:	072125			
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	072122
Reviewed By:	Pedro L. Rentas	072122

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	3.82426	**1000.0**	**2.0**	10022-31-8	0.5 mg/m3	orl-rat 355 mg/kg	3104a



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:

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

R:09/08/22 (BA)

Certified Reference Material CRM

M5387 . M5389 . M5390 . M5391 . M5392

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

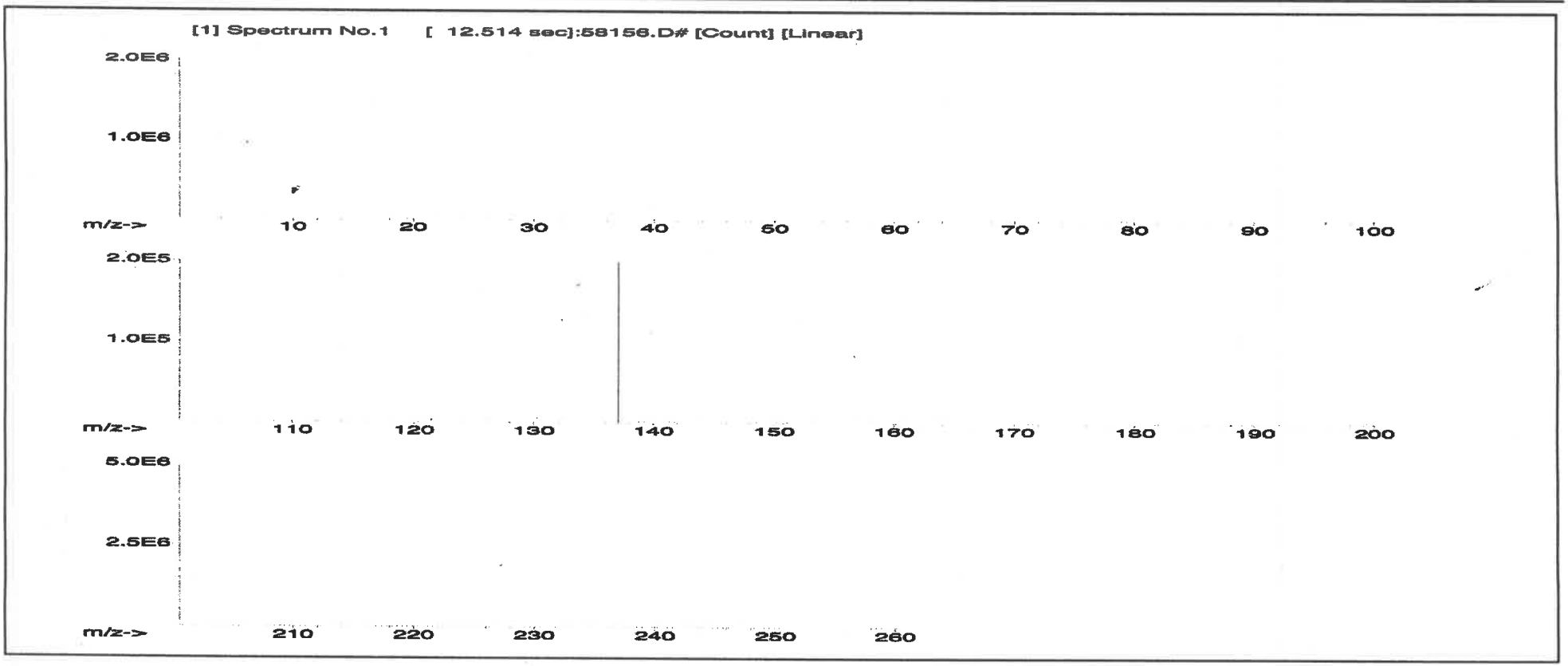
CERTIFIED WEIGHT REPORT:

Part Number:	**57056**		**Lot #**		
Lot Number:	**072122**	**Solvent:**	20510011	Nitric Acid	
Description:	**Barium (Ba)**				
		2%	40.0 (mL)	Nitric Acid	
Expiration Date:	072125				
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	072122
Reviewed By:	Pedro L. Rentas	072122

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	3.82426	**1000.0**	**2.0**	10022-31-8	0.5 mg/m3	orl-rat 355 mg/kg	3104a



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:

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

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)

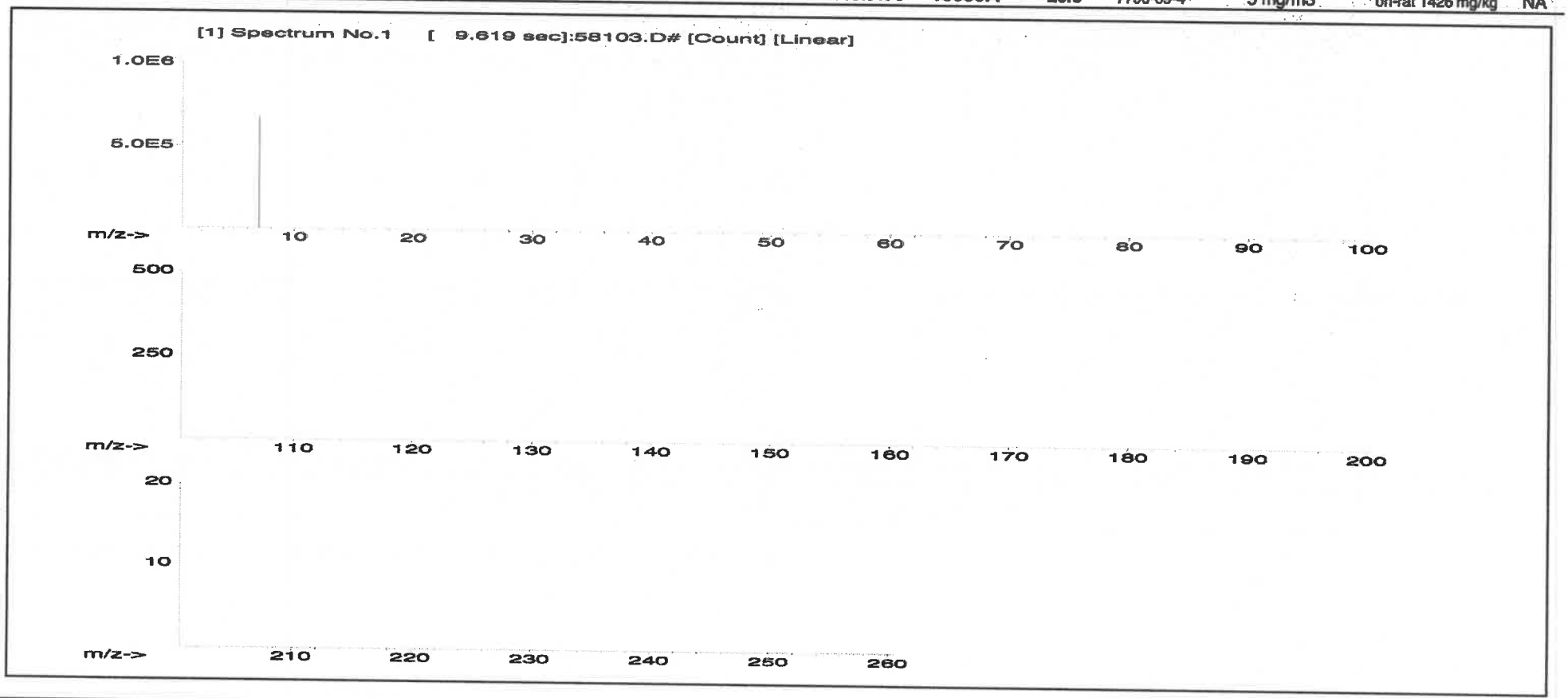
Expiration Date: 070625
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 1000.12

	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



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

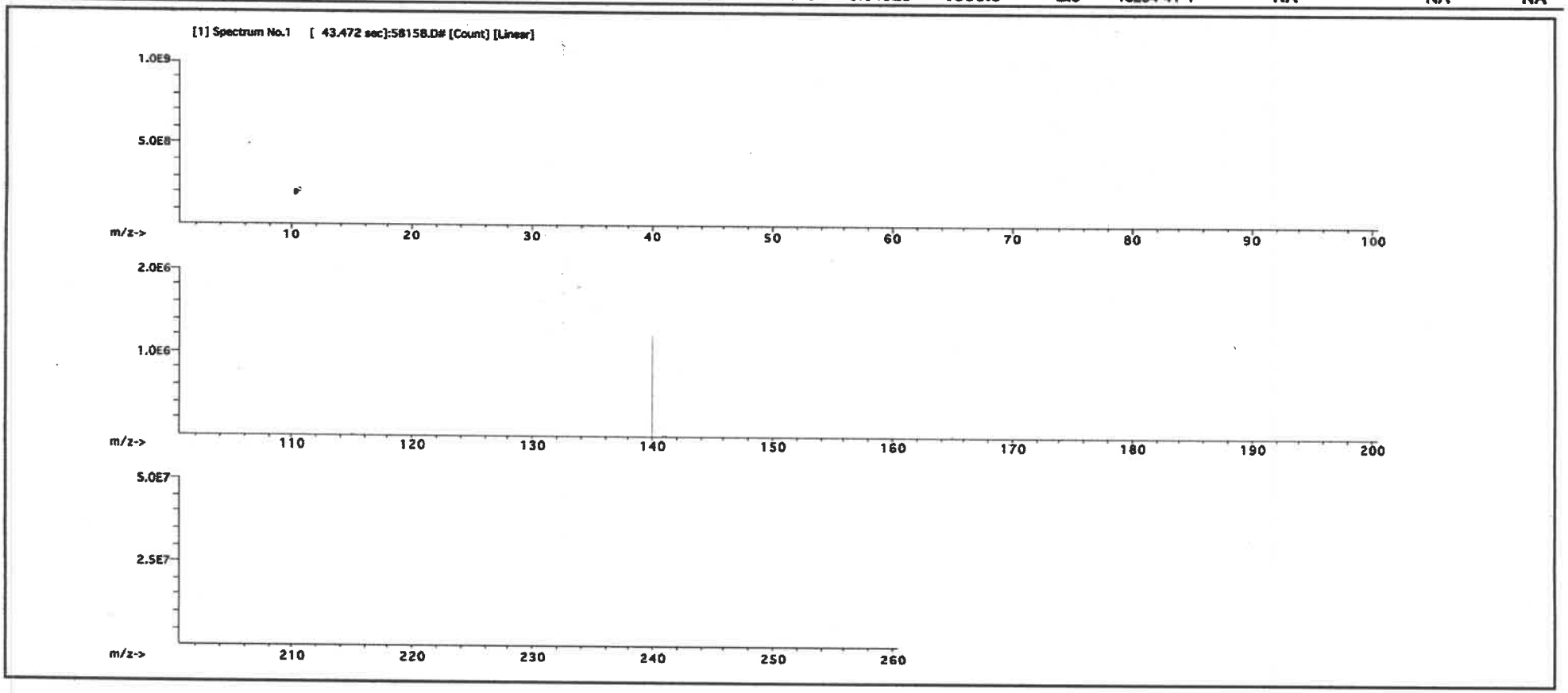
Weight shown below was diluted to (mL): 1000.12 ± 0.058 Flask Uncertainty

	Lot #		
Solvent:	20510011	Nitric Acid	
2%	20.0 (mL)	Nitric Acid	

5E-05 Balance 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:

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

M5497 - M5498 R: 03/17/23 (BA)

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 58120
Lot Number: 031523
Description: Calcium (Ca)

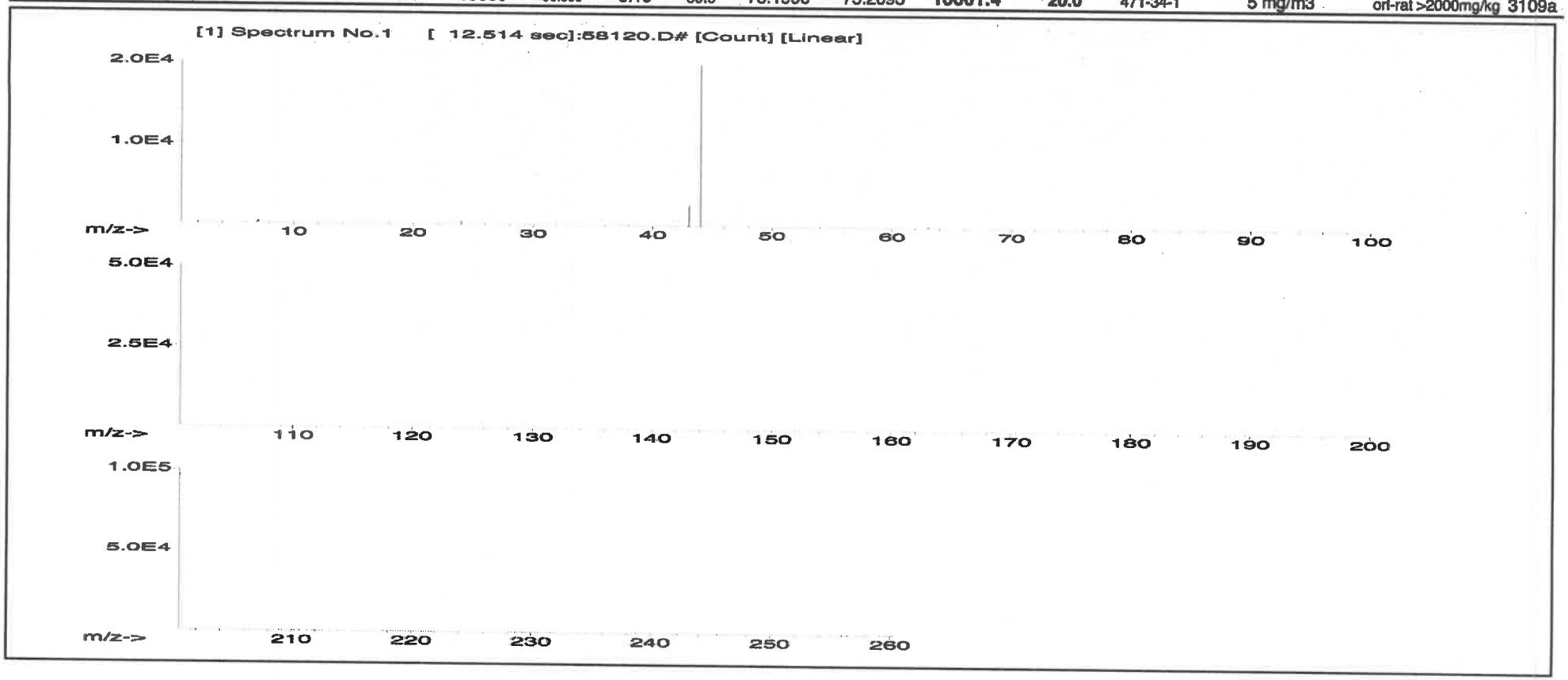
Expiration Date: 031526
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.41

	Lot #		
Solvent:	21110221	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	
	5E-05	Balance Uncertainty	
	0.058	Flask Uncertainty	

Giovanni Esposito

Formulated By:	Giovanni Esposito	031523
Reviewed By:	Pedro L. Rentas	031523

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	CAD072022A1	10000	99.999	0.10	39.9	75.1990	75.2093	**10001.4**	**20.0**	471-34-1	5 mg/m3	orl-rat >2000mg/kg	3109a



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	<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

M5497 - M5498 R: 03/17/23 (BA)

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 58120
Lot Number: 031523
Description: Calcium (Ca)

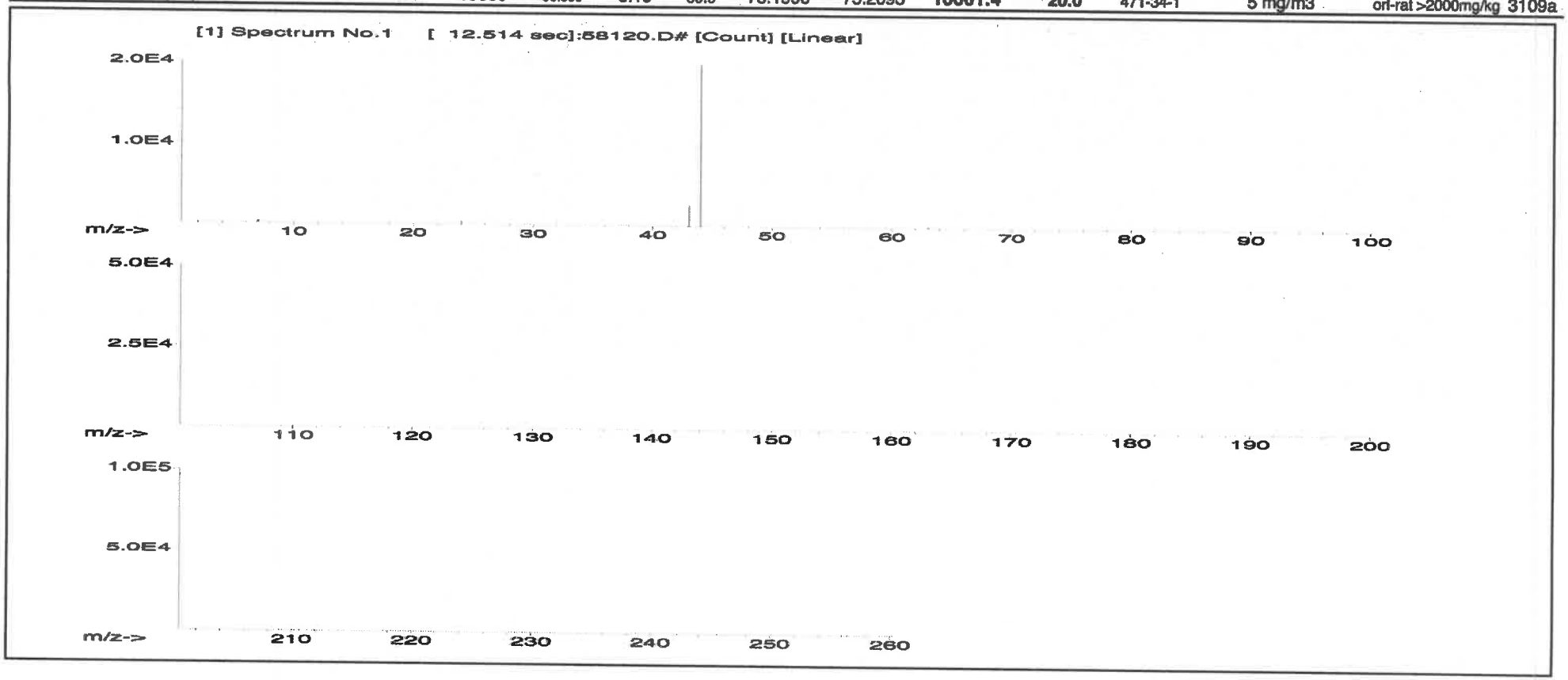
Expiration Date: 031526
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.41

	Lot #		
Solvent:	21110221	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	
	5E-05	Balance Uncertainty	
	0.058	Flask Uncertainty	

Giovanni Esposito

Formulated By:	Giovanni Esposito	031523
Reviewed By:	Pedro L. Rentas	031523

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	CAD072022A1	10000	99.999	0.10	39.9	75.1990	75.2093	**10001.4**	**20.0**	471-34-1	5 mg/m3	orl-rat >2000mg/kg	3109a



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	<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

M 5513 R: 03/17/23 BF

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 57182
Lot Number: 061522
Description: Lead (Pb)

Expiration Date: 061525
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.02

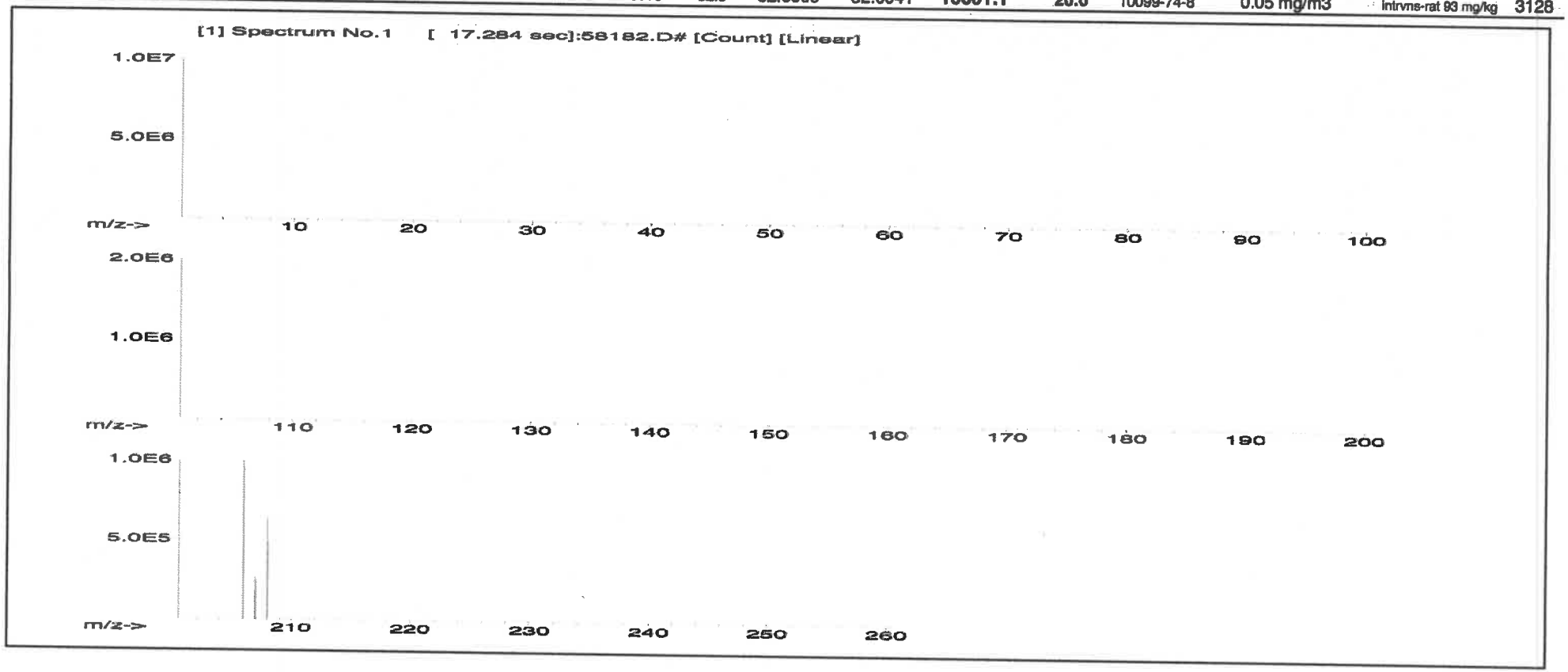
	Lot #		
Solvent:	20510011	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Giovanni Esposito

Formulated By:	Giovanni Esposito	061522
Reviewed By:	Pedro L. Rentas	061522

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	10000	99.999	0.10	62.5	32.0006	32.0041	**10001.1**	**20.0**	10099-74-8	0.05 mg/m3	Intrvns-rat 93 mg/kg	3128



3367-METALS

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

MS514 - MS515 R: 03/17/22

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 58126
Lot Number: 092122
Description: Iron (Fe)

Expiration Date: 092125
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

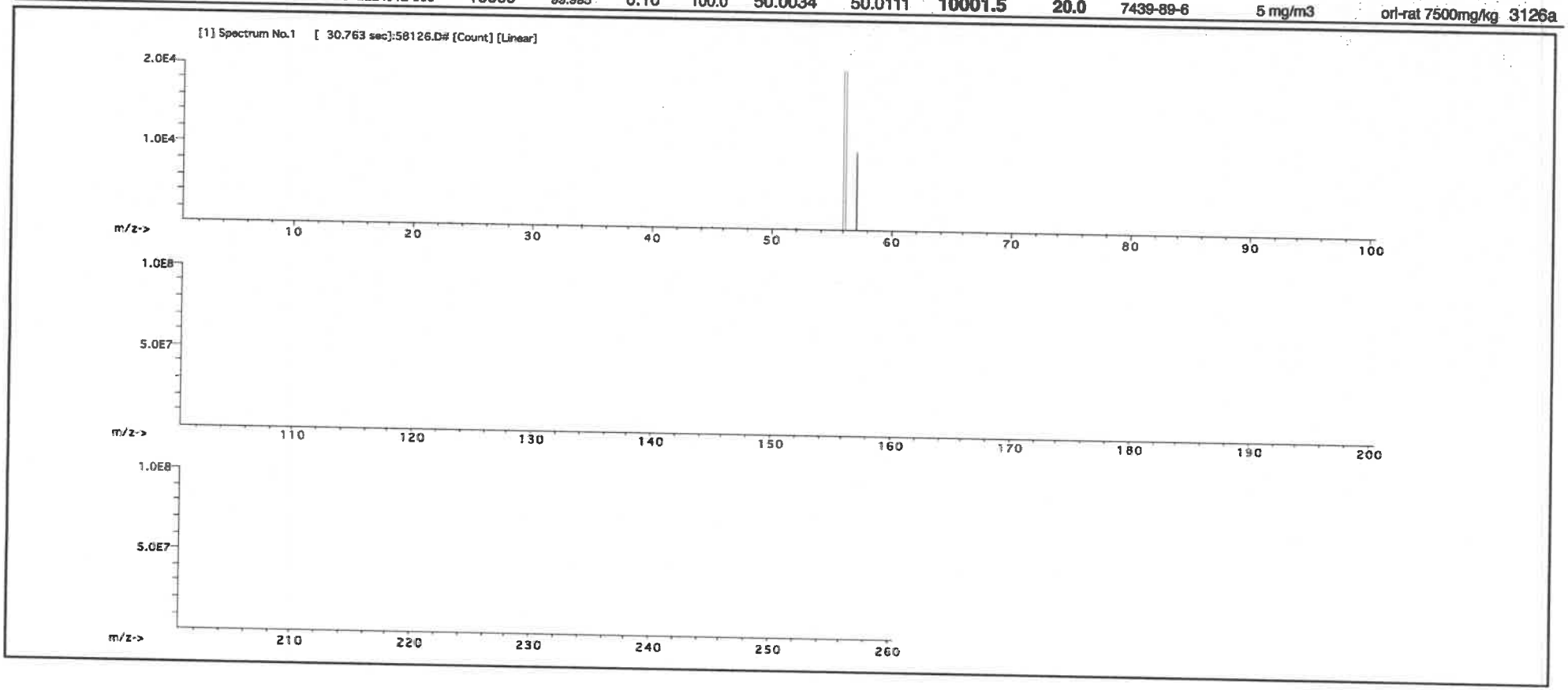
Weight shown below was diluted to (mL): 5000.1 | 0.12 Flask Uncertainty | 5E-05 Balance Uncertainty

	Lot #	
Solvent:	20510011	Nitric Acid
7.0%	350.0 (mL)	Nitric Acid

Giovanni Esposito

Formulated By:	Giovanni Esposito	092122
Reviewed By:	Pedro L. Rentas	092122

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	2224912-500	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



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	<0.05
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:

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

M519. M520 BH R:03/17/23

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 58119
Lot Number: 120822
Description: Potassium (K)

Expiration Date: 120825
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.4 ± 0.06 Flask Uncertainty

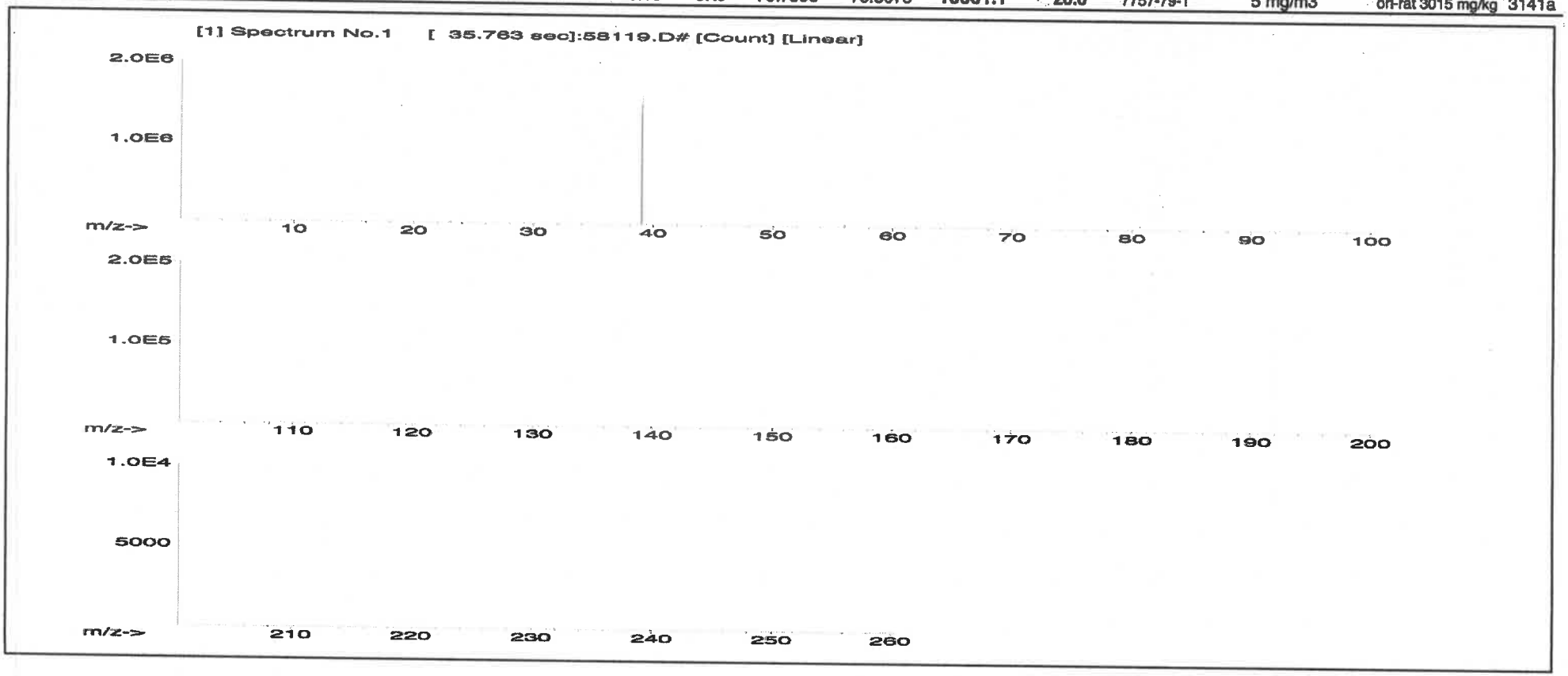
		Lot #	
Solvent:	20510011		Nitric Acid
	2%	60.0 (mL)	Nitric Acid

5E-05 Balance Uncertainty

Giovanni Esposito

Formulated By:	Giovanni Esposito	120822
Reviewed By:	Pedro L. Rentas	120822

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	KD022021A1	10000	99.999	0.10	37.6	79.7990	79.8075	**10001.1**	**20.0**	7757-79-1	5 mg/m3	orl-rat 3015 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

M5658 R ! 8/25/23

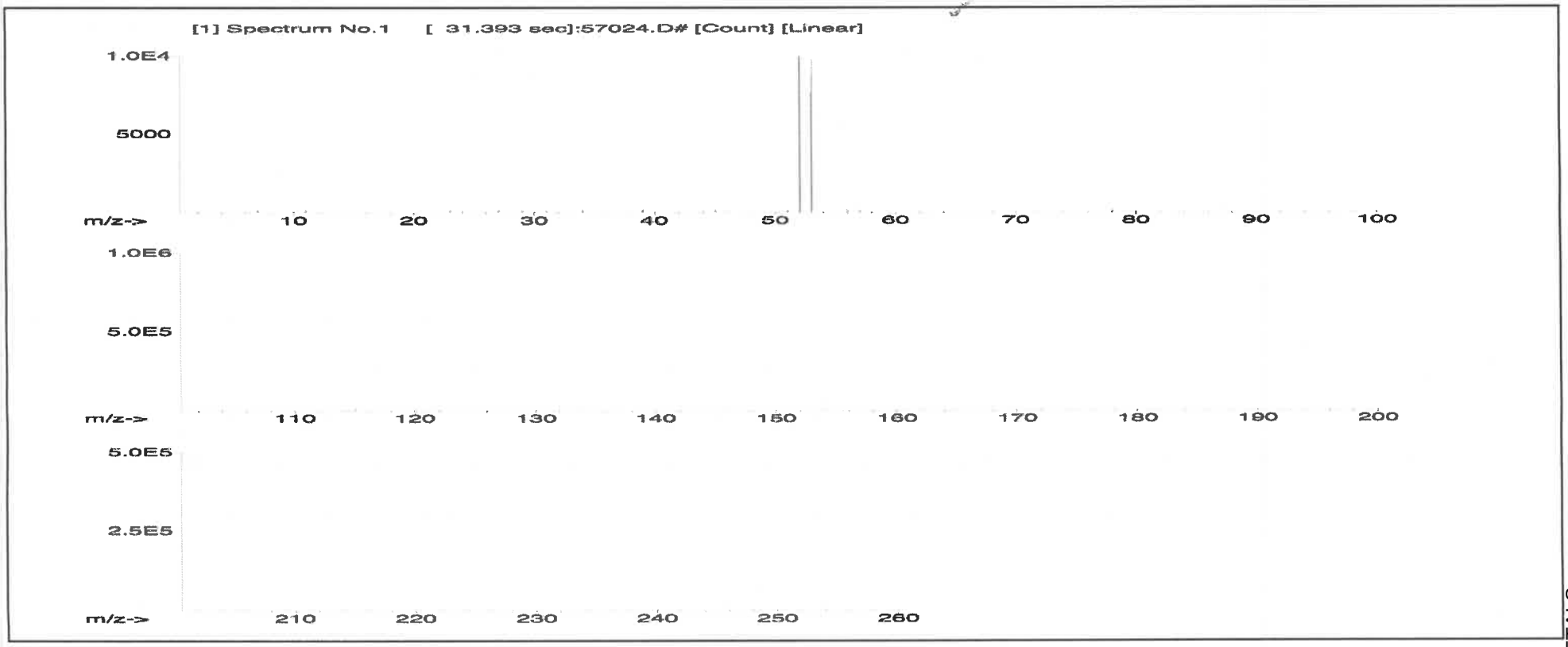
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

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

M5697 R: 10/27/23

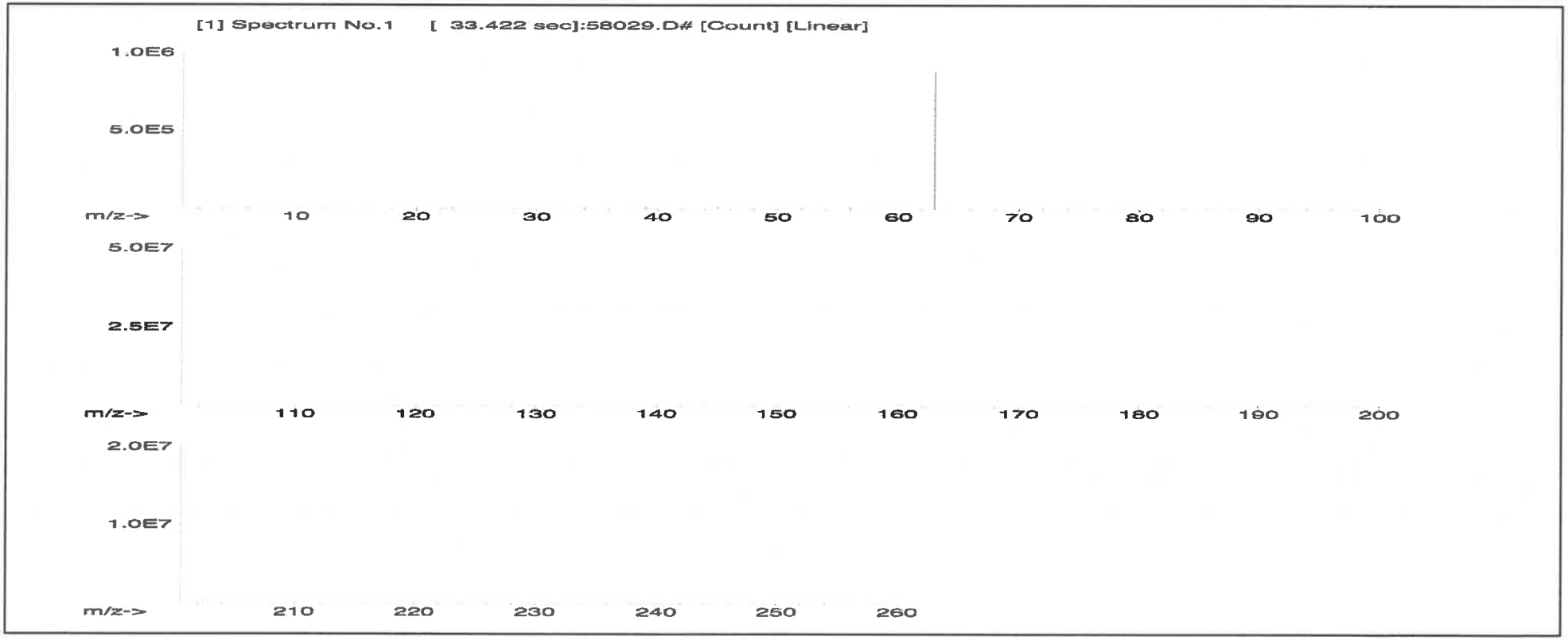
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**58029**	24002546	Nitric Acid	
Lot Number:	**102523**			
Description:	**Copper (Cu)**			
		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. Copper(II) nitrate trihydrate (Cu)	58129	100223	0.1000	200.0	0.084	1000	10000.1	**1000.0**	**2.2**	10031-43-3	1 mg/m3	orl-rat 794 mg/kg	3114



Absolute Standards, Inc.
308-368-1131
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

M5648 R: 10/27/23

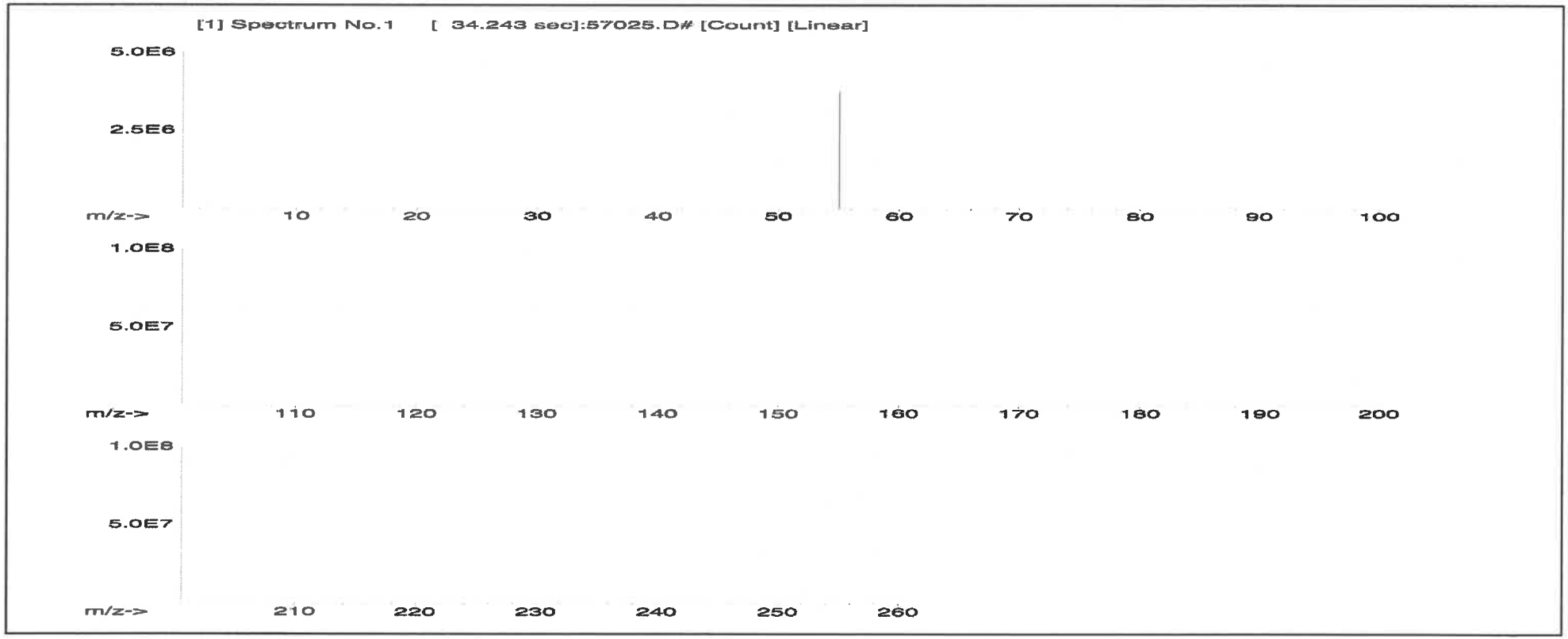
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**58025**	24002546	Nitric Acid	
Lot Number:	**102623**			
Description:	**Manganese (Mn)**			
		2.0%	60.0 (mL)	Nitric Acid
Expiration Date:	102626			
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):	3000.41	0.058	Flask Uncertainty	

Formulated By:	Benson Chan	102623
Reviewed By:	Pedro L. Rentas	102623

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. Manganese(II) nitrate tetrahydrate (Mn)	58125	071123	0.1000	300.0	0.084	1000	10000.1	**1000.0**	**2.1**	20694-39-7	5 mg/m3	orl-rat >300mg/kg	3132



Absolute Standards, Inc.
308-368-1131
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:

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 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).

art # **58025** Lot # **102623**

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

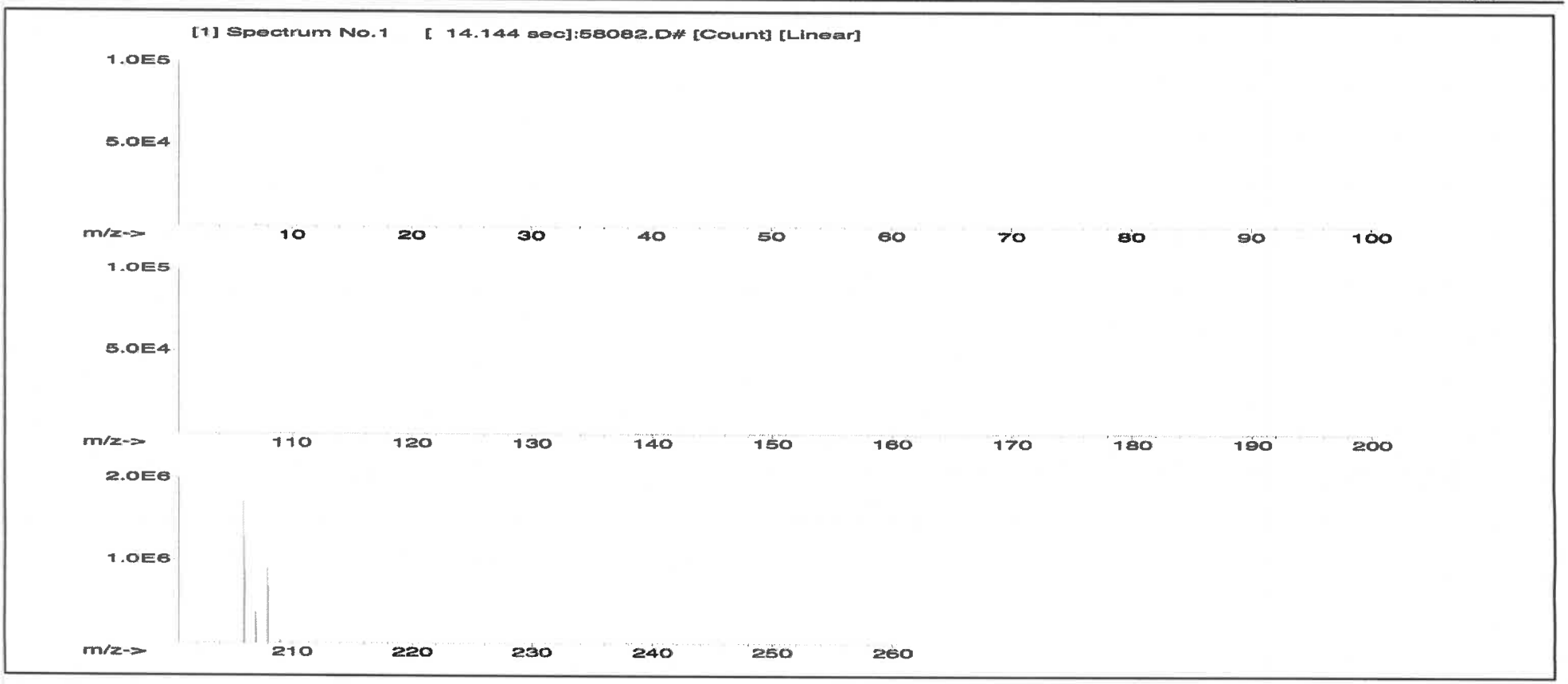
Weight shown below was diluted to (mL): 3000.41 ± 0.06 Flask Uncertainty

	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

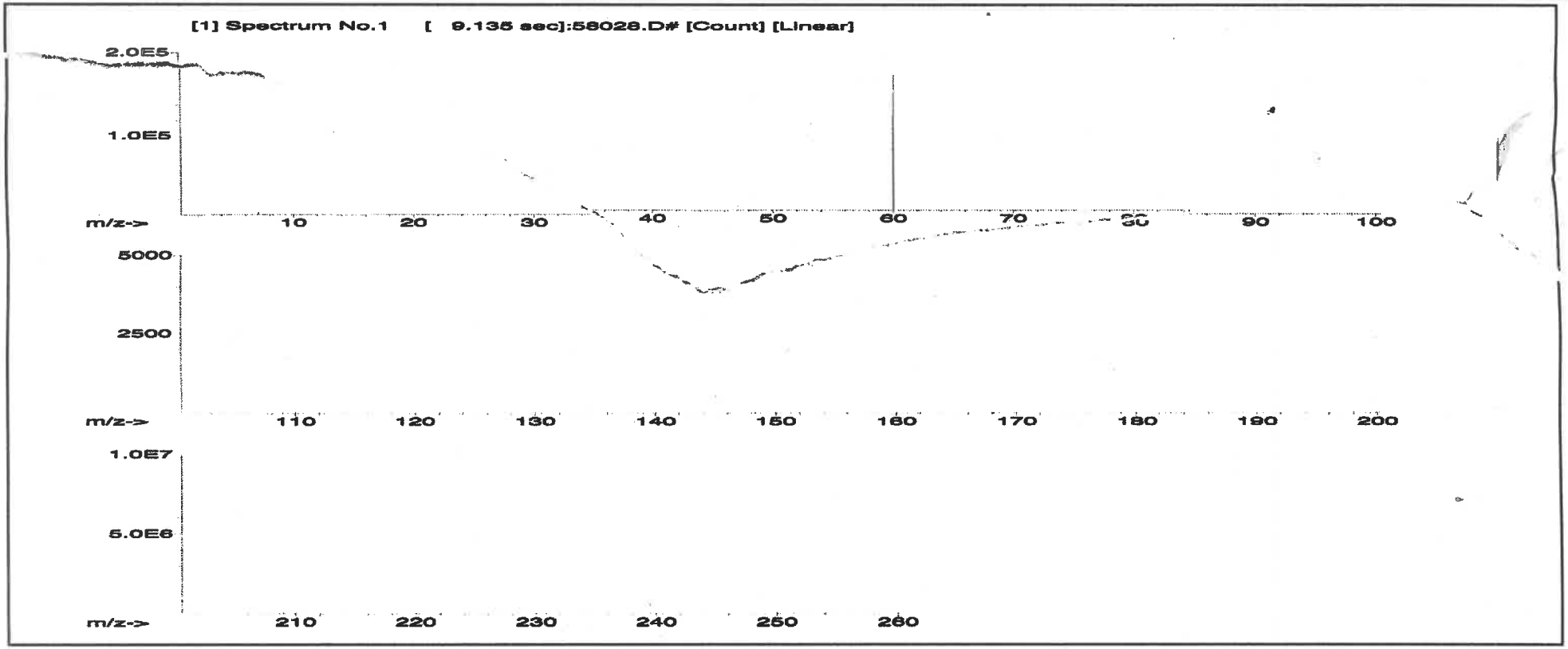
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

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

M5768 M5769 BP R:1/3/24

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 58112
Lot Number: 091823
Description: Magnesium (Mg)

Expiration Date: 091826
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

Weight shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

		Lot #	
Solvent:	24002546	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	

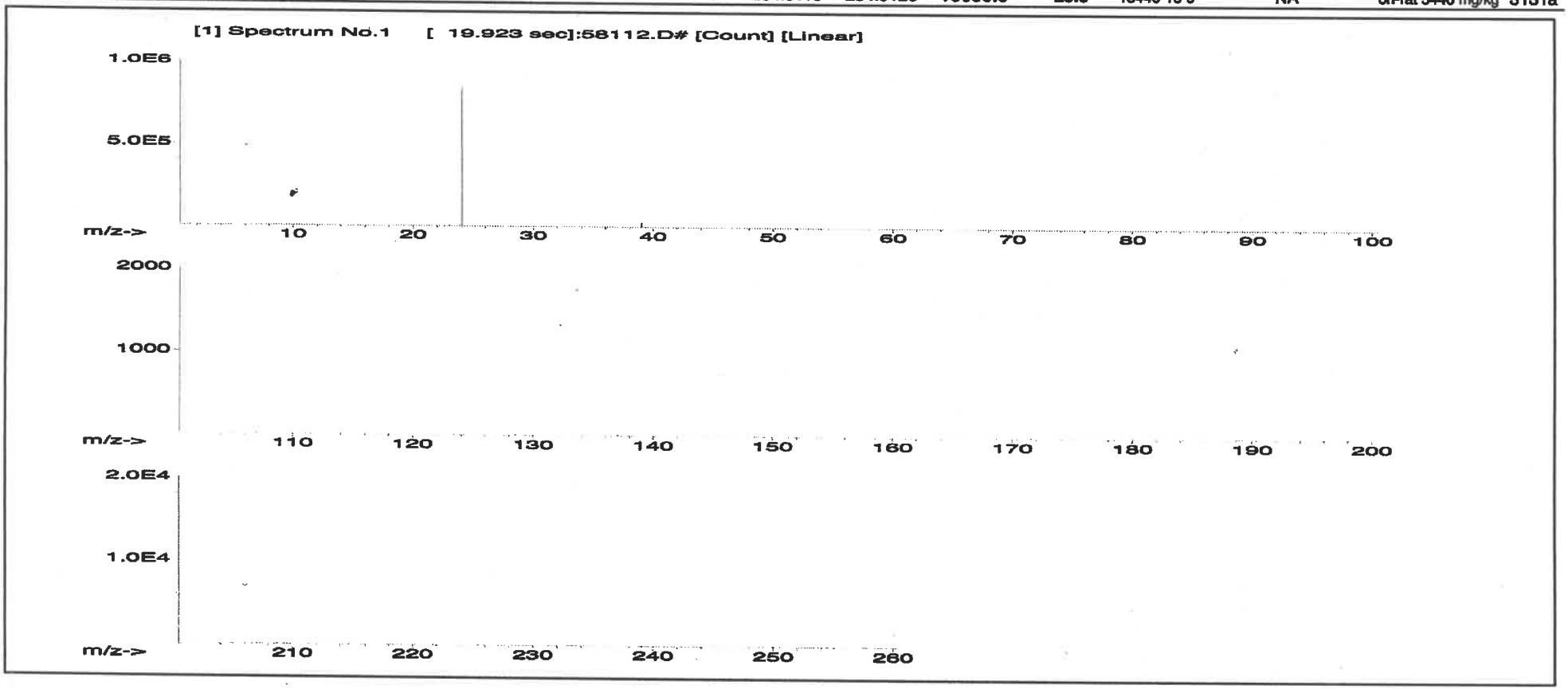
5E-05 Balance Uncertainty

M5768, M5769 BP R: 1/3/24

Lawrence Barry
Formulated By: Lawrence Barry 091823

Pedro Rentas
Reviewed By: Pedro L. Rentas 091823

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	234.9118	234.9126	**10000.0**	**20.0**	13446-18-9	NA	ori-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

M5768 M5769 BP R:1/3/24

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 58112
Lot Number: 091823
Description: Magnesium (Mg)

Expiration Date: 091826
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

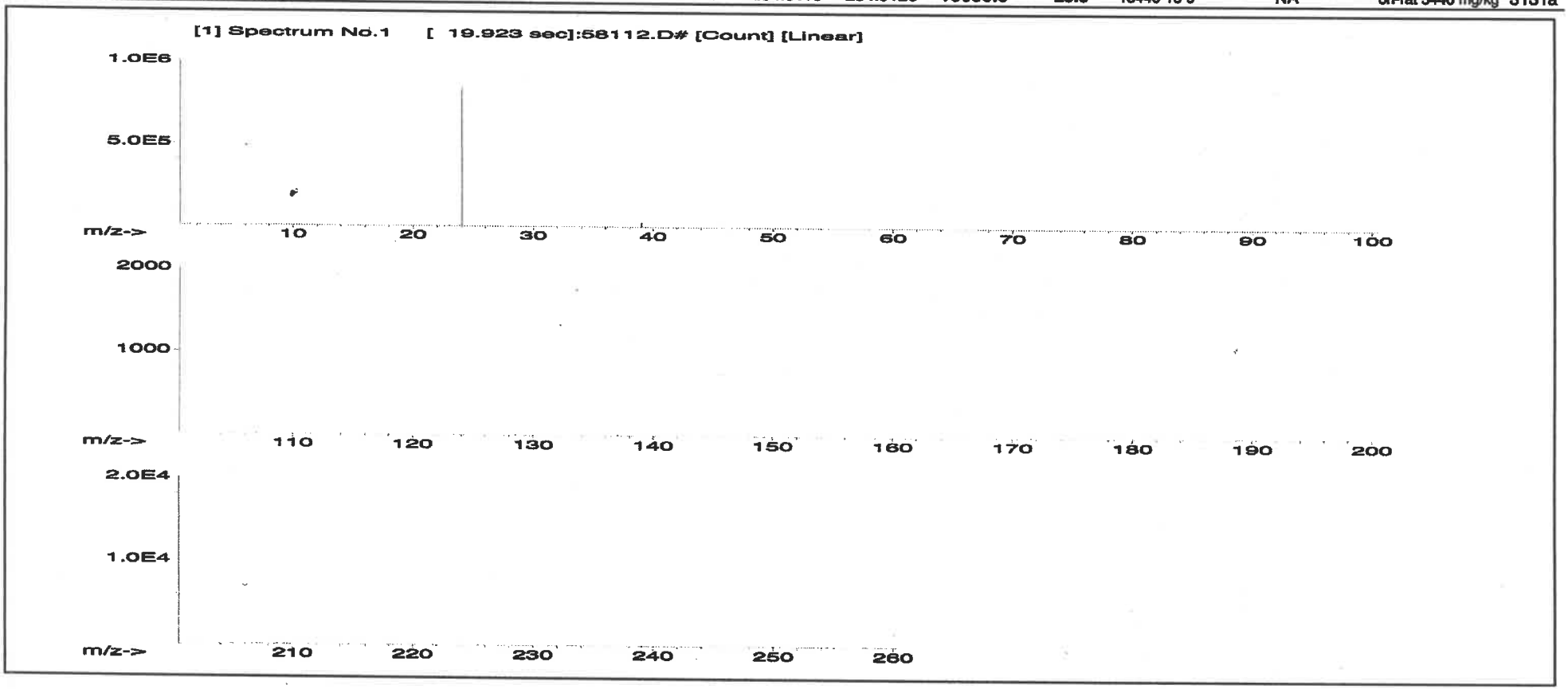
	Lot #		
Solvent:	24002546	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

M5768, M5769 BP R: 1/3/24

Formulated By:	Lawrence Barry	091823
Reviewed By:	Pedro L. Rentas	091823

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	234.9118	234.9126	**10000.0**	**20.0**	13446-18-9	NA	ori-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

R: 02/09/24 M5798

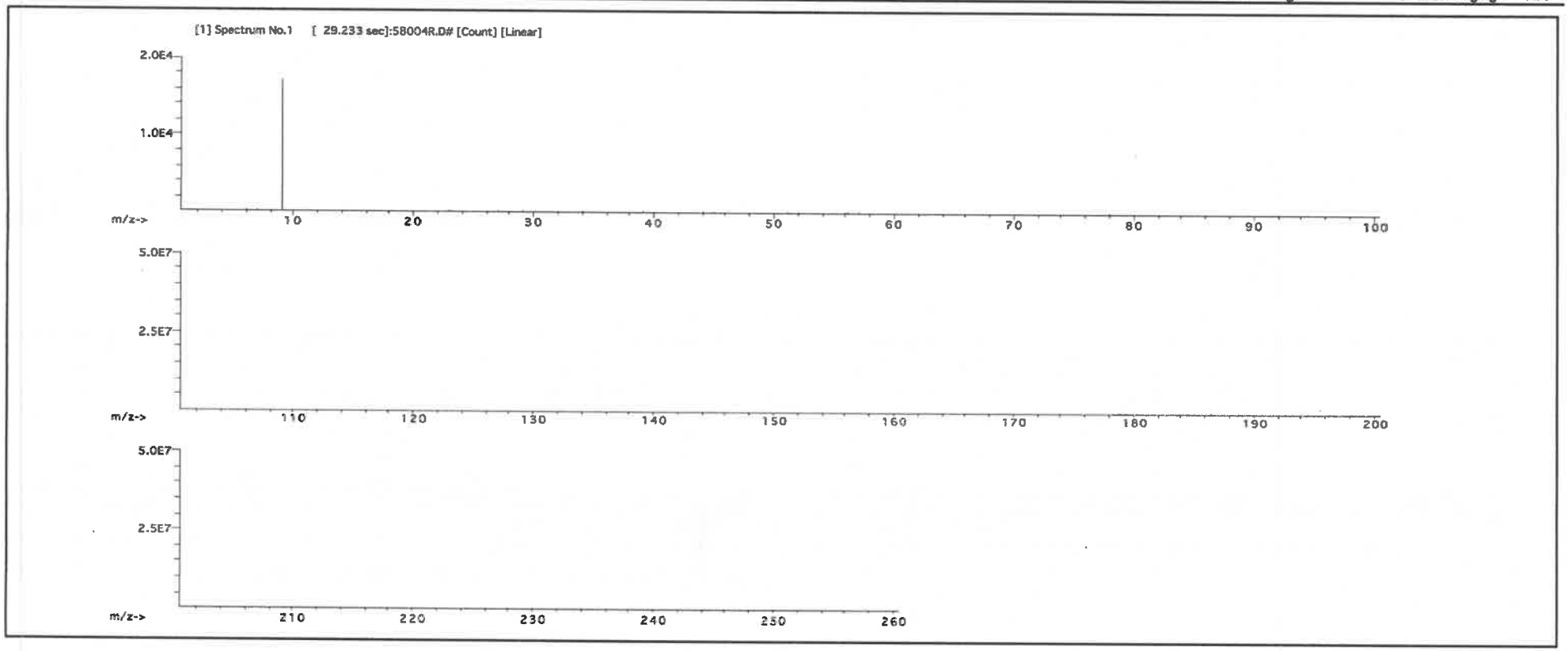
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

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



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 BA

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 57050
Lot Number: 071123
Description: Tin (Sn)

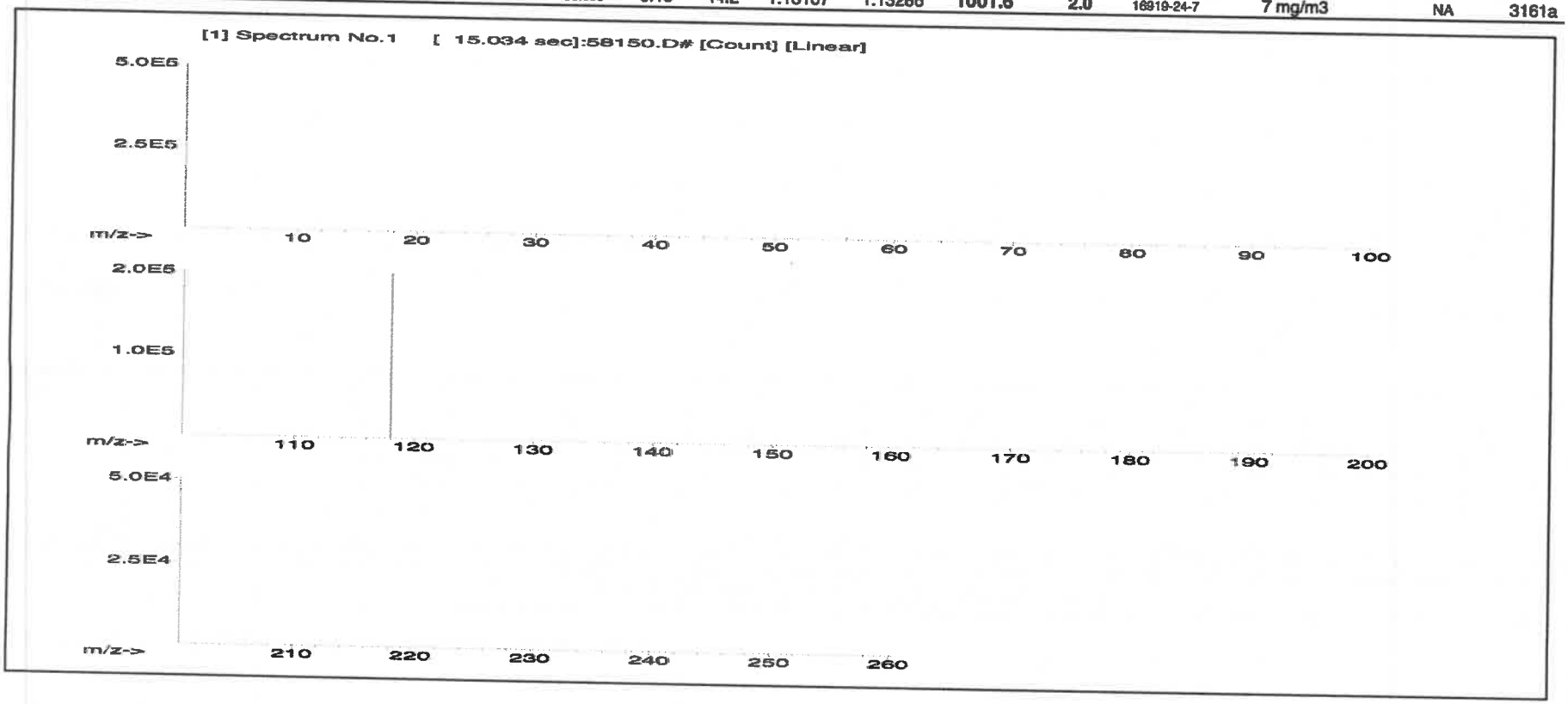
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 499.93

	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

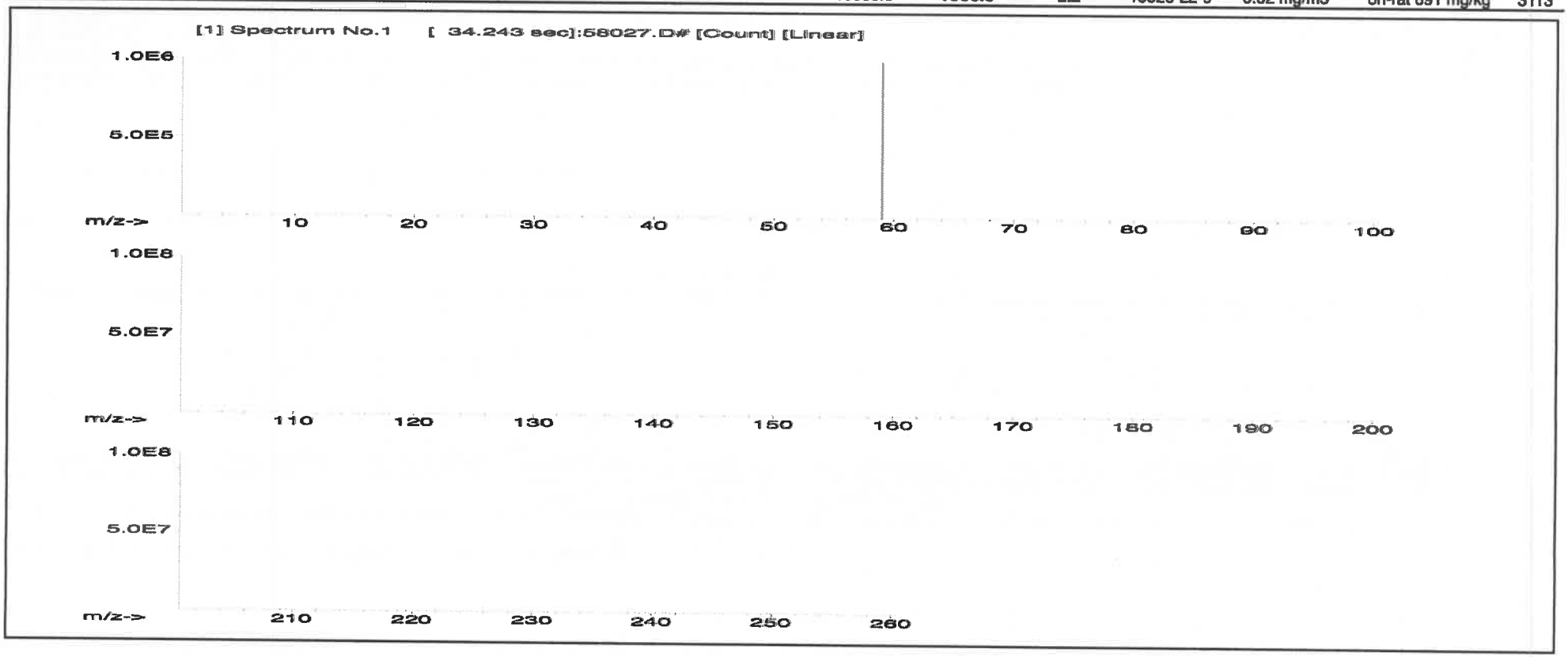
CERTIFIED WEIGHT REPORT:

		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:

Part Number: 57033
Lot Number: 111323
Description: Arsenic (As)

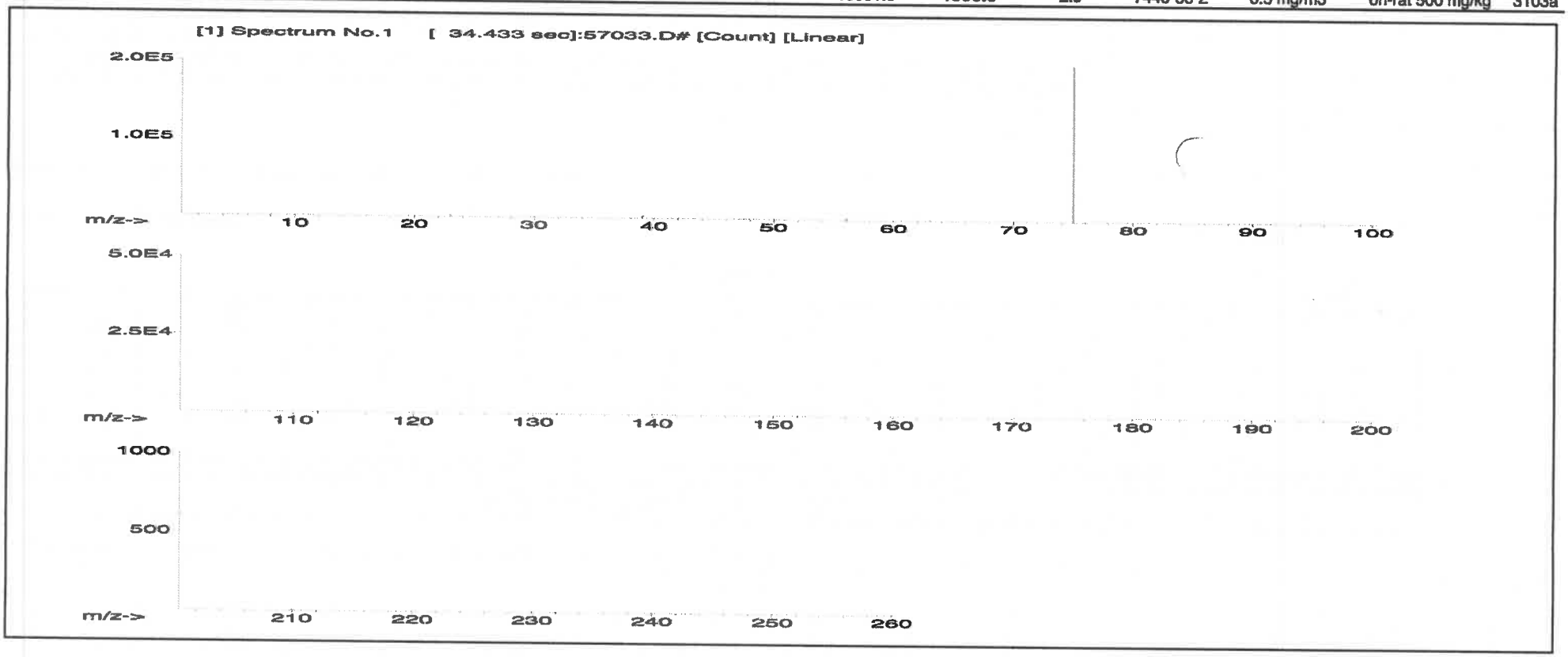
Expiration Date: 111326
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 4000.0

Lot #	Solvent:		
24002546	Nitric Acid		
2.0%	80.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty
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 Number: 071123
Description: Boron (B)

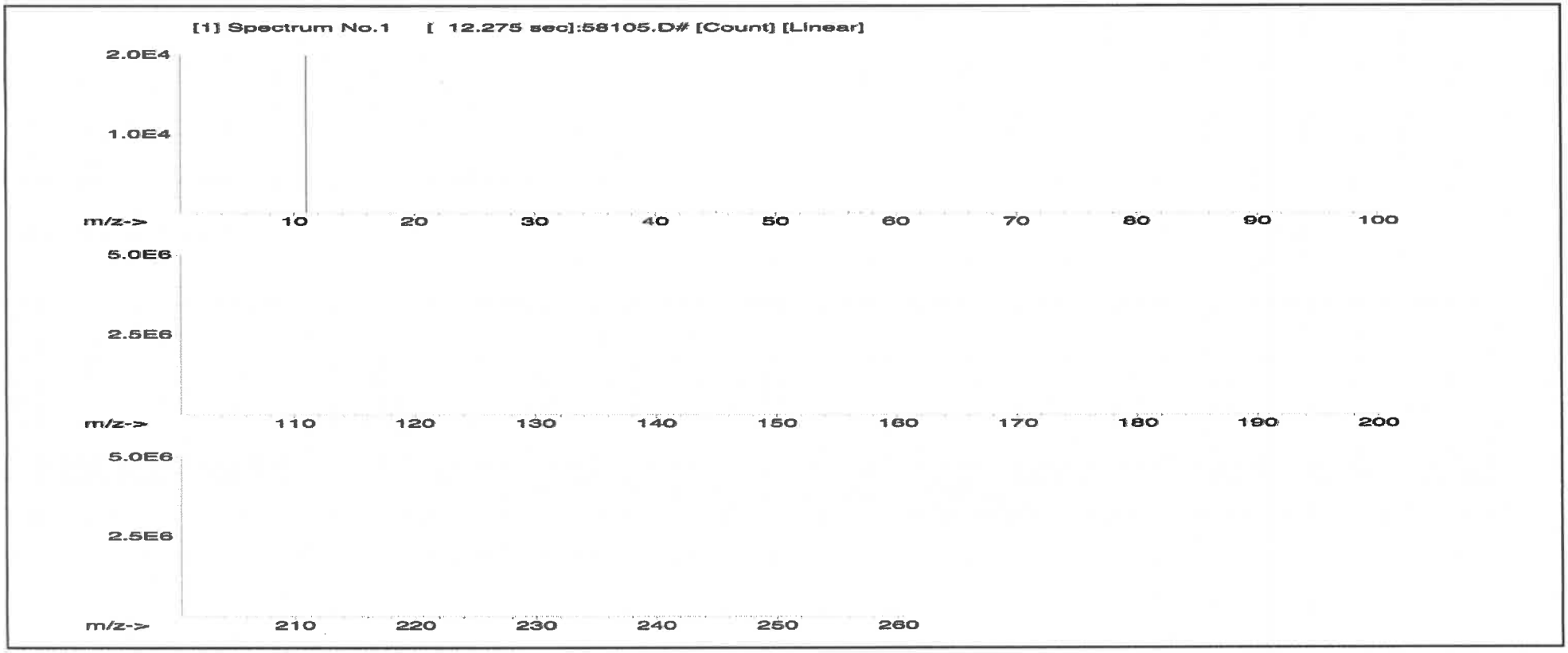
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

Weight shown below was diluted to (mL): 1999.48 0.058 Flask Uncertainty

	Lot #			
Solvent:	MKBQ8597V	Ammonium hydroxide		
	2.0%	40.0 (mL)	Ammonium hydroxide	
		5E-05	Balance 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. M5815

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

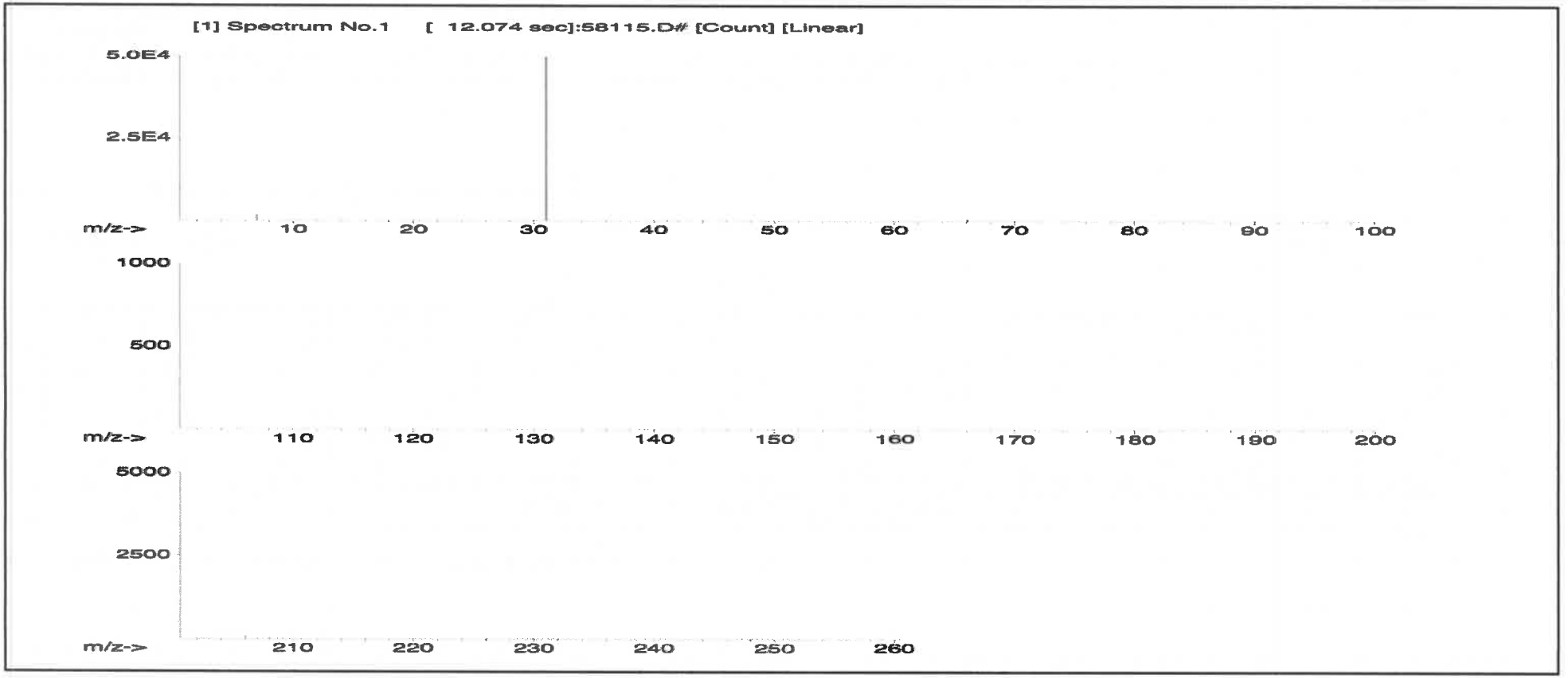
Part Number: 57115
Lot Number: 041723
Description: Phosphorous (P)

Expiration Date: 041726
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

		Lot #	
Solvent:	21110221		Nitric Acid
	2%	40.0 (mL)	Nitric Acid
		5E-05	Balance 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)

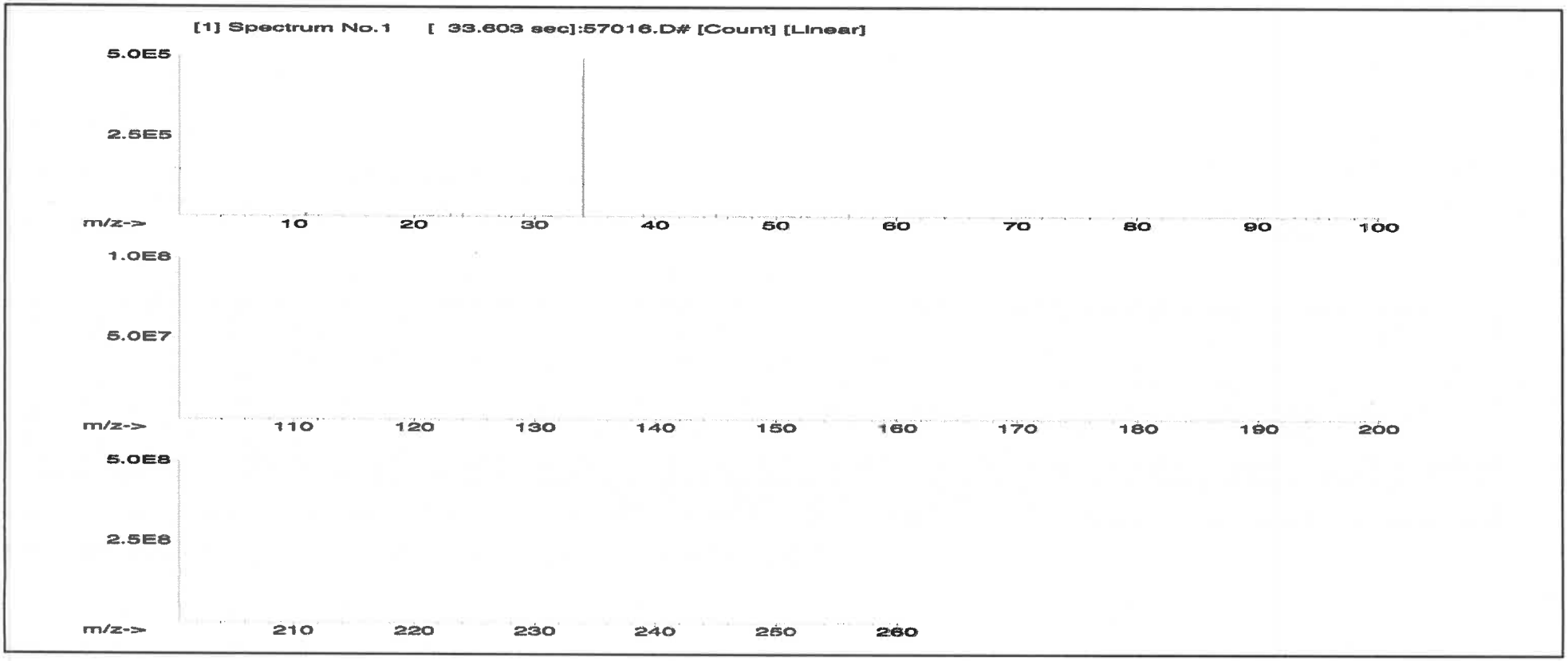
Expiration Date: 122926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

Weight shown below was diluted to (mL): 4000.0

Lot #		
Solvent:	122923	ASTM Type 1 Water
	5E-05	Balance Uncertainty
	0.06	Flask 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)

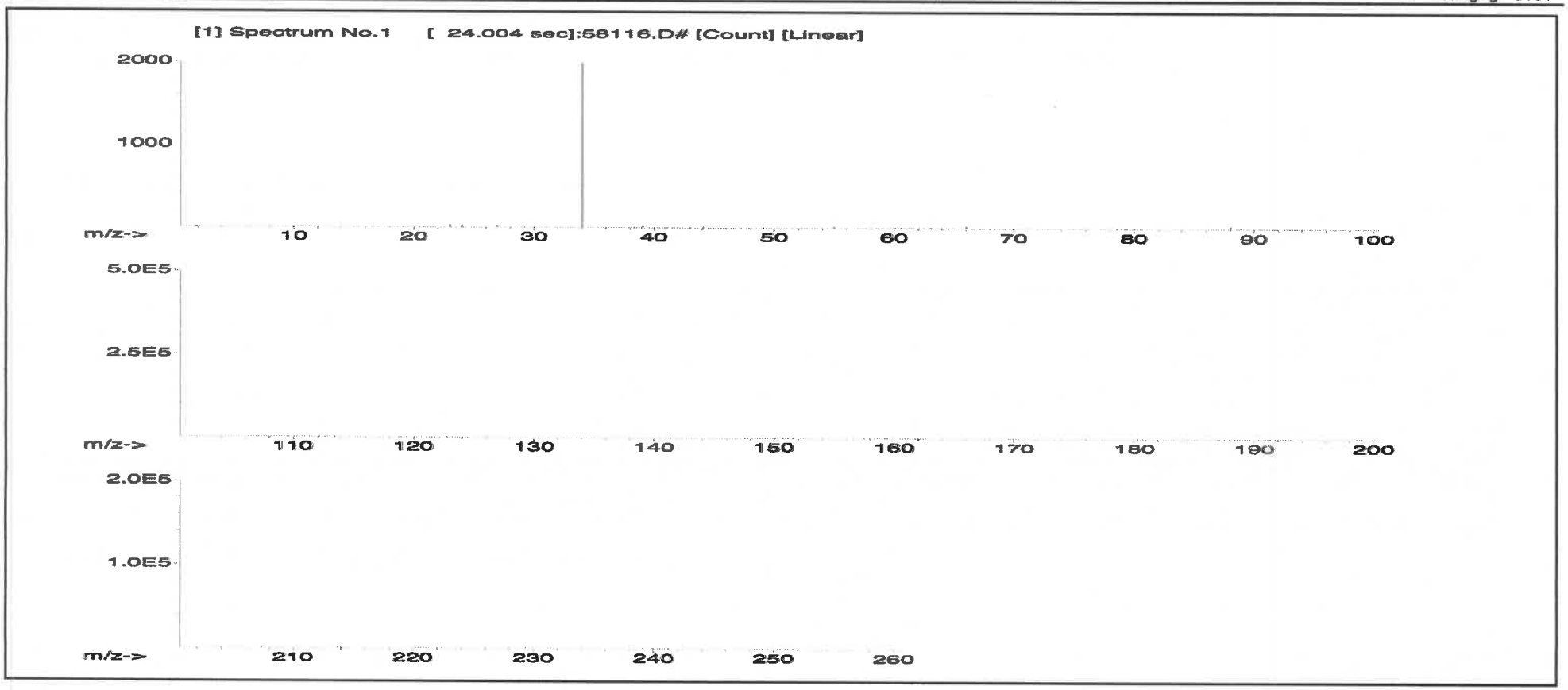
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 1999.48

Lot #
Solvent: 071123 ASTM Type 1 Water

5E-05 Balance Uncertainty
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 M.5818

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 57014
Lot Number: 122023
Description: Silicon (Si)

Expiration Date: 122026
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 1999.48 ± 0.058 Flask Uncertainty

Lot #

Solvent: 24002546 Nitric Acid

2% 40.0 (mL) Nitric Acid

5E-05 Balance Uncertainty

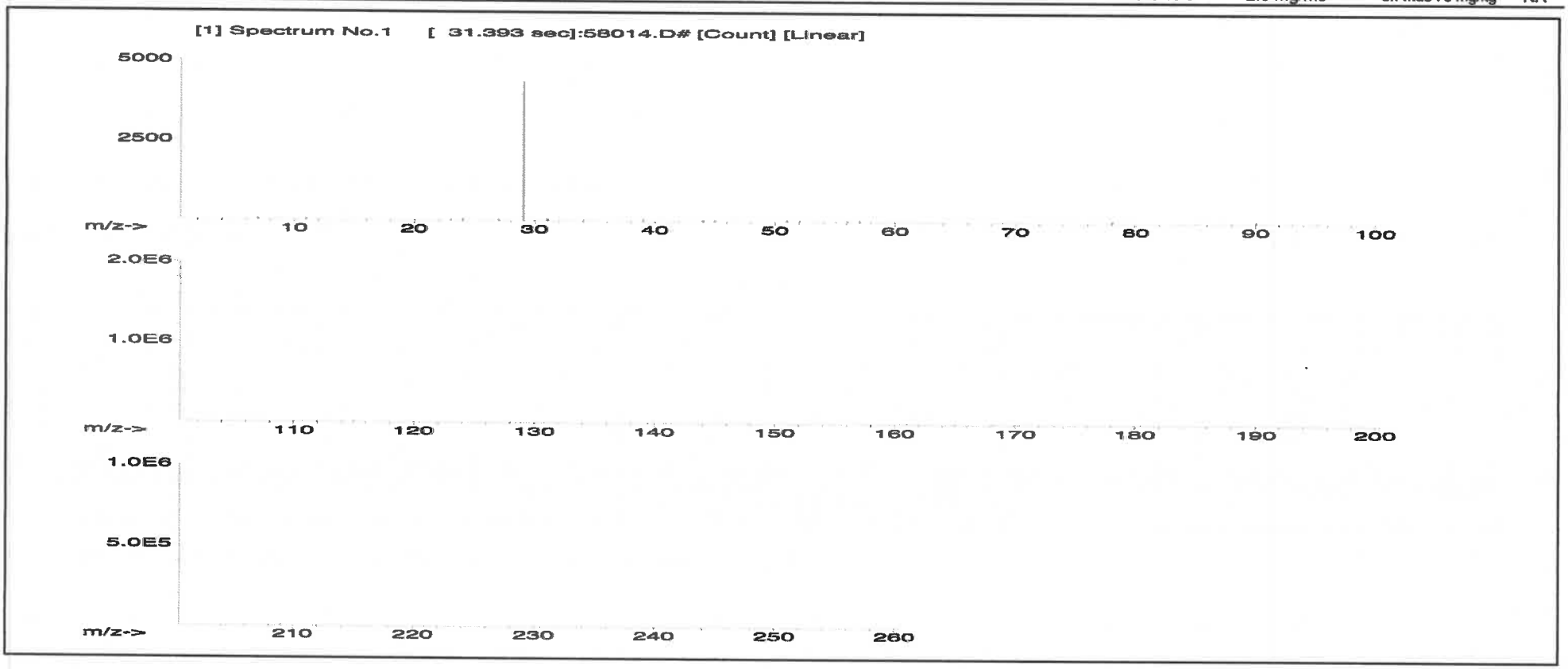
Aleah O'Brady

Formulated By:	Aleah O'Brady	122023

Pedro Rentas

Reviewed By:	Pedro L. Rentas	122023

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 hexafluorosilicate (Si)	IN009	SID082022A1	1000	99.999	0.10	14.4	13.8854	13.8855	**1000.0**	**2.0**	16919-19-0	2.5 mg/m3	orl-mus 70 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	<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	T	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: 02/09/24 M5819

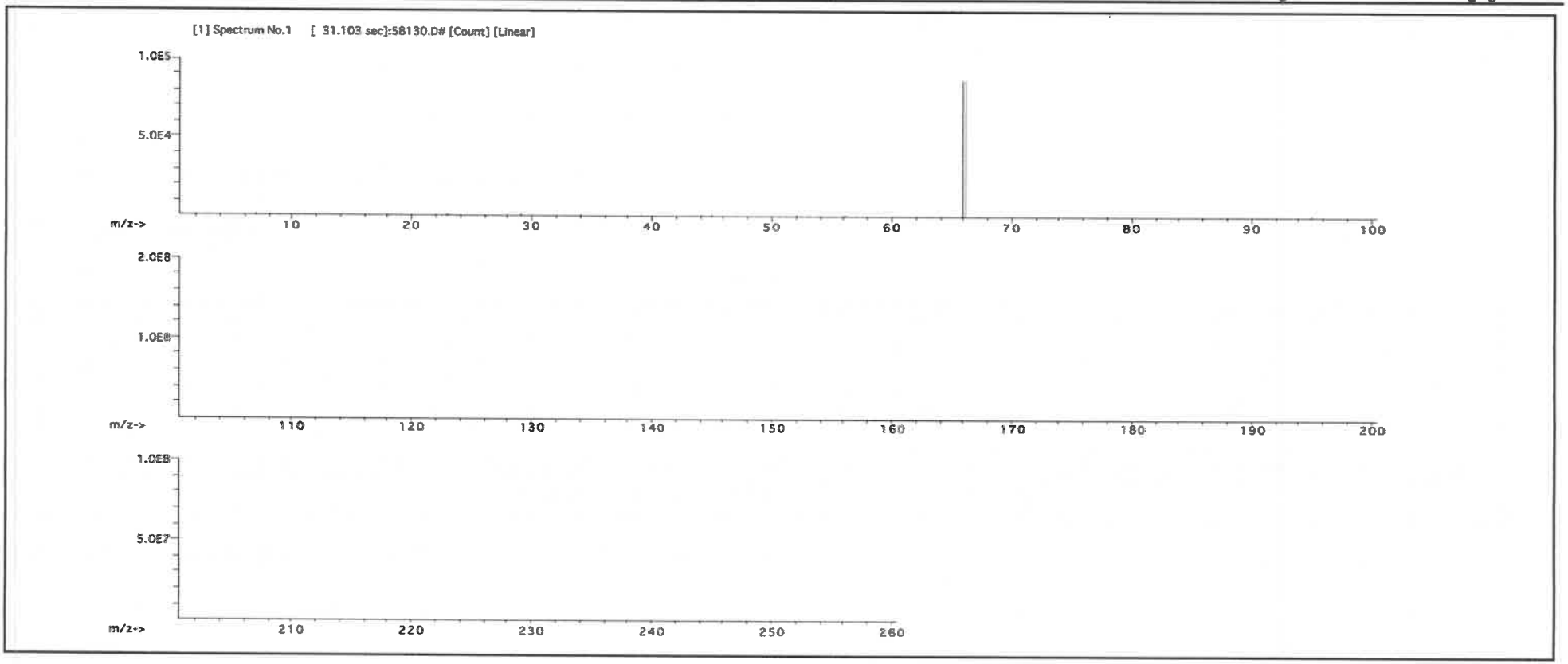
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number:	**58030**				
Lot Number:	**111623**				
Description:	**Zinc (Zn)**				
				Lot #	
			Solvent:	24002546	Nitric Acid
			2%	60.0 (mL)	Nitric Acid
Expiration Date:	111626				
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):	3000.4	0.06	Flask Uncertainty		

Formulated By:	Benson Chan	111623
Reviewed By:	Pedro L. Rentas	111623

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	12.3475	12.3502	**1000.2**	**2.0**	10196-18-6	1 mg/m3	orl-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:

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
Lot Number: 091123
Description: Phosphorous (P)

Expiration Date: 091126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

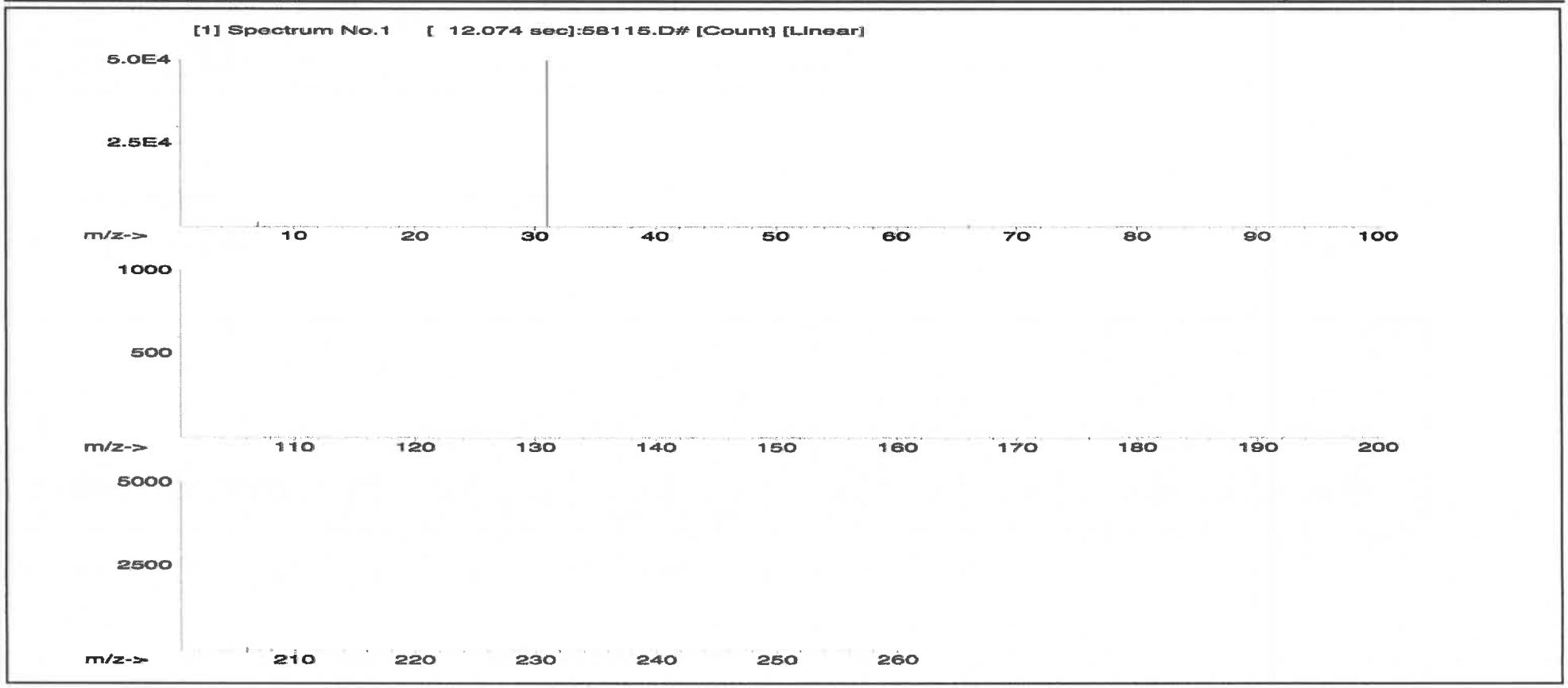
Weight shown below was diluted to (mL): 2000.02 ± 0.058 Flask Uncertainty

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	

5E-05 Balance 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

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

MS947 MS948 MS949
MS950 MS951 MS952

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

QATS LABORATORY INORGANIC REFERENCE MATERIAL INITIAL CALIBRATION VERIFICATION SOLUTIONS (ICV1, ICV5, AND ICV6)

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.

MSS28 - 32
MSS53
3/30/23

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.

Instructions for QATS Reference Material: *Inorganic ICV Solutions*

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

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

M5961 R: 6/11/24

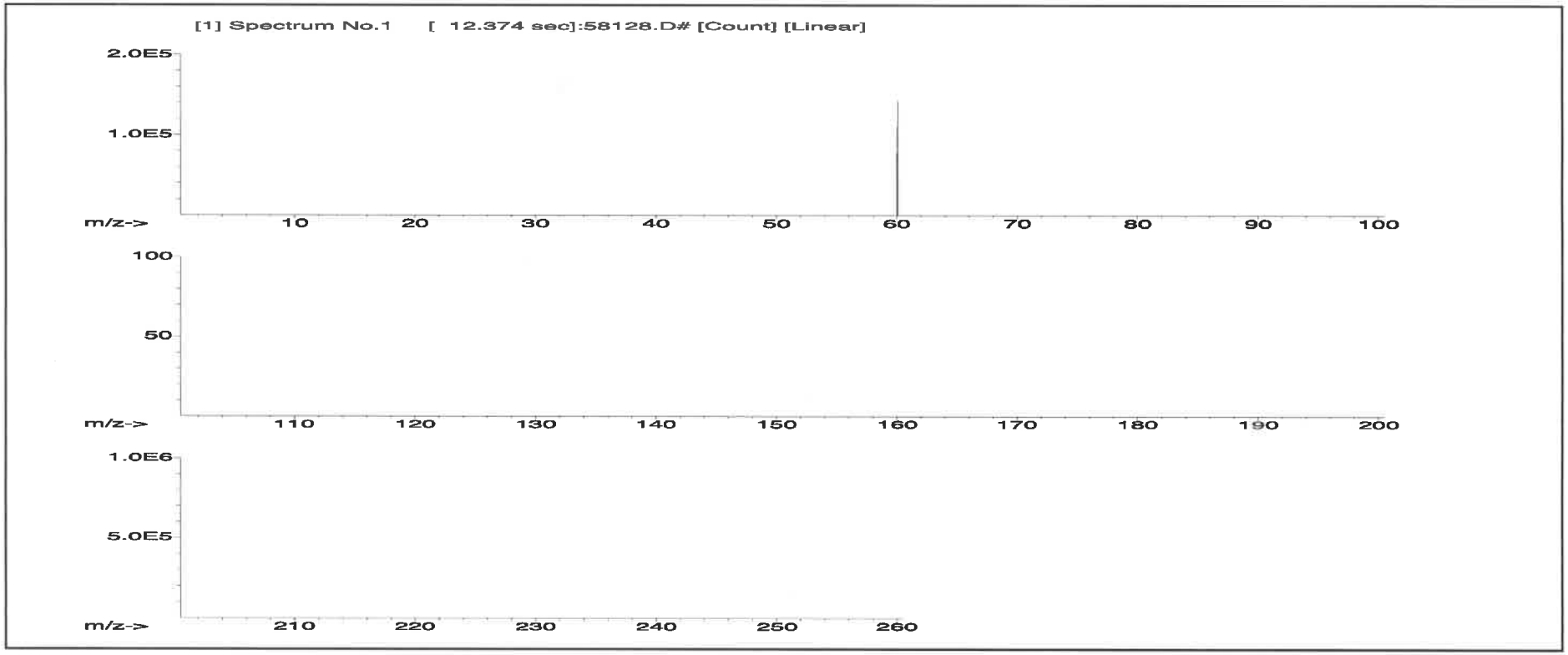
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number:	**57028**		**Lot #**		
Lot Number:	**041124**	**Solvent:**	24002546	Nitric Acid	
Description:	**Nickel (Ni)**				
		2%	5.0 (mL)	Nitric Acid	
Expiration Date:	041127				
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):	249.85	0.002	Flask Uncertainty		

Formulated By:	Brian Geddes	041124
Reviewed By:	Pedro L. Rentas	041124

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. Nickel(II) nitrate hexahydrate (Ni)	IN033	NIM052023A1	1000	99.999	0.10	20.2	1.2369	1.2369	**1000.0**	**2.0**	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 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	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

M5962 R! 06/14/24.

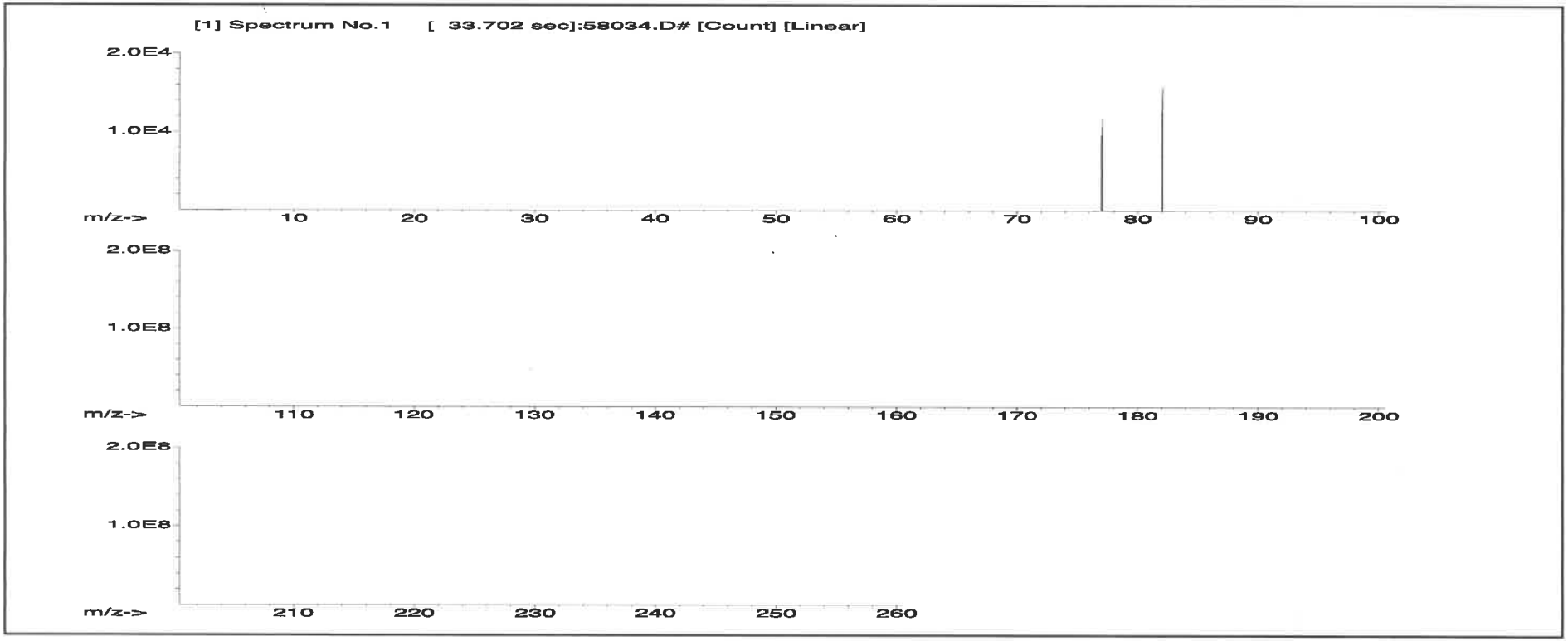
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

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).

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

MS963 MS964 MS965
MS966 MS967 MS968

Material No.: 9606-03
Batch No.: 24B1362001
Manufactured Date: 2024-01-25
Retest Date: 2029-01-23
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 - 70.0 %	69.6 %
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	< 0.2 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	< 50 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.: 24B1362001

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	< 10 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	3 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	1 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24B1362001

Test	Specification	Result

For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Ken Koehnlein
Sr. Manager, Quality Assurance

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

MS963 MS964 MS965
MS966 MS967 MS968

Material No.: 9606-03
Batch No.: 24B1362001
Manufactured Date: 2024-01-25
Retest Date: 2029-01-23
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 - 70.0 %	69.6 %
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	< 0.2 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	< 50 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.: 24B1362001

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	< 10 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	3 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	1 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24B1362001

Test	Specification	Result

For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Ken Koehnlein
Sr. Manager, Quality Assurance

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:

Part Number: 57003
Lot Number: 062124
Description: Lithium (Li)
Expiration Date: 062127
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 250.11

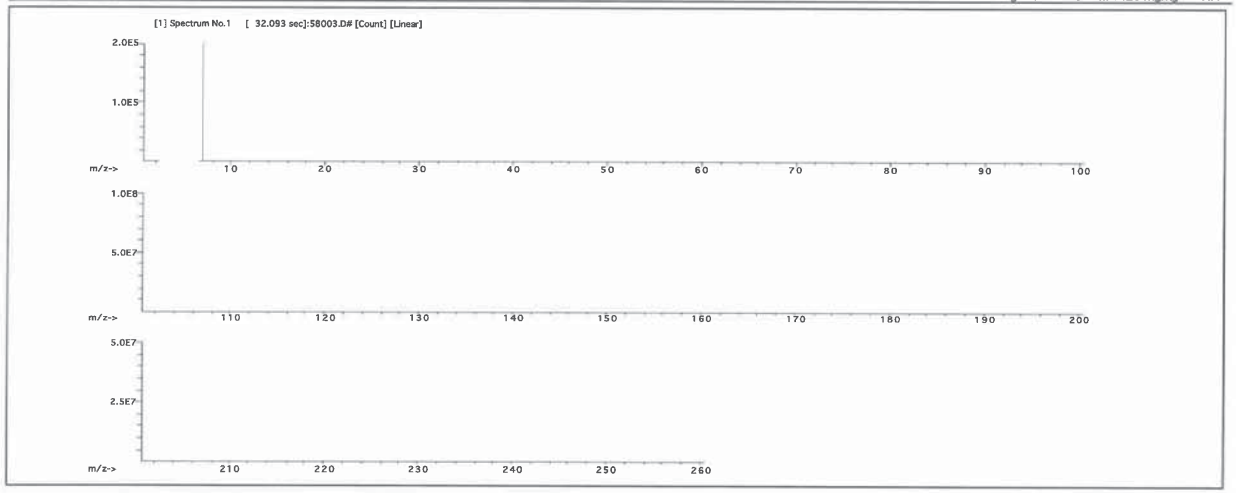
Lot #	Solvent:		
24002546	Nitric Acid		
2.0%	5.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty
0.016 Flask Uncertainty

Giovanni Esposito
Formulated By: Giovanni Esposito 062124

Pedro Rentas
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

M5976, M5977
R: 02/22/24

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 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGMO1
Lot Number:	T2-MO720876
Matrix:	H2O tr. NH4OH
Value / Analyte(s):	1 000 µg/mL ea: Molybdenum
Starting Material:	Ammonium Molybdate
Starting Material Lot#:	2361
Starting Material Purity:	99.9893%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 998 ± 7 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 3134 Lot Number: 130418

- 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	<	0.000590	M	Eu	<	0.000300	M	Na		0.000879	M	Se	<	0.008000	M	Zn		0.000598
M	Al		0.000563	M	Fe	<	0.006500	M	Nb	<	0.029000	i	Si	<		M	Zr	<	0.001800
M	As	<	0.002100	M	Ga	<	0.000300	i	Nd	<		M	Sm	<	0.000300				
M	Au	<	0.000300	M	Gd	<	0.000300	M	Ni	<	0.008000	M	Sn	<	0.008900				
M	B	<	0.003300	M	Ge	<	0.000300	M	Os	<	0.000590	M	Sr		0.000175				
M	Ba		0.001689	M	Hf	<	0.001800	i	P	<		M	Ta	<	0.004200				
M	Be	<	0.000890	M	Hg	<	0.003300	M	Pb	<	0.000300	M	Tb	<	0.000300				
M	Bi	<	0.000890	M	Ho	<	0.000300	M	Pd	<	0.001800	M	Te	<	0.021000				
O	Ca		0.006334	M	In	<	0.032000	M	Pr	<	0.013000	M	Th	<	0.000300				
O	Cd	<	0.026000	M	Ir	<	0.000300	M	Pt	<	0.000300	O	Tl	<	0.032000				
M	Ce	<	0.008300	M	K		0.130213	M	Rb		0.004575	M	Tl		0.001266				
M	Co		0.000598	M	La	<	0.000300	M	Re	<	0.000300	M	Tm	<	0.000300				
M	Cr		0.000527	O	Li		0.000059	M	Rh	<	0.000300	M	U	<	0.005300				
M	Cs		0.000527	M	Lu	<	0.000300	M	Ru	<	0.079000	M	V	<	0.000890				
M	Cu		0.002252	M	Mg		0.000563	i	S	<		M	W		0.087982				
M	Dy	<	0.000300	M	Mn	<	0.005900	M	Sb		0.001513	M	Y	<	0.000300				
M	Er	<	0.000300	s	Mo	<		M	Sc	<	0.001200	M	Yb	<	0.000300				

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 - 95.94 +6 6,7,8,9 [MoO4]-2(chemical form as received)

Chemical Compatibility -Mo is received in a NH4OH matrix giving the operator the option of using HCl or HF to stabilize acidic solutions. The [MoO4]-2 is soluble in concentrated HCl [MoOCl5]-2, dilute HF / HNO3 [MoOF5]-2 and basic media [MoO4]-2. Stable at ppm levels with some metals provided it is fluorinated. Do not mix with Alkaline or Rare Earths when HF is present. Stable with most inorganic anions provided it is in the [MoO4]-2 chemical form.

Stability - 2-100 ppb levels stable (alone or mixed with all other metals that are at comparable levels) as the [MoOF5]-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the [MoO4]-2 chemically stable for years in 1% NH4OH in a LDPE container.

Mo Containing Samples (Preparation and Solution) -Metal (Soluble in HF / HNO3 or hot dilute HCl); Oxide (soluble in HF or NH4OH) ; Organic Matrices (Dry ash at 450EC in Pt0 and dissolve oxide with HF or 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 95 amu	3 ppt	n/a	40Ar39K16O,79Br1 6O,190Os2+,190Pt 2+
ICP-OES 202.030 nm	0.008 / 0.0002 µg/mL	1	Os, Hf
ICP-OES 203.844 nm	0.012 / 0.002 µg/mL	1	
ICP-OES 204.598 nm	0.012 / 0.001 µg/mL	1	Ir, Ta

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 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

- July 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 Prepared By:

Uyen Truong
Supervisor, Product Documentation

Certificate Approved By:

Michael Booth
Director, Technical

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

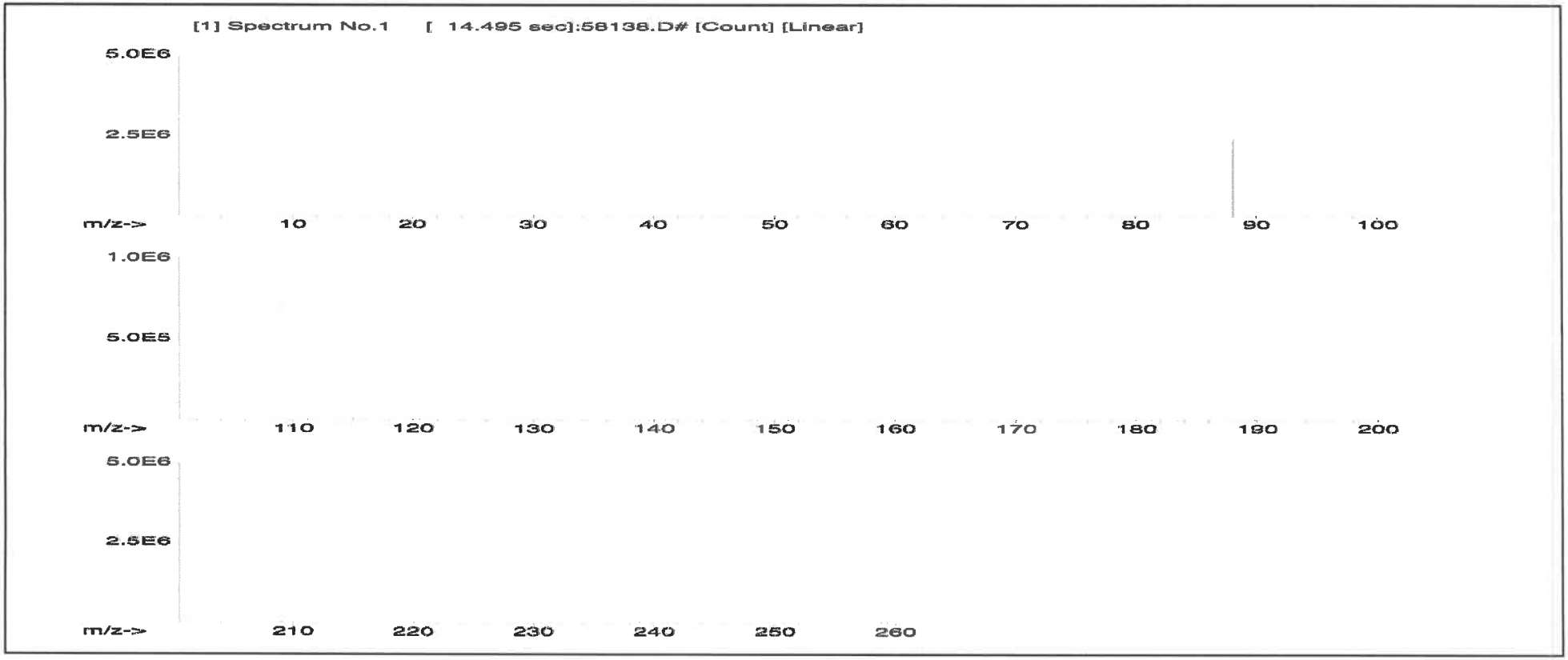
45982 R: 6/11/24

CERTIFIED WEIGHT REPORT:

Part Number:	**57038**			**Lot #**	
Lot Number:	**031524**		**Solvent:**	24002546	Nitric Acid
Description:	**Strontium (Sr)**				
			2%	40.0 (mL)	Nitric Acid
Expiration Date:	031527				
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		

Formulated By:	Benson Chan	031524
Reviewed By:	Pedro L. Rentas	031524

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. Strontium nitrate (Sr)	IN017	SRZ022018A1	1000	99.997	0.10	41.2	4.85470	4.85502	**1000.1**	**2.0**	10042-76-9	NA	orl-rat >2000mg/kg	3153a



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	T	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

MS984
R:6/14/24

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:	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

R: 01/03/24 M6033

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

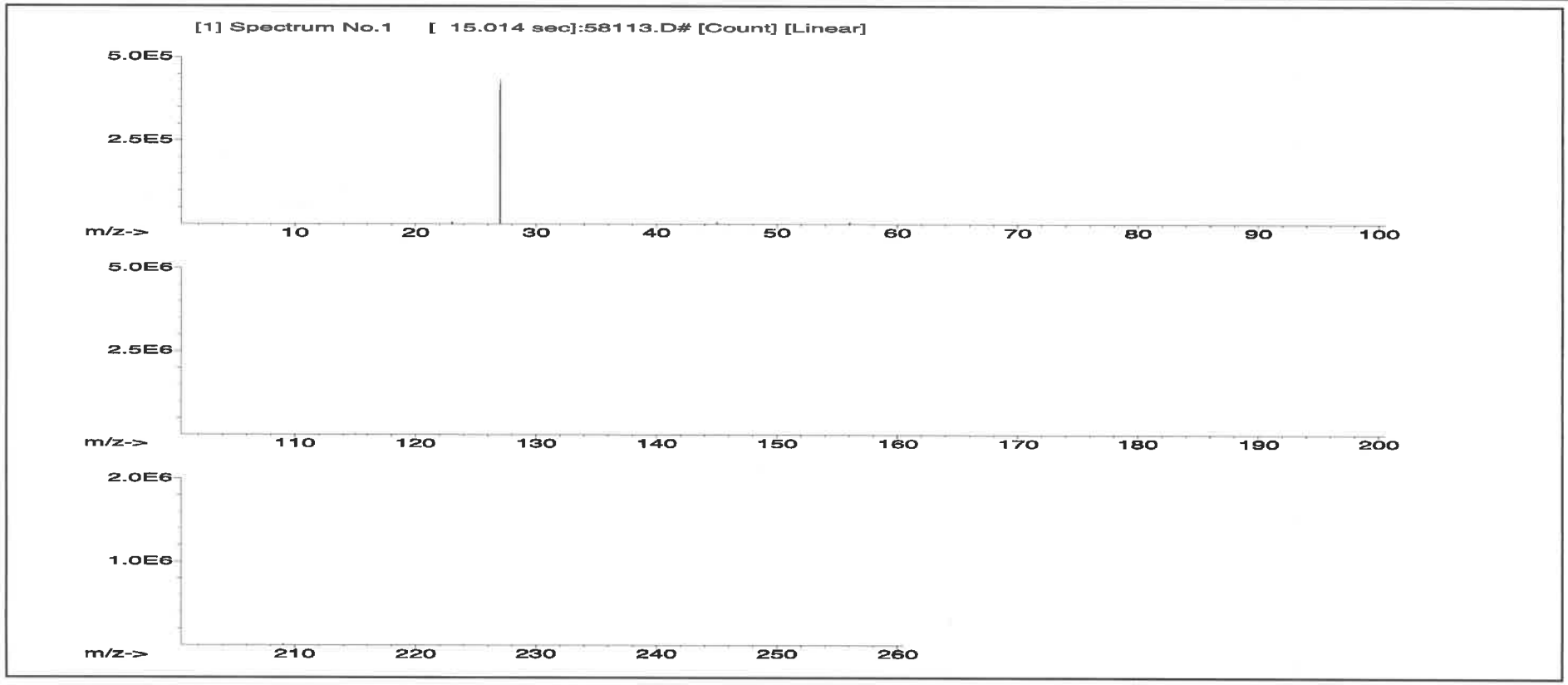
CERTIFIED WEIGHT REPORT:

Part Number:	**58113**		**Solvent:**	20510011	Nitric Acid
Lot Number:	**011623**				
Description:	**Aluminum (Al)**		2%	40.0 (mL)	Nitric Acid
Expiration Date:	011626				
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		

Lot #

Giovanni Esposito		
Formulated By:	Giovanni Esposito	011623
Pedro Rentas		
Reviewed By:	Pedro L. Rentas	011623

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. Aluminum nitrate nonahydrate (Al)	IN022	ALM112021A1	10000	99.999	0.10	7.30	273.9779	274.0078	**10001.1**	**20.0**	7784-27-2	2 mg/m3	orl-rat 3671 mg/kg	3101a



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R: 01/03/24 M5806, M5807

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

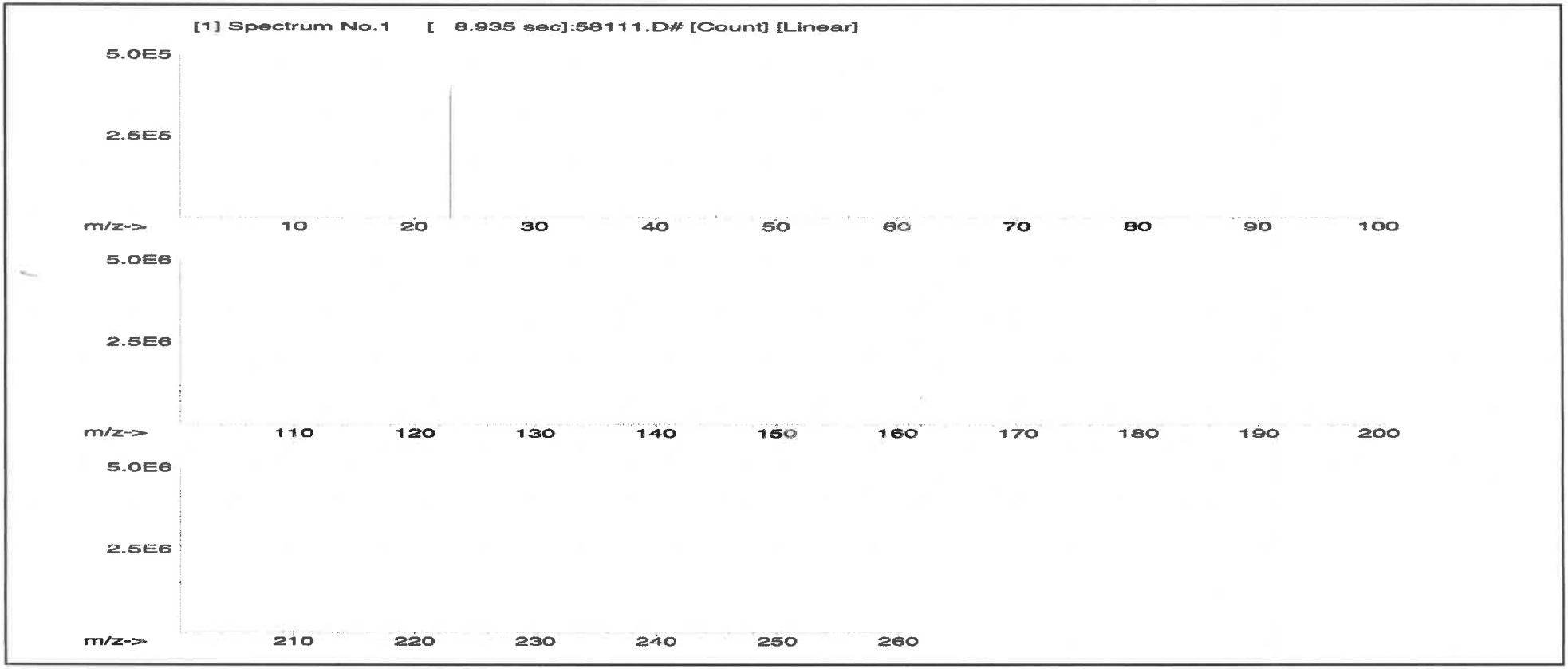
CERTIFIED WEIGHT REPORT:

Part Number:	**58111**		**Lot #**		
Lot Number:	**122223**	**Solvent:**	24002546	Nitric Acid	
Description:	**Sodium (Na)**				
		2%	60.0 (mL)	Nitric Acid	
Expiration Date:	122226				
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):	3000.4	0.06	Flask Uncertainty		

Aleah O'Brady

Formulated By:	Aleah O'Brady	122223
Reviewed By:	Pedro L. Rentas	122223

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	111.5406	111.5479	**10000.7**	**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	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	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:

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

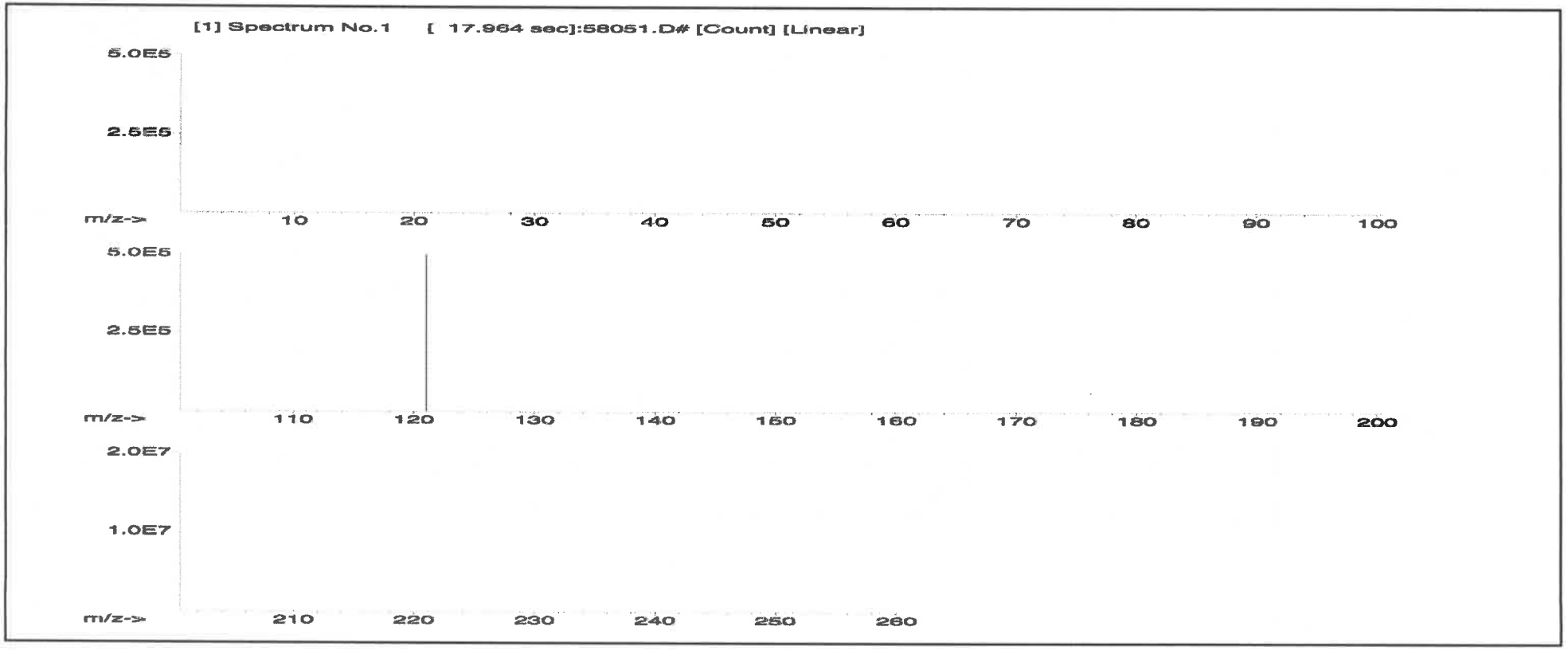
R: 01/03/24 M5802, M5803

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57051**	24002546	Nitric Acid	
Lot Number:	**120523**			
Description:	**Antimony (Sb)**	2.0%	60.0 (mL)	Nitric Acid
Expiration Date:	120526			
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):	3000.41	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	120523
Reviewed By:	Pedro L. Rentas	120523

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	100923	0.1000	300.0	0.084	1000	10001.4	**1000.0**	2.1	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).

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

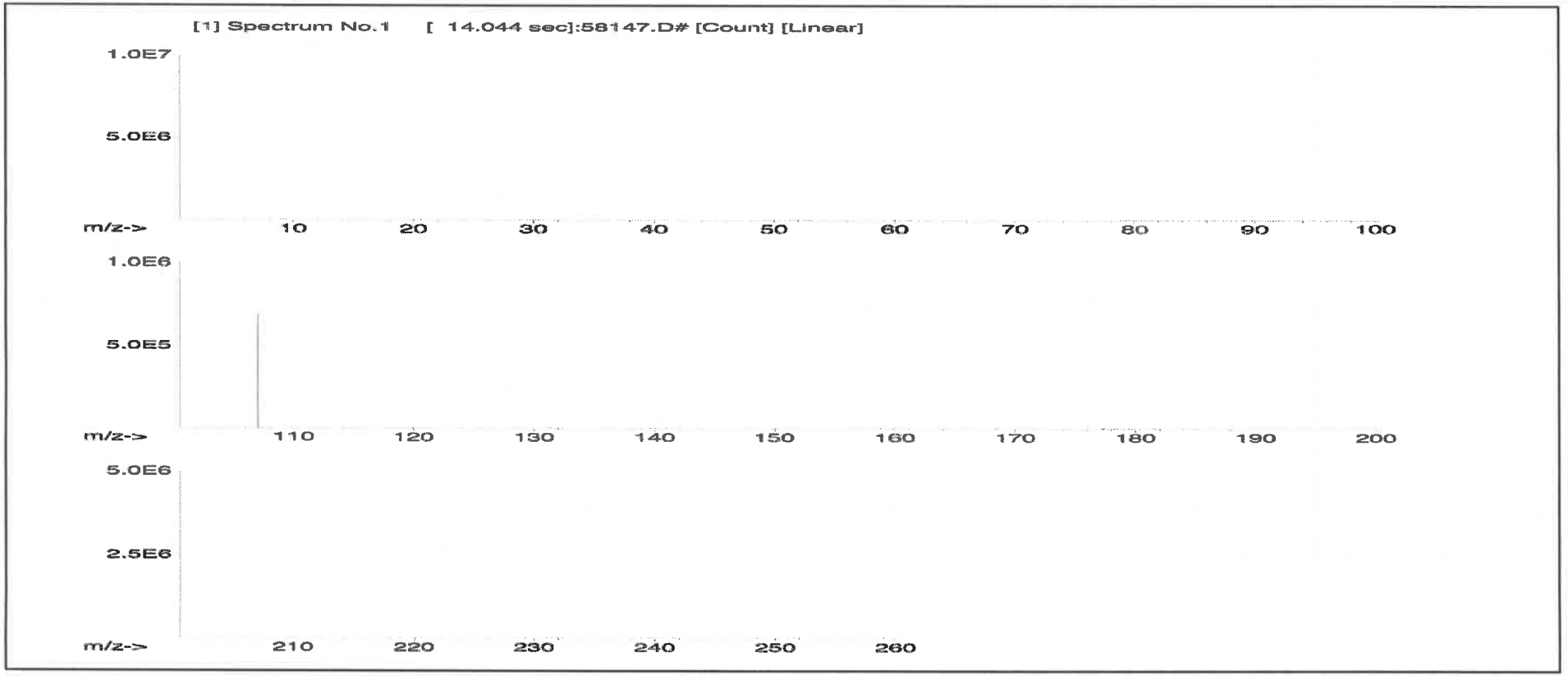
Weight shown below was diluted to (mL): 4000.30 0.058 Flask Uncertainty

	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: 03/16/23 M5473, M5474, M5475, M5476

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

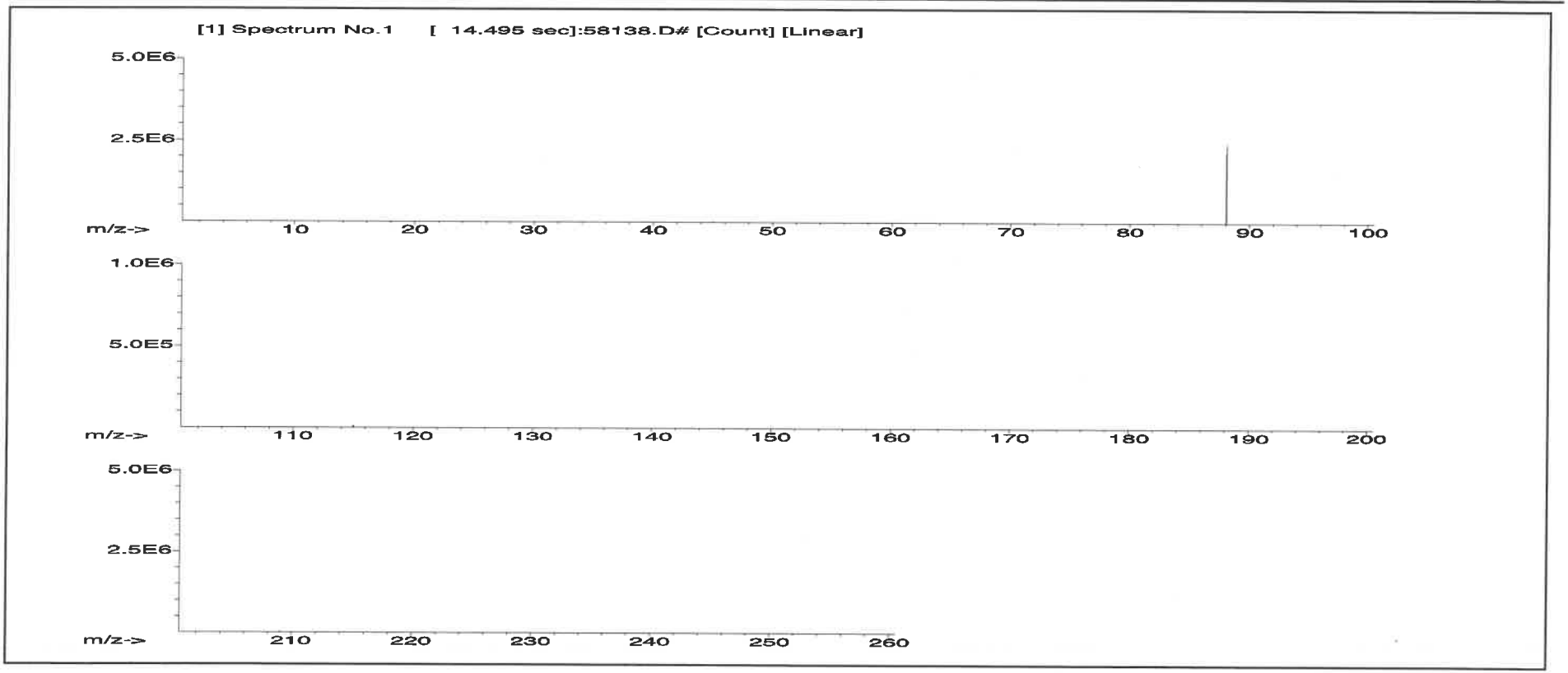
CERTIFIED WEIGHT REPORT:

Part Number: 56138
Lot Number: 082922
Description: Strontium (Sr)
Expiration Date: 082925
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 082922
Reviewed By: Pedro L. Rentas 082922

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. Strontium nitrate (Sr)	IN017	SRZ022018A1	10000	99.997	0.10	41.2	24.2756	24.2758	**10000.1**	**20.0**	10042-76-9	NA	orl-rat >2000mg/kg	3153a



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	T	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: 03/16/23 M5473, M5474, M5475, M5476

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

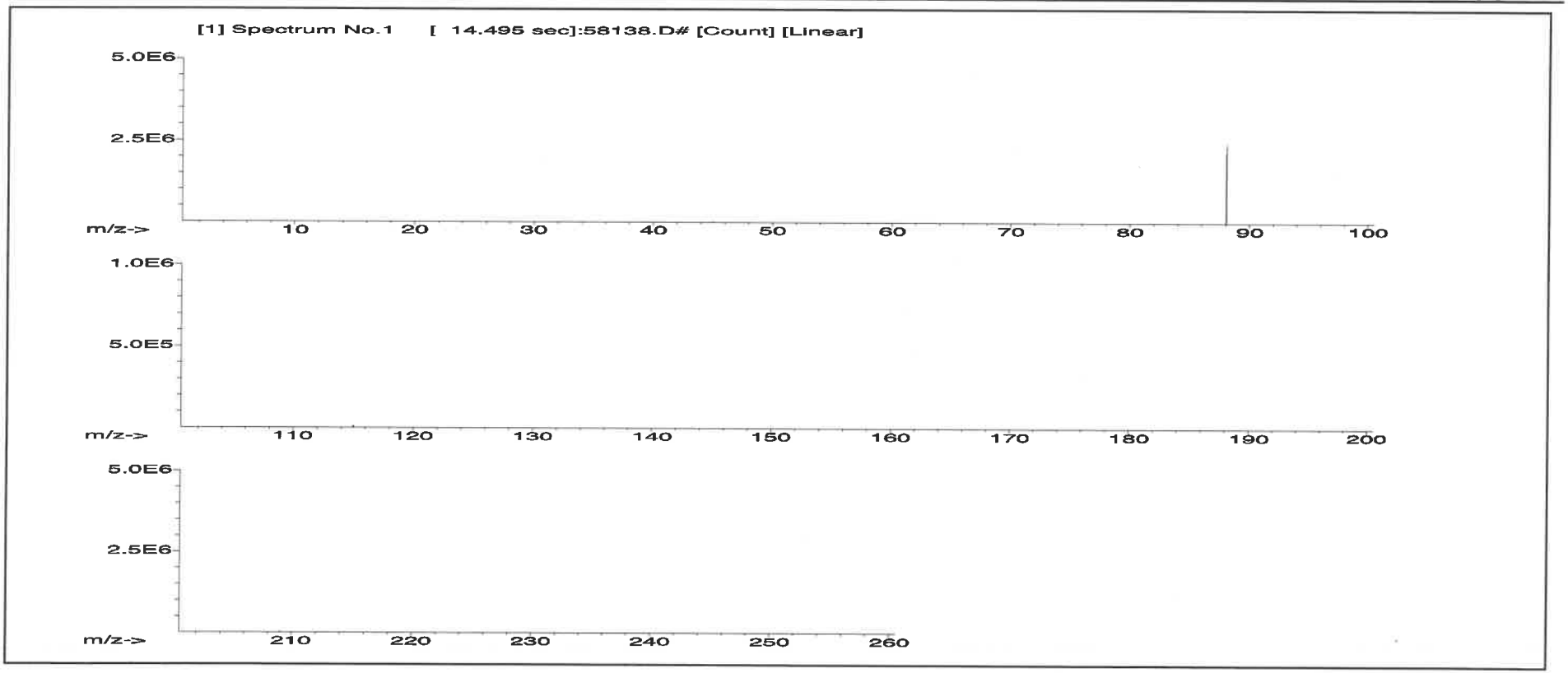
Part Number: 56138
Lot Number: 082922
Description: Strontium (Sr)

Expiration Date: 082925
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	082922
Reviewed By:	Pedro L. Rentas	082922

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. Strontium nitrate (Sr)	IN017	SRZ022018A1	10000	99.997	0.10	41.2	24.2756	24.2758	**10000.1**	**20.0**	10042-76-9	NA	orl-rat >2000mg/kg	3153a



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	T	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

M6023

R ! 8/5/24

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 57081
Lot Number: 062724
Description: Thallium (Tl)

Expiration Date: 062727
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.1

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	
	5E-05	Balance Uncertainty	
	0.10	Flask Uncertainty	

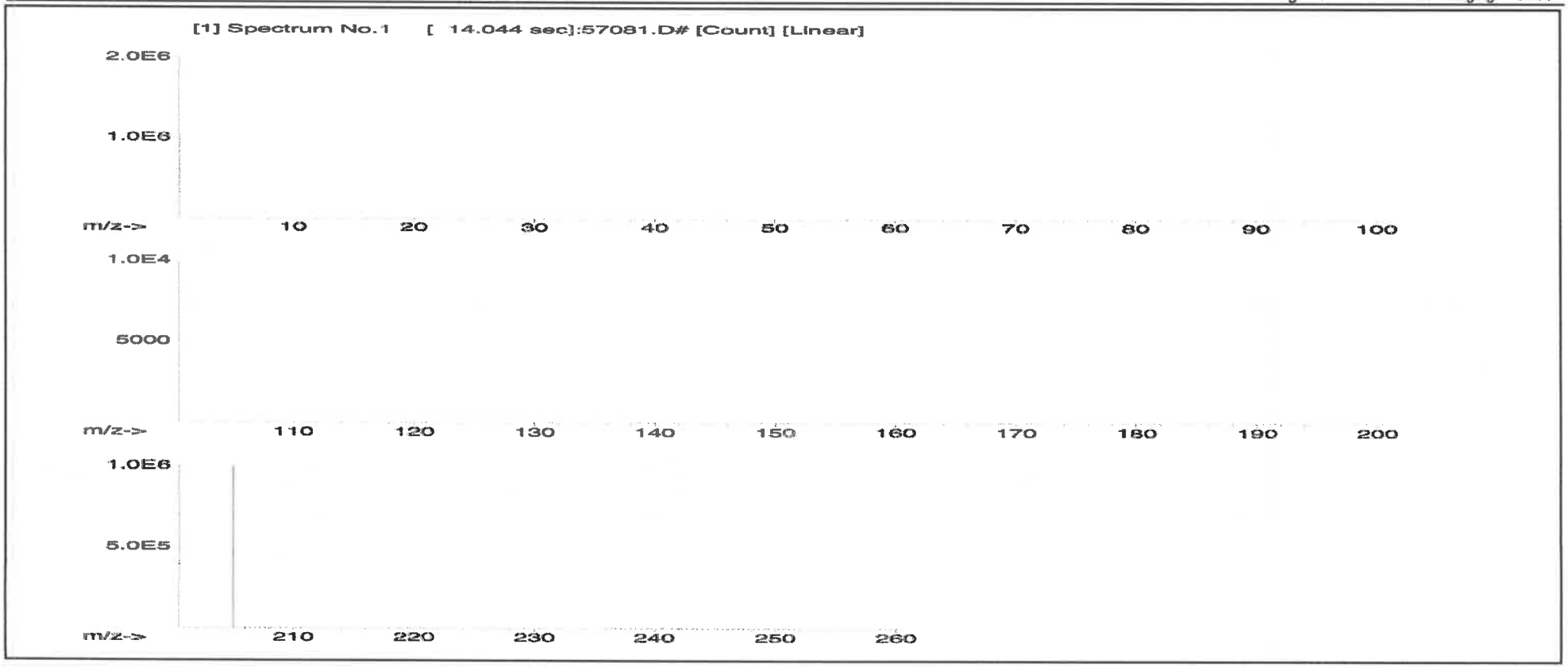
Aleah O'Brady

Formulated By: Aleah O'Brady 062724

Pedro Rentas

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).

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:	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 ºC)

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

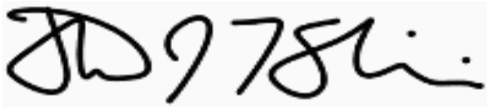
- Sealed TCT Bag Open Date: _____

- 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

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-2
Lot Number:	T2-MEB715594
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**	**40.04 ± 0.24 µg/mL**
Silica, SiO2	**200.2 ± 1.1 µg/mL**	**Tin, Sn**	**70.1 ± 0.4 µg/mL**
Titanium, Ti	**20.02 ± 0.14 µg/mL**		

Density: 1.025 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	130418
Sb	ICP Assay	3102a	140911
SiO2	Calculated		See Sec. 4.2
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	3162a	130925

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**

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

February 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

- **February 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

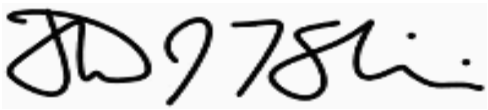
- Sealed TCT Bag Open Date: _____

- 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

SHIPPING DOCUMENTS

CHEMTECH
CHAIN OF CUSTODY RECORD

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 • Fax (908) 789-8922
www.chemtech.net

CHEMTECH PROJECT NO. P3467
QUOTE NO.
COC Number 2041309

CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: Jacobs
ADDRESS: 412 Mt Kemble Ave Suite #100
CITY Morristown STATE: NJ ZIP: 07960
ATTENTION: John Yurfanic
PHONE: (201) 414-1719 FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: STC PFC
PROJECT NO.: D3774922 LOCATION: Painesville Junction
PROJECT MANAGER: Mary Murphy
e-mail: Mary.Murphy@Jacobs.com
PHONE: (201) 936-0586 FAX:

CLIENT BILLING INFORMATION

BILL TO: Mary Murphy PO#:
ADDRESS:
CITY STATE: ZIP:
ATTENTION: PHONE:

DATA TURNAROUND INFORMATION

FAX (RUSH) Standard TAT DAYS*
HARDCOPY (DATA PACKAGE): DAYS*
EDD: DAYS*
*TO BE APPROVED BY CHEMTECH
STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS DAYS

DATA DELIVERABLE INFORMATION

☐ Level 1 (Results Only) ☐ Level 4 (QC + Full Raw Data)
☐ Level 2 (Results + QC) ☐ NJ Reduced ☐ US EPA CLP
☒ Level 3 (Results + QC + Raw Data) ☐ NYS ASP A ☐ NYS ASP B
☐ Other
☐ EDD FORMAT

ANALYSIS

1 VOCs 8260D
2 SVOCs PAHs 8270E SIM
3 Metals 6020B ; Hg 7470B (CVAA) 7196A
4
5
6
7
8
9

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
								A/E	E	B/E	E						← Specify Preservatives A-HCl D-NaOH B-HNO3 E-ICE C-H2SO4 F-OTHER
1.	919-J-WS-080224	WS		X	8/2/24	1325	8	2	4	1	1						
2.	TB-03-080224	DI		X	8/2/24	1505	1	1									
3.																	
4.																	
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1.	8/2/24 1620	1. 1620 8-2-24
2.		2.
3.	8-2-24 1745	3.

Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP 2.1 °C
Comments: See attached table for required analytes list of ECO-VOCs, ECO-SVOCs, and ECO metals
2L extra volume for SVOC + PAH analysis

Page 1 of 1
CLIENT: ☐ Hand Delivered ☐ Other
CHEMTECH: ☐ Picked Up ☐ Field Sampling
Shipment Complete ☐ YES ☐ NO

Copyright © 2023
WHITE - CHEMTECH COPY FOR RETURN TO CLIENT YELLOW - CHEMTECH COPY PINK - SAMPLER COPY

Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0830
DOD ELAP (L-A-B)	L2219
Maine	2024021
Maryland	296
New Hampshire	255423
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	T104704488

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

LOGIN REPORT/SAMPLE TRANSFER

Order ID : P3467 JACO05
Client Name : JACOBS Engineering Grou
Client Contact : Mary I. Murphy
Invoice Name : JACOBS Engineering Grou
Invoice Contact : Mary I. Murphy

Order Date : 8/2/2024 4:30:00 PM
Project Name : Former Schlumberger Site I
Receive DateTime : 8/2/2024 12:00:00 AM 17:45
Purchase Order :

Project Mgr :
Report Type : Level 4
EDD Type : CH2MHILL
Hard Copy Date :
Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
P3467-01	919-J-WS-080224	Water	08/02/2024	13:25					
					VOCMS Group6		8260-Low		10 Bus. Days
P3467-02	TB-03-080224	Water	08/02/2024	15:05					
					VOCMS Group6		8260-Low		10 Bus. Days

Relinguished By :
Date / Time : 8-5-24 850

Received By :
Date / Time : 8/5/24 8:50

Storage Area : VOA Refridgerator Room