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

DATA PACKAGE

METALS

PROJECT NAME : NJ DRINKING WATER PT

CHEMTECH CONSULTING GROUP

284 Sheffield St,

Mountainside, NJ - 07092

Phone No: 908-789-8900

ORDER ID : Q1172

ATTENTION : QA Officer

Laboratory Certification ID # 20012

Alliance TECHNICAL GROUP

Table Of Contents for Q1172

1) METALS DATA 2

2) Signature Page 3

3) Case Narrative 4

4) Qualifier Page 5

5) Conformance/Non Conformance 6

6) QA Checklist 7

7) Chronicle 8

8) Hit Summary 9

9) Sample Data 10

- 9.1) PT-TM-WS 11

10) METALS CALIBRATION DATA 12

- 10.1) Initial and Continuing Calibration Verification 13
- 10.2) CRDL Standard For AA & ICP 16
- 10.3) Initial and Continuing Calibration Blank Summary 17
- 10.4) Preparation Blank Summary 19
- 10.5) Interference Check Sample 20

11) METALS QC DATA 21

- 11.1) Laboratory Control Sample Summary 22
- 11.2) Internal Standard Relative Intensity Summary8A 23
- 11.3) Internal Standard Relative Intensity Summary8B 25

12) METALS PREPARATION & INSTRUMENT DATA 27

13) PREPARATION & ANALYTICAL SUMMARY 28

- 13.1) Sample Preparation Summary 29
- 13.2) Analysis Run Log 30

14) METALS RAW DATA 31

- 14.1) METALS RAW DATA - ANALYTICAL 32
- 14.2) LB134731 32
- 14.3) METALS RAW DATA - PREP 154
  - 14.3.1) PB166661 154

15) Analytical Runlogs 157

16) Standard Prep Logs 159

17) Shipping Document 279

- 17.1) Chain Of Custody 280
- 17.2) Lab Certificate 281

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Fax : 908 789 8922

Cover Page

Order ID : Q1172

Project ID : NJ Drinking Water PT

Client : Chemtech Consulting Group

Lab Sample Number	Client Sample Number
Q1172-01	PT-TURB-WS
Q1172-02	PT-TURB-WS
Q1172-03	PT-MIN-WS
Q1172-04	PT-TM-WS
Q1172-05	PT-HG-WS
Q1172-06	PT-SIO2-WS
Q1172-07	PT-RVOA-WS
Q1172-08	PT-UNRVOA-WS
Q1172-09	PT-THM-WS
Q1172-10	PT-ADD-WS
Q1172-11	PT-EDBCP-WS

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

Signature : APPROVED *By Nimisha Pandya, QA/QC Supervisor at 11:14 am, Mar 10, 2025* Date: 3/3/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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CASE NARRATIVE

Chemtech Consulting Group
Project Name: NJ Drinking Water PT
Project # N/A
Chemtech Project # Q1172
Test Name: Metals Group7

A. Number of Samples and Date of Receipt:
11 Water samples were received on 01/15/2025.

B. Parameters:
According to the Chain of Custody document, the following analyses were requested: Hardness, Calcium, Hardness, Total, Mercury, Metals Group3, Metals Group6, Metals Group7, Silica, Turbidity, VOCGC Group 1, VOCMS Group1, VOCMS Group2, VOCMS Group3, VOCMS Group4 and VOCMS Group5. This data package contains results for Metals Group7.

C. Analytical Techniques:
The analysis and digestion of Metals Group7 was based on method 200.8.

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 Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.

E. Additional Comments:
Collision cell is being used to remove potential interferences. The analytes Na, Mg, Al, K, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, As are being analyzed with collision cell and analytes Be, B, Ca, Ti, Se, Sr, Zr, Mo, Ag, Cd, Sn, Sb, Ba, Tl, Pb, U are being analyzed with Non-Collision Cell. Helium gas is used for the Collision Cell analysis.

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

Signature_____ APPROVED
By Nimisha Pandya, QA/QC Supervisor at 11:15 am, Mar 10, 2025

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

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: Q1172 MATRIX: Water

METHOD: 200.8

		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.			
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:

Collision cell is being used to remove potential interferences. The analytes Na, Mg, Al, K, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, As are being analyzed with collision cell and analytes Be, B, Ca, Ti, Se, Sr, Zr, Mo, Ag, Cd, Sn, Sb, Ba, Tl, Pb, U are being analyzed with Non-Collision Cell. Helium gas is used for the Collision Cell analysis.

QA REVIEW

REVIEWED
By Sohil Jodhani, QA/QC Director at 10:46 am, Mar 10, 2025

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APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q1172

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

QA Review Signature: SOHIL JODHANI **Date:** 03/03/2025

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LAB CHRONICLE

OrderID:	Q1172	**OrderDate:**	1/23/2025 2:53:00 PM
Client:	Chemtech Consulting Group	**Project:**	NJ Drinking Water PT
Contact:	QA Officer	**Location:**	QA Office,VOA Lab

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q1172-03	**PT-MIN-WS**	**Water**			**01/13/25**			**01/15/25**
			Hardness, Calcium	SM2340B		02/12/25	02/18/25	
			Metals Group3	200.7		02/12/25	02/18/25	
Q1172-04	**PT-TM-WS**	**Water**			**01/13/25**			**01/15/25**
			Metals Group6	200.7		02/12/25	02/12/25	
			Metals Group7	200.8		02/11/25	02/14/25	
Q1172-05	**PT-HG-WS**	**Water**			**01/13/25**			**01/15/25**
			Mercury	245.1		02/11/25	02/11/25	
Q1172-06	**PT-SIO2-WS**	**Water**			**01/13/25**			**01/15/25**
			Silica	200.7		02/12/25	02/18/25	

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Hit Summary Sheet
SW-846

SDG No.: Q1172 **Order ID:** Q1172

Client: Chemtech Consulting Group **Project ID:** NJ Drinking Water PT

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID :	**PT-TM-WS**							
Q1172-04	PT-TM-WS	Water	Aluminum	510		3.80	20.0	ug/L
Q1172-04	PT-TM-WS	Water	Antimony	20.7		0.15	2.00	ug/L
Q1172-04	PT-TM-WS	Water	Arsenic	6.98		0.16	1.00	ug/L
Q1172-04	PT-TM-WS	Water	Barium	1790		0.35	10.0	ug/L
Q1172-04	PT-TM-WS	Water	Beryllium	16.9		0.21	1.00	ug/L
Q1172-04	PT-TM-WS	Water	Cadmium	23.6		0.21	1.00	ug/L
Q1172-04	PT-TM-WS	Water	Chromium	22.4		0.24	2.00	ug/L
Q1172-04	PT-TM-WS	Water	Copper	738		0.79	2.00	ug/L
Q1172-04	PT-TM-WS	Water	Iron	1540		24.8	50.0	ug/L
Q1172-04	PT-TM-WS	Water	Lead	20.3		0.27	1.00	ug/L
Q1172-04	PT-TM-WS	Water	Manganese	843		0.29	1.00	ug/L
Q1172-04	PT-TM-WS	Water	Nickel	215		0.16	1.00	ug/L
Q1172-04	PT-TM-WS	Water	Molybdenum	50.4		0.93	5.00	ug/L
Q1172-04	PT-TM-WS	Water	Selenium	30.7		1.95	5.00	ug/L
Q1172-04	PT-TM-WS	Water	Silver	231		0.42	1.00	ug/L
Q1172-04	PT-TM-WS	Water	Thallium	7.27		0.11	1.00	ug/L
Q1172-04	PT-TM-WS	Water	Vanadium	309		0.11	5.00	ug/L
Q1172-04	PT-TM-WS	Water	Zinc	221		0.58	5.00	ug/L

SAMPLE DATA

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Report of Analysis

Client:	Chemtech Consulting Group	Date Collected:	01/13/25
Project:	NJ Drinking Water PT	Date Received:	01/15/25
Client Sample ID:	PT-TM-WS	SDG No.:	Q1172
Lab Sample ID:	Q1172-04	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	510		1	3.80	20.0	ug/L	02/11/25 10:00	02/14/25 11:57	200.8	
7440-36-0	Antimony	20.7		1	0.15	2.00	ug/L	02/11/25 10:00	02/14/25 11:57	200.8	
7440-38-2	Arsenic	6.98		1	0.16	1.00	ug/L	02/11/25 10:00	02/14/25 11:57	200.8	
7440-39-3	Barium	1790		1	0.35	10.0	ug/L	02/11/25 10:00	02/14/25 11:57	200.8	
7440-41-7	Beryllium	16.9		1	0.21	1.00	ug/L	02/11/25 10:00	02/14/25 11:57	200.8	
7440-43-9	Cadmium	23.6		1	0.21	1.00	ug/L	02/11/25 10:00	02/14/25 11:57	200.8	
7440-47-3	Chromium	22.4		1	0.24	2.00	ug/L	02/11/25 10:00	02/14/25 11:57	200.8	
7440-50-8	Copper	738		1	0.79	2.00	ug/L	02/11/25 10:00	02/14/25 11:57	200.8	
7439-89-6	Iron	1540		1	24.8	50.0	ug/L	02/11/25 10:00	02/14/25 11:57	200.8	
7439-92-1	Lead	20.3		1	0.27	1.00	ug/L	02/11/25 10:00	02/14/25 11:57	200.8	
7439-96-5	Manganese	843		1	0.29	1.00	ug/L	02/11/25 10:00	02/14/25 11:57	200.8	
7439-98-7	Molybdenum	50.4		1	0.93	5.00	ug/L	02/11/25 10:00	02/14/25 11:57	200.8	
7440-02-0	Nickel	215		1	0.16	1.00	ug/L	02/11/25 10:00	02/14/25 11:57	200.8	
7782-49-2	Selenium	30.7		1	1.95	5.00	ug/L	02/11/25 10:00	02/14/25 11:57	200.8	
7440-22-4	Silver	231		1	0.42	1.00	ug/L	02/11/25 10:00	02/14/25 11:57	200.8	
7440-28-0	Thallium	7.27		1	0.11	1.00	ug/L	02/11/25 10:00	02/14/25 11:57	200.8	
7440-62-2	Vanadium	309		1	0.11	5.00	ug/L	02/11/25 10:00	02/14/25 11:57	200.8	
7440-66-6	Zinc	221		1	0.58	5.00	ug/L	02/11/25 10:00	02/14/25 11:57	200.8	

Color Before:	Colorless	Clarity Before:	Clear	Texture:	
Color After:	Colorless	Clarity After:	Clear	Artifacts:	
Comments:	Metals Group7				

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

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Chemtech Consulting Group **SDG No.:** Q1172

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** Q1172 **SAS No.:** Q1172

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
ICV01	Aluminum	485	500	97	90 - 110	P	02/14/2025	10:59	LB134731
	Antimony	198	200	99	90 - 110	P	02/14/2025	10:59	LB134731
	Arsenic	198	200	99	90 - 110	P	02/14/2025	10:59	LB134731
	Barium	99.5	100	100	90 - 110	P	02/14/2025	10:59	LB134731
	Beryllium	97.0	100	97	90 - 110	P	02/14/2025	10:59	LB134731
	Cadmium	104	100	104	90 - 110	P	02/14/2025	10:59	LB134731
	Chromium	99.3	100	99	90 - 110	P	02/14/2025	10:59	LB134731
	Copper	103	100	103	90 - 110	P	02/14/2025	10:59	LB134731
	Iron	2010	2000	100	90 - 110	P	02/14/2025	10:59	LB134731
	Lead	195	200	98	90 - 110	P	02/14/2025	10:59	LB134731
	Manganese	100	100	100	90 - 110	P	02/14/2025	10:59	LB134731
	Molybdenum	4740	5000	95	90 - 110	P	02/14/2025	10:59	LB134731
	Nickel	100	110	91	90 - 110	P	02/14/2025	10:59	LB134731
	Selenium	209	200	104	90 - 110	P	02/14/2025	10:59	LB134731
	Silver	47.9	50.0	96	90 - 110	P	02/14/2025	10:59	LB134731
	Thallium	203	210	97	90 - 110	P	02/14/2025	10:59	LB134731
	Vanadium	100	100	100	90 - 110	P	02/14/2025	10:59	LB134731
	Zinc	191	200	96	90 - 110	P	02/14/2025	10:59	LB134731

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Chemtech Consulting Group **SDG No.:** Q1172

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** Q1172 **SAS No.:** Q1172

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
CCV01	Aluminum	50500	50000	101	90 - 110	P	02/14/2025	11:29	LB134731
	Antimony	502	500	100	90 - 110	P	02/14/2025	11:29	LB134731
	Arsenic	467	500	93	90 - 110	P	02/14/2025	11:29	LB134731
	Barium	2480	2500	99	90 - 110	P	02/14/2025	11:29	LB134731
	Beryllium	514	500	103	90 - 110	P	02/14/2025	11:29	LB134731
	Cadmium	466	500	93	90 - 110	P	02/14/2025	11:29	LB134731
	Chromium	494	500	99	90 - 110	P	02/14/2025	11:29	LB134731
	Copper	4960	5000	99	90 - 110	P	02/14/2025	11:29	LB134731
	Iron	125000	125000	100	90 - 110	P	02/14/2025	11:29	LB134731
	Lead	2500	2500	100	90 - 110	P	02/14/2025	11:29	LB134731
	Manganese	4860	5000	97	90 - 110	P	02/14/2025	11:29	LB134731
	Molybdenum	4990	5500	91	90 - 110	P	02/14/2025	11:29	LB134731
	Nickel	531	500	106	90 - 110	P	02/14/2025	11:29	LB134731
	Selenium	484	500	97	90 - 110	P	02/14/2025	11:29	LB134731
	Silver	494	500	99	90 - 110	P	02/14/2025	11:29	LB134731
	Thallium	503	500	101	90 - 110	P	02/14/2025	11:29	LB134731
	Vanadium	497	500	100	90 - 110	P	02/14/2025	11:29	LB134731
	Zinc	4830	5000	97	90 - 110	P	02/14/2025	11:29	LB134731
CCV02	Aluminum	50200	50000	100	90 - 110	P	02/14/2025	12:25	LB134731
	Antimony	482	500	96	90 - 110	P	02/14/2025	12:25	LB134731
	Arsenic	472	500	94	90 - 110	P	02/14/2025	12:25	LB134731
	Barium	2380	2500	95	90 - 110	P	02/14/2025	12:25	LB134731
	Beryllium	504	500	101	90 - 110	P	02/14/2025	12:25	LB134731
	Cadmium	460	500	92	90 - 110	P	02/14/2025	12:25	LB134731
	Chromium	490	500	98	90 - 110	P	02/14/2025	12:25	LB134731
	Copper	4700	5000	94	90 - 110	P	02/14/2025	12:25	LB134731
	Iron	124000	125000	99	90 - 110	P	02/14/2025	12:25	LB134731
	Lead	2510	2500	100	90 - 110	P	02/14/2025	12:25	LB134731
	Manganese	4830	5000	97	90 - 110	P	02/14/2025	12:25	LB134731
	Molybdenum	5000	5500	91	90 - 110	P	02/14/2025	12:25	LB134731
	Nickel	452	500	90	90 - 110	P	02/14/2025	12:25	LB134731
	Selenium	485	500	97	90 - 110	P	02/14/2025	12:25	LB134731
	Silver	477	500	95	90 - 110	P	02/14/2025	12:25	LB134731
	Thallium	502	500	100	90 - 110	P	02/14/2025	12:25	LB134731

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Chemtech Consulting Group **SDG No.:** Q1172

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** Q1172 **SAS No.:** Q1172

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
CCV02	Vanadium	493	500	99	90 - 110	P	02/14/2025	12:25	LB134731
	Zinc	4770	5000	96	90 - 110	P	02/14/2025	12:25	LB134731

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Metals

- 2b -
CRDL STANDARD FOR AA & ICP

Client: Chemtech Consulting Group **SDG No.:** Q1172

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** Q1172 **SAS No.:** Q1172

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
CRI	Aluminum	19.6	20.0	98	50 - 150	P	02/14/2025	11:48	LB134731
	Antimony	1.98	2.0	99	70 - 130	P	02/14/2025	11:48	LB134731
	Arsenic	1.01	1.0	101	70 - 130	P	02/14/2025	11:48	LB134731
	Barium	9.68	10.0	97	70 - 130	P	02/14/2025	11:48	LB134731
	Beryllium	1.08	1.0	108	70 - 130	P	02/14/2025	11:48	LB134731
	Cadmium	1.07	1.0	107	70 - 130	P	02/14/2025	11:48	LB134731
	Chromium	2.10	2.0	105	70 - 130	P	02/14/2025	11:48	LB134731
	Copper	1.46	2.0	73	70 - 130	P	02/14/2025	11:48	LB134731
	Iron	46.4	50.0	93	50 - 150	P	02/14/2025	11:48	LB134731
	Lead	1.10	1.0	110	70 - 130	P	02/14/2025	11:48	LB134731
	Manganese	1.28	1.0	128	50 - 150	P	02/14/2025	11:48	LB134731
	Molybdenum	5.05	5.0	101	70 - 130	P	02/14/2025	11:48	LB134731
	Nickel	0.93	1.0	93	70 - 130	P	02/14/2025	11:48	LB134731
	Selenium	5.32	5.0	106	70 - 130	P	02/14/2025	11:48	LB134731
	Silver	0.97	1.0	97	70 - 130	P	02/14/2025	11:48	LB134731
	Thallium	1.02	1.0	102	70 - 130	P	02/14/2025	11:48	LB134731
	Vanadium	5.14	5.0	103	70 - 130	P	02/14/2025	11:48	LB134731
	Zinc	5.38	5.0	108	50 - 150	P	02/14/2025	11:48	LB134731

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Fax : 908 789 8922

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Chemtech Consulting Group **SDG No.:** Q1172

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** Q1172 **SAS No.:** Q1172

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Aluminum	20.0	+/-20.0	U	20.0	P	02/14/2025	11:03	LB134731
	Antimony	2.00	+/-2.00	U	2.00	P	02/14/2025	11:03	LB134731
	Arsenic	1.00	+/-1.00	U	1.00	P	02/14/2025	11:03	LB134731
	Barium	10.0	+/-10.0	U	10.0	P	02/14/2025	11:03	LB134731
	Beryllium	1.00	+/-1.00	U	1.00	P	02/14/2025	11:03	LB134731
	Cadmium	1.00	+/-1.00	U	1.00	P	02/14/2025	11:03	LB134731
	Chromium	2.00	+/-2.00	U	2.00	P	02/14/2025	11:03	LB134731
	Copper	2.00	+/-2.00	U	2.00	P	02/14/2025	11:03	LB134731
	Iron	50.0	+/-50.0	U	50.0	P	02/14/2025	11:03	LB134731
	Lead	0.30	+/-1.00	J	1.00	P	02/14/2025	11:03	LB134731
	Manganese	0.44	+/-1.00	J	1.00	P	02/14/2025	11:03	LB134731
	Nickel	1.00	+/-1.00	U	1.00	P	02/14/2025	11:03	LB134731
	Molybdenum	5.00	+/-5.00	U	5.00	P	02/14/2025	11:03	LB134731
	Selenium	5.00	+/-5.00	U	5.00	P	02/14/2025	11:03	LB134731
	Silver	1.00	+/-1.00	U	1.00	P	02/14/2025	11:03	LB134731
	Thallium	1.00	+/-1.00	U	1.00	P	02/14/2025	11:03	LB134731
	Vanadium	5.00	+/-5.00	U	5.00	P	02/14/2025	11:03	LB134731
	Zinc	5.00	+/-5.00	U	5.00	P	02/14/2025	11:03	LB134731

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Chemtech Consulting Group **SDG No.:** Q1172

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** Q1172 **SAS No.:** Q1172

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Aluminum	20.0	+/-20.0	U	20.0	P	02/14/2025	11:35	LB134731
	Antimony	2.00	+/-2.00	U	2.00	P	02/14/2025	11:35	LB134731
	Arsenic	1.00	+/-1.00	U	1.00	P	02/14/2025	11:35	LB134731
	Barium	10.0	+/-10.0	U	10.0	P	02/14/2025	11:35	LB134731
	Beryllium	1.00	+/-1.00	U	1.00	P	02/14/2025	11:35	LB134731
	Cadmium	1.00	+/-1.00	U	1.00	P	02/14/2025	11:35	LB134731
	Chromium	2.00	+/-2.00	U	2.00	P	02/14/2025	11:35	LB134731
	Copper	2.00	+/-2.00	U	2.00	P	02/14/2025	11:35	LB134731
	Iron	50.0	+/-50.0	U	50.0	P	02/14/2025	11:35	LB134731
	Lead	0.30	+/-1.00	J	1.00	P	02/14/2025	11:35	LB134731
	Manganese	0.49	+/-1.00	J	1.00	P	02/14/2025	11:35	LB134731
	Nickel	1.00	+/-1.00	U	1.00	P	02/14/2025	11:35	LB134731
	Molybdenum	5.00	+/-5.00	U	5.00	P	02/14/2025	11:35	LB134731
	Selenium	5.00	+/-5.00	U	5.00	P	02/14/2025	11:35	LB134731
	Silver	1.00	+/-1.00	U	1.00	P	02/14/2025	11:35	LB134731
	Thallium	1.00	+/-1.00	U	1.00	P	02/14/2025	11:35	LB134731
	Vanadium	5.00	+/-5.00	U	5.00	P	02/14/2025	11:35	LB134731
	Zinc	5.00	+/-5.00	U	5.00	P	02/14/2025	11:35	LB134731
CCB02	Aluminum	20.0	+/-20.0	U	20.0	P	02/14/2025	12:32	LB134731
	Antimony	2.00	+/-2.00	U	2.00	P	02/14/2025	12:32	LB134731
	Arsenic	1.00	+/-1.00	U	1.00	P	02/14/2025	12:32	LB134731
	Barium	10.0	+/-10.0	U	10.0	P	02/14/2025	12:32	LB134731
	Beryllium	1.00	+/-1.00	U	1.00	P	02/14/2025	12:32	LB134731
	Cadmium	1.00	+/-1.00	U	1.00	P	02/14/2025	12:32	LB134731
	Chromium	2.00	+/-2.00	U	2.00	P	02/14/2025	12:32	LB134731
	Copper	2.00	+/-2.00	U	2.00	P	02/14/2025	12:32	LB134731
	Iron	50.0	+/-50.0	U	50.0	P	02/14/2025	12:32	LB134731
	Lead	1.00	+/-1.00	U	1.00	P	02/14/2025	12:32	LB134731
	Manganese	0.44	+/-1.00	J	1.00	P	02/14/2025	12:32	LB134731
	Nickel	1.00	+/-1.00	U	1.00	P	02/14/2025	12:32	LB134731
	Molybdenum	5.00	+/-5.00	U	5.00	P	02/14/2025	12:32	LB134731
	Selenium	5.00	+/-5.00	U	5.00	P	02/14/2025	12:32	LB134731
	Silver	1.00	+/-1.00	U	1.00	P	02/14/2025	12:32	LB134731
	Thallium	1.00	+/-1.00	U	1.00	P	02/14/2025	12:32	LB134731
	Vanadium	5.00	+/-5.00	U	5.00	P	02/14/2025	12:32	LB134731
	Zinc	5.00	+/-5.00	U	5.00	P	02/14/2025	12:32	LB134731

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Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: Chemtech Consulting Group **SDG No.:** Q1172

Instrument: P8

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB166661BL		**WATER**		**Batch Number:**	**PB166661**		**Prep Date:**	**02/11/2025**	
	Aluminum	20.0	<20.0	U	20.0	P	02/14/2025	11:51	LB134731
	Antimony	2.00	<2.00	U	2.00	P	02/14/2025	11:51	LB134731
	Arsenic	1.00	<1.00	U	1.00	P	02/14/2025	11:51	LB134731
	Barium	10.0	<10.0	U	10.0	P	02/14/2025	11:51	LB134731
	Beryllium	1.00	<1.00	U	1.00	P	02/14/2025	11:51	LB134731
	Cadmium	1.00	<1.00	U	1.00	P	02/14/2025	11:51	LB134731
	Chromium	2.00	<2.00	U	2.00	P	02/14/2025	11:51	LB134731
	Copper	2.00	<2.00	U	2.00	P	02/14/2025	11:51	LB134731
	Iron	50.0	<50.0	U	50.0	P	02/14/2025	11:51	LB134731
	Lead	1.00	<1.00	U	1.00	P	02/14/2025	11:51	LB134731
	Manganese	1.00	<1.00	U	1.00	P	02/14/2025	11:51	LB134731
	Nickel	1.00	<1.00	U	1.00	P	02/14/2025	11:51	LB134731
	Selenium	5.00	<5.00	U	5.00	P	02/14/2025	11:51	LB134731
	Molybdenum	5.00	<5.00	U	5.00	P	02/14/2025	11:51	LB134731
	Silver	1.00	<1.00	U	1.00	P	02/14/2025	11:51	LB134731
	Thallium	1.00	<1.00	U	1.00	P	02/14/2025	11:51	LB134731
	Vanadium	5.00	<5.00	U	5.00	P	02/14/2025	11:51	LB134731
	Zinc	5.00	<5.00	U	5.00	P	02/14/2025	11:51	LB134731

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Metals
- 4 -
INTERFERENCE CHECK SAMPLE

Client: Chemtech Consulting Group **SDG No.:** Q1172

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** Q1172 **SAS No.:** Q1172

ICS Source: EPA **Instrument ID:** P8

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	97100	100000	97	0	0	02/14/2025	11:08	LB134731
	Antimony	1.14	1.5	76	-2.5	5.5	02/14/2025	11:08	LB134731
	Arsenic	0.44	0.1	440	-1.9	2.1	02/14/2025	11:08	LB134731
	Barium	1.12	1.2	93	-18.8	21.2	02/14/2025	11:08	LB134731
	Beryllium	0.34			-2	2	02/14/2025	11:08	LB134731
	Cadmium	0.46	0.7	66	-1.3	2.7	02/14/2025	11:08	LB134731
	Chromium	19.7	21.0	94	17	25	02/14/2025	11:08	LB134731
	Copper	8.98	8.0	112	4	12	02/14/2025	11:08	LB134731
	Iron	103000	100000	103	0	0	02/14/2025	11:08	LB134731
	Lead	4.58	4.0	114	2	6	02/14/2025	11:08	LB134731
	Manganese	7.46	7.0	107	5	9	02/14/2025	11:08	LB134731
	Nickel	5.38	6.0	90	4	8	02/14/2025	11:08	LB134731
	Molybdenum	1970	2000	98	-20	20	02/14/2025	11:08	LB134731
	Selenium	0.40	0.3	133	-9.7	10	02/14/2025	11:08	LB134731
	Silver	0.080			-2	2	02/14/2025	11:08	LB134731
	Thallium	0.19			-2	2	02/14/2025	11:08	LB134731
	Vanadium	0.31	0.5	62	-9.5	10.5	02/14/2025	11:08	LB134731
	Zinc	11.9	11.0	108	7	15	02/14/2025	11:08	LB134731
ICSAB01	Aluminum	95600	100000	96	0	0	02/14/2025	11:11	LB134731
	Antimony	21.0	22.0	96	18	26	02/14/2025	11:11	LB134731
	Arsenic	19.6	19.0	103	16.2	21.9	02/14/2025	11:11	LB134731
	Barium	20.9	22.0	95	2	42	02/14/2025	11:11	LB134731
	Beryllium	19.3	19.0	102	16.2	21.9	02/14/2025	11:11	LB134731
	Cadmium	20.5	20.0	102	17	23	02/14/2025	11:11	LB134731
	Chromium	38.5	40.0	96	34	46	02/14/2025	11:11	LB134731
	Copper	29.0	25.0	116	21	29	02/14/2025	11:11	LB134731
	Iron	102000	100000	102	0	0	02/14/2025	11:11	LB134731
	Lead	23.2	25.0	93	21.3	28.8	02/14/2025	11:11	LB134731
	Manganese	25.9	27.0	96	23	31.1	02/14/2025	11:11	LB134731
	Nickel	24.2	24.0	101	20.4	27.6	02/14/2025	11:11	LB134731
	Molybdenum	1950	2000	98	1600	2400	02/14/2025	11:11	LB134731
	Selenium	19.7	19.0	104	9	29	02/14/2025	11:11	LB134731
	Silver	18.8	18.0	104	15.3	20.7	02/14/2025	11:11	LB134731
	Thallium	20.1	21.0	96	17.9	24.2	02/14/2025	11:11	LB134731
	Vanadium	19.1	19.0	100	9	29	02/14/2025	11:11	LB134731
	Zinc	30.6	29.0	106	25	33	02/14/2025	11:11	LB134731

METAL QC DATA

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

LABORATORY CONTROL SAMPLE SUMMARY

Client: Chemtech Consulting Group **SDG No.:** Q1172

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** Q1172 **SAS No.:** Q1172

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB166661BS							
Aluminum	ug/L	10000	10100		101	85 - 115	P
Antimony	ug/L	500	485		97	85 - 115	P
Arsenic	ug/L	500	486		97	85 - 115	P
Barium	ug/L	2500	2390		96	85 - 115	P
Beryllium	ug/L	500	501		100	85 - 115	P
Cadmium	ug/L	500	474		95	85 - 115	P
Chromium	ug/L	500	497		99	85 - 115	P
Copper	ug/L	5000	4860		97	85 - 115	P
Iron	ug/L	25000	25500		102	85 - 115	P
Lead	ug/L	2500	2490		100	85 - 115	P
Manganese	ug/L	5000	4970		99	85 - 115	P
Nickel	ug/L	500	477		95	85 - 115	P
Selenium	ug/L	500	505		101	85 - 115	P
Molybdenum	ug/L	5000	4980		100	85 - 115	P
Silver	ug/L	500	486		97	85 - 115	P
Thallium	ug/L	500	497		99	85 - 115	P
Vanadium	ug/L	500	499		100	85 - 115	P
Zinc	ug/L	5000	5030		101	85 - 115	P

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FORM 8A

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Client: Chemtech Consulting Group
Contract: CHEM02
Lab Code: CHEM Case no.: Q1172
Sas No.: Q1172 SDG No.: Q1172
Instrument ID: P8
Start Date : 02/14/2025
Run Number: LB134731
End Date : 02/14/2025

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Non-Collision Cell									
			Element 6Li	Q	Element 45Sc	Q	Element 89Y	Q	Element 103Rh	Q	Element 159Tb	Q
S0	S0	1031	100		100		100		100		100	
S2	S2	1034	102		100		101		101		100	
S3	S3	1037	102		100		101		100		102	
S4	S4	1040	101		99		100		99		100	
S5	S5	1043	102		99		101		98		102	
S6	S6	1047	101		100		103		98		103	
S7	S7	1050	103		104		106		100		106	
S8	S8	1053	101		104		106		96		107	
ICV01	ICV01	1059	107		105		106		105		106	
ICB01	ICB01	1103	105		103		105		103		103	
ICSA01	ICSA01	1108	105		105		106		99		105	
ICSAB01	ICSAB01	1111	109		107		109		102		107	
CCV01	CCV01	1129	105		106		106		99		105	
CCB01	CCB01	1135	104		103		105		103		103	
CRI	CRI	1148	102		100		101		100		99	
PB166661BL	PB166661BL	1151	101		99		100		99		98	
PB166661BS	PB166661BS	1154	100		100		101		97		100	
Q1172-04	PT-TM-WS	1157	100		99		101		98		99	
Q1172-04	PT-TM-WS	1216	99		97		98		97		97	
CCV02	CCV02	1225	100		102		102		94		100	
CCB02	CCB02	1232	103		99		101		100		98	

Internal Standard %RI Limit: 70 - 130

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FORM 8A

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Client: Chemtech Consulting Group
Contract: CHEM02
Lab Code: CHEM Case no.: Q1172
Sas No.: Q1172 SDG No.: Q1172
Instrument ID: P8
Start Date : 02/14/2025
Run Number: LB134731
End Date : 02/14/2025

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Collision Cell									
			Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
S0	S0	1031										
S2	S2	1034										
S3	S3	1037										
S4	S4	1040										
S5	S5	1043										
S6	S6	1047										
S7	S7	1050										
S8	S8	1053										
ICV01	ICV01	1059										
ICB01	ICB01	1103										
ICSA01	ICSA01	1108										
ICSAB01	ICSAB01	1111										
CCV01	CCV01	1129										
CCB01	CCB01	1135										
CRI	CRI	1148										
PB166661BL	PB166661BL	1151										
PB166661BS	PB166661BS	1154										
Q1172-04	PT-TM-WS	1157										
Q1172-04	PT-TM-WS	1216										
CCV02	CCV02	1225										
CCB02	CCB02	1232										

Internal Standard %RI Limit: 70 - 130

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FORM 8B

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: Chemtech Consulting Group Contract: CHEM02

Lab Code: CHEM Case no.: Q1172 Sas No.: Q1172 SDG No.: Q1172

Instrument ID: P8 Start Date : 02/14/2025

Run Number: LB134731 End Date : 02/14/2025

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Non-Collision Cell									
			Element 165Ho	Q	Element 209Bi	Q	Element	Q	Element	Q	Element	Q
S0	S0	1031	100		100							
S2	S2	1034	101		102							
S3	S3	1037	101		102							
S4	S4	1040	100		101							
S5	S5	1043	102		101							
S6	S6	1047	103		101							
S7	S7	1050	106		102							
S8	S8	1053	106		98							
ICV01	ICV01	1059	105		105							
ICB01	ICB01	1103	104		104							
ICSA01	ICSA01	1108	104		100							
ICSAB01	ICSAB01	1111	107		101							
CCV01	CCV01	1129	105		99							
CCB01	CCB01	1135	102		100							
CRI	CRI	1148	100		98							
PB166661BL	PB166661BL	1151	98		98							
PB166661BS	PB166661BS	1154	98		96							
Q1172-04	PT-TM-WS	1157	99		98							
Q1172-04	PT-TM-WS	1216	96		97							
CCV02	CCV02	1225	100		94							
CCB02	CCB02	1232	98		99							

Internal Standard %RI Limit: 70 -130

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FORM 8B

ICP-MS INTERNAL STANDARD RELATIVE INTENSITY SUMMARY

Lab Name: Chemtech Consulting Group Contract: CHEM02

Lab Code: CHEM Case no.: Q1172 Sas No.: Q1172 SDG No.: Q1172

Instrument ID: P8 Start Date : 02/14/2025

Run Number: LB134731 End Date : 02/14/2025

Lab SampleID	Client SampleID	Time	Internal Standard %RI For: Collision Cell									
			Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
S0	S0	1031										
S2	S2	1034										
S3	S3	1037										
S4	S4	1040										
S5	S5	1043										
S6	S6	1047										
S7	S7	1050										
S8	S8	1053										
ICV01	ICV01	1059										
ICB01	ICB01	1103										
ICSA01	ICSA01	1108										
ICSAB01	ICSAB01	1111										
CCV01	CCV01	1129										
CCB01	CCB01	1135										
CRI	CRI	1148										
PB166661BL	PB166661BL	1151										
PB166661BS	PB166661BS	1154										
Q1172-04	PT-TM-WS	1157										
Q1172-04	PT-TM-WS	1216										
CCV02	CCV02	1225										
CCB02	CCB02	1232										

Internal Standard %RI Limit: 70 -130

METAL PREPARATION & INSTRUMENT DATA

METAL PREPARATION & ANALYICAL SUMMARY

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Metals
- 13 -
SAMPLE PREPARATION SUMMARY

Client: Chemtech Consulting Group **SDG No.:** Q1172

Contract: CHEM02 **Lab Code:** CHEM **Method:**

Case No.: Q1172 **SAS No.:** Q1172

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB166661**						
PB166661BL	PB166661BL	MB	WATER	02/11/2025	50.0	50.0	
PB166661BS	PB166661BS	LCS	WATER	02/11/2025	50.0	50.0	
Q1172-04	PT-TM-WS	SAM	WATER	02/11/2025	50.0	50.0	

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

metals
- 14 -
ANALYSIS RUN LOG

Client: Chemtech Consulting Group **Contract:** CHEM02

Lab code: CHEM **Case no.:** Q1172 **Sas no.:** Q1172 **Sdg no.:** Q1172

Instrument id number: **Method:** **Run number:** LB134731

Start date: 02/14/2025 **End date:** 02/14/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1031	Ag,Al,As,Ba,Be,Cd,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn
S2	S2	1	1034	Ag,Al,As,Ba,Be,Cd,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn
S3	S3	1	1037	Ag,Al,As,Ba,Be,Cd,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn
S4	S4	1	1040	Ag,Al,As,Ba,Be,Cd,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn
S5	S5	1	1043	Ag,Al,As,Ba,Be,Cd,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn
S6	S6	1	1047	Ag,Al,As,Ba,Be,Cd,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn
S7	S7	1	1050	Ag,Al,As,Ba,Be,Cd,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn
S8	S8	1	1053	Al,Fe
ICV01	ICV01	1	1059	Ag,Al,As,Ba,Be,Cd,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn
ICB01	ICB01	1	1103	Ag,Al,As,Ba,Be,Cd,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn
ICSA01	ICSA01	1	1108	Ag,Al,As,Ba,Be,Cd,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn
ICSAB01	ICSAB01	1	1111	Ag,Al,As,Ba,Be,Cd,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn
CCV01	CCV01	1	1129	Ag,Al,As,Ba,Be,Cd,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn
CCB01	CCB01	1	1135	Ag,Al,As,Ba,Be,Cd,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn
CRI	CRI	1	1148	Ag,Al,As,Ba,Be,Cd,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn
PB166661BL	PB166661BL	1	1151	Ag,Al,As,Ba,Be,Cd,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn
PB166661BS	PB166661BS	1	1154	Ag,Al,As,Ba,Be,Cd,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn
Q1172-04	PT-TM-WS	1	1157	Ag,Al,As,Ba,Be,Cd,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn
CCV02	CCV02	1	1225	Ag,Al,As,Ba,Be,Cd,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn
CCB02	CCB02	1	1232	Ag,Al,As,Ba,Be,Cd,Cr,Cu,Fe,Mn,Mo,Ni,Pb,Sb,Se,Tl,V,Zn

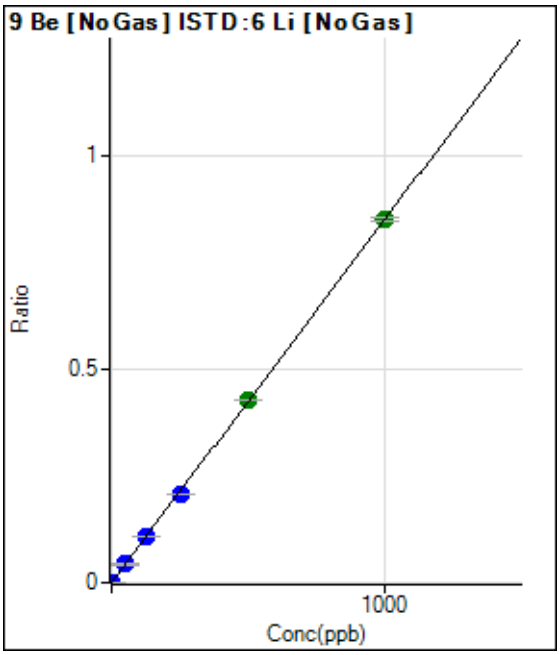
METAL
RAW DATA

Calibration for 028AREF.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\P8021425MS 200.8.b\
Analysis File: P8021425MS 200.8.batch.bin
DA Date-Time: 2025-02-14 12:43:28
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	004CALB.d	S00	2025-02-14 10:31:43
2	005CALS.d	S02	2025-02-14 10:34:46
3	006CALS.d	S03	2025-02-14 10:37:51
4	007CALS.d	S04	2025-02-14 10:40:54
5	008CALS.d	S05	2025-02-14 10:43:59
6	009CALS.d	S06	2025-02-14 10:47:02
7	010CALS.d	S07	2025-02-14 10:50:08
8	011CALS.d	S08	2025-02-14 10:53:11

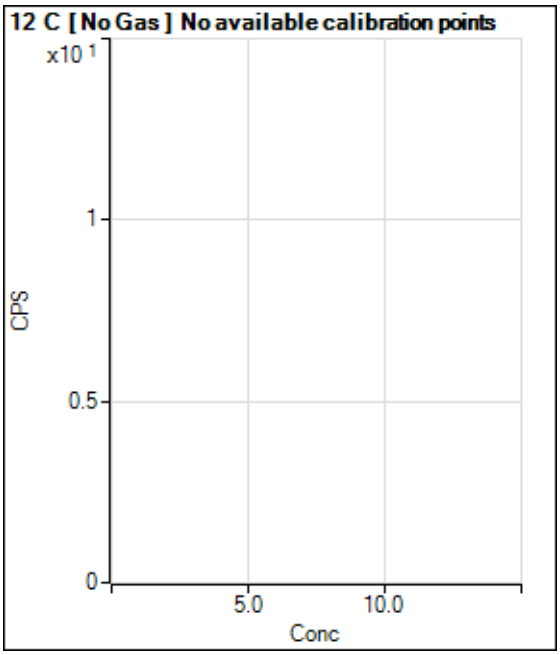
Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	419.26	0.0002	P	9.4
2	☐	1.000	1.093	2873.72	0.0011	P	3.3
3	☐	50.000	50.439	113724.84	0.0431	P	1.3
4	☐	125.000	125.972	279598.26	0.1074	P	0.6
5	☐	250.000	242.347	543361.35	0.2064	P	0.5
6	☐	500.000	503.333	1115815.02	0.4285	A	0.5
7	☐	1000.000	1000.103	2272340.46	0.8512	A	1.2
8	☐			1401.80	0.0005	P	11.9

y = 8.5097E-004 * x + 1.6207E-004
R = 1.0000
DL = 0.05375
BEC = 0.1905

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			2210460.40		A	4.2
2	☐			2267121.06		A	2.4
3	☐			2307068.50		A	3.2
4	☐			2393779.91		A	2.0
5	☐			2418302.05		A	2.5
6	☐			2631102.92		A	0.4
7	☐			3026014.00		A	2.9
8	☐			3003698.98		A	2.4

Reviewed By:Jaswal
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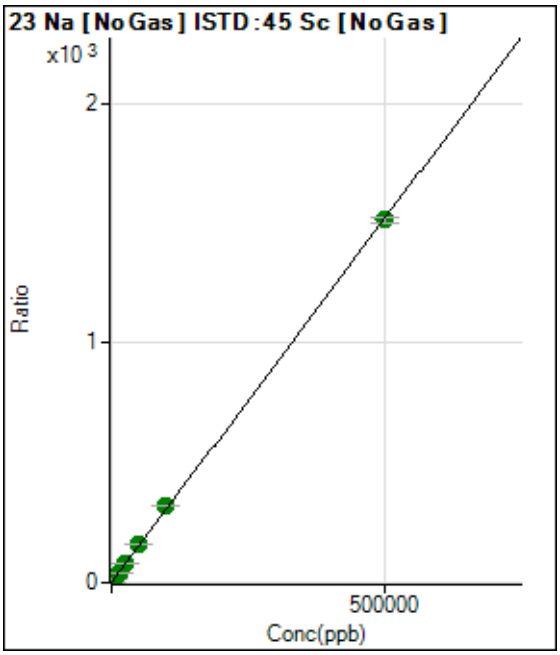
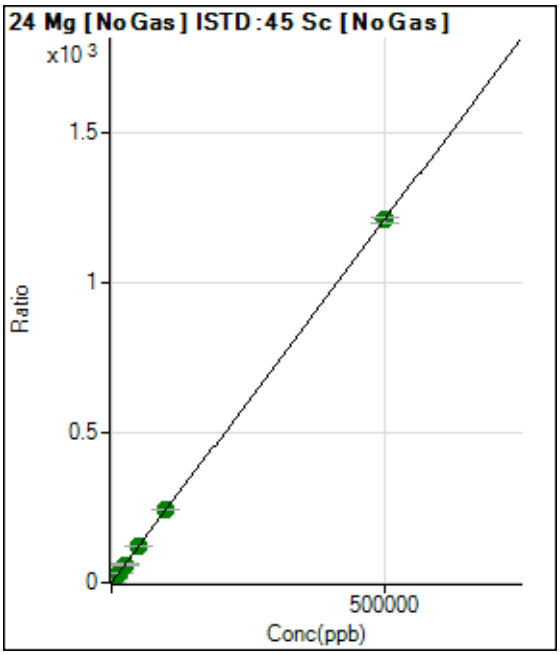


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4530360.77	1.2182	A	1.4
2	☐	500.000	565.149	10882011.42	2.9345	A	1.1
3	☐	5000.000	5417.989	65488912.44	17.6725	A	0.6
4	☐	12500.000	13341.613	154345228.13	41.7363	A	1.0
5	☐	25000.000	26535.152	301387566.95	81.8048	A	1.9
6	☐	50000.000	53271.326	608322127.36	163.0018	A	1.9
7	☐	100000.00	105215.94	1239347236.9	320.7563	A	0.5
8	☐	500000.00	498527.63	5872702041.8	1,515.233	A	1.6

y = 0.0030 * x + 1.2182
R = 0.9999
DL = 17.42
BEC = 401.1

Weight: <None>
Min Conc: 0

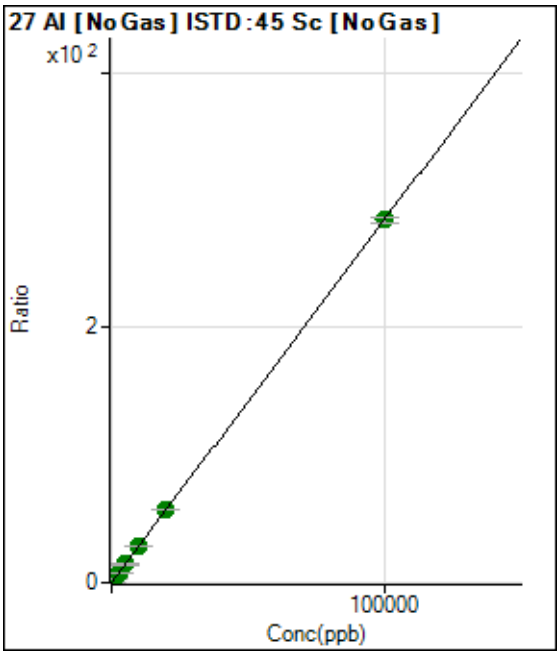


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	589501.46	0.1585	P	0.6
2	☐	500.000	535.447	5380403.24	1.4510	A	1.4
3	☐	5000.000	5145.523	46612493.35	12.5786	A	0.6
4	☐	12500.000	12698.388	113939032.52	30.8095	A	0.7
5	☐	25000.000	25071.777	223536760.55	60.6760	A	2.4
6	☐	50000.000	50193.674	452855055.77	121.3146	A	0.4
7	☐	100000.00	100190.98	935020621.02	241.9966	A	0.4
8	☐	500000.00	499932.39	4677780709.2	1,206.880	A	1.9

y = 0.0024 * x + 0.1585
R = 1.0000
DL = 1.266
BEC = 65.67

Weight: <None>
Min Conc: 0

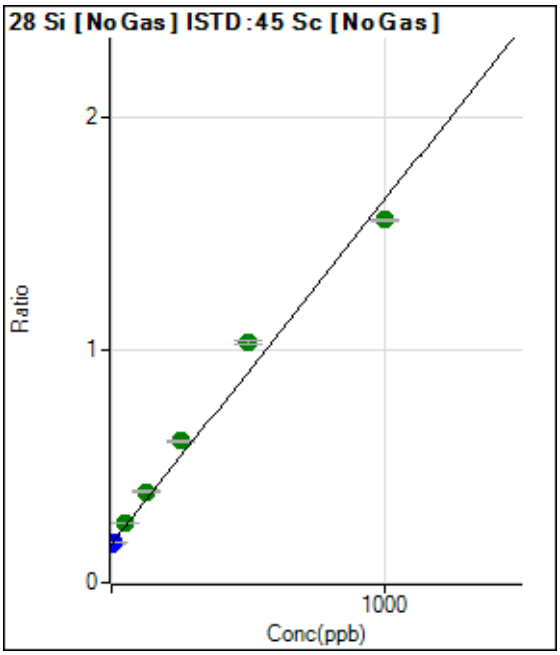
Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10932.00	0.0029	P	1.9
2	☐	20.000	20.546	227846.71	0.0614	P	0.3
3	☐	1000.000	1032.790	10908014.09	2.9436	A	1.0
4	☐	2500.000	2560.078	26968500.05	7.2923	A	0.6
5	☐	5000.000	5044.675	52927781.33	14.3668	A	2.3
6	☐	10000.000	10102.786	107374833.55	28.7690	A	1.1
7	☐	20000.000	20165.362	221866416.93	57.4205	A	1.1
8	☐	100000.00	99952.585	1103106814.6	284.6015	A	1.3

y = 0.0028 * x + 0.0029
R = 1.0000
DL = 0.05925
BEC = 1.032

Weight: <None>
Min Conc: 0

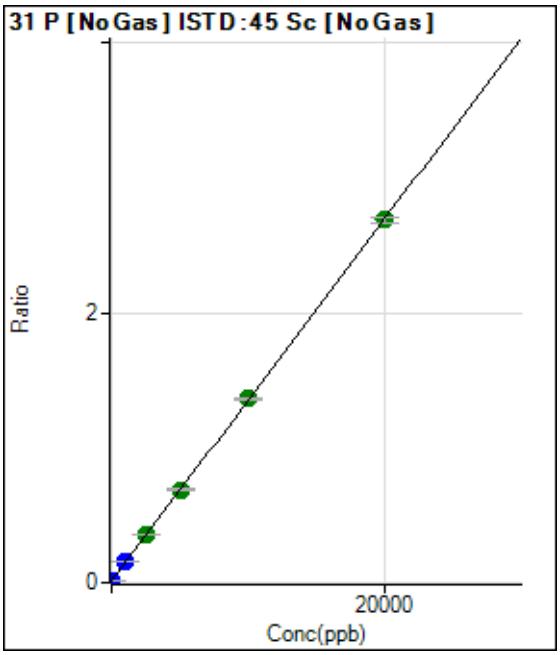


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	622297.07	0.1673	P	0.9
2	☐	10.000	5.293	649581.28	0.1752	P	0.4
3	☐	50.000	60.170	950126.30	0.2564	A	0.8
4	☐	125.000	151.043	1445534.39	0.3909	A	2.1
5	☐	250.000	298.103	2242198.05	0.6086	A	1.7
6	☐	500.000	584.863	3855387.59	1.0330	A	1.6
7	☐	1000.000	941.826	6032726.44	1.5614	A	0.8
8	☐			696375.99	0.1797	P	0.7

y = 0.0015 * x + 0.1673
R = 0.9926
DL = 3.181
BEC = 113

Weight: <None>
Min Conc: 0

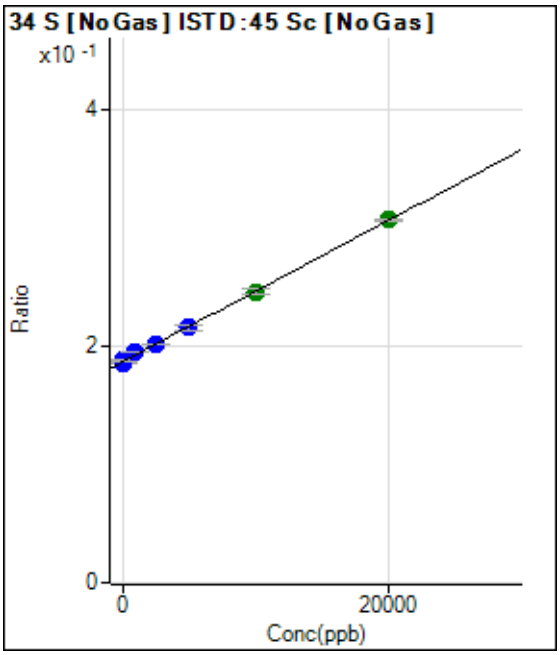
Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-17.250	45427.16	0.0122	P	3.2
2	☐	0.000	17.250	62433.62	0.0168	P	0.5
3	☐	1000.000	1045.878	572879.15	0.1546	P	0.7
4	☐	2500.000	2545.146	1314172.85	0.3554	A	1.9
5	☐	5000.000	5034.233	2537259.05	0.6887	A	2.5
6	☐	10000.000	10062.806	5083856.91	1.3622	A	1.4
7	☐	20000.000	19952.102	10380746.94	2.6866	A	1.3
8	☐			46642.04	0.0120	P	1.9

y = 1.3392E-004 * x + 0.0145
R = 1.0000
DL = 5.308
BEC = 108.5

Weight: <None>
Min Conc: 0

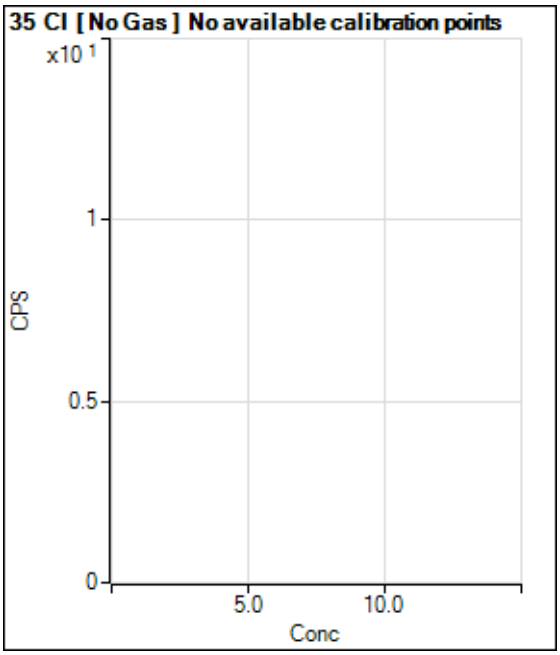


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-216.667	689122.85	0.1853	P	0.8
2	☐	0.000	216.667	696767.01	0.1879	P	0.4
3	☐	1000.000	1392.074	722335.20	0.1949	P	0.4
4	☐	2500.000	2439.576	744005.92	0.2012	P	0.4
5	☐	5000.000	4907.516	795502.93	0.2159	P	2.3
6	☐	10000.000	9869.631	916516.01	0.2456	A	2.1
7	☐	20000.000	20076.255	1184686.61	0.3066	A	0.7
8	☐			639702.97	0.1651	P	1.5

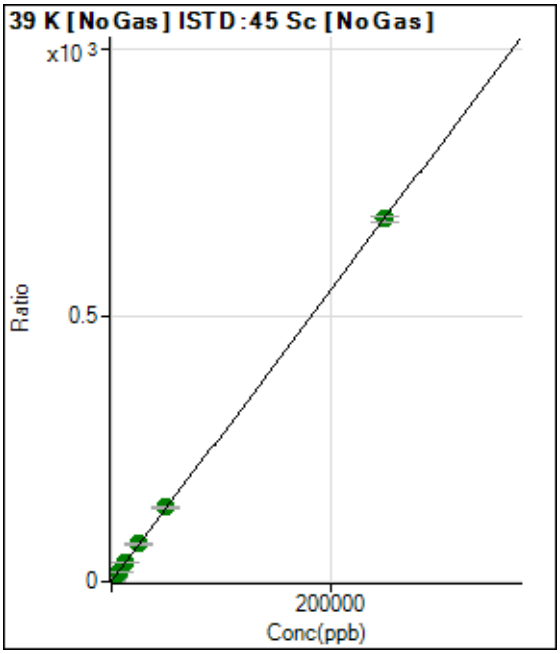
y = 5.9779E-006 * x + 0.1866
R = 0.9996
DL = 566.4
BEC = 3.121E+04

Weight: <None>
Min Conc: 0

Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			93884.17		P	1.2
2	☐			94350.89		P	0.7
3	☐			92628.73		P	0.5
4	☐			90250.24		P	1.0
5	☐			91105.32		P	2.0
6	☐			95433.27		P	1.2
7	☐			105287.13		P	1.8
8	☐			85281.32		P	1.1

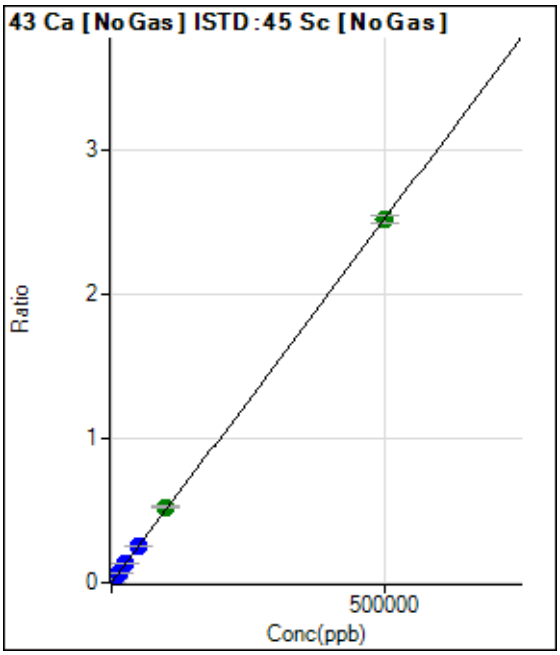


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4242611.21	1.1408	A	1.0
2	☐	500.000	537.439	9665042.83	2.6064	A	0.9
3	☐	2500.000	2573.872	30236503.36	8.1595	A	0.9
4	☐	6250.000	6332.790	68082012.95	18.4097	A	0.6
5	☐	12500.000	12677.994	131570453.32	35.7124	A	2.0
6	☐	25000.000	25503.066	263769423.46	70.6850	A	2.6
7	☐	50000.000	50672.717	538299320.36	139.3200	A	0.8
8	☐	250000.00	249803.36	2644594394.5	682.3285	A	1.5

y = 0.0027 * x + 1.1408
R = 1.0000
DL = 12.65
BEC = 418.4

Weight: <None>
Min Conc: 0

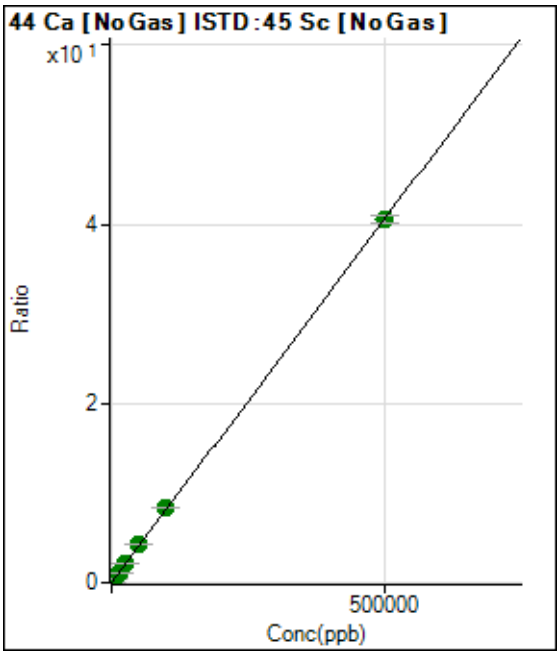
Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	538.28	0.0001	P	2.2
2	☐	500.000	558.832	10997.41	0.0030	P	1.7
3	☐	5000.000	5234.171	98450.41	0.0266	P	0.7
4	☐	12500.000	13000.263	243236.98	0.0658	P	0.3
5	☐	25000.000	25506.508	474918.06	0.1289	P	1.8
6	☐	50000.000	50882.660	959141.63	0.2570	P	1.9
7	☐	100000.00	104031.23	2029732.95	0.5253	A	1.0
8	☐	500000.00	499065.25	9764378.22	2.5195	A	2.0

y = 5.0481E-006 * x + 1.4474E-004
R = 1.0000
DL = 1.88
BEC = 28.67

Weight: <None>
Min Conc: 0

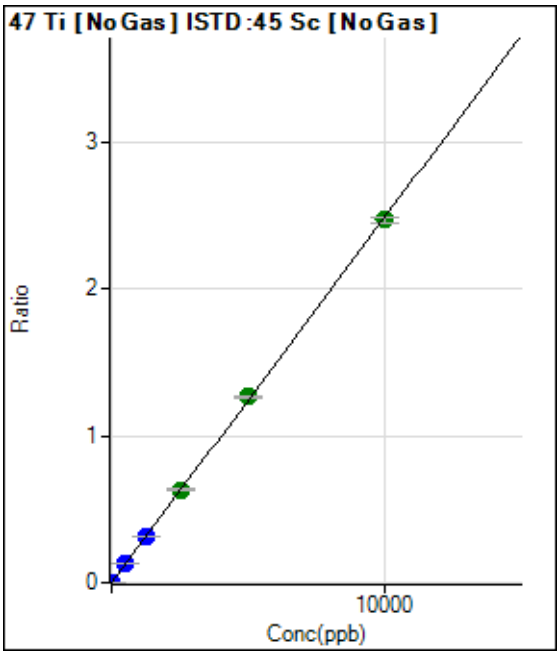


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	42850.48	0.0115	P	0.6
2	☐	500.000	552.842	208950.88	0.0563	P	0.9
3	☐	5000.000	5301.673	1635743.79	0.4414	A	0.6
4	☐	12500.000	13031.745	3950320.23	1.0682	A	0.6
5	☐	25000.000	25918.320	7786125.34	2.1130	A	0.6
6	☐	50000.000	52072.676	15801553.69	4.2337	A	1.1
7	☐	100000.00	103059.09	32332055.00	8.3678	A	0.8
8	☐	500000.00	499118.63	156885652.88	40.4812	A	2.0

y = 8.1082E-005 * x + 0.0115
R = 1.0000
DL = 2.468
BEC = 142.1

Weight: <None>
Min Conc: 0

Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731



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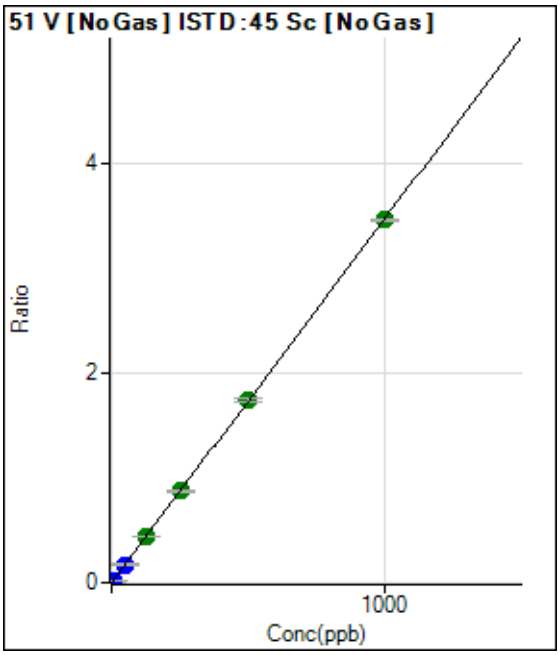
1	☐	0.000	0.000	261.12	0.0001	P	4.9
2	☐	5.000	5.397	5242.76	0.0014	P	3.2
3	☐	500.000	511.530	472048.82	0.1274	P	0.5
4	☐	1250.000	1264.483	1164127.24	0.3148	P	0.5
5	☐	2500.000	2546.358	2335327.20	0.6338	A	1.3
6	☐	5000.000	5093.305	4731752.58	1.2677	A	0.8
7	☐	10000.000	9939.371	9558869.05	2.4739	A	1.4
8	☐			1380.66	0.0004	P	13.8

y = 2.4889E-004 * x + 7.0212E-005
R = 0.9999
DL = 0.04112
BEC = 0.2821

Weight: <None>
Min Conc: 0



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1	☐	0.000	0.000	323.68	0.0001	P	15.4
2	☐	5.000	5.393	69615.60	0.0188	P	2.3
3	☐	50.000	50.060	643079.47	0.1735	P	1.2
4	☐	125.000	126.636	1623102.93	0.4389	A	0.5
5	☐	250.000	252.634	3225543.58	0.8755	A	1.4
6	☐	500.000	502.041	6492843.97	1.7396	A	1.4
7	☐	1000.000	998.112	13362326.86	3.4585	A	0.8
8	☐			4011.36	0.0010	P	2.7

y = 0.0035 * x + 8.7043E-005
R = 1.0000
DL = 0.01158
BEC = 0.02512

Weight: <None>
Min Conc: 0

Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
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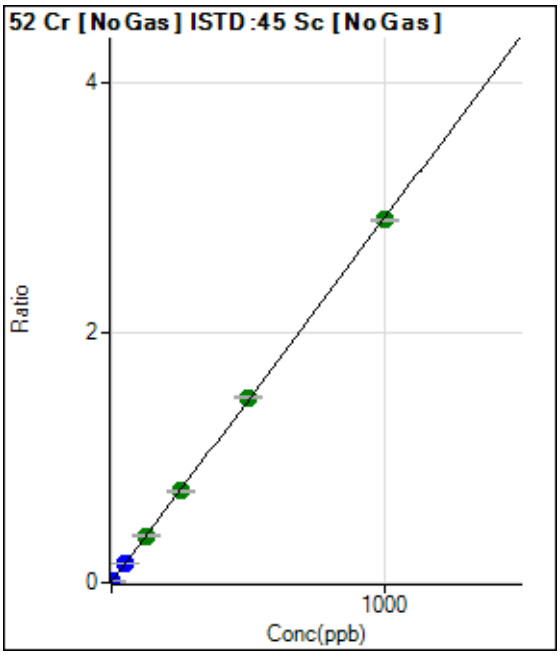
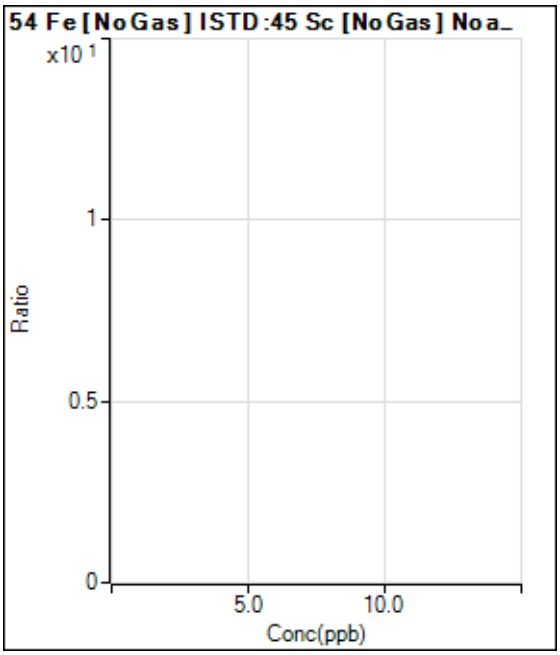


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10584.83	0.0028	P	2.0
2	☐	2.000	2.278	35165.72	0.0095	P	0.6
3	☐	50.000	51.141	562571.56	0.1518	P	0.7
4	☐	125.000	128.105	1390475.85	0.3760	A	0.8
5	☐	250.000	252.104	2715954.11	0.7372	A	1.8
6	☐	500.000	507.740	5530213.51	1.4818	A	1.6
7	☐	1000.000	995.158	11210844.30	2.9016	A	0.6
8	☐			42804.11	0.0110	P	0.3

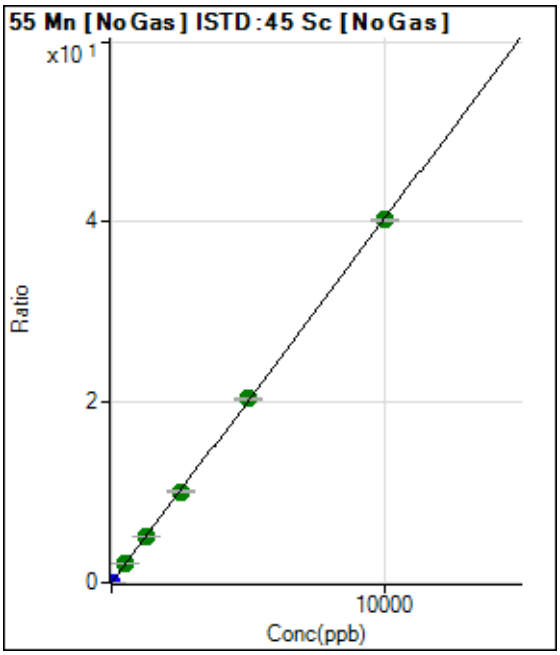
y = 0.0029 * x + 0.0028
R = 1.0000
DL = 0.05856
BEC = 0.9771

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	50.000					
3	☐	2500.000					
4	☐	6250.000					
5	☐	12500.000					
6	☐	25000.000					
7	☐	50000.000					
8	☐	250000.00					

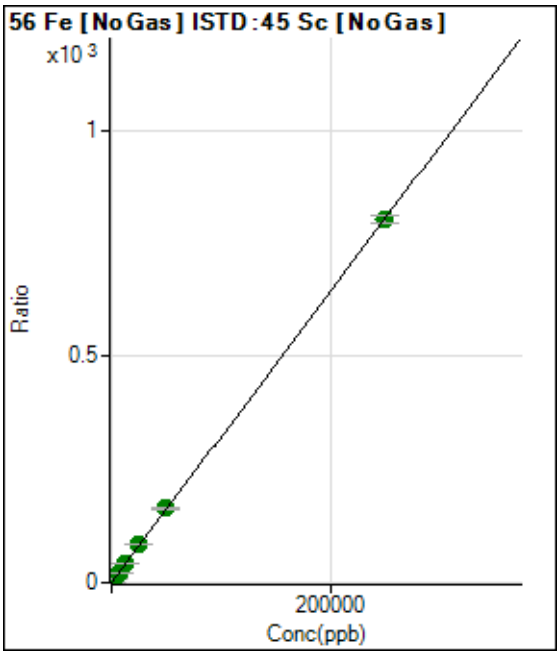
Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	15190.31	0.0041	P	4.3
2	☐	1.000	1.077	31269.47	0.0084	P	0.3
3	☐	500.000	511.079	7657659.63	2.0664	A	0.4
4	☐	1250.000	1266.963	18921794.67	5.1165	A	0.5
5	☐	2500.000	2498.673	37163528.05	10.0867	A	1.5
6	☐	5000.000	5057.716	76186050.87	20.4129	A	1.2
7	☐	10000.000	9968.799	155435573.43	40.2300	A	0.3
8	☐			101594.88	0.0262	P	2.8

y = 0.0040 * x + 0.0041
R = 1.0000
DL = 0.1291
BEC = 1.012

Weight: <None>
Min Conc: 0

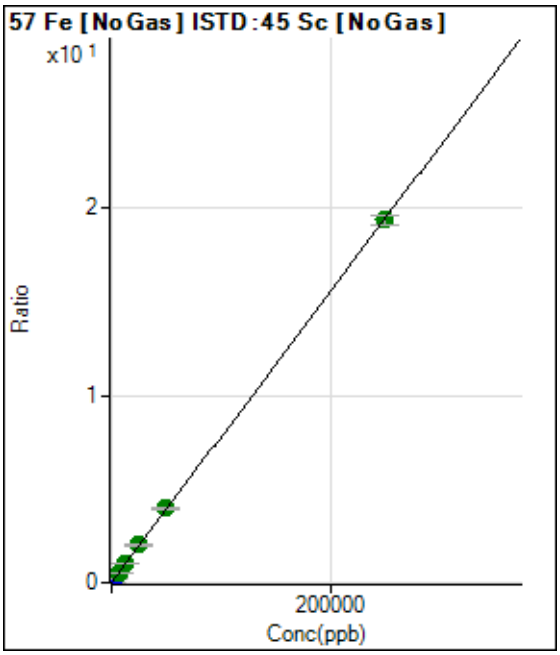


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1385101.66	0.3724	A	1.1
2	☐	50.000	57.846	2070525.14	0.5583	A	0.5
3	☐	2500.000	2626.204	32653079.01	8.8116	A	0.7
4	☐	6250.000	6508.957	78728143.70	21.2885	A	1.0
5	☐	12500.000	12836.115	153345963.89	41.6203	A	1.5
6	☐	25000.000	26024.469	313514426.72	84.0001	A	1.1
7	☐	50000.000	51082.841	635692743.69	164.5233	A	1.2
8	☐	250000.00	249656.44	3110713430.5	802.6244	A	2.0

y = 0.0032 * x + 0.3724
R = 1.0000
DL = 3.781
BEC = 115.9

Weight: <None>
Min Conc: 0

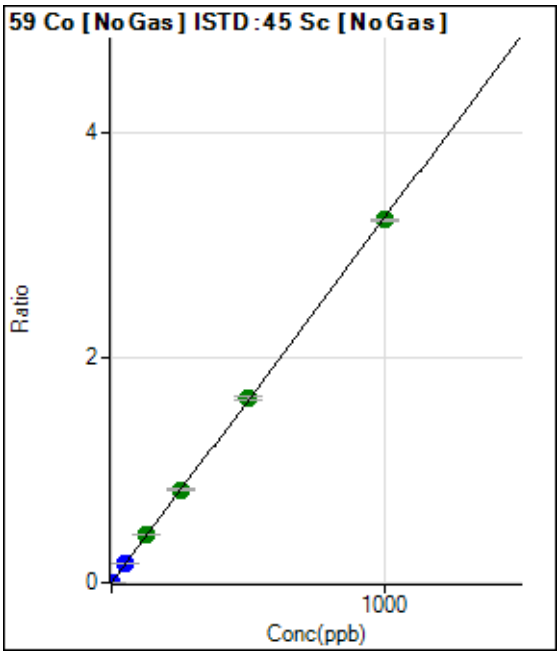
Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	48066.18	0.0129	P	1.4
2	☐	50.000	57.248	64383.24	0.0174	P	2.6
3	☐	2500.000	2684.368	818866.28	0.2210	P	0.7
4	☐	6250.000	6586.919	1935707.57	0.5234	A	1.5
5	☐	12500.000	12783.295	3697348.31	1.0037	A	3.2
6	☐	25000.000	25824.552	7518072.13	2.0145	A	1.7
7	☐	50000.000	50918.848	15296711.69	3.9594	A	1.4
8	☐	250000.00	249709.34	75052566.59	19.3666	A	2.6

y = 7.7505E-005 * x + 0.0129
R = 1.0000
DL = 6.87
BEC = 166.8

Weight: <None>
Min Conc: 0

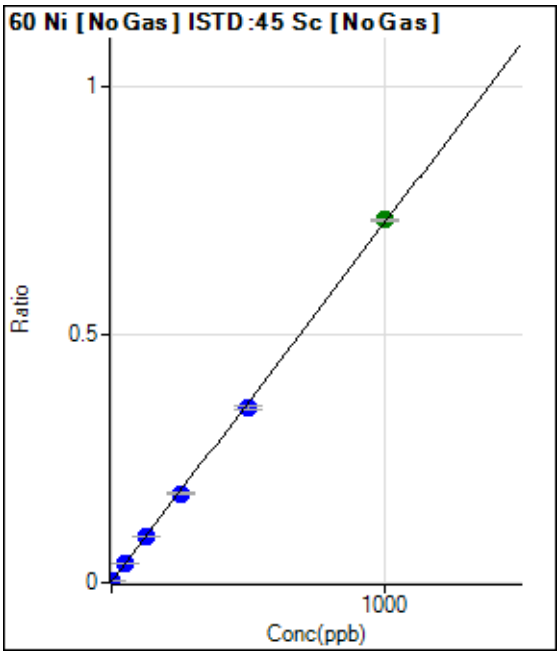


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1538.34	0.0004	P	3.7
2	☐	1.000	1.144	15303.91	0.0041	P	3.0
3	☐	50.000	51.281	618373.51	0.1669	P	1.7
4	☐	125.000	130.311	1565976.43	0.4234	A	0.6
5	☐	250.000	254.950	3050513.97	0.8280	A	2.3
6	☐	500.000	506.730	6139792.03	1.6454	A	2.7
7	☐	1000.000	994.670	12476827.85	3.2293	A	0.4
8	☐			31751.25	0.0082	P	5.2

y = 0.0032 * x + 4.1364E-004
R = 0.9999
DL = 0.01415
BEC = 0.1274

Weight: <None>
Min Conc: 0

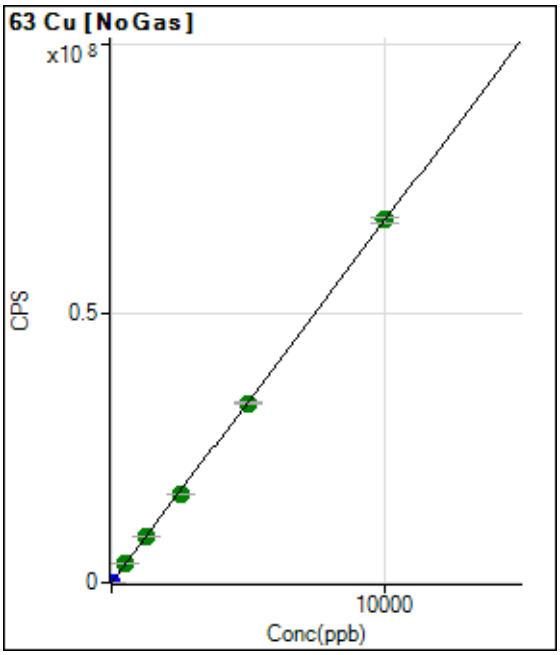
Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7372.85	0.0020	P	4.0
2	☐	1.000	1.020	10083.98	0.0027	P	7.2
3	☐	50.000	50.935	143847.10	0.0388	P	1.2
4	☐	125.000	125.257	342330.99	0.0926	P	0.7
5	☐	250.000	244.904	659845.49	0.1791	P	1.9
6	☐	500.000	485.052	1316398.88	0.3528	P	2.5
7	☐	1000.000	1008.669	2826085.31	0.7314	A	0.4
8	☐			17311.72	0.0045	P	1.8

y = 7.2320E-004 * x + 0.0020
R = 0.9998
DL = 0.3301
BEC = 2.741

Weight: <None>
Min Conc: 0

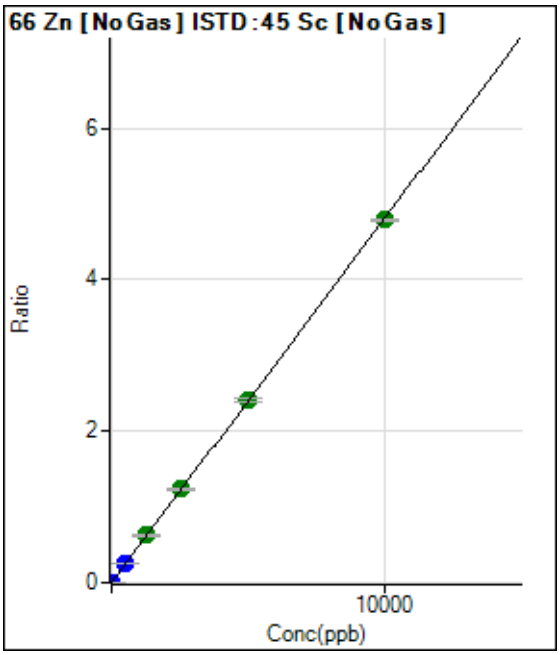


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	29467.23		P	1.2
2	☐	2.000	2.194	44196.19		P	0.6
3	☐	500.000	513.247	3474845.85		A	1.2
4	☐	1250.000	1251.731	8432215.85		A	0.5
5	☐	2500.000	2456.549	16520042.39		A	0.4
6	☐	5000.000	4966.187	33367002.00		A	0.6
7	☐	10000.000	10026.891	67339023.44		A	1.7
8	☐			62479.87		P	2.1

y = 6712.9041 * x + 29467.2333
R = 1.0000
DL = 0.1591
BEC = 4.39

Weight: <None>
Min Conc: 0

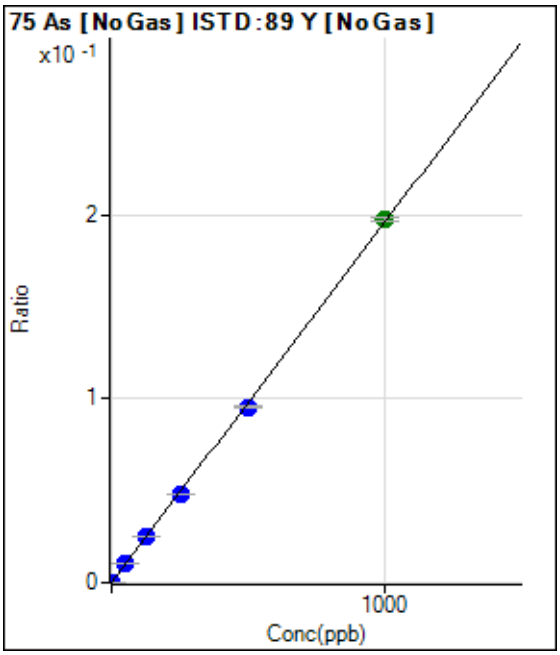
Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1274.71	0.0003	P	4.2
2	☐	2.000	5.642	11322.81	0.0031	P	2.9
3	☐	500.000	515.676	919423.41	0.2481	P	0.6
4	☐	1250.000	1299.153	2309613.99	0.6246	A	1.4
5	☐	2500.000	2566.299	4544411.23	1.2334	A	1.2
6	☐	5000.000	5017.940	8998603.81	2.4113	A	2.1
7	☐	10000.000	9967.527	18505528.42	4.7895	A	0.3
8	☐			12464.97	0.0032	P	2.2

y = 4.8047E-004 * x + 3.4278E-004
R = 1.0000
DL = 0.08978
BEC = 0.7134

Weight: <None>
Min Conc: 0

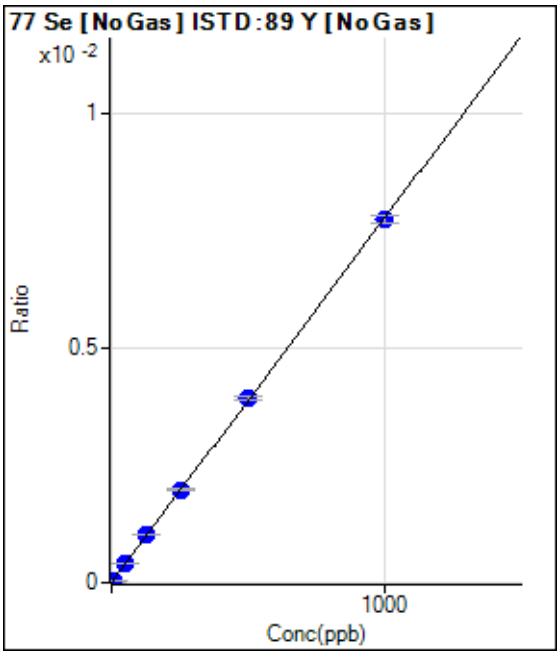


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	686.67	0.0001	P	4.9
2	☐	1.000	1.149	2816.92	0.0003	P	5.2
3	☐	50.000	51.095	94601.68	0.0101	P	1.9
4	☐	125.000	125.399	231007.41	0.0246	P	0.3
5	☐	250.000	244.558	452884.28	0.0479	P	0.5
6	☐	500.000	487.934	917153.41	0.0955	P	1.3
7	☐	1000.000	1007.289	1943605.58	0.1971	A	1.0
8	☐			1729.14	0.0002	P	7.6

y = 1.9564E-004 * x + 7.3472E-005
R = 0.9999
DL = 0.0547
BEC = 0.3755

Weight: <None>
Min Conc: 0

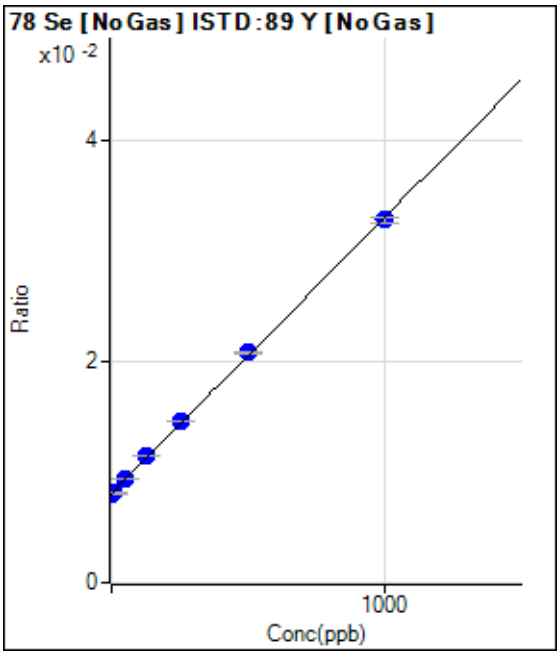
Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	44.66	0.0000	P	22.5
2	☐	5.000	5.473	446.90	0.0000	P	5.5
3	☐	50.000	51.863	3827.85	0.0004	P	1.4
4	☐	125.000	130.047	9524.32	0.0010	P	0.4
5	☐	250.000	254.078	18689.64	0.0020	P	1.1
6	☐	500.000	505.497	37725.82	0.0039	P	1.6
7	☐	1000.000	995.506	76241.94	0.0077	P	2.0
8	☐			97.11	0.0000	P	0.8

y = 7.7643E-006 * x + 4.7748E-006
R = 1.0000
DL = 0.415
BEC = 0.615

Weight: <None>
Min Conc: 0

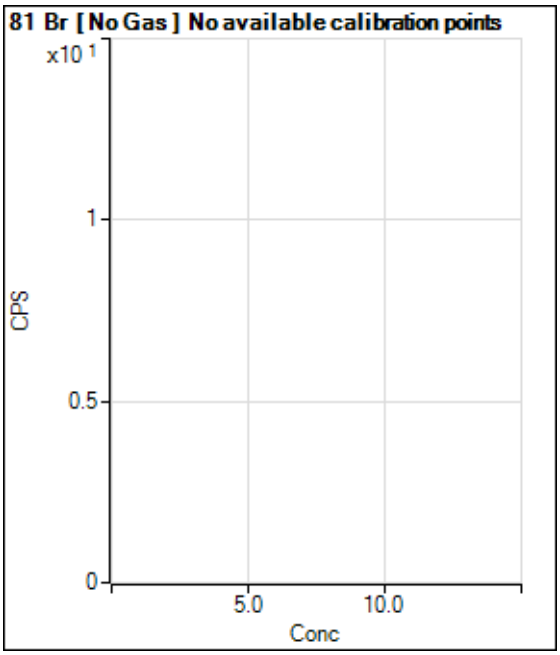


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	75396.24	0.0081	P	1.1
2	☐	5.000	2.661	76871.68	0.0081	P	2.2
3	☐	50.000	53.220	88265.41	0.0094	P	0.5
4	☐	125.000	136.386	107682.28	0.0115	P	0.4
5	☐	250.000	261.501	137902.54	0.0146	P	0.8
6	☐	500.000	509.593	199497.62	0.0208	P	1.1
7	☐	1000.000	990.756	323172.05	0.0328	P	1.8
8	☐			77860.82	0.0079	P	1.3

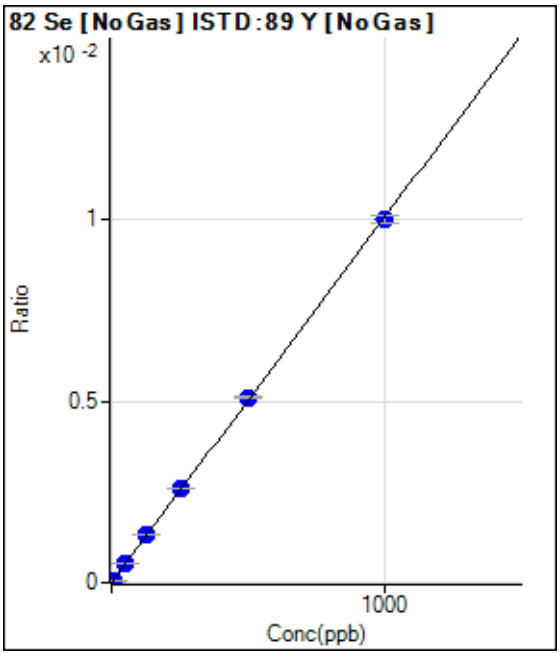
y = 2.4946E-005 * x + 0.0081
R = 0.9998
DL = 10.67
BEC = 323.4

Weight: <None>
Min Conc: 0

Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			1905.43		P	3.2
2	☐			1968.84		P	6.0
3	☐			2052.26		P	6.0
4	☐			1998.87		P	3.3
5	☐			1865.39		P	3.3
6	☐			1962.16		P	5.9
7	☐			2112.34		P	9.6
8	☐			2122.36		P	11.4

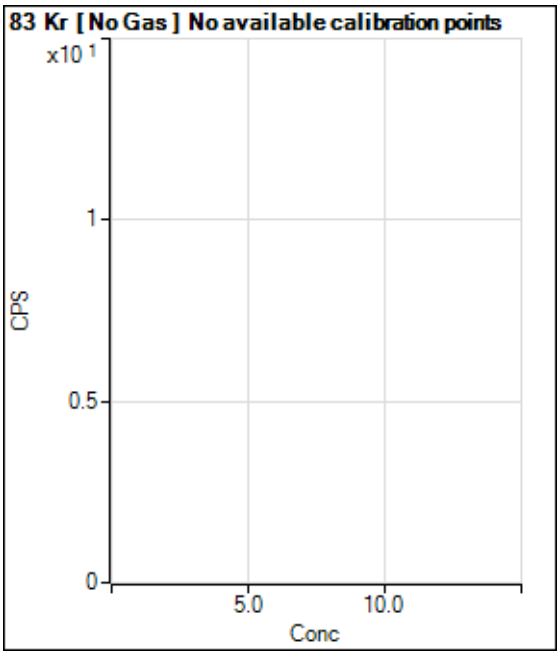


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-49.78	0.0000	P	-17.
2	☐	5.000	5.810	502.24	0.0001	P	3.3
3	☐	50.000	53.386	4996.53	0.0005	P	0.8
4	☐	125.000	131.519	12374.10	0.0013	P	0.3
5	☐	250.000	256.409	24334.05	0.0026	P	0.3
6	☐	500.000	507.664	48991.56	0.0051	P	0.5
7	☐	1000.000	993.577	98500.39	0.0100	P	2.0
8	☐			-18.45	0.0000	P	-91.

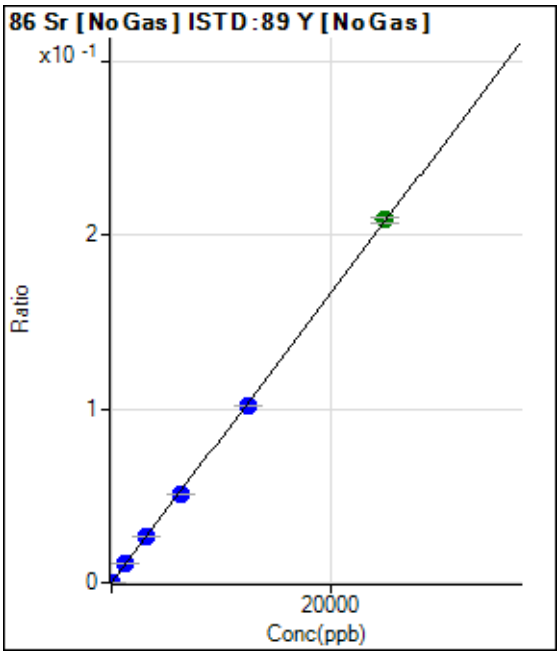
y = 1.0062E-005 * x - 5.3234E-006
R = 0.9999
DL = 0.2806
BEC = -0.5291

Weight: <None>
Min Conc: 0

Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			303.34		P	6.9
2	☐			304.45		P	11.0
3	☐			253.34		P	17.2
4	☐			270.01		P	5.4
5	☐			267.78		P	10.1
6	☐			271.11		P	11.7
7	☐			307.79		P	12.0
8	☐			290.01		P	7.2

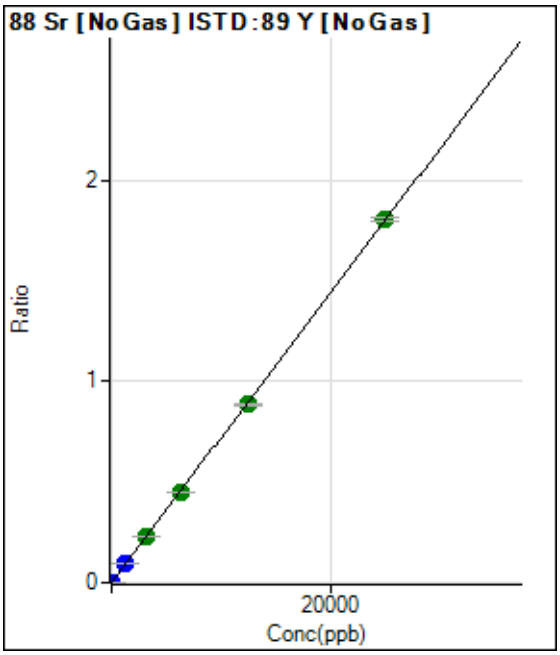


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1486.24	0.0002	P	5.8
2	☐	1.000	24.250	3403.29	0.0004	P	6.0
3	☐	1250.000	1276.724	101010.90	0.0108	P	1.4
4	☐	3125.000	3136.777	245831.55	0.0262	P	0.5
5	☐	6250.000	6164.004	484874.33	0.0513	P	0.2
6	☐	12500.000	12253.082	977582.05	0.1018	P	0.8
7	☐	25000.000	25142.149	2058654.28	0.2088	A	1.4
8	☐			6993.63	0.0007	P	2.9

y = 8.2971E-006 * x + 1.5903E-004
R = 0.9999
DL = 3.329
BEC = 19.17

Weight: <None>
Min Conc: 0

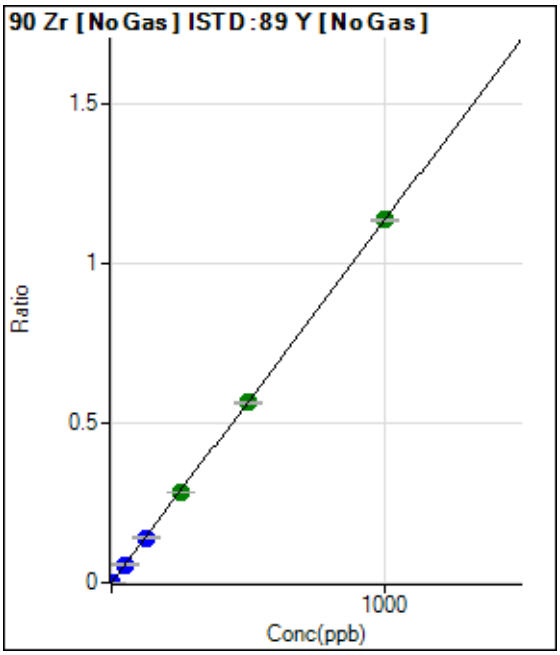
Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8897.52	0.0010	P	8.8
2	☐	1.000	26.094	26706.66	0.0028	P	4.9
3	☐	1250.000	1267.278	864437.70	0.0920	P	0.4
4	☐	3125.000	3204.869	2170948.77	0.2312	A	0.4
5	☐	6250.000	6209.724	4226119.93	0.4472	A	0.9
6	☐	12500.000	12315.692	8505559.65	0.8859	A	0.4
7	☐	25000.000	25091.375	17786063.76	1.8039	A	0.9
8	☐			59887.38	0.0060	P	4.2

y = 7.1857E-005 * x + 9.5180E-004
R = 0.9999
DL = 3.48
BEC = 13.25

Weight: <None>
Min Conc: 0

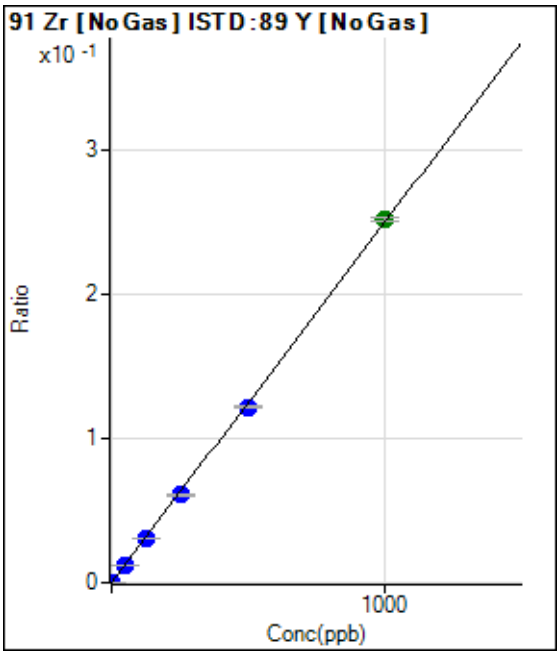


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	327.79	0.0000	P	22.8
2	☐	1.000	1.017	11243.69	0.0012	P	4.3
3	☐	50.000	50.297	536927.17	0.0572	P	0.5
4	☐	125.000	124.706	1329838.12	0.1417	P	0.6
5	☐	250.000	247.601	2657757.89	0.2812	A	0.4
6	☐	500.000	497.832	5427998.95	0.5654	A	0.7
7	☐	1000.000	1001.706	11216754.94	1.1376	A	0.4
8	☐			18126.02	0.0018	P	3.2

y = 0.0011 * x + 3.5063E-005
R = 1.0000
DL = 0.02109
BEC = 0.03088

Weight: <None>
Min Conc: 0

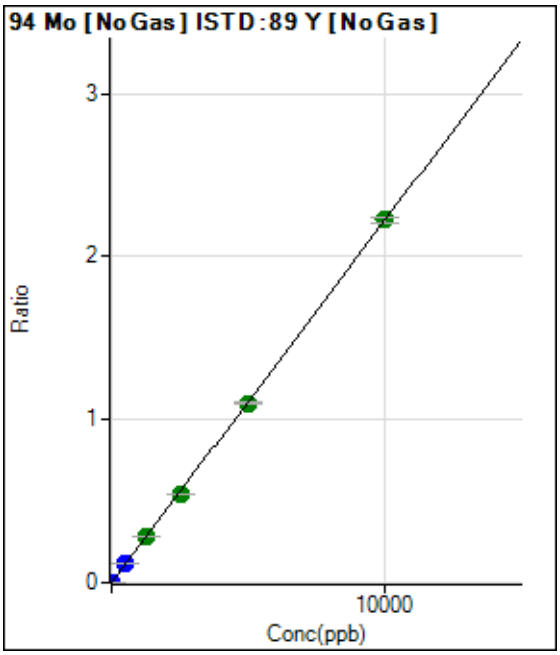
Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	69.45	0.0000	P	18.0
2	☐	1.000	1.046	2541.96	0.0003	P	3.9
3	☐	50.000	50.479	118669.21	0.0126	P	0.5
4	☐	125.000	124.972	293489.64	0.0313	P	0.2
5	☐	250.000	243.297	575155.87	0.0609	P	0.9
6	☐	500.000	487.870	1171484.47	0.1220	P	0.6
7	☐	1000.000	1007.720	2484741.40	0.2520	A	1.2
8	☐			4336.90	0.0004	P	6.5

y = 2.5009E-004 * x + 7.4286E-006
R = 0.9999
DL = 0.01606
BEC = 0.0297

Weight: <None>
Min Conc: 0

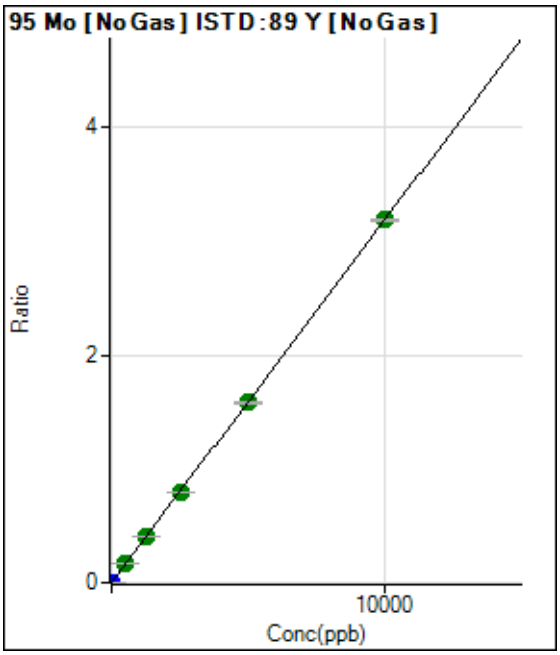


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	269.45	0.0000	P	5.8
2	☐	5.000	6.343	13573.66	0.0014	P	1.8
3	☐	500.000	510.644	1064520.27	0.1133	P	0.6
4	☐	1250.000	1259.292	2622989.51	0.2794	A	0.9
5	☐	2500.000	2462.224	5162849.16	0.5463	A	0.1
6	☐	5000.000	4956.788	10557495.37	1.0997	A	1.0
7	☐	10000.000	10029.355	21935541.12	2.2250	A	1.3
8	☐			16229.26	0.0016	P	2.2

y = 2.2184E-004 * x + 2.8824E-005
R = 1.0000
DL = 0.02254
BEC = 0.1299

Weight: <None>
Min Conc: 0

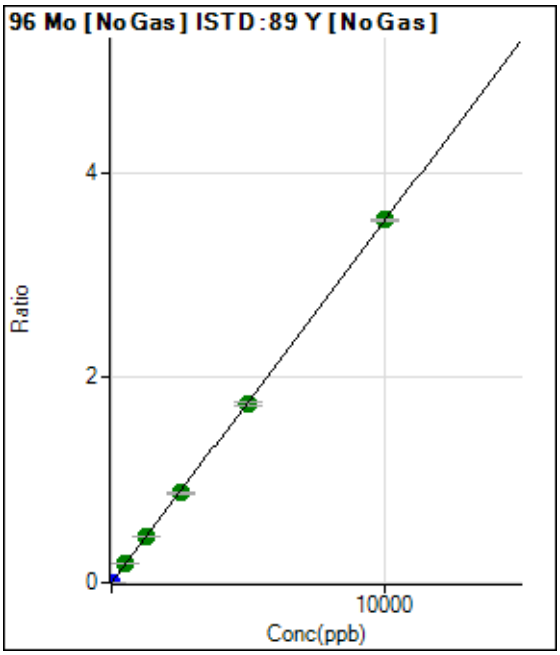
Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	194.45	0.0000	P	10.6
2	☐	5.000	5.294	16115.26	0.0017	P	2.6
3	☐	500.000	511.917	1530549.55	0.1629	A	0.5
4	☐	1250.000	1264.031	3776352.47	0.4022	A	0.4
5	☐	2500.000	2479.302	7456599.99	0.7890	A	0.6
6	☐	5000.000	4979.801	15213522.91	1.5846	A	1.4
7	☐	10000.000	10012.924	31416177.44	3.1862	A	0.7
8	☐			17066.47	0.0017	P	3.7

y = 3.1821E-004 * x + 2.0816E-005
R = 1.0000
DL = 0.02079
BEC = 0.06542

Weight: <None>
Min Conc: 0

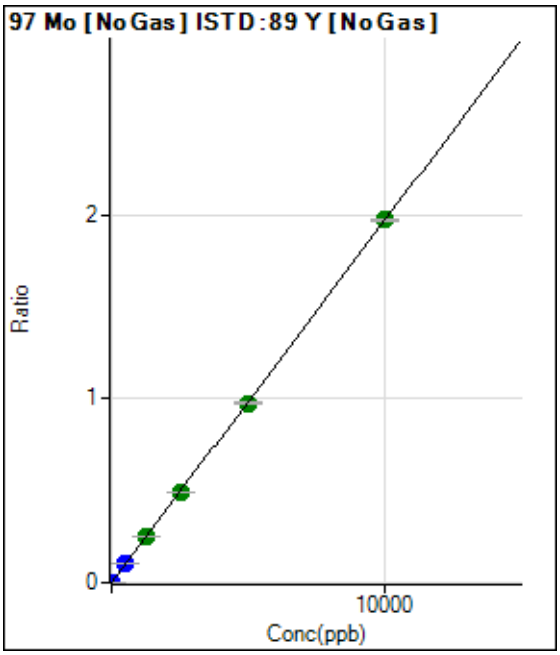


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	330.57	0.0000	P	12.1
2	☐	5.000	5.365	18198.41	0.0019	P	2.5
3	☐	500.000	511.286	1692844.98	0.1802	A	1.9
4	☐	1250.000	1264.501	4183374.01	0.4456	A	1.0
5	☐	2500.000	2473.451	8237567.28	0.8716	A	0.6
6	☐	5000.000	4942.526	16720422.60	1.7416	A	2.1
7	☐	10000.000	10032.997	34858323.69	3.5354	A	0.5
8	☐			19249.93	0.0019	P	0.9

y = 3.5237E-004 * x + 3.5353E-005
R = 1.0000
DL = 0.03638
BEC = 0.1003

Weight: <None>
Min Conc: 0

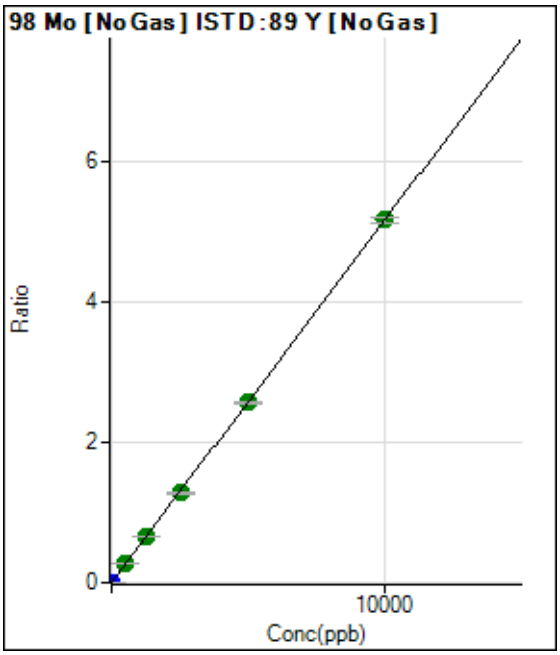
Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	177.78	0.0000	P	31.7
2	☐	5.000	5.258	9942.71	0.0011	P	5.4
3	☐	500.000	511.927	945496.34	0.1006	P	0.3
4	☐	1250.000	1279.130	2360575.38	0.2514	A	1.1
5	☐	2500.000	2494.217	4633892.81	0.4903	A	1.3
6	☐	5000.000	4945.070	9332027.29	0.9720	A	1.1
7	☐	10000.000	10024.673	19427934.11	1.9705	A	0.7
8	☐			10479.24	0.0011	P	3.4

y = 1.9656E-004 * x + 1.9047E-005
R = 1.0000
DL = 0.09228
BEC = 0.0969

Weight: <None>
Min Conc: 0

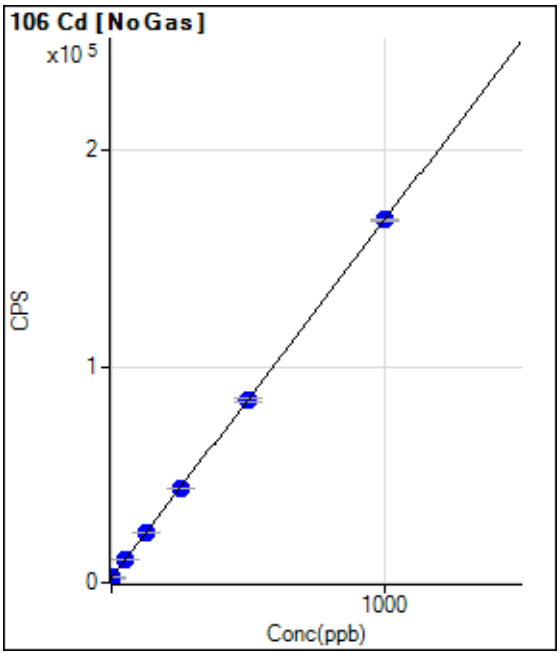


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	358.35	0.0000	P	9.6
2	☐	5.000	5.187	25665.94	0.0027	P	3.3
3	☐	500.000	512.814	2487269.52	0.2648	A	1.1
4	☐	1250.000	1257.636	6095116.76	0.6492	A	1.1
5	☐	2500.000	2471.446	12058277.01	1.2758	A	0.9
6	☐	5000.000	4978.507	24673423.47	2.5700	A	0.9
7	☐	10000.000	10016.290	50981247.32	5.1705	A	1.3
8	☐			25732.79	0.0026	P	1.6

y = 5.1621E-004 * x + 3.8332E-005
R = 1.0000
DL = 0.02144
BEC = 0.07426

Weight: <None>
Min Conc: 0

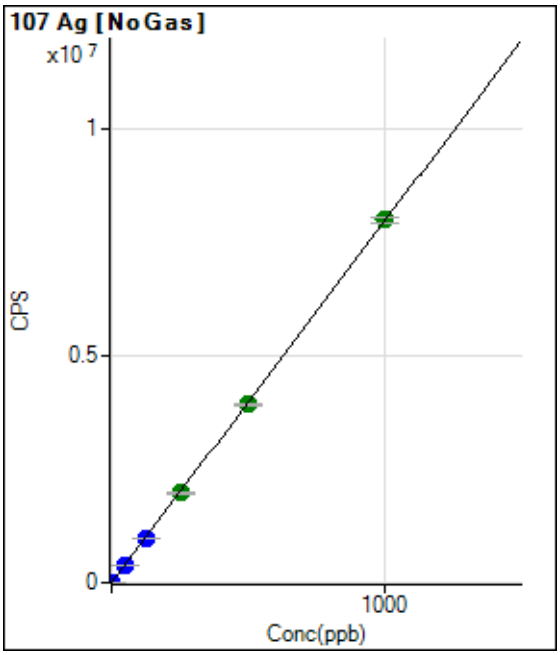
Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2039.10		P	7.1
2	☐	1.000	1.610	2305.82		P	3.7
3	☐	50.000	51.985	10651.66		P	4.1
4	☐	125.000	126.990	23078.17		P	1.3
5	☐	250.000	250.824	43594.52		P	1.4
6	☐	500.000	498.066	84556.32		P	1.7
7	☐	1000.000	1000.413	167782.87		P	0.6
8	☐			2086.33		P	6.2

y = 165.6754 * x + 2039.1000
R = 1.0000
DL = 2.624
BEC = 12.31

Weight: <None>
Min Conc: 0

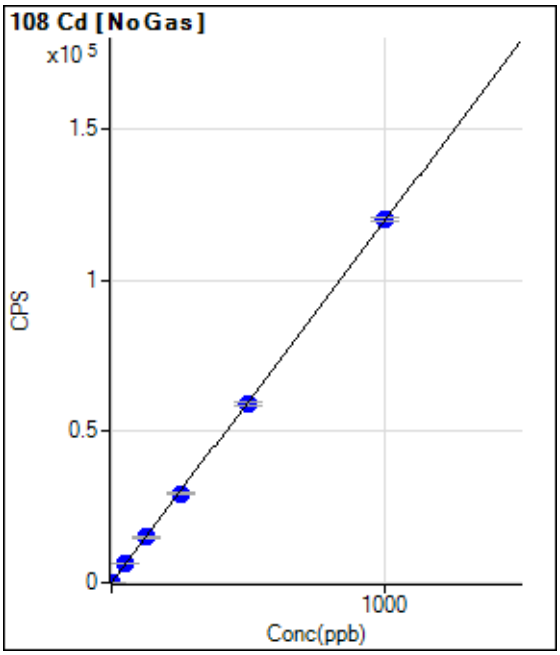


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	91.67		P	24.1
2	☐	1.000	0.954	7682.88		P	4.2
3	☐	50.000	49.998	398081.01		P	0.1
4	☐	125.000	122.942	978726.65		P	0.5
5	☐	250.000	248.067	1974738.96		A	1.0
6	☐	500.000	493.516	3928549.18		A	0.9
7	☐	1000.000	1003.983	7991932.04		A	1.4
8	☐			1519.57		P	7.4

y = 7960.1386 * x + 91.6700
R = 1.0000
DL = 0.00831
BEC = 0.01152

Weight: <None>
Min Conc: 0

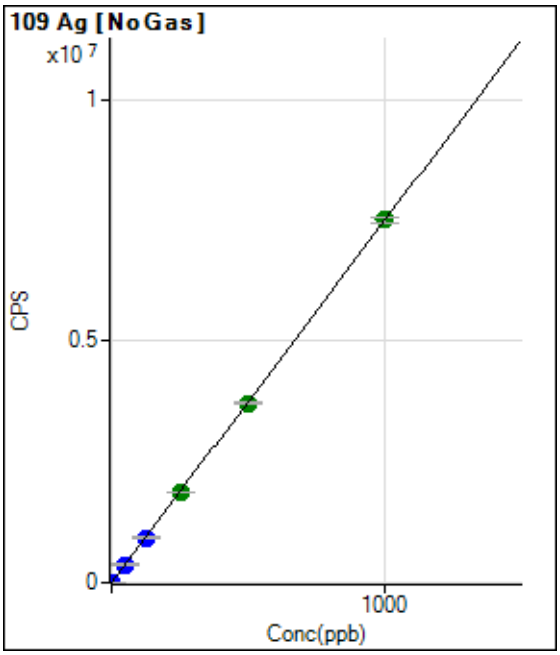
Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43.06		P	29.6
2	☐	1.000	1.103	175.00		P	19.5
3	☐	50.000	51.952	6258.45		P	3.1
4	☐	125.000	125.227	15024.97		P	1.4
5	☐	250.000	246.039	29478.71		P	1.2
6	☐	500.000	494.592	59215.19		P	1.5
7	☐	1000.000	1003.568	120108.30		P	1.0
8	☐			151.39		P	13.6

y = 119.6383 * x + 43.0567
R = 1.0000
DL = 0.3192
BEC = 0.3599

Weight: <None>
Min Conc: 0

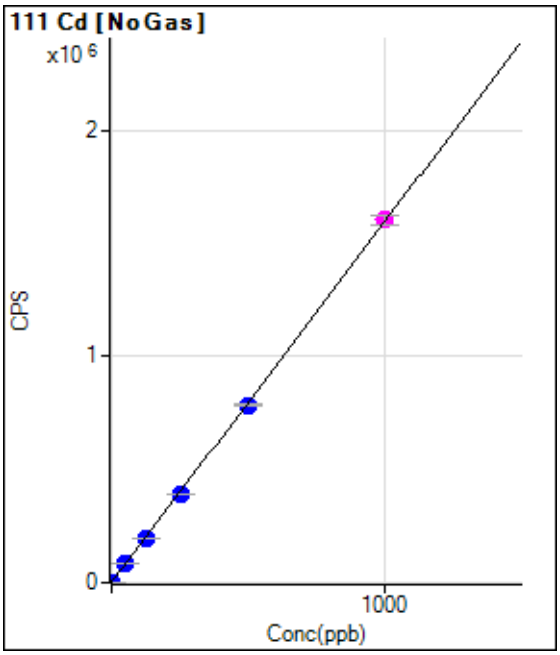


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	44.44		P	43.3
2	☐	1.000	1.013	7627.33		P	0.6
3	☐	50.000	50.397	377425.55		P	0.5
4	☐	125.000	124.156	929743.63		P	1.4
5	☐	250.000	250.875	1878637.89		A	0.2
6	☐	500.000	494.433	3702437.19		A	1.0
7	☐	1000.000	1002.650	7508048.52		A	1.5
8	☐			1350.11		P	6.4

y = 7488.1581 * x + 44.4433
R = 1.0000
DL = 0.007712
BEC = 0.005935

Weight: <None>
Min Conc: 0

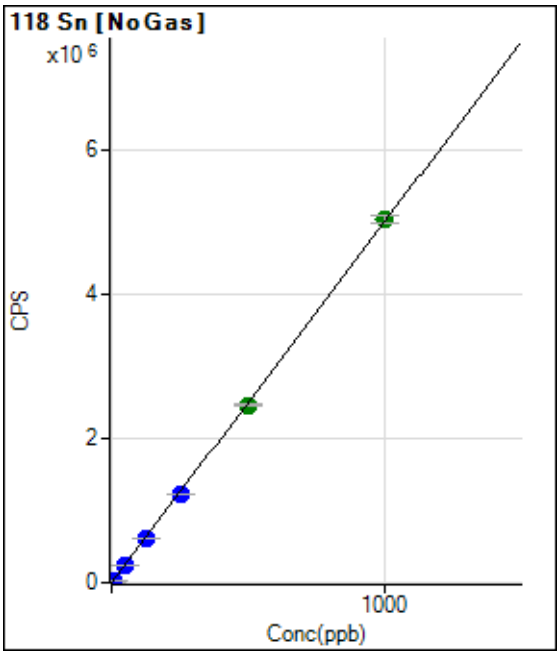
Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1458.34		P	6.7
2	☐	1.000	1.122	3245.87		P	0.8
3	☐	50.000	50.018	81152.96		P	0.9
4	☐	125.000	124.129	199235.25		P	0.3
5	☐	250.000	244.706	391353.43		P	0.7
6	☐	500.000	491.142	784004.20		P	1.2
7	☐	1000.000	1005.860	1604114.38		M	2.9
8	☐			1861.41		P	6.0

y = 1593.3188 * x + 1458.3367
R = 0.9999
DL = 0.1841
BEC = 0.9153

Weight: <None>
Min Conc: 0

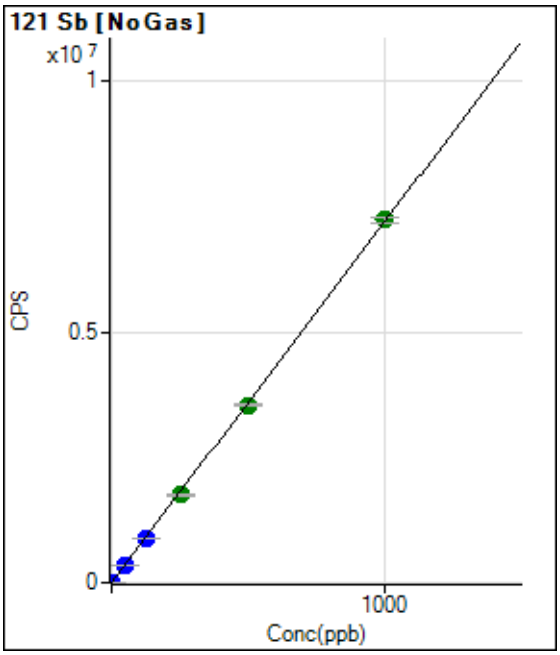


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	852.83		P	12.6
2	☐	5.000	5.225	26932.62		P	1.5
3	☐	50.000	49.645	248628.79		P	0.5
4	☐	125.000	121.674	608122.54		P	0.2
5	☐	250.000	243.827	1217778.75		P	0.8
6	☐	500.000	492.130	2457042.26		A	1.0
7	☐	1000.000	1005.911	5021290.00		A	2.3
8	☐			1947.41		P	5.0

y = 4990.9377 * x + 852.8300
R = 0.9999
DL = 0.06442
BEC = 0.1709

Weight: <None>
Min Conc: 0

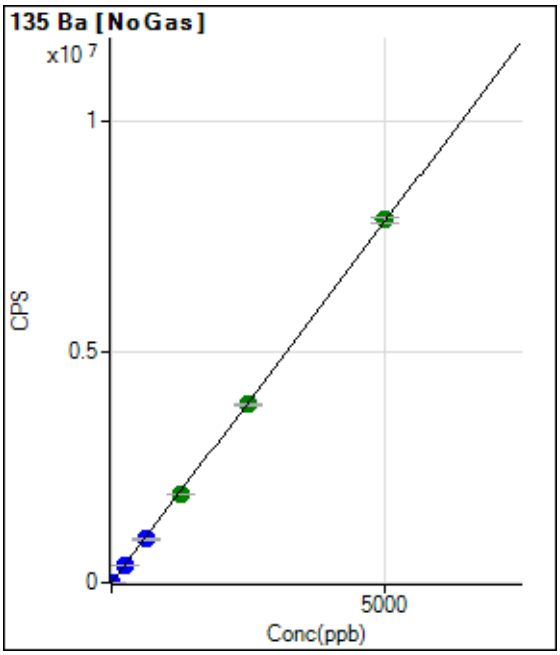
Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	33.33		P	43.3
2	☐	2.000	2.072	14947.45		P	5.7
3	☐	50.000	48.942	352397.56		P	1.2
4	☐	125.000	120.938	870744.92		P	0.5
5	☐	250.000	243.821	1755457.64		A	1.1
6	☐	500.000	492.565	3546334.19		A	0.4
7	☐	1000.000	1005.823	7241613.88		A	1.8
8	☐			5879.20		P	5.6

y = 7199.6582 * x + 33.3333
R = 0.9999
DL = 0.006014
BEC = 0.00463

Weight: <None>
Min Conc: 0

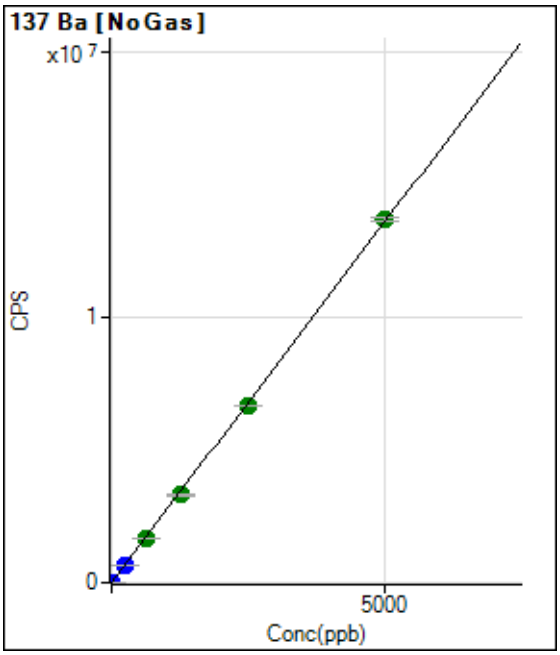


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1205.64		P	9.2
2	☐	10.000	10.118	17008.35		P	1.4
3	☐	250.000	244.687	383362.16		P	0.9
4	☐	625.000	602.302	941892.21		P	1.2
5	☐	1250.000	1222.550	1910608.09		A	0.8
6	☐	2500.000	2465.802	3852343.79		A	1.6
7	☐	5000.000	5027.064	7852573.87		A	1.6
8	☐			4292.47		P	5.4

y = 1561.8197 * x + 1205.6433
R = 0.9999
DL = 0.2132
BEC = 0.7719

Weight: <None>
Min Conc: 0

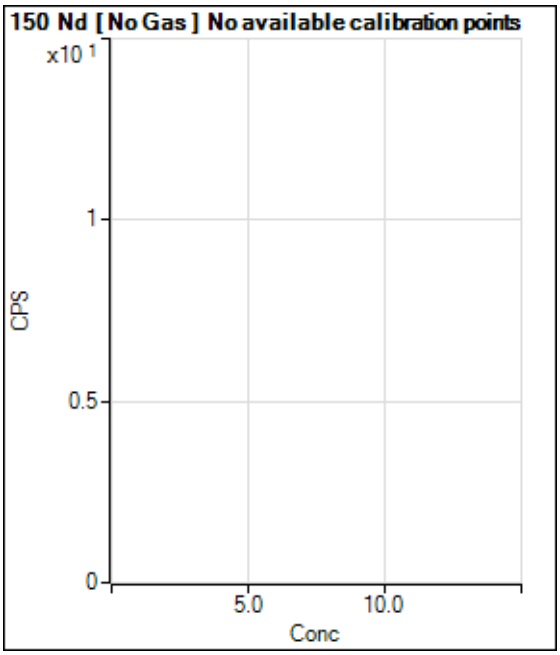
Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2155.79		P	5.4
2	☐	10.000	10.495	30654.73		P	0.8
3	☐	250.000	244.897	667185.15		P	0.4
4	☐	625.000	613.116	1667097.69		A	0.6
5	☐	1250.000	1219.306	3313234.06		A	1.5
6	☐	2500.000	2451.260	6658656.18		A	0.7
7	☐	5000.000	5033.783	13671608.99		A	1.1
8	☐			7619.04		P	6.9

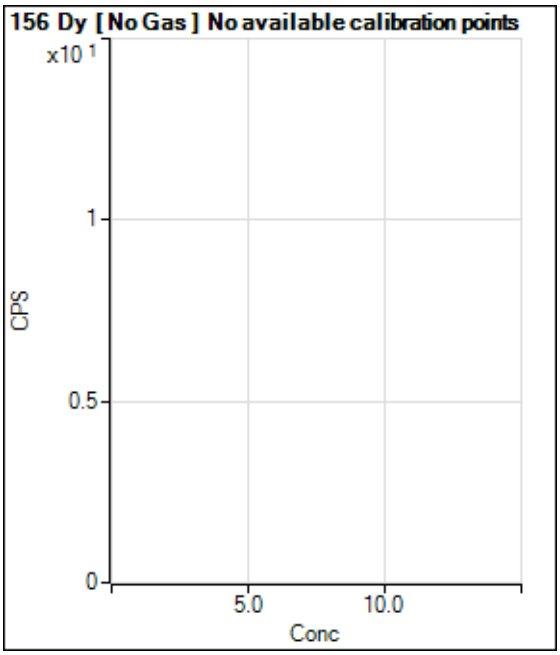
y = 2715.5427 * x + 2155.7867
R = 0.9999
DL = 0.129
BEC = 0.7939

Weight: <None>
Min Conc: 0

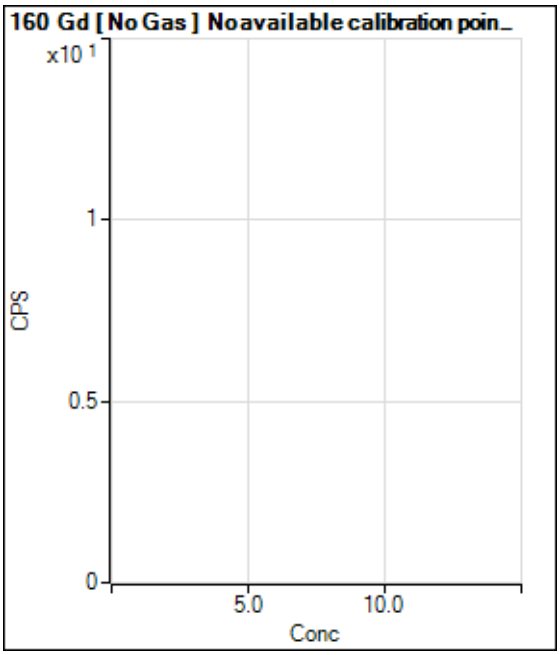


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			17.78		P	57.3
2	☐			15.56		P	65.5
3	☐			44.45		P	8.7
4	☐			68.89		P	5.6
5	☐			93.34		P	18.9
6	☐			204.45		P	16.4
7	☐			344.46		P	7.8
8	☐			166.67		P	12.0

Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731

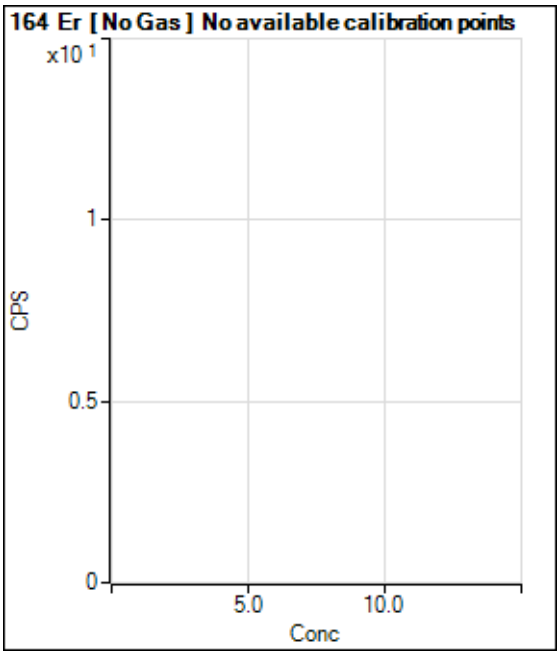


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			466.69		P	4.7
2	☐			419.46		P	27.1
3	☐			436.13		P	20.3
4	☐			422.24		P	29.7
5	☐			425.02		P	5.9
6	☐			408.35		P	13.4
7	☐			513.91		P	15.4
8	☐			500.03		P	14.8

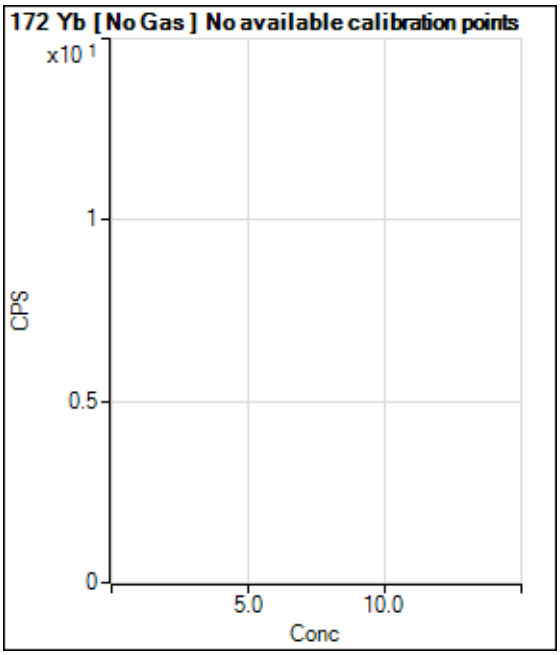


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			55.56		P	60.6
2	☐			30.56		P	63.0
3	☐			55.56		P	75.5
4	☐			88.89		P	14.3
5	☐			77.78		P	24.7
6	☐			75.00		P	29.4
7	☐			102.78		P	4.7
8	☐			244.45		P	12.0

Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731

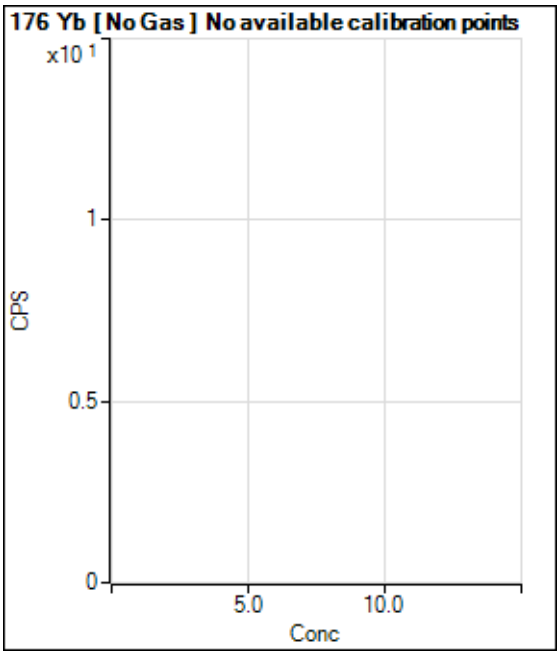


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			55.55		P	8.7
2	☐			44.44		P	109.
3	☐			58.33		P	14.3
4	☐			50.00		P	50.0
5	☐			50.00		P	44.1
6	☐			88.89		P	32.9
7	☐			80.56		P	21.5
8	☐			280.57		P	28.1

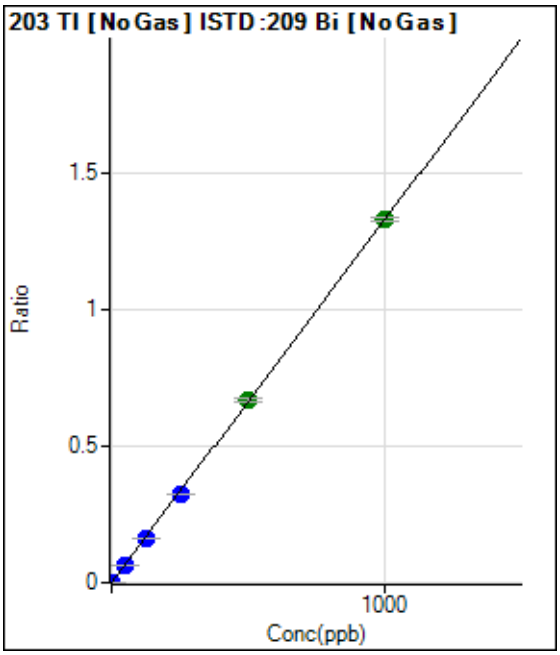


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			44.44		P	28.6
2	☐			36.11		P	53.3
3	☐			63.89		P	45.8
4	☐			66.67		P	21.7
5	☐			80.56		P	74.8
6	☐			100.00		P	41.7
7	☐			100.00		P	36.3
8	☐			408.35		P	7.4

Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			625.03		P	23.6
2	☐			588.92		P	22.0
3	☐			2061.33		P	4.3
4	☐			4022.96		P	4.0
5	☐			7669.11		P	5.1
6	☐			14725.23		P	1.1
7	☐			29447.26		P	0.7
8	☐			738.93		P	8.8

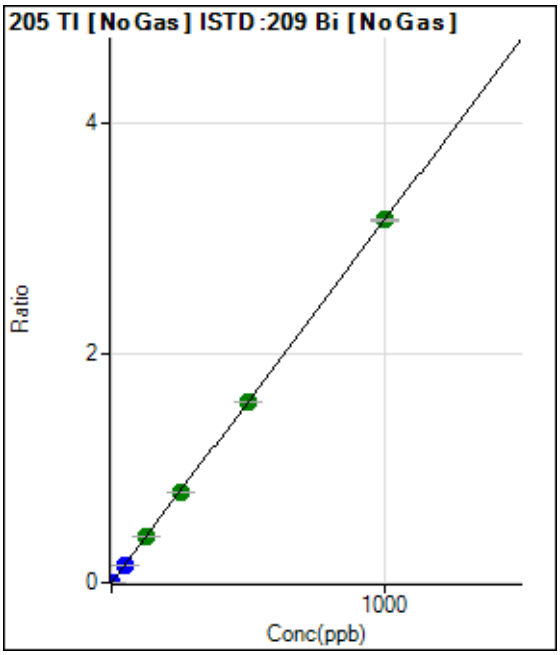


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	158.34	0.0000	P	5.7
2	☐	1.000	1.052	6654.65	0.0014	P	0.9
3	☐	50.000	49.051	304205.52	0.0653	P	1.1
4	☐	125.000	122.943	756344.32	0.1637	P	2.1
5	☐	250.000	242.660	1488754.48	0.3231	P	1.1
6	☐	500.000	503.561	3083776.26	0.6704	A	1.3
7	☐	1000.000	1000.359	6212250.53	1.3317	A	1.1
8	☐			733.38	0.0002	P	13.1

y = 0.0013 * x + 3.4679E-005
R = 1.0000
DL = 0.004488
BEC = 0.02605

Weight: <None>
Min Conc: 0

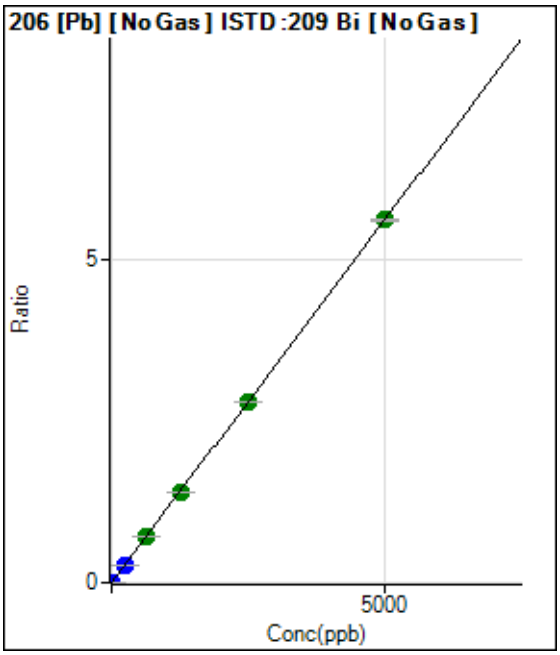
Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	352.79	0.0001	P	13.7
2	☐	1.000	1.041	15595.87	0.0034	P	1.7
3	☐	50.000	49.566	729074.34	0.1566	P	1.1
4	☐	125.000	126.236	1841982.96	0.3987	A	1.8
5	☐	250.000	248.886	3621822.17	0.7859	A	0.8
6	☐	500.000	498.680	7244027.33	1.5746	A	0.9
7	☐	1000.000	1000.805	14741408.49	3.1601	A	0.2
8	☐			1761.29	0.0004	P	7.8

y = 0.0032 * x + 7.7202E-005
R = 1.0000
DL = 0.01004
BEC = 0.02445

Weight: <None>
Min Conc: 0

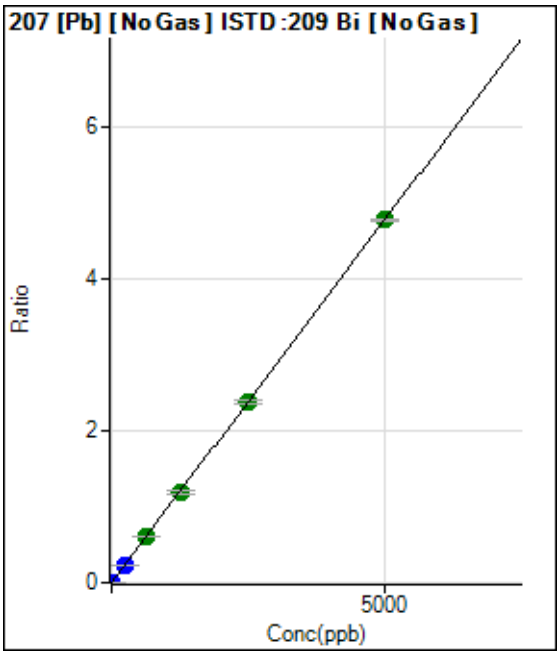


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	872.27	0.0002	P	13.6
2	☐	1.000	1.018	6179.36	0.0013	P	5.1
3	☐	250.000	241.588	1262790.42	0.2712	P	0.7
4	☐	625.000	631.483	3274042.29	0.7086	A	1.5
5	☐	1250.000	1239.668	6409832.20	1.3908	A	0.4
6	☐	2500.000	2492.511	12863653.18	2.7963	A	0.5
7	☐	5000.000	5005.938	26198028.36	5.6158	A	0.7
8	☐			8549.25	0.0019	P	2.6

y = 0.0011 * x + 1.9101E-004
R = 1.0000
DL = 0.06961
BEC = 0.1703

Weight: <None>
Min Conc: 0

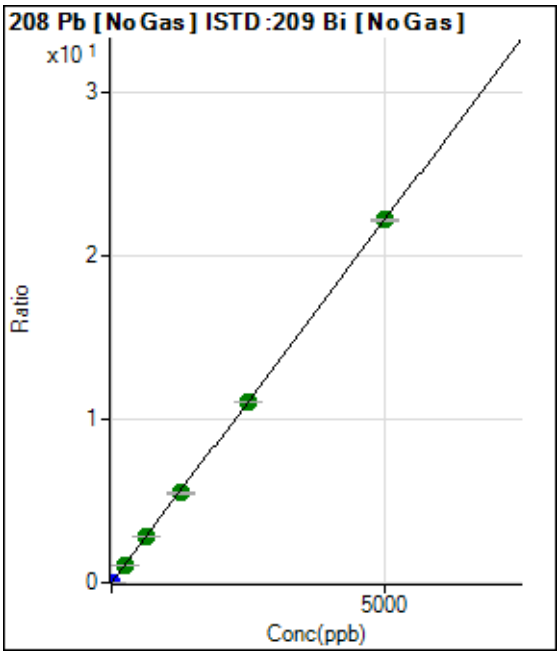
Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	775.96	0.0002	P	5.4
2	☐	1.000	0.990	5175.19	0.0011	P	2.5
3	☐	250.000	244.668	1090057.14	0.2341	P	1.0
4	☐	625.000	637.923	2819592.22	0.6101	A	0.6
5	☐	1250.000	1245.184	5486105.85	1.1907	A	2.6
6	☐	2500.000	2491.512	10959237.63	2.3824	A	1.8
7	☐	5000.000	5004.099	22320036.84	4.7848	A	0.6
8	☐			7211.41	0.0016	P	2.2

y = 9.5615E-004 * x + 1.6987E-004
R = 1.0000
DL = 0.02897
BEC = 0.1777

Weight: <None>
Min Conc: 0

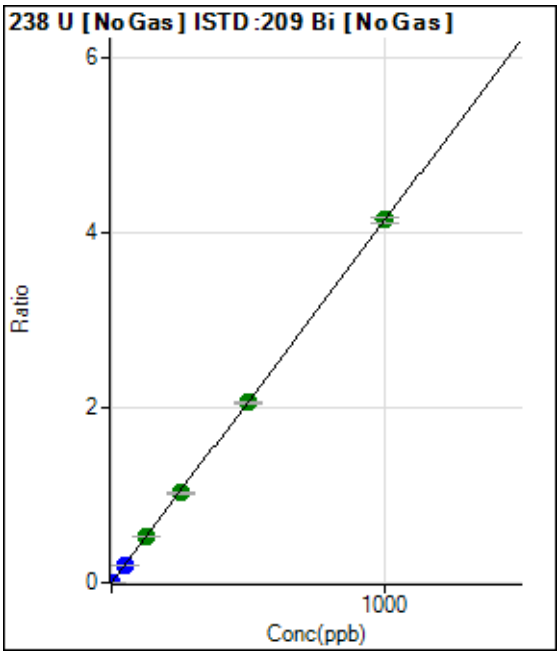


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3576.19	0.0008	P	4.7
2	☐	1.000	1.002	24203.76	0.0052	P	3.1
3	☐	250.000	249.436	5150739.61	1.1062	A	0.6
4	☐	625.000	628.768	12879492.36	2.7873	A	1.2
5	☐	1250.000	1239.006	25304357.68	5.4916	A	1.6
6	☐	2500.000	2497.091	50911980.54	11.0670	A	0.7
7	☐	5000.000	5003.760	103444659.49	22.1757	A	0.4
8	☐			33539.78	0.0075	P	4.2

y = 0.0044 * x + 7.8319E-004
R = 1.0000
DL = 0.02514
BEC = 0.1767

Weight: <None>
Min Conc: 0

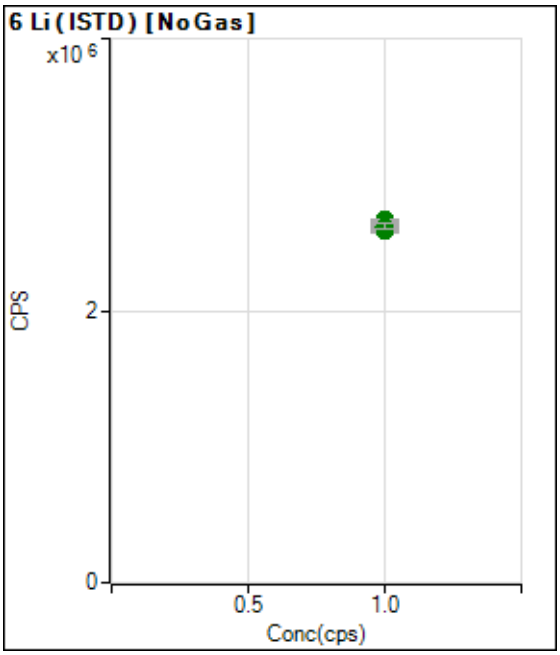
Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	41.67	0.0000	P	19.5
2	☐	1.000	0.967	18589.22	0.0040	P	2.5
3	☐	50.000	48.609	936154.49	0.2011	P	2.2
4	☐	125.000	126.312	2413954.74	0.5225	A	1.7
5	☐	250.000	248.274	4731445.16	1.0269	A	2.3
6	☐	500.000	496.773	9453374.78	2.0547	A	1.1
7	☐	1000.000	1001.951	19330882.72	4.1442	A	1.2
8	☐			1022.30	0.0002	P	17.5

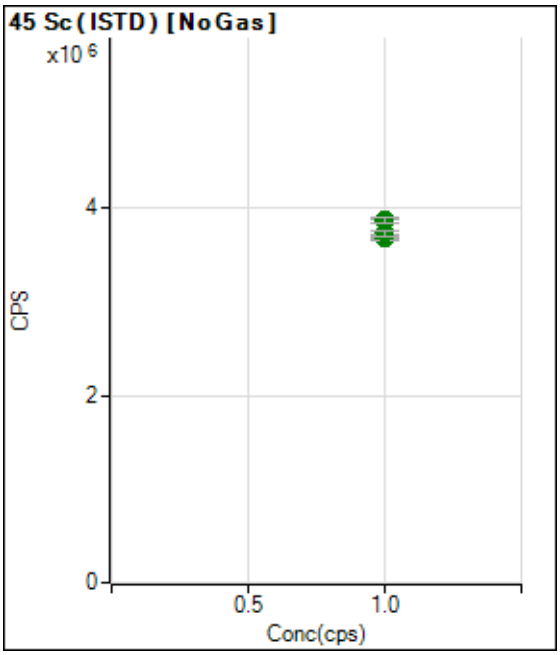
y = 0.0041 * x + 9.1187E-006
R = 1.0000
DL = 0.001289
BEC = 0.002205

Weight: <None>
Min Conc: 0

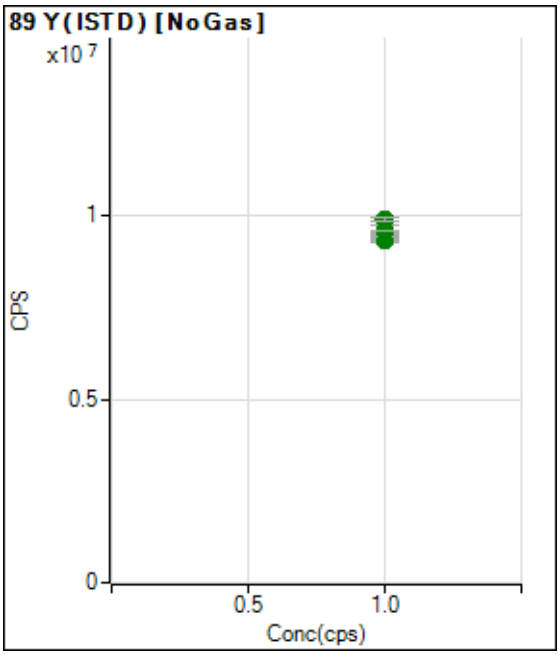


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2586934.03		A	0.8
2	☐	1.000		2631015.56		A	0.9
3	☐	1.000		2639772.04		A	0.8
4	☐	1.000		2604339.24		A	0.2
5	☐	1.000		2632723.06		A	0.5
6	☐	1.000		2604210.55		A	1.4
7	☐	1.000		2669432.15		A	0.5
8	☐	1.000		2620565.47		A	1.8

Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731

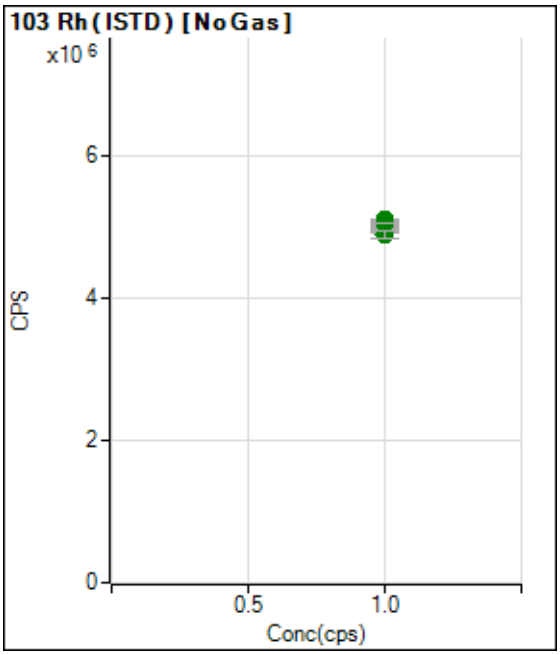


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		3718983.17		A	0.3
2	☐	1.000		3708419.70		A	0.8
3	☐	1.000		3705776.51		A	0.6
4	☐	1.000		3698258.56		A	0.7
5	☐	1.000		3685079.95		A	1.9
6	☐	1.000		3732844.84		A	2.0
7	☐	1.000		3863713.73		A	0.9
8	☐	1.000		3876424.56		A	1.8

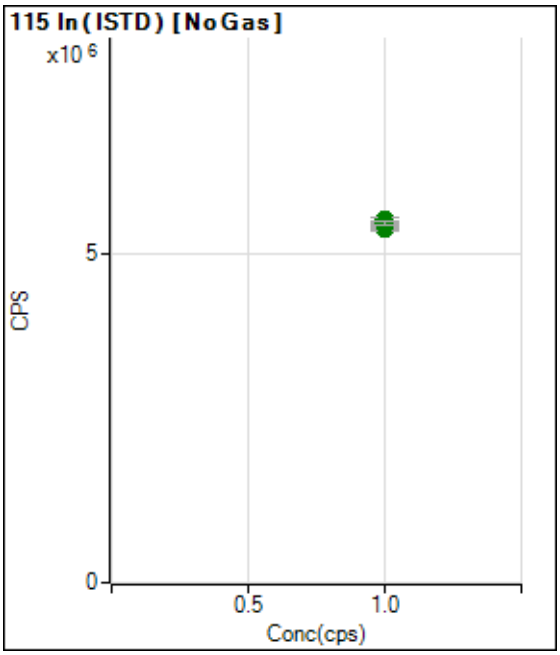


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		9345764.66		A	0.7
2	☐	1.000		9452944.44		A	1.8
3	☐	1.000		9394612.29		A	0.2
4	☐	1.000		9388165.07		A	0.2
5	☐	1.000		9451261.32		A	0.6
6	☐	1.000		9600830.62		A	0.4
7	☐	1.000		9860567.35		A	2.2
8	☐	1.000		9902929.30		A	1.1

Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731

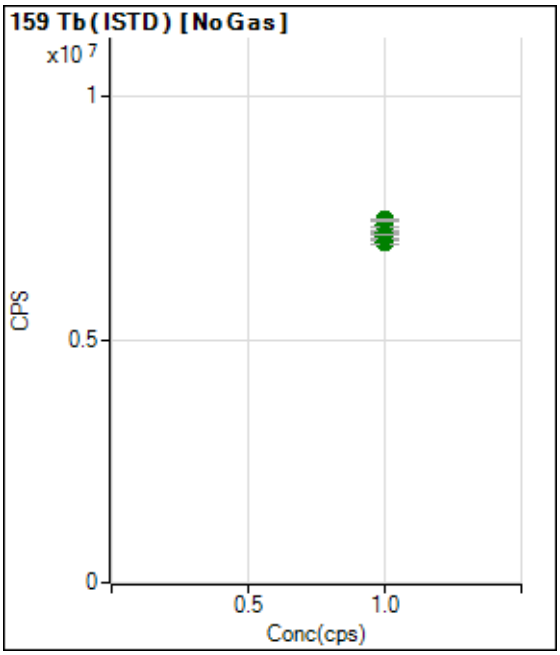


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		5075535.53		A	1.2
2	☐	1.000		5109972.43		A	0.7
3	☐	1.000		5056907.93		A	0.9
4	☐	1.000		5000403.15		A	1.4
5	☐	1.000		4963296.25		A	1.8
6	☐	1.000		4960500.72		A	0.7
7	☐	1.000		5065397.34		A	0.3
8	☐	1.000		4895723.20		A	2.1

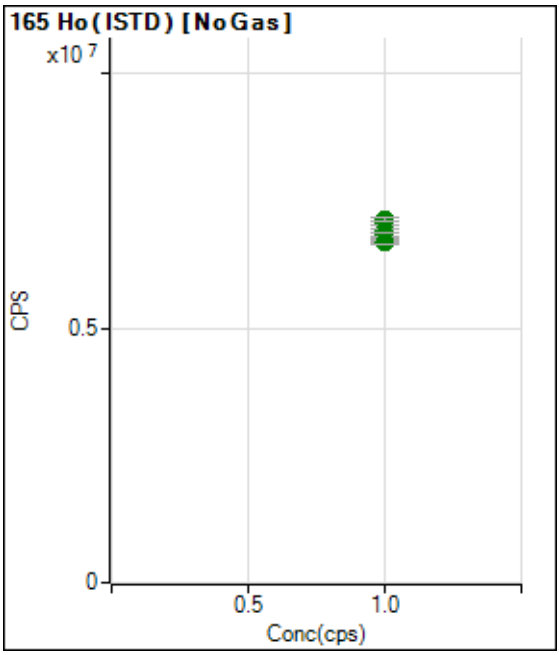


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		5458475.68		A	0.6
2	☐	1.000		5471583.00		A	1.3
3	☐	1.000		5461204.49		A	1.7
4	☐	1.000		5388753.09		A	0.9
5	☐	1.000		5447580.92		A	1.9
6	☐	1.000		5450142.87		A	1.4
7	☐	1.000		5521638.20		A	1.9
8	☐	1.000		5472510.56		A	0.8

Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731

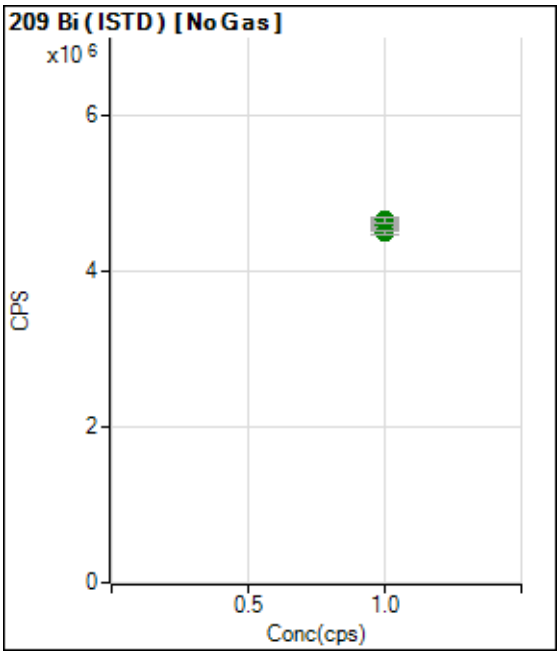


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		6988222.54		A	1.2
2	☐	1.000		7020026.77		A	2.0
3	☐	1.000		7126935.87		A	1.8
4	☐	1.000		6999506.84		A	0.8
5	☐	1.000		7143502.95		A	1.1
6	☐	1.000		7204373.51		A	1.3
7	☐	1.000		7377024.89		A	1.7
8	☐	1.000		7468340.03		A	0.4



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		6693256.14		A	0.9
2	☐	1.000		6727327.45		A	1.6
3	☐	1.000		6746247.29		A	0.9
4	☐	1.000		6698977.88		A	1.7
5	☐	1.000		6835462.31		A	1.0
6	☐	1.000		6907114.30		A	1.0
7	☐	1.000		7070157.80		A	1.2
8	☐	1.000		7121991.39		A	1.0

Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		4566682.99		A	0.7
2	☐	1.000		4635512.53		A	1.0
3	☐	1.000		4656366.67		A	0.6
4	☐	1.000		4621218.89		A	1.5
5	☐	1.000		4608736.43		A	1.9
6	☐	1.000		4600488.58		A	1.4
7	☐	1.000		4664770.80		A	1.5
8	☐	1.000		4495051.91		A	1.2

US EPA Tune Check Report

Operator Name	Jaswal
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\P8021425MS 200.8.b
Acq. Date-Time	2025-02-14 09:54:35
Report Comment	---
Instrument Name	G8403A SG19224459

[No Gas]

Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9		12760	127599.74			1.514	5.000
24		141342	1413421.98			1.331	5.000
25		18295	182946.26			1.443	5.000
26		20598	205979.62			1.084	5.000
59		66881	668810.87			1.417	5.000
113		8102	81024.25			1.588	5.000
115		105403	1054030.73			2.459	5.000
206		24645	246449.81			1.411	5.000
207		21503	215030.32			1.724	5.000
208		51307	513066.52			1.192	5.000
220		1	7.60			20.490	

Mass	RSD% (Flag)
9	
24	
25	
26	
59	
113	
115	
206	
207	
208	
220	

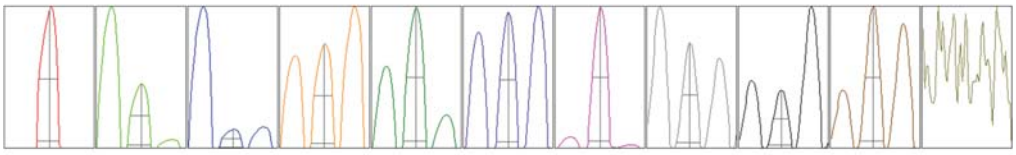
Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
9	12558	12748	12687	13079	12729
24	138617	140369	141798	143360	142565
25	17989	18175	18234	18695	18380
26	20283	20555	20597	20909	20646
59	66146	66441	66844	68517	66458
113	8227	8043	8052	8244	7946
115	108635	105273	102766	107332	103009
206	24187	24582	24702	25159	24596
207	21110	21390	21437	22117	21462
208	50620	51239	51460	52246	50968

US EPA Tune Check Report

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
220	1	1	1	1	1

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	22402.98	9.05	8.90 - 9.10	
24	242002.75	24.05	23.90 - 24.10	
25	31747.95	25.05	24.90 - 25.10	
26	35583.58	26.00	25.90 - 26.10	
59	121821.49	59.00	58.90 - 59.10	
113	15911.04	113.05	112.90 - 113.10	
115	209922.75	115.05	114.90 - 115.10	
206	48894.04	205.95	205.90 - 206.10	
207	41779.63	206.95	206.90 - 207.10	
208	101684.81	207.95	207.90 - 208.10	
220			-	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.62	0.742	0.900	
24	0.62	0.787	0.900	
25	0.61	0.782	0.900	
26	0.61	0.784	0.900	
59	0.58	0.780	0.900	
113	0.53	0.730	0.900	
115	0.52	0.734	0.900	
206	0.51	0.796	0.900	
207	0.51	0.791	0.900	
208	0.51	0.807	0.900	
220				

Integration Time [sec] 0.1
Acquisition Time [sec] 256.770000000002
Y Axis Linear

Tune Parameters

Plasma Parameters

Plasma Mode --- Nebulizer Gas 0.60 L/min Dilution Gas 0.40 L/min

US EPA Tune Check Report

RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.40 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	-6.0 V	Omega Lens	9.9 V	Deflect	14.6 V
Extract 2	-250.0 V	Cell Entrance	-30 V	Plate Bias	-50 V
Omega Bias	-110 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	4.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	---	OctP RF	160 V		

QP Parameters

Mass Gain	103	Axis Gain	0.9958	QP Bias	-4.0 V
Mass Offset	125	Axis Offset	0.07		

Hardware Settings

Torch

Torch H	0.0 mm	Torch V	1.5 mm		

EM

Discriminator	4.0 mV	Analog HV	2182 V	Pulse HV	1093 V

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S0	Instrumnet Name :	P8
Client Sample ID :	S0	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:31:43	DataFile Name :	004CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-1	-0.02	0.01	0.01	0.00	N/A	ppb
Antimony	121-1	0.00	0.00	0.00	0.00	N/A	ppb
Arsenic	75-1	0.00	0.02	-0.02	0.00	N/A	ppb
Barium	135-1	-0.05	-0.04	0.08	0.00	N/A	ppb
Barium	137-1	0.04	-0.04	0.00	0.00	N/A	ppb
Beryllium	9-1	0.01	0.01	-0.02	0.00	N/A	ppb
Bismuth	209-1				100		%
Bromine	81-1						cps
Cadmium	106-1	0.67	-0.99	0.32	0.00	N/A	ppb
Cadmium	108-1	-0.12	0.02	0.09	0.00	N/A	ppb
Cadmium	111-1	0.05	-0.07	0.01	0.00	N/A	ppb
Calcium	43-1	0.63	-0.01	-0.62	0.00	N/A	ppb
Calcium	44-1	-0.28	0.93	-0.65	0.00	N/A	ppb
Carbon	12-1						cps
Chlorine	35-1						cps
Chromium	52-1	0.02	0.00	-0.02	0.00	N/A	ppb
Cobalt	59-1	0.00	0.00	-0.01	0.00	N/A	ppb
Copper	63-1	-0.03	0.06	-0.03	0.00	N/A	ppb
Dysprosium	156-1						cps
Erbium	164-1						cps
Gadolinium	160-1						cps
Holmium	165-1				100		%
Indium	115-1				100		%
Iron	54-1						ppb
Iron	56-1	1.39	-1.06	-0.33	0.00	N/A	ppb
Iron	57-1	2.59	-1.76	-0.83	0.00	N/A	ppb
Krypton	83-1						cps
Lead	206-1	-0.01	-0.02	0.03	0.00	N/A	ppb
Lead	207-1	0.01	-0.01	0.00	0.00	N/A	ppb
Lead	208-1	-0.01	0.00	0.01	0.00	N/A	ppb
Lithium	6-1				100		%
Magnesium	24-1	0.48	-0.29	-0.20	0.00	N/A	ppb
Manganese	55-1	0.03	0.02	-0.05	0.00	N/A	ppb
Molybdenum	94-1	-0.01	0.01	0.00	0.00	N/A	ppb
Molybdenum	95-1	0.01	0.00	0.00	0.00	N/A	ppb
Molybdenum	96-1	-0.01	0.01	0.00	0.00	N/A	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S0	Instrumnet Name :	P8
Client Sample ID :	S0	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:31:43	DataFile Name :	004CALB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Molybdenum	97-1	0.03	-0.03	0.01	0.00	N/A	ppb
Molybdenum	98-1	0.00	0.01	0.00	0.00	N/A	ppb
Neodymium	150-1						cps
Nickel	60-1	0.12	-0.02	-0.10	0.00	N/A	ppb
Phosphorus	31-1	-14.60	-20.31	-16.84	-17.25		ppb
Potassium	39-1	2.35	-4.87	2.51	0.00	N/A	ppb
Rhodium	103-1				100		%
Scandium	45-1				100		%
Selenium	82-1	0.07	-0.11	0.03	0.00	N/A	ppb
Selenium	77-1	-0.15	0.03	0.12	0.00	N/A	ppb
Selenium	78-1	3.98	-1.10	-2.88	0.00	N/A	ppb
Silicon	28-1	0.51	-1.22	0.71	0.00	N/A	ppb
Silver	109-1	0.00	0.00	0.00	0.00	N/A	ppb
Silver	107-1	0.00	0.00	0.00	0.00	N/A	ppb
Sodium	23-1	6.57	-2.11	-4.46	0.00	N/A	ppb
Strontium	86-1	0.44	0.83	-1.26	0.00	N/A	ppb
Strontium	88-1	-0.62	1.34	-0.71	0.00	N/A	ppb
Sulfur	34-1	43.92	-431.81	-262.11	-216.67		ppb
Terbium	159-1				100		%
Thallium	203-1	0.00	0.00	0.00	0.00	N/A	ppb
Thallium	205-1	0.00	0.00	0.00	0.00	N/A	ppb
Tin	118-1	-0.01	0.02	-0.02	0.00	N/A	ppb
Titanium	47-1	-0.01	0.00	0.02	0.00	N/A	ppb
Uranium	238-1	0.00	0.00	0.00	0.00	N/A	ppb
Vanadium	51-1	0.00	0.00	0.00	0.00	N/A	ppb
Ytterbium	172-1						cps
Ytterbium	176-1						cps
Yttrium	89-1				100		%
Zinc	66-1	0.01	-0.03	0.03	0.00	N/A	ppb
Zirconium	90-1	0.00	0.01	-0.01	0.00	N/A	ppb
Zirconium	91-1	0.00	0.01	0.00	0.00	N/A	ppb

Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S2	Instrumnet Name :	P8
Client Sample ID :	S2	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:34:46	DataFile Name :	005CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-1	20.52	20.50	20.61	20.55	0.29	ppb
Antimony	121-1	2.21	1.99	2.02	2.07	5.72	ppb
Arsenic	75-1	1.20	1.19	1.06	1.15	6.90	ppb
Barium	135-1	10.26	9.95	10.15	10.12	1.55	ppb
Barium	137-1	10.50	10.59	10.40	10.49	0.91	ppb
Beryllium	9-1	1.11	1.12	1.05	1.09	3.82	ppb
Bismuth	209-1				102		%
Bromine	81-1						cps
Cadmium	106-1	1.17	2.18	1.48	1.61	32.07	ppb
Cadmium	108-1	0.86	1.42	1.03	1.10	25.85	ppb
Cadmium	111-1	1.11	1.12	1.14	1.12	1.36	ppb
Calcium	43-1	563.06	566.12	547.32	558.83	1.81	ppb
Calcium	44-1	553.74	558.78	546.01	552.84	1.16	ppb
Carbon	12-1						cps
Chlorine	35-1						cps
Chromium	52-1	2.27	2.30	2.27	2.28	0.80	ppb
Cobalt	59-1	1.12	1.19	1.12	1.14	3.31	ppb
Copper	63-1	2.21	2.22	2.15	2.19	1.71	ppb
Dysprosium	156-1						cps
Erbium	164-1						cps
Gadolinium	160-1						cps
Holmium	165-1				101		%
Indium	115-1				100		%
Iron	54-1						ppb
Iron	56-1	56.98	58.66	57.90	57.85	1.45	ppb
Iron	57-1	51.54	63.09	57.11	57.25	10.09	ppb
Krypton	83-1						cps
Lead	206-1	0.97	1.08	1.01	1.02	5.89	ppb
Lead	207-1	0.98	1.02	0.97	0.99	2.95	ppb
Lead	208-1	0.96	1.03	1.01	1.00	3.61	ppb
Lithium	6-1				102		%
Magnesium	24-1	535.26	543.74	527.34	535.45	1.53	ppb
Manganese	55-1	1.08	1.08	1.07	1.08	0.54	ppb
Molybdenum	94-1	6.25	6.47	6.30	6.34	1.79	ppb
Molybdenum	95-1	5.43	5.30	5.15	5.29	2.61	ppb
Molybdenum	96-1	5.50	5.36	5.23	5.36	2.51	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S2	Instrumnet Name :	P8
Client Sample ID :	S2	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:34:46	DataFile Name :	005CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Molybdenum	97-1	5.50	5.33	4.94	5.26	5.46	ppb
Molybdenum	98-1	5.18	5.36	5.02	5.19	3.33	ppb
Neodymium	150-1						cps
Nickel	60-1	0.95	1.32	0.79	1.02	26.39	ppb
Phosphorus	31-1	17.75	17.51	16.50	17.25	3.85	ppb
Potassium	39-1	539.78	544.36	528.18	537.44	1.55	ppb
Rhodium	103-1				101		%
Scandium	45-1				100		%
Selenium	82-1	5.76	6.01	5.66	5.81	3.04	ppb
Selenium	77-1	5.66	5.09	5.67	5.47	6.11	ppb
Selenium	78-1	8.01	5.49	-5.51	2.66	270.14	ppb
Silicon	28-1	5.74	5.43	4.71	5.29	9.92	ppb
Silver	109-1	1.01	1.01	1.02	1.01	0.58	ppb
Silver	107-1	0.91	0.97	0.98	0.95	4.28	ppb
Sodium	23-1	560.49	577.51	557.46	565.15	1.91	ppb
Strontium	86-1	27.24	23.10	22.41	24.25	10.78	ppb
Strontium	88-1	27.20	27.21	23.87	26.09	7.39	ppb
Sulfur	34-1	297.65	293.32	59.03	216.67	63.01	ppb
Terbium	159-1				100		%
Thallium	203-1	1.06	1.04	1.06	1.05	0.96	ppb
Thallium	205-1	1.05	1.05	1.02	1.04	1.79	ppb
Tin	118-1	5.30	5.15	5.23	5.23	1.52	ppb
Titanium	47-1	5.23	5.37	5.59	5.40	3.34	ppb
Uranium	238-1	0.96	0.99	0.95	0.97	2.52	ppb
Vanadium	51-1	5.27	5.52	5.39	5.39	2.35	ppb
Ytterbium	172-1						cps
Ytterbium	176-1						cps
Yttrium	89-1				101		%
Zinc	66-1	5.75	5.75	5.43	5.64	3.23	ppb
Zirconium	90-1	1.07	1.00	0.98	1.02	4.44	ppb
Zirconium	91-1	1.09	1.05	1.00	1.05	3.99	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S3	Instrumnet Name :	P8
Client Sample ID :	S3	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:37:51	DataFile Name :	006CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-1	1021.70	1034.61	1042.06	1032.79	1.00	ppb
Antimony	121-1	48.25	49.35	49.23	48.94	1.23	ppb
Arsenic	75-1	52.22	50.71	50.36	51.10	1.93	ppb
Barium	135-1	242.13	246.15	245.77	244.69	0.91	ppb
Barium	137-1	243.93	245.14	245.63	244.90	0.36	ppb
Beryllium	9-1	49.69	50.80	50.83	50.44	1.30	ppb
Bismuth	209-1				102		%
Bromine	81-1						cps
Cadmium	106-1	54.12	52.81	49.03	51.98	5.08	ppb
Cadmium	108-1	50.08	52.94	52.83	51.95	3.12	ppb
Cadmium	111-1	49.73	50.54	49.78	50.02	0.90	ppb
Calcium	43-1	5210.51	5214.73	5277.28	5234.17	0.71	ppb
Calcium	44-1	5326.10	5313.09	5265.84	5301.67	0.60	ppb
Carbon	12-1						cps
Chlorine	35-1						cps
Chromium	52-1	51.25	50.76	51.41	51.14	0.67	ppb
Cobalt	59-1	50.38	51.30	52.16	51.28	1.74	ppb
Copper	63-1	520.27	511.02	508.45	513.25	1.21	ppb
Dysprosium	156-1						cps
Erbium	164-1						cps
Gadolinium	160-1						cps
Holmium	165-1				101		%
Indium	115-1				100		%
Iron	54-1						ppb
Iron	56-1	2622.42	2609.49	2646.70	2626.20	0.72	ppb
Iron	57-1	2661.52	2691.49	2700.09	2684.37	0.75	ppb
Krypton	83-1						cps
Lead	206-1	240.21	241.12	243.43	241.59	0.69	ppb
Lead	207-1	242.88	243.60	247.52	244.67	1.02	ppb
Lead	208-1	249.08	248.11	251.11	249.44	0.61	ppb
Lithium	6-1				102		%
Magnesium	24-1	5123.49	5130.02	5183.06	5145.52	0.63	ppb
Manganese	55-1	512.37	511.96	508.91	511.08	0.37	ppb
Molybdenum	94-1	507.35	512.03	512.55	510.64	0.56	ppb
Molybdenum	95-1	514.65	510.01	511.09	511.92	0.47	ppb
Molybdenum	96-1	511.22	501.49	521.14	511.29	1.92	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S3	Instrumnet Name :	P8
Client Sample ID :	S3	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:37:51	DataFile Name :	006CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Molybdenum	97-1	511.12	510.80	513.85	511.93	0.33	ppb
Molybdenum	98-1	517.96	506.95	513.53	512.81	1.08	ppb
Neodymium	150-1						cps
Nickel	60-1	50.43	50.69	51.69	50.94	1.31	ppb
Phosphorus	31-1	1045.52	1038.44	1053.68	1045.88	0.73	ppb
Potassium	39-1	2564.56	2553.66	2603.40	2573.87	1.02	ppb
Rhodium	103-1				100		%
Scandium	45-1				100		%
Selenium	82-1	53.04	53.25	53.87	53.39	0.81	ppb
Selenium	77-1	51.53	51.38	52.68	51.86	1.37	ppb
Selenium	78-1	52.00	52.37	55.29	53.22	3.38	ppb
Silicon	28-1	59.94	58.99	61.58	60.17	2.18	ppb
Silver	109-1	50.17	50.62	50.40	50.40	0.46	ppb
Silver	107-1	49.94	50.05	50.00	50.00	0.12	ppb
Sodium	23-1	5398.31	5396.96	5458.70	5417.99	0.65	ppb
Strontium	86-1	1261.25	1271.47	1297.45	1276.72	1.46	ppb
Strontium	88-1	1263.16	1265.86	1272.81	1267.28	0.39	ppb
Sulfur	34-1	1537.15	1339.91	1299.15	1392.07	9.14	ppb
Terbium	159-1				102		%
Thallium	203-1	48.60	48.90	49.66	49.05	1.12	ppb
Thallium	205-1	49.10	49.41	50.19	49.57	1.13	ppb
Tin	118-1	49.85	49.71	49.38	49.65	0.49	ppb
Titanium	47-1	508.65	513.79	512.15	511.53	0.51	ppb
Uranium	238-1	47.97	48.00	49.85	48.61	2.22	ppb
Vanadium	51-1	49.46	50.08	50.64	50.06	1.17	ppb
Ytterbium	172-1						cps
Ytterbium	176-1						cps
Yttrium	89-1				101		%
Zinc	66-1	512.15	516.49	518.39	515.68	0.62	ppb
Zirconium	90-1	50.03	50.36	50.50	50.30	0.48	ppb
Zirconium	91-1	50.52	50.21	50.71	50.48	0.49	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S4	Instrumnet Name :	P8
Client Sample ID :	S4	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:40:54	DataFile Name :	007CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-1	2552.15	2576.73	2551.35	2560.08	0.56	ppb
Antimony	121-1	120.93	120.31	121.58	120.94	0.52	ppb
Arsenic	75-1	124.90	125.68	125.62	125.40	0.34	ppb
Barium	135-1	593.74	605.92	607.24	602.30	1.24	ppb
Barium	137-1	612.78	609.57	617.00	613.12	0.61	ppb
Beryllium	9-1	125.12	126.57	126.22	125.97	0.60	ppb
Bismuth	209-1				101		%
Bromine	81-1						cps
Cadmium	106-1	127.59	124.92	128.45	126.99	1.45	ppb
Cadmium	108-1	124.53	127.25	123.90	125.23	1.42	ppb
Cadmium	111-1	123.82	124.06	124.51	124.13	0.28	ppb
Calcium	43-1	12959.07	13034.55	13007.16	13000.26	0.29	ppb
Calcium	44-1	12983.14	12984.74	13127.36	13031.74	0.64	ppb
Carbon	12-1						cps
Chlorine	35-1						cps
Chromium	52-1	126.99	128.47	128.86	128.10	0.77	ppb
Cobalt	59-1	130.79	129.39	130.76	130.31	0.62	ppb
Copper	63-1	1252.64	1244.97	1257.58	1251.73	0.51	ppb
Dysprosium	156-1						cps
Erbium	164-1						cps
Gadolinium	160-1						cps
Holmium	165-1				100		%
Indium	115-1				99		%
Iron	54-1						ppb
Iron	56-1	6448.76	6496.02	6582.08	6508.96	1.04	ppb
Iron	57-1	6473.92	6637.17	6649.67	6586.92	1.49	ppb
Krypton	83-1						cps
Lead	206-1	620.86	638.11	635.48	631.48	1.47	ppb
Lead	207-1	639.71	633.58	640.48	637.92	0.59	ppb
Lead	208-1	621.34	628.69	636.28	628.77	1.19	ppb
Lithium	6-1				101		%
Magnesium	24-1	12646.52	12805.74	12642.91	12698.39	0.73	ppb
Manganese	55-1	1260.24	1271.17	1269.48	1266.96	0.46	ppb
Molybdenum	94-1	1266.36	1264.64	1246.88	1259.29	0.86	ppb
Molybdenum	95-1	1264.18	1268.77	1259.15	1264.03	0.38	ppb
Molybdenum	96-1	1261.35	1278.47	1253.68	1264.50	1.00	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S4	Instrumnet Name :	P8
Client Sample ID :	S4	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:40:54	DataFile Name :	007CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Molybdenum	97-1	1290.13	1283.56	1263.70	1279.13	1.08	ppb
Molybdenum	98-1	1269.77	1261.14	1242.00	1257.64	1.13	ppb
Neodymium	150-1						cps
Nickel	60-1	124.62	126.27	124.88	125.26	0.71	ppb
Phosphorus	31-1	2487.24	2579.03	2569.16	2545.15	1.98	ppb
Potassium	39-1	6290.09	6363.72	6344.57	6332.79	0.60	ppb
Rhodium	103-1				99		%
Scandium	45-1				99		%
Selenium	82-1	131.96	131.08	131.52	131.52	0.34	ppb
Selenium	77-1	129.77	129.67	130.70	130.05	0.44	ppb
Selenium	78-1	134.58	136.85	137.72	136.39	1.19	ppb
Silicon	28-1	145.92	156.87	150.34	151.04	3.65	ppb
Silver	109-1	123.79	122.63	126.05	124.16	1.40	ppb
Silver	107-1	123.49	122.28	123.06	122.94	0.50	ppb
Sodium	23-1	13212.02	13490.91	13321.91	13341.61	1.05	ppb
Strontium	86-1	3153.98	3129.16	3127.20	3136.78	0.48	ppb
Strontium	88-1	3190.51	3216.37	3207.73	3204.87	0.41	ppb
Sulfur	34-1	2335.46	2574.51	2408.76	2439.58	5.02	ppb
Terbium	159-1				100		%
Thallium	203-1	119.90	124.35	124.58	122.94	2.14	ppb
Thallium	205-1	123.60	127.95	127.16	126.24	1.84	ppb
Tin	118-1	121.44	121.63	121.96	121.67	0.22	ppb
Titanium	47-1	1256.58	1267.49	1269.38	1264.48	0.55	ppb
Uranium	238-1	123.91	128.22	126.81	126.31	1.74	ppb
Vanadium	51-1	126.94	125.87	127.10	126.64	0.53	ppb
Ytterbium	172-1						cps
Ytterbium	176-1						cps
Yttrium	89-1				100		%
Zinc	66-1	1278.63	1311.47	1307.36	1299.15	1.38	ppb
Zirconium	90-1	123.88	125.25	124.98	124.71	0.58	ppb
Zirconium	91-1	124.90	125.25	124.76	124.97	0.20	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S5	Instrumnet Name :	P8
Client Sample ID :	S5	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:43:59	DataFile Name :	008CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-1	5113.17	5108.45	4912.40	5044.67	2.27	ppb
Antimony	121-1	241.60	242.92	246.95	243.82	1.14	ppb
Arsenic	75-1	243.81	245.98	243.88	244.56	0.50	ppb
Barium	135-1	1231.65	1212.07	1223.93	1222.55	0.81	ppb
Barium	137-1	1231.46	1198.02	1228.44	1219.31	1.52	ppb
Beryllium	9-1	241.32	243.62	242.10	242.35	0.48	ppb
Bismuth	209-1				101		%
Bromine	81-1						cps
Cadmium	106-1	252.89	246.69	252.89	250.82	1.43	ppb
Cadmium	108-1	244.67	243.93	249.52	246.04	1.23	ppb
Cadmium	111-1	243.07	244.69	246.36	244.71	0.67	ppb
Calcium	43-1	25681.46	25849.99	24988.08	25506.51	1.79	ppb
Calcium	44-1	26027.85	25991.05	25736.06	25918.32	0.61	ppb
Carbon	12-1						cps
Chlorine	35-1						cps
Chromium	52-1	253.64	255.78	246.88	252.10	1.84	ppb
Cobalt	59-1	256.30	259.96	248.60	254.95	2.27	ppb
Copper	63-1	2453.50	2467.20	2448.95	2456.55	0.39	ppb
Dysprosium	156-1						cps
Erbium	164-1						cps
Gadolinium	160-1						cps
Holmium	165-1				102		%
Indium	115-1				100		%
Iron	54-1						ppb
Iron	56-1	12985.99	12906.30	12616.05	12836.12	1.52	ppb
Iron	57-1	12809.77	13184.27	12355.84	12783.29	3.25	ppb
Krypton	83-1						cps
Lead	206-1	1237.72	1245.67	1235.62	1239.67	0.43	ppb
Lead	207-1	1275.19	1250.40	1209.96	1245.18	2.64	ppb
Lead	208-1	1252.61	1248.86	1215.55	1239.01	1.65	ppb
Lithium	6-1				102		%
Magnesium	24-1	25090.08	25660.89	24464.37	25071.78	2.39	ppb
Manganese	55-1	2509.65	2529.08	2457.29	2498.67	1.49	ppb
Molybdenum	94-1	2459.49	2462.43	2464.75	2462.22	0.11	ppb
Molybdenum	95-1	2469.16	2495.59	2473.16	2479.30	0.57	ppb
Molybdenum	96-1	2476.59	2486.55	2457.21	2473.45	0.60	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S5	Instrumnet Name :	P8
Client Sample ID :	S5	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:43:59	DataFile Name :	008CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Molybdenum	97-1	2509.91	2456.78	2515.96	2494.22	1.31	ppb
Molybdenum	98-1	2445.99	2484.84	2483.51	2471.45	0.89	ppb
Neodymium	150-1						cps
Nickel	60-1	245.16	249.38	240.17	244.90	1.88	ppb
Phosphorus	31-1	5050.75	5155.87	4896.07	5034.23	2.60	ppb
Potassium	39-1	12843.83	12809.97	12380.18	12677.99	2.04	ppb
Rhodium	103-1				98		%
Scandium	45-1				99		%
Selenium	82-1	256.60	256.98	255.64	256.41	0.27	ppb
Selenium	77-1	252.26	257.25	252.72	254.08	1.09	ppb
Selenium	78-1	257.98	266.77	259.75	261.50	1.78	ppb
Silicon	28-1	304.60	299.27	290.44	298.10	2.40	ppb
Silver	109-1	251.31	250.72	250.60	250.88	0.15	ppb
Silver	107-1	245.51	250.21	248.49	248.07	0.96	ppb
Sodium	23-1	26655.88	26982.39	25967.19	26535.15	1.95	ppb
Strontium	86-1	6172.47	6149.97	6169.57	6164.00	0.20	ppb
Strontium	88-1	6260.26	6216.91	6152.00	6209.72	0.88	ppb
Sulfur	34-1	5345.80	5421.45	3955.30	4907.52	16.82	ppb
Terbium	159-1				102		%
Thallium	203-1	243.80	244.67	239.51	242.66	1.14	ppb
Thallium	205-1	249.39	250.50	246.77	248.89	0.77	ppb
Tin	118-1	241.71	244.75	245.02	243.83	0.75	ppb
Titanium	47-1	2556.59	2573.79	2508.70	2546.36	1.32	ppb
Uranium	238-1	253.32	249.28	242.23	248.27	2.26	ppb
Vanadium	51-1	254.71	254.75	248.44	252.63	1.44	ppb
Ytterbium	172-1						cps
Ytterbium	176-1						cps
Yttrium	89-1				101		%
Zinc	66-1	2582.47	2586.72	2529.71	2566.30	1.24	ppb
Zirconium	90-1	248.60	247.68	246.52	247.60	0.42	ppb
Zirconium	91-1	240.76	244.90	244.23	243.30	0.91	ppb

Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S6	Instrumnet Name :	P8
Client Sample ID :	S6	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:47:02	DataFile Name :	009CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-1	10227.73	10025.20	10055.42	10102.79	1.08	ppb
Antimony	121-1	490.44	494.66	492.60	492.57	0.43	ppb
Arsenic	75-1	481.10	489.46	493.24	487.93	1.27	ppb
Barium	135-1	2425.06	2505.93	2466.41	2465.80	1.64	ppb
Barium	137-1	2448.79	2470.47	2434.51	2451.26	0.74	ppb
Beryllium	9-1	504.34	505.14	500.52	503.33	0.49	ppb
Bismuth	209-1				101		%
Bromine	81-1						cps
Cadmium	106-1	489.48	498.13	506.58	498.07	1.72	ppb
Cadmium	108-1	486.08	496.72	500.98	494.59	1.55	ppb
Cadmium	111-1	484.52	494.82	494.08	491.14	1.17	ppb
Calcium	43-1	51807.79	49901.62	50938.56	50882.66	1.88	ppb
Calcium	44-1	52633.85	51477.47	52106.71	52072.68	1.11	ppb
Carbon	12-1						cps
Chlorine	35-1						cps
Chromium	52-1	515.82	499.07	508.33	507.74	1.65	ppb
Cobalt	59-1	520.04	492.99	507.15	506.73	2.67	ppb
Copper	63-1	4950.86	4949.00	4998.70	4966.19	0.57	ppb
Dysprosium	156-1						cps
Erbium	164-1						cps
Gadolinium	160-1						cps
Holmium	165-1				103		%
Indium	115-1				100		%
Iron	54-1						ppb
Iron	56-1	26342.34	25794.28	25936.78	26024.47	1.09	ppb
Iron	57-1	26249.05	25370.07	25854.54	25824.55	1.70	ppb
Krypton	83-1						cps
Lead	206-1	2504.99	2481.30	2491.24	2492.51	0.48	ppb
Lead	207-1	2490.60	2447.56	2536.38	2491.51	1.78	ppb
Lead	208-1	2495.69	2480.26	2515.32	2497.09	0.70	ppb
Lithium	6-1				101		%
Magnesium	24-1	50082.25	50080.20	50418.56	50193.67	0.39	ppb
Manganese	55-1	5129.36	5018.39	5025.41	5057.72	1.23	ppb
Molybdenum	94-1	4942.12	4917.14	5011.10	4956.79	0.98	ppb
Molybdenum	95-1	4959.03	4922.35	5058.02	4979.80	1.41	ppb
Molybdenum	96-1	4900.33	4864.40	5062.85	4942.53	2.14	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S6	Instrumnet Name :	P8
Client Sample ID :	S6	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:47:02	DataFile Name :	009CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Molybdenum	97-1	4939.43	4893.90	5001.88	4945.07	1.10	ppb
Molybdenum	98-1	4954.93	4951.11	5029.48	4978.51	0.89	ppb
Neodymium	150-1						cps
Nickel	60-1	498.99	475.37	480.80	485.05	2.55	ppb
Phosphorus	31-1	10209.11	9932.32	10046.99	10062.81	1.38	ppb
Potassium	39-1	26174.49	24807.65	25527.06	25503.07	2.68	ppb
Rhodium	103-1				98		%
Scandium	45-1				100		%
Selenium	82-1	506.13	506.14	510.73	507.66	0.52	ppb
Selenium	77-1	496.41	508.90	511.18	505.50	1.57	ppb
Selenium	78-1	499.89	511.19	517.69	509.59	1.77	ppb
Silicon	28-1	595.48	573.44	585.68	584.86	1.89	ppb
Silver	109-1	488.61	497.08	497.60	494.43	1.02	ppb
Silver	107-1	488.68	497.46	494.40	493.52	0.90	ppb
Sodium	23-1	54204.78	52181.29	53427.90	53271.33	1.92	ppb
Strontium	86-1	12149.49	12352.31	12257.45	12253.08	0.83	ppb
Strontium	88-1	12288.41	12376.58	12282.08	12315.69	0.43	ppb
Sulfur	34-1	10848.64	9173.43	9586.82	9869.63	8.84	ppb
Terbium	159-1				103		%
Thallium	203-1	508.43	496.20	506.05	503.56	1.29	ppb
Thallium	205-1	496.33	495.74	503.97	498.68	0.92	ppb
Tin	118-1	487.05	497.05	492.28	492.13	1.02	ppb
Titanium	47-1	5141.58	5071.69	5066.64	5093.31	0.82	ppb
Uranium	238-1	490.62	498.72	500.97	496.77	1.10	ppb
Vanadium	51-1	507.49	494.24	504.39	502.04	1.38	ppb
Ytterbium	172-1						cps
Ytterbium	176-1						cps
Yttrium	89-1				103		%
Zinc	66-1	5139.46	4936.21	4978.15	5017.94	2.14	ppb
Zirconium	90-1	496.55	495.22	501.72	497.83	0.69	ppb
Zirconium	91-1	488.36	484.96	490.29	487.87	0.55	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S7	Instrumnet Name :	P8
Client Sample ID :	S7	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:50:08	DataFile Name :	010CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-1	19975.49	20120.12	20400.47	20165.36	1.07	ppb
Antimony	121-1	985.11	1014.44	1017.92	1005.82	1.79	ppb
Arsenic	75-1	1018.80	1002.97	1000.10	1007.29	1.00	ppb
Barium	135-1	4937.37	5090.79	5053.03	5027.06	1.59	ppb
Barium	137-1	4972.87	5073.13	5055.35	5033.78	1.06	ppb
Beryllium	9-1	987.05	1003.57	1009.69	1000.10	1.17	ppb
Bismuth	209-1				102		%
Bromine	81-1						cps
Cadmium	106-1	1006.64	994.77	999.82	1000.41	0.60	ppb
Cadmium	108-1	993.49	1012.60	1004.62	1003.57	0.96	ppb
Cadmium	111-1	976.58	1005.37	1035.63	1005.86	2.94	ppb
Calcium	43-1	103049.63	105103.91	103940.15	104031.23	0.99	ppb
Calcium	44-1	102205.17	103066.55	103905.56	103059.09	0.82	ppb
Carbon	12-1						cps
Chlorine	35-1						cps
Chromium	52-1	994.30	989.36	1001.81	995.16	0.63	ppb
Cobalt	59-1	998.09	989.97	995.95	994.67	0.42	ppb
Copper	63-1	9826.56	10141.88	10112.24	10026.89	1.74	ppb
Dysprosium	156-1						cps
Erbium	164-1						cps
Gadolinium	160-1						cps
Holmium	165-1				106		%
Indium	115-1				101		%
Iron	54-1						ppb
Iron	56-1	50700.07	50727.68	51820.77	51082.84	1.25	ppb
Iron	57-1	51718.13	50442.95	50595.47	50918.85	1.37	ppb
Krypton	83-1						cps
Lead	206-1	4964.95	5016.20	5036.67	5005.94	0.74	ppb
Lead	207-1	4976.23	5038.26	4997.81	5004.10	0.63	ppb
Lead	208-1	4985.27	5025.70	5000.31	5003.76	0.41	ppb
Lithium	6-1				103		%
Magnesium	24-1	99853.16	100021.86	100697.92	100190.98	0.45	ppb
Manganese	55-1	9989.62	9938.44	9978.34	9968.80	0.27	ppb
Molybdenum	94-1	10171.05	10001.58	9915.44	10029.36	1.30	ppb
Molybdenum	95-1	10064.01	9936.10	10038.66	10012.92	0.68	ppb
Molybdenum	96-1	10083.59	10029.71	9985.69	10033.00	0.49	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S7	Instrumnet Name :	P8
Client Sample ID :	S7	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:50:08	DataFile Name :	010CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Molybdenum	97-1	10099.30	10010.48	9964.23	10024.67	0.68	ppb
Molybdenum	98-1	10070.63	9870.53	10107.71	10016.29	1.27	ppb
Neodymium	150-1						cps
Nickel	60-1	1010.68	1011.09	1004.24	1008.67	0.38	ppb
Phosphorus	31-1	19707.93	19912.76	20235.61	19952.10	1.33	ppb
Potassium	39-1	50524.39	50359.95	51133.81	50672.72	0.80	ppb
Rhodium	103-1				100		%
Scandium	45-1				104		%
Selenium	82-1	1016.44	984.48	979.82	993.58	2.01	ppb
Selenium	77-1	1017.88	980.35	988.29	995.51	1.99	ppb
Selenium	78-1	1017.92	974.17	980.18	990.76	2.39	ppb
Silicon	28-1	943.48	932.82	949.17	941.83	0.88	ppb
Silver	109-1	986.93	1004.92	1016.10	1002.65	1.47	ppb
Silver	107-1	987.44	1014.78	1009.72	1003.98	1.45	ppb
Sodium	23-1	104598.26	105540.32	105509.24	105215.94	0.51	ppb
Strontium	86-1	25018.74	25536.84	24870.87	25142.15	1.39	ppb
Strontium	88-1	25305.94	24836.77	25131.41	25091.37	0.95	ppb
Sulfur	34-1	19778.89	20003.21	20446.66	20076.25	1.69	ppb
Terbium	159-1				106		%
Thallium	203-1	990.96	1012.10	998.01	1000.36	1.08	ppb
Thallium	205-1	999.18	1000.16	1003.08	1000.81	0.20	ppb
Tin	118-1	985.35	1002.14	1030.24	1005.91	2.25	ppb
Titanium	47-1	9812.08	9914.88	10091.16	9939.37	1.42	ppb
Uranium	238-1	994.47	1016.38	995.00	1001.95	1.25	ppb
Vanadium	51-1	1003.54	989.27	1001.52	998.11	0.77	ppb
Ytterbium	172-1						cps
Ytterbium	176-1						cps
Yttrium	89-1				106		%
Zinc	66-1	9932.37	9994.48	9975.73	9967.53	0.32	ppb
Zirconium	90-1	1004.15	1003.64	997.32	1001.71	0.38	ppb
Zirconium	91-1	1020.71	1004.37	998.08	1007.72	1.16	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S8	Instrumnet Name :	P8
Client Sample ID :	S8	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:53:11	DataFile Name :	011CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-1	98949.84	101450.46	99457.46	99952.59	1.32	ppb
Antimony	121-1	0.84	0.76	0.83	0.81	5.64	ppb
Arsenic	75-1	0.59	0.46	0.49	0.52	13.19	ppb
Barium	135-1	2.04	2.08	1.81	1.98	7.56	ppb
Barium	137-1	2.22	1.84	1.97	2.01	9.64	ppb
Beryllium	9-1	0.51	0.44	0.37	0.44	17.03	ppb
Bismuth	209-1				98		%
Bromine	81-1						cps
Cadmium	106-1	-0.03	1.17	-0.29	0.29	273.61	ppb
Cadmium	108-1	0.82	0.79	1.10	0.91	18.97	ppb
Cadmium	111-1	0.28	0.31	0.17	0.25	27.82	ppb
Calcium	43-1	495842.48	510015.06	491338.23	499065.26	1.95	ppb
Calcium	44-1	495540.78	510581.67	491233.45	499118.63	2.04	ppb
Carbon	12-1						cps
Chlorine	35-1						cps
Chromium	52-1	2.80	2.82	2.81	2.81	0.37	ppb
Cobalt	59-1	2.41	2.52	2.26	2.40	5.52	ppb
Copper	63-1	5.07	4.99	4.69	4.92	4.06	ppb
Dysprosium	156-1						cps
Erbium	164-1						cps
Gadolinium	160-1						cps
Holmium	165-1				106		%
Indium	115-1				100		%
Iron	54-1						ppb
Iron	56-1	246291.00	255401.72	247276.61	249656.44	2.00	ppb
Iron	57-1	246099.78	257275.93	245752.32	249709.34	2.63	ppb
Krypton	83-1						cps
Lead	206-1	1.56	1.54	1.48	1.53	2.94	ppb
Lead	207-1	1.54	1.47	1.50	1.50	2.46	ppb
Lead	208-1	1.57	1.52	1.43	1.51	4.71	ppb
Lithium	6-1				101		%
Magnesium	24-1	491357.17	509810.92	498629.11	499932.40	1.86	ppb
Manganese	55-1	5.65	5.51	5.29	5.48	3.37	ppb
Molybdenum	94-1	7.44	7.12	7.22	7.26	2.23	ppb
Molybdenum	95-1	5.18	5.29	5.57	5.35	3.76	ppb
Molybdenum	96-1	5.41	5.47	5.37	5.42	0.93	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S8	Instrumnet Name :	P8
Client Sample ID :	S8	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:53:11	DataFile Name :	011CALS.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Molybdenum	97-1	5.35	5.08	5.43	5.29	3.50	ppb
Molybdenum	98-1	5.01	5.00	4.87	4.96	1.62	ppb
Neodymium	150-1						cps
Nickel	60-1	3.53	3.32	3.45	3.43	3.18	ppb
Phosphorus	31-1	-18.17	-17.12	-20.51	-18.60		ppb
Potassium	39-1	247564.96	254104.06	247741.08	249803.37	1.49	ppb
Rhodium	103-1				96		%
Scandium	45-1				104		%
Selenium	82-1	0.45	0.44	0.15	0.34	49.31	ppb
Selenium	77-1	0.66	0.64	0.65	0.65	1.50	ppb
Selenium	78-1	-4.45	-12.58	-7.58	-8.20		ppb
Silicon	28-1	8.79	8.84	7.34	8.33	10.22	ppb
Silver	109-1	0.17	0.17	0.19	0.17	6.66	ppb
Silver	107-1	0.20	0.17	0.17	0.18	7.93	ppb
Sodium	23-1	493765.48	507947.71	493869.72	498527.64	1.64	ppb
Strontium	86-1	68.82	64.98	64.09	65.96	3.80	ppb
Strontium	88-1	74.71	67.61	70.50	70.94	5.03	ppb
Sulfur	34-1	-3555.20	-3220.11	-4035.97	-3603.76		ppb
Terbium	159-1				107		%
Thallium	203-1	0.12	0.09	0.09	0.10	16.63	ppb
Thallium	205-1	0.11	0.10	0.09	0.10	9.73	ppb
Tin	118-1	0.24	0.21	0.20	0.22	8.92	ppb
Titanium	47-1	1.21	1.31	0.93	1.15	17.14	ppb
Uranium	238-1	0.06	0.04	0.05	0.05	18.18	ppb
Vanadium	51-1	0.28	0.26	0.28	0.27	2.98	ppb
Ytterbium	172-1						cps
Ytterbium	176-1						cps
Yttrium	89-1				106		%
Zinc	66-1	5.81	6.01	6.11	5.98	2.51	ppb
Zirconium	90-1	1.58	1.63	1.53	1.58	3.27	ppb
Zirconium	91-1	1.85	1.63	1.68	1.72	6.61	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	ICV01	Instrumnet Name :	P8
Client Sample ID :	ICV01	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:59:26	DataFile Name :	012ICV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-1	492.51	482.94	480.21	485.22	1.33	ppb
Antimony	121-1	195.50	198.32	199.48	197.77	1.04	ppb
Arsenic	75-1	198.15	197.93	199.26	198.45	0.36	ppb
Barium	135-1	98.01	97.60	100.71	98.77	1.71	ppb
Barium	137-1	98.67	100.47	99.49	99.54	0.90	ppb
Beryllium	9-1	98.57	97.25	95.05	96.95	1.83	ppb
Bismuth	209-1				105		%
Bromine	81-1						cps
Cadmium	106-1	93.54	89.06	86.94	89.85	3.75	ppb
Cadmium	108-1	120.63	125.51	120.45	122.19	2.35	ppb
Cadmium	111-1	104.05	103.16	104.95	104.05	0.86	ppb
Calcium	43-1	1971.91	1949.30	1951.47	1957.56	0.64	ppb
Calcium	44-1	1964.92	1929.61	1920.76	1938.43	1.21	ppb
Carbon	12-1						cps
Chlorine	35-1						cps
Chromium	52-1	99.64	98.92	99.19	99.25	0.37	ppb
Cobalt	59-1	100.98	100.17	99.88	100.34	0.57	ppb
Copper	63-1	102.10	103.59	104.00	103.23	0.97	ppb
Dysprosium	156-1						cps
Erbium	164-1						cps
Gadolinium	160-1						cps
Holmium	165-1				105		%
Indium	115-1				104		%
Iron	54-1						ppb
Iron	56-1	2057.04	2020.89	2017.57	2031.83	1.08	ppb
Iron	57-1	2037.43	2011.13	1978.19	2008.92	1.48	ppb
Krypton	83-1						cps
Lead	206-1	187.67	191.68	194.77	191.37	1.86	ppb
Lead	207-1	184.12	185.73	188.53	186.13	1.20	ppb
Lead	208-1	194.96	193.49	196.34	194.93	0.73	ppb
Lithium	6-1				107		%
Magnesium	24-1	1109.03	1086.45	1095.90	1097.13	1.03	ppb
Manganese	55-1	101.75	98.06	100.82	100.21	1.91	ppb
Molybdenum	94-1	3869.73	3890.76	3842.12	3867.54	0.63	ppb
Molybdenum	95-1	4784.50	4775.62	4698.61	4752.91	0.99	ppb
Molybdenum	96-1	4670.27	4625.05	4637.90	4644.41	0.50	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	ICV01	Instrumnet Name :	P8
Client Sample ID :	ICV01	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:59:26	DataFile Name :	012ICV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Molybdenum	97-1	4816.69	4759.87	4761.20	4779.25	0.68	ppb
Molybdenum	98-1	4792.28	4741.74	4690.81	4741.61	1.07	ppb
Neodymium	150-1						cps
Nickel	60-1	100.75	100.22	100.09	100.36	0.35	ppb
Phosphorus	31-1	-23.40	-25.95	-25.88	-25.07		ppb
Potassium	39-1	1997.67	1952.72	1958.29	1969.56	1.24	ppb
Rhodium	103-1				105		%
Scandium	45-1				105		%
Selenium	82-1	209.05	209.44	207.80	208.76	0.41	ppb
Selenium	77-1	207.67	207.01	204.49	206.39	0.81	ppb
Selenium	78-1	200.12	200.28	200.49	200.30	0.09	ppb
Silicon	28-1	0.86	-0.07	0.53	0.44	107.23	ppb
Silver	109-1	47.30	48.21	48.58	48.03	1.37	ppb
Silver	107-1	47.37	47.88	48.49	47.91	1.17	ppb
Sodium	23-1	2077.09	2056.50	2048.19	2060.60	0.72	ppb
Strontium	86-1	4.61	1.05	-0.75	1.64	166.63	ppb
Strontium	88-1	2.33	2.66	3.01	2.67	12.78	ppb
Sulfur	34-1	-3026.09	-3660.77	-3384.67	-3357.18		ppb
Terbium	159-1				106		%
Thallium	203-1	190.27	194.32	196.14	193.58	1.55	ppb
Thallium	205-1	198.02	204.16	208.25	203.48	2.53	ppb
Tin	118-1	0.11	0.10	0.39	0.20	79.82	ppb
Titanium	47-1	0.46	0.36	0.34	0.39	17.26	ppb
Uranium	238-1	0.02	0.02	0.01	0.02	17.46	ppb
Vanadium	51-1	100.36	100.14	99.65	100.05	0.36	ppb
Ytterbium	172-1						cps
Ytterbium	176-1						cps
Yttrium	89-1				106		%
Zinc	66-1	193.43	189.59	189.94	190.98	1.11	ppb
Zirconium	90-1	0.02	0.02	0.02	0.02	12.95	ppb
Zirconium	91-1	0.14	0.20	0.17	0.17	15.91	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	ICB01	Instrumnet Name :	P8
Client Sample ID :	ICB01	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:03:32	DataFile Name :	013CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-1	0.34	0.41	0.34	0.36	11.25	ppb
Antimony	121-1	0.06	0.06	0.06	0.06	2.96	ppb
Arsenic	75-1	0.03	0.03	0.01	0.02	37.22	ppb
Barium	135-1	0.01	-0.05	0.01	-0.01		ppb
Barium	137-1	-0.01	-0.02	-0.05	-0.03		ppb
Beryllium	9-1	0.14	0.14	0.15	0.14	2.66	ppb
Bismuth	209-1				104		%
Bromine	81-1						cps
Cadmium	106-1	-0.64	1.32	0.82	0.50	202.59	ppb
Cadmium	108-1	0.02	-0.05	0.02	0.00		ppb
Cadmium	111-1	-0.04	0.09	0.07	0.04	164.15	ppb
Calcium	43-1	-0.94	0.51	2.29	0.62	260.40	ppb
Calcium	44-1	-18.38	-16.05	-17.90	-17.44		ppb
Carbon	12-1						cps
Chlorine	35-1						cps
Chromium	52-1	-0.02	0.00	0.04	0.01	343.63	ppb
Cobalt	59-1	0.04	0.03	0.04	0.04	20.67	ppb
Copper	63-1	-0.24	-0.30	-0.31	-0.29		ppb
Dysprosium	156-1						cps
Erbium	164-1						cps
Gadolinium	160-1						cps
Holmium	165-1				104		%
Indium	115-1				103		%
Iron	54-1						ppb
Iron	56-1	-1.91	1.68	-0.67	-0.30		ppb
Iron	57-1	-4.24	-2.44	-6.38	-4.35		ppb
Krypton	83-1						cps
Lead	206-1	0.30	0.33	0.31	0.31	6.01	ppb
Lead	207-1	0.29	0.29	0.29	0.29	0.22	ppb
Lead	208-1	0.29	0.31	0.30	0.30	3.09	ppb
Lithium	6-1				105		%
Magnesium	24-1	-17.82	-16.83	-16.59	-17.08		ppb
Manganese	55-1	0.43	0.48	0.40	0.44	8.77	ppb
Molybdenum	94-1	0.16	0.12	0.12	0.14	14.71	ppb
Molybdenum	95-1	0.13	0.14	0.12	0.13	5.57	ppb
Molybdenum	96-1	0.18	0.12	0.14	0.14	20.02	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	ICB01	Instrumnet Name :	P8
Client Sample ID :	ICB01	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:03:32	DataFile Name :	013CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Molybdenum	97-1	0.18	0.16	0.17	0.17	4.70	ppb
Molybdenum	98-1	0.11	0.11	0.14	0.12	14.26	ppb
Neodymium	150-1						cps
Nickel	60-1	-0.20	-0.23	-0.35	-0.26		ppb
Phosphorus	31-1	-23.35	-22.26	-22.33	-22.65		ppb
Potassium	39-1	9.47	9.74	6.78	8.67	18.89	ppb
Rhodium	103-1				103		%
Scandium	45-1				103		%
Selenium	82-1	0.18	-0.18	-0.11	-0.04		ppb
Selenium	77-1	-0.18	-0.16	-0.11	-0.15		ppb
Selenium	78-1	-5.38	-9.21	-2.65	-5.75		ppb
Silicon	28-1	-2.73	-0.81	-2.64	-2.06		ppb
Silver	109-1	0.02	0.01	0.02	0.02	26.94	ppb
Silver	107-1	0.01	0.01	0.02	0.02	41.63	ppb
Sodium	23-1	-0.62	5.21	-2.65	0.65	632.26	ppb
Strontium	86-1	-6.33	-5.95	-4.42	-5.57		ppb
Strontium	88-1	-4.91	-4.90	-4.57	-4.79		ppb
Sulfur	34-1	-2577.51	-2012.39	-2319.56	-2303.15		ppb
Terbium	159-1				103		%
Thallium	203-1	0.04	0.04	0.03	0.04	13.02	ppb
Thallium	205-1	0.05	0.03	0.04	0.04	28.56	ppb
Tin	118-1	0.05	0.12	0.02	0.06	82.55	ppb
Titanium	47-1	-0.07	-0.03	-0.06	-0.06		ppb
Uranium	238-1	0.00	0.00	0.00	0.00	24.85	ppb
Vanadium	51-1	-0.01	0.00	0.00	0.00		ppb
Ytterbium	172-1						cps
Ytterbium	176-1						cps
Yttrium	89-1				105		%
Zinc	66-1	0.27	0.14	0.10	0.17	50.72	ppb
Zirconium	90-1	0.00	0.01	0.01	0.01	144.39	ppb
Zirconium	91-1	0.05	0.02	0.01	0.03	71.17	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	ICSA01	Instrumnet Name :	P8
Client Sample ID :	ICSA01	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:08:46	DataFile Name :	014ICSA.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-1	96132.66	98256.77	96888.62	97092.69	1.11	ppb
Antimony	121-1	1.16	1.09	1.17	1.14	3.47	ppb
Arsenic	75-1	0.53	0.27	0.53	0.44	34.20	ppb
Barium	135-1	1.21	1.14	0.97	1.11	10.95	ppb
Barium	137-1	1.17	1.05	1.12	1.12	5.53	ppb
Beryllium	9-1	0.34	0.35	0.32	0.34	4.34	ppb
Bismuth	209-1				100		%
Bromine	81-1						cps
Cadmium	106-1	-0.99	0.12	-0.39	-0.42		ppb
Cadmium	108-1	12.63	11.93	12.70	12.42	3.41	ppb
Cadmium	111-1	0.39	0.51	0.47	0.46	14.14	ppb
Calcium	43-1	104455.61	106999.03	107642.93	106365.85	1.58	ppb
Calcium	44-1	104191.14	106168.90	105253.40	105204.48	0.94	ppb
Carbon	12-1						cps
Chlorine	35-1						cps
Chromium	52-1	19.60	20.06	19.58	19.74	1.38	ppb
Cobalt	59-1	1.23	1.20	1.18	1.21	1.99	ppb
Copper	63-1	8.81	9.02	9.11	8.98	1.72	ppb
Dysprosium	156-1						cps
Erbium	164-1						cps
Gadolinium	160-1						cps
Holmium	165-1				104		%
Indium	115-1				102		%
Iron	54-1						ppb
Iron	56-1	102354.81	105646.70	105195.66	104399.06	1.71	ppb
Iron	57-1	101458.25	103690.47	103688.98	102945.90	1.25	ppb
Krypton	83-1						cps
Lead	206-1	4.79	4.98	4.68	4.82	3.09	ppb
Lead	207-1	4.44	4.56	4.38	4.46	2.09	ppb
Lead	208-1	4.57	4.67	4.51	4.58	1.81	ppb
Lithium	6-1				105		%
Magnesium	24-1	93767.84	96663.51	95674.93	95368.76	1.54	ppb
Manganese	55-1	7.43	7.45	7.50	7.46	0.50	ppb
Molybdenum	94-1	1616.00	1657.92	1610.98	1628.30	1.58	ppb
Molybdenum	95-1	1956.46	1971.85	1965.58	1964.63	0.39	ppb
Molybdenum	96-1	1932.36	1920.48	1946.35	1933.06	0.67	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	ICSA01	Instrumnet Name :	P8
Client Sample ID :	ICSA01	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:08:46	DataFile Name :	014ICSA.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Molybdenum	97-1	1999.65	2016.61	1957.83	1991.37	1.52	ppb
Molybdenum	98-1	1985.47	1972.76	1948.39	1968.87	0.96	ppb
Neodymium	150-1						cps
Nickel	60-1	5.18	5.53	5.43	5.38	3.33	ppb
Phosphorus	31-1	100877.66	104889.84	104037.36	103268.29	2.05	ppb
Potassium	39-1	99974.99	102394.20	102507.28	101625.49	1.41	ppb
Rhodium	103-1				99		%
Scandium	45-1				105		%
Selenium	82-1	0.52	0.62	0.05	0.40	75.92	ppb
Selenium	77-1	33.00	36.80	37.30	35.70	6.58	ppb
Selenium	78-1	-3.40	-1.26	-7.08	-3.91		ppb
Silicon	28-1	29.92	38.97	36.87	35.26	13.43	ppb
Silver	109-1	0.07	0.07	0.06	0.07	11.29	ppb
Silver	107-1	0.10	0.08	0.07	0.08	18.87	ppb
Sodium	23-1	105264.70	109508.05	106772.42	107181.72	2.01	ppb
Strontium	86-1	801.33	818.91	808.21	809.48	1.09	ppb
Strontium	88-1	825.97	820.10	810.61	818.89	0.95	ppb
Sulfur	34-1	99214.24	102847.49	102513.86	101525.20	1.98	ppb
Terbium	159-1				105		%
Thallium	203-1	0.17	0.19	0.20	0.19	10.31	ppb
Thallium	205-1	0.16	0.20	0.19	0.19	11.17	ppb
Tin	118-1	0.20	0.15	0.19	0.18	13.97	ppb
Titanium	47-1	2085.57	2156.60	2114.93	2119.03	1.68	ppb
Uranium	238-1	0.02	0.02	0.02	0.02	1.79	ppb
Vanadium	51-1	0.32	0.30	0.30	0.31	2.90	ppb
Ytterbium	172-1						cps
Ytterbium	176-1						cps
Yttrium	89-1				106		%
Zinc	66-1	11.84	11.86	11.92	11.87	0.37	ppb
Zirconium	90-1	0.01	0.02	0.00	0.01	82.21	ppb
Zirconium	91-1	0.05	0.01	0.03	0.03	62.43	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	ICSAB01	Instrumnet Name :	P8
Client Sample ID :	ICSAB01	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:11:38	DataFile Name :	015ICSB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-1	96521.66	94729.70	95690.04	95647.13	0.94	ppb
Antimony	121-1	20.88	20.91	21.07	20.96	0.49	ppb
Arsenic	75-1	20.03	19.02	19.79	19.62	2.69	ppb
Barium	135-1	21.01	20.23	20.39	20.55	2.01	ppb
Barium	137-1	20.80	20.96	20.79	20.85	0.46	ppb
Beryllium	9-1	19.22	19.43	19.11	19.25	0.86	ppb
Bismuth	209-1				101		%
Bromine	81-1						cps
Cadmium	106-1	16.52	17.37	14.91	16.27	7.70	ppb
Cadmium	108-1	27.64	30.54	27.85	28.68	5.62	ppb
Cadmium	111-1	20.44	20.59	20.44	20.49	0.43	ppb
Calcium	43-1	103931.17	102318.78	106672.69	104307.55	2.11	ppb
Calcium	44-1	104110.60	102241.01	103978.88	103443.50	1.01	ppb
Carbon	12-1						cps
Chlorine	35-1						cps
Chromium	52-1	38.44	38.04	39.06	38.51	1.33	ppb
Cobalt	59-1	20.86	19.98	20.22	20.35	2.24	ppb
Copper	63-1	28.61	29.20	29.05	28.95	1.06	ppb
Dysprosium	156-1						cps
Erbium	164-1						cps
Gadolinium	160-1						cps
Holmium	165-1				107		%
Indium	115-1				104		%
Iron	54-1						ppb
Iron	56-1	104070.12	101744.95	104062.06	103292.38	1.30	ppb
Iron	57-1	101610.42	100749.02	102844.99	101734.81	1.04	ppb
Krypton	83-1						cps
Lead	206-1	23.94	23.53	23.69	23.72	0.88	ppb
Lead	207-1	23.27	23.09	23.19	23.18	0.38	ppb
Lead	208-1	23.22	23.20	23.27	23.23	0.15	ppb
Lithium	6-1				109		%
Magnesium	24-1	94084.88	93956.18	94888.04	94309.70	0.54	ppb
Manganese	55-1	26.21	25.74	25.65	25.87	1.17	ppb
Molybdenum	94-1	1594.59	1566.92	1601.74	1587.75	1.16	ppb
Molybdenum	95-1	1964.80	1924.02	1984.09	1957.64	1.57	ppb
Molybdenum	96-1	1903.13	1867.27	1935.28	1901.89	1.79	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	ICSAB01	Instrumnet Name :	P8
Client Sample ID :	ICSAB01	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:11:38	DataFile Name :	015ICSB.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Molybdenum	97-1	1966.61	1946.99	1970.82	1961.47	0.65	ppb
Molybdenum	98-1	1949.86	1931.19	1974.26	1951.77	1.11	ppb
Neodymium	150-1						cps
Nickel	60-1	24.42	23.90	24.36	24.23	1.16	ppb
Phosphorus	31-1	102313.10	101369.28	101896.53	101859.64	0.46	ppb
Potassium	39-1	99022.63	99235.89	101226.20	99828.24	1.22	ppb
Rhodium	103-1				102		%
Scandium	45-1				107		%
Selenium	82-1	19.40	20.01	19.76	19.73	1.56	ppb
Selenium	77-1	56.44	57.00	59.14	57.53	2.47	ppb
Selenium	78-1	16.24	10.22	16.39	14.28	24.62	ppb
Silicon	28-1	37.17	36.74	37.28	37.07	0.77	ppb
Silver	109-1	18.68	19.00	18.88	18.85	0.85	ppb
Silver	107-1	18.61	18.92	18.79	18.77	0.83	ppb
Sodium	23-1	106483.25	106052.74	106115.48	106217.16	0.22	ppb
Strontium	86-1	804.73	783.77	800.90	796.46	1.40	ppb
Strontium	88-1	805.35	803.55	797.88	802.26	0.49	ppb
Sulfur	34-1	98266.30	98974.78	100352.51	99197.86	1.07	ppb
Terbium	159-1				107		%
Thallium	203-1	19.72	19.69	20.10	19.84	1.15	ppb
Thallium	205-1	19.80	20.03	20.33	20.05	1.32	ppb
Tin	118-1	0.11	0.15	0.17	0.14	21.40	ppb
Titanium	47-1	2079.63	2079.50	2100.47	2086.53	0.58	ppb
Uranium	238-1	0.02	0.02	0.02	0.02	17.55	ppb
Vanadium	51-1	19.03	19.05	19.24	19.11	0.61	ppb
Ytterbium	172-1						cps
Ytterbium	176-1						cps
Yttrium	89-1				109		%
Zinc	66-1	30.38	30.85	30.52	30.58	0.78	ppb
Zirconium	90-1	0.02	0.01	0.00	0.01	67.48	ppb
Zirconium	91-1	0.04	0.02	0.02	0.02	52.32	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	CCV01	Instrumnet Name :	P8
Client Sample ID :	CCV01	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:29:22	DataFile Name :	019CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-1	50745.75	50377.61	50305.49	50476.28	0.47	ppb
Antimony	121-1	497.76	501.11	506.69	501.85	0.90	ppb
Arsenic	75-1	467.39	467.27	466.75	467.14	0.07	ppb
Barium	135-1	2447.29	2511.64	2557.17	2505.37	2.20	ppb
Barium	137-1	2464.62	2478.20	2505.54	2482.79	0.84	ppb
Beryllium	9-1	517.35	512.66	513.42	514.48	0.49	ppb
Bismuth	209-1				99		%
Bromine	81-1						cps
Cadmium	106-1	471.92	472.57	485.68	476.72	1.63	ppb
Cadmium	108-1	474.72	475.62	487.94	479.43	1.54	ppb
Cadmium	111-1	465.39	464.52	468.23	466.05	0.42	ppb
Calcium	43-1	256122.55	257602.59	255744.16	256489.77	0.38	ppb
Calcium	44-1	255544.87	252606.83	256449.76	254867.15	0.79	ppb
Carbon	12-1						cps
Chlorine	35-1						cps
Chromium	52-1	490.88	496.63	493.11	493.54	0.59	ppb
Cobalt	59-1	493.53	494.01	487.81	491.78	0.70	ppb
Copper	63-1	4933.85	5000.54	4936.45	4956.94	0.76	ppb
Dysprosium	156-1						cps
Erbium	164-1						cps
Gadolinium	160-1						cps
Holmium	165-1				105		%
Indium	115-1				101		%
Iron	54-1						ppb
Iron	56-1	123857.01	125538.56	123916.62	124437.39	0.77	ppb
Iron	57-1	125272.34	125574.03	124264.50	125036.96	0.55	ppb
Krypton	83-1						cps
Lead	206-1	2495.56	2520.33	2479.28	2498.39	0.83	ppb
Lead	207-1	2475.09	2536.44	2489.15	2500.23	1.29	ppb
Lead	208-1	2491.16	2524.61	2491.77	2502.51	0.76	ppb
Lithium	6-1				105		%
Magnesium	24-1	247959.43	248539.27	244680.62	247059.77	0.84	ppb
Manganese	55-1	4878.43	4870.35	4831.40	4860.06	0.52	ppb
Molybdenum	94-1	4930.04	5019.37	5041.06	4996.82	1.18	ppb
Molybdenum	95-1	4962.74	5005.60	4988.41	4985.58	0.43	ppb
Molybdenum	96-1	4980.08	5037.44	5051.29	5022.94	0.75	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	CCV01	Instrumnet Name :	P8
Client Sample ID :	CCV01	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:29:22	DataFile Name :	019CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Molybdenum	97-1	4977.15	5014.08	5001.08	4997.44	0.37	ppb
Molybdenum	98-1	4929.60	5057.30	4978.05	4988.32	1.29	ppb
Neodymium	150-1						cps
Nickel	60-1	529.31	539.42	525.43	531.39	1.36	ppb
Phosphorus	31-1	10178.37	10125.50	10000.39	10101.42	0.90	ppb
Potassium	39-1	126604.17	125377.17	123974.91	125318.75	1.05	ppb
Rhodium	103-1				99		%
Scandium	45-1				106		%
Selenium	82-1	483.65	483.27	484.63	483.85	0.15	ppb
Selenium	77-1	479.26	485.71	485.62	483.53	0.77	ppb
Selenium	78-1	476.90	484.14	484.15	481.73	0.87	ppb
Silicon	28-1	602.33	591.33	584.11	592.59	1.55	ppb
Silver	109-1	492.84	503.67	500.49	499.00	1.12	ppb
Silver	107-1	493.06	489.06	500.81	494.31	1.21	ppb
Sodium	23-1	259323.62	257178.53	257597.18	258033.11	0.44	ppb
Strontium	86-1	11703.85	11605.75	11673.95	11661.18	0.43	ppb
Strontium	88-1	12191.88	12426.84	12301.21	12306.64	0.96	ppb
Sulfur	34-1	9077.18	8706.46	9933.54	9239.06	6.81	ppb
Terbium	159-1				105		%
Thallium	203-1	503.46	514.44	497.23	505.04	1.72	ppb
Thallium	205-1	502.98	506.22	499.34	502.84	0.68	ppb
Tin	118-1	505.77	506.63	504.22	505.54	0.24	ppb
Titanium	47-1	4943.04	5004.79	4985.07	4977.63	0.63	ppb
Uranium	238-1	507.17	500.50	505.87	504.51	0.70	ppb
Vanadium	51-1	501.16	499.76	491.40	497.44	1.06	ppb
Ytterbium	172-1						cps
Ytterbium	176-1						cps
Yttrium	89-1				106		%
Zinc	66-1	4879.08	4839.03	4767.48	4828.53	1.17	ppb
Zirconium	90-1	505.60	504.89	496.83	502.44	0.97	ppb
Zirconium	91-1	470.81	472.77	472.07	471.88	0.21	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	CCB01	Instrumnet Name :	P8
Client Sample ID :	CCB01	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:35:49	DataFile Name :	021CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-1	0.50	0.19	0.30	0.33	47.65	ppb
Antimony	121-1	0.06	0.06	0.08	0.07	18.13	ppb
Arsenic	75-1	0.02	-0.02	-0.02	-0.01		ppb
Barium	135-1	0.05	-0.04	-0.01	0.00	2155607.04	ppb
Barium	137-1	0.06	-0.09	-0.05	-0.03		ppb
Beryllium	9-1	0.23	0.19	0.17	0.20	14.86	ppb
Bismuth	209-1				100		%
Bromine	81-1						cps
Cadmium	106-1	-0.49	-1.39	-0.34	-0.74		ppb
Cadmium	108-1	0.02	-0.01	0.13	0.05	156.14	ppb
Cadmium	111-1	-0.02	-0.09	-0.02	-0.04		ppb
Calcium	43-1	0.88	-1.60	-1.01	-0.58		ppb
Calcium	44-1	-26.63	-29.77	-29.83	-28.74		ppb
Carbon	12-1						cps
Chlorine	35-1						cps
Chromium	52-1	-0.02	0.03	0.03	0.02	181.85	ppb
Cobalt	59-1	0.04	0.04	0.02	0.03	34.08	ppb
Copper	63-1	-0.20	-0.33	-0.25	-0.26		ppb
Dysprosium	156-1						cps
Erbium	164-1						cps
Gadolinium	160-1						cps
Holmium	165-1				102		%
Indium	115-1				103		%
Iron	54-1						ppb
Iron	56-1	-0.85	-1.35	-1.83	-1.34		ppb
Iron	57-1	-15.01	-14.14	-15.47	-14.87		ppb
Krypton	83-1						cps
Lead	206-1	0.32	0.30	0.32	0.31	3.38	ppb
Lead	207-1	0.32	0.33	0.26	0.30	13.16	ppb
Lead	208-1	0.31	0.30	0.28	0.30	6.06	ppb
Lithium	6-1				104		%
Magnesium	24-1	-24.88	-25.65	-24.85	-25.12		ppb
Manganese	55-1	0.47	0.53	0.47	0.49	6.89	ppb
Molybdenum	94-1	0.10	0.13	0.11	0.11	12.56	ppb
Molybdenum	95-1	0.10	0.13	0.10	0.11	14.98	ppb
Molybdenum	96-1	0.07	0.08	0.10	0.08	16.14	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	CCB01	Instrumnet Name :	P8
Client Sample ID :	CCB01	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:35:49	DataFile Name :	021CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Molybdenum	97-1	0.05	0.10	0.08	0.08	34.34	ppb
Molybdenum	98-1	0.11	0.10	0.09	0.10	11.48	ppb
Neodymium	150-1						cps
Nickel	60-1	-0.49	-0.52	-0.48	-0.50		ppb
Phosphorus	31-1	-24.87	-25.39	-23.71	-24.65		ppb
Potassium	39-1	5.06	4.88	-1.97	2.66	150.72	ppb
Rhodium	103-1				103		%
Scandium	45-1				103		%
Selenium	82-1	0.39	0.32	0.15	0.29	42.71	ppb
Selenium	77-1	-0.03	0.11	0.00	0.03	249.75	ppb
Selenium	78-1	2.80	5.70	0.19	2.90	95.01	ppb
Silicon	28-1	-3.57	-2.76	-4.34	-3.56		ppb
Silver	109-1	0.02	0.01	0.02	0.02	19.15	ppb
Silver	107-1	0.02	0.03	0.02	0.02	14.40	ppb
Sodium	23-1	12.78	4.15	5.86	7.60	60.17	ppb
Strontium	86-1	-6.02	-9.03	-10.61	-8.56		ppb
Strontium	88-1	-7.34	-7.56	-7.45	-7.45		ppb
Sulfur	34-1	-3887.07	-4112.68	-4157.08	-4052.28		ppb
Terbium	159-1				103		%
Thallium	203-1	0.05	0.05	0.04	0.05	11.41	ppb
Thallium	205-1	0.06	0.06	0.07	0.06	10.83	ppb
Tin	118-1	0.03	0.06	0.03	0.04	40.34	ppb
Titanium	47-1	0.02	0.12	0.02	0.06	101.50	ppb
Uranium	238-1	0.01	0.00	0.00	0.00	44.12	ppb
Vanadium	51-1	0.00	0.01	0.00	0.00	391.78	ppb
Ytterbium	172-1						cps
Ytterbium	176-1						cps
Yttrium	89-1				105		%
Zinc	66-1	0.15	0.21	0.14	0.16	22.01	ppb
Zirconium	90-1	0.01	0.00	0.01	0.01	70.35	ppb
Zirconium	91-1	0.06	0.03	0.01	0.03	71.03	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	CRI	Instrumnet Name :	P8
Client Sample ID :	CRI	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:48:26	DataFile Name :	024LLCC.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-1	19.58	19.84	19.48	19.63	0.94	ppb
Antimony	121-1	1.99	1.91	2.03	1.98	3.20	ppb
Arsenic	75-1	0.99	1.11	0.94	1.01	8.50	ppb
Barium	135-1	9.00	9.62	9.87	9.50	4.69	ppb
Barium	137-1	9.64	9.88	9.51	9.68	1.93	ppb
Beryllium	9-1	1.07	1.11	1.06	1.08	2.27	ppb
Bismuth	209-1				98		%
Bromine	81-1						cps
Cadmium	106-1	0.32	0.32	2.28	0.97	116.47	ppb
Cadmium	108-1	0.89	0.89	1.03	0.94	8.56	ppb
Cadmium	111-1	1.01	1.03	1.18	1.07	8.61	ppb
Calcium	43-1	523.80	524.65	523.13	523.86	0.15	ppb
Calcium	44-1	502.78	497.72	498.87	499.79	0.53	ppb
Carbon	12-1						cps
Chlorine	35-1						cps
Chromium	52-1	2.19	2.00	2.12	2.10	4.58	ppb
Cobalt	59-1	1.14	1.08	1.11	1.11	2.49	ppb
Copper	63-1	1.48	1.44	1.47	1.46	1.18	ppb
Dysprosium	156-1						cps
Erbium	164-1						cps
Gadolinium	160-1						cps
Holmium	165-1				100		%
Indium	115-1				100		%
Iron	54-1						ppb
Iron	56-1	54.01	57.07	54.54	55.21	2.96	ppb
Iron	57-1	44.71	46.92	47.53	46.38	3.20	ppb
Krypton	83-1						cps
Lead	206-1	1.03	1.05	1.09	1.06	2.74	ppb
Lead	207-1	1.10	1.15	1.17	1.14	3.56	ppb
Lead	208-1	1.08	1.09	1.11	1.10	1.37	ppb
Lithium	6-1				102		%
Magnesium	24-1	499.04	509.57	503.17	503.93	1.05	ppb
Manganese	55-1	1.30	1.26	1.27	1.28	1.34	ppb
Molybdenum	94-1	5.65	6.17	6.35	6.06	6.03	ppb
Molybdenum	95-1	5.03	5.18	4.96	5.06	2.21	ppb
Molybdenum	96-1	5.21	5.05	5.48	5.24	4.11	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	CRI	Instrumnet Name :	P8
Client Sample ID :	CRI	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:48:26	DataFile Name :	024LLCC.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Molybdenum	97-1	4.94	4.87	5.12	4.98	2.60	ppb
Molybdenum	98-1	5.01	4.90	5.24	5.05	3.43	ppb
Neodymium	150-1						cps
Nickel	60-1	0.88	0.95	0.96	0.93	5.05	ppb
Phosphorus	31-1	11.88	14.89	13.49	13.42	11.23	ppb
Potassium	39-1	533.65	528.51	524.51	528.89	0.87	ppb
Rhodium	103-1				100		%
Scandium	45-1				100		%
Selenium	82-1	6.41	5.42	4.12	5.32	21.57	ppb
Selenium	77-1	5.40	5.22	5.66	5.43	4.07	ppb
Selenium	78-1	18.71	17.64	24.03	20.13	17.00	ppb
Silicon	28-1	2.34	2.97	1.29	2.20	38.55	ppb
Silver	109-1	1.03	0.99	1.00	1.01	2.19	ppb
Silver	107-1	0.94	0.96	1.00	0.97	3.19	ppb
Sodium	23-1	540.59	540.71	523.78	535.03	1.82	ppb
Strontium	86-1	18.50	16.11	18.60	17.74	7.92	ppb
Strontium	88-1	18.89	17.51	19.82	18.74	6.20	ppb
Sulfur	34-1	-1789.37	-2061.97	-1951.25	-1934.20		ppb
Terbium	159-1				99		%
Thallium	203-1	1.02	1.02	0.99	1.01	1.77	ppb
Thallium	205-1	1.03	0.98	1.05	1.02	3.57	ppb
Tin	118-1	4.84	5.01	5.05	4.96	2.22	ppb
Titanium	47-1	5.27	5.22	5.28	5.26	0.59	ppb
Uranium	238-1	0.92	0.97	0.96	0.95	2.56	ppb
Vanadium	51-1	5.19	5.16	5.07	5.14	1.15	ppb
Ytterbium	172-1						cps
Ytterbium	176-1						cps
Yttrium	89-1				101		%
Zinc	66-1	5.47	5.45	5.23	5.38	2.40	ppb
Zirconium	90-1	1.01	1.01	1.00	1.01	0.65	ppb
Zirconium	91-1	1.09	1.03	1.02	1.05	3.30	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	PB166661BL	Instrumnet Name :	P8
Client Sample ID :	PB166661BL	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:51:21	DataFile Name :	025CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-1	0.25	0.18	0.98	0.47	93.70	ppb
Antimony	121-1	0.02	0.02	0.02	0.02	20.26	ppb
Arsenic	75-1	-0.01	-0.03	-0.01	-0.01		ppb
Barium	135-1	-0.29	-0.21	-0.23	-0.25		ppb
Barium	137-1	-0.22	-0.25	-0.20	-0.23		ppb
Beryllium	9-1	0.06	0.04	0.06	0.05	18.31	ppb
Bismuth	209-1				98		%
Bromine	81-1						cps
Cadmium	106-1	-1.14	-1.74	-0.59	-1.16		ppb
Cadmium	108-1	-0.05	0.13	0.06	0.05	188.79	ppb
Cadmium	111-1	-0.08	-0.14	-0.04	-0.09		ppb
Calcium	43-1	1.78	-0.87	-2.55	-0.55		ppb
Calcium	44-1	-30.63	-32.27	-30.68	-31.20		ppb
Carbon	12-1						cps
Chlorine	35-1						cps
Chromium	52-1	-0.03	0.01	0.01	0.00		ppb
Cobalt	59-1	0.02	0.01	0.02	0.02	20.45	ppb
Copper	63-1	-0.41	-0.40	-0.49	-0.43		ppb
Dysprosium	156-1						cps
Erbium	164-1						cps
Gadolinium	160-1						cps
Holmium	165-1				98		%
Indium	115-1				98		%
Iron	54-1						ppb
Iron	56-1	0.00	-1.20	2.21	0.34	514.46	ppb
Iron	57-1	-8.06	-3.57	-4.50	-5.38		ppb
Krypton	83-1						cps
Lead	206-1	0.13	0.12	0.14	0.13	6.51	ppb
Lead	207-1	0.13	0.15	0.14	0.14	5.27	ppb
Lead	208-1	0.14	0.13	0.13	0.13	1.77	ppb
Lithium	6-1				101		%
Magnesium	24-1	-10.37	-11.30	-10.35	-10.67		ppb
Manganese	55-1	0.29	0.23	0.25	0.26	12.45	ppb
Molybdenum	94-1	0.04	0.06	0.01	0.04	72.13	ppb
Molybdenum	95-1	0.04	0.04	0.05	0.04	14.84	ppb
Molybdenum	96-1	0.02	0.00	0.00	0.01	197.30	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	PB166661BL	Instrumnet Name :	P8
Client Sample ID :	PB166661BL	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:51:21	DataFile Name :	025CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Molybdenum	97-1	0.06	-0.01	0.03	0.03	123.52	ppb
Molybdenum	98-1	0.04	0.03	0.04	0.04	11.87	ppb
Neodymium	150-1						cps
Nickel	60-1	-0.16	-0.05	-0.06	-0.09		ppb
Phosphorus	31-1	-19.77	-19.27	-16.89	-18.64		ppb
Potassium	39-1	15.82	7.21	17.25	13.43	40.44	ppb
Rhodium	103-1				99		%
Scandium	45-1				99		%
Selenium	82-1	0.23	0.04	0.59	0.29	98.16	ppb
Selenium	77-1	-0.09	-0.09	-0.07	-0.09		ppb
Selenium	78-1	12.51	13.38	17.44	14.44	18.26	ppb
Silicon	28-1	-2.18	-2.64	-0.49	-1.77		ppb
Silver	109-1	0.01	0.01	0.01	0.01	34.61	ppb
Silver	107-1	0.00	0.01	0.01	0.00	86.60	ppb
Sodium	23-1	-18.62	-20.29	-15.42	-18.11		ppb
Strontium	86-1	-6.00	-6.73	-6.63	-6.45		ppb
Strontium	88-1	-6.99	-6.53	-6.90	-6.81		ppb
Sulfur	34-1	-1780.60	-1581.14	-1118.98	-1493.57		ppb
Terbium	159-1				98		%
Thallium	203-1	0.03	0.01	0.03	0.02	49.57	ppb
Thallium	205-1	0.03	0.03	0.04	0.03	18.69	ppb
Tin	118-1	0.01	0.00	0.01	0.01	93.29	ppb
Titanium	47-1	-0.03	0.03	-0.03	-0.01		ppb
Uranium	238-1	0.00	0.00	0.00	0.00	194.31	ppb
Vanadium	51-1	0.00	-0.01	0.00	0.00		ppb
Ytterbium	172-1						cps
Ytterbium	176-1						cps
Yttrium	89-1				100		%
Zinc	66-1	0.02	0.03	-0.09	-0.01		ppb
Zirconium	90-1	0.00	0.01	0.01	0.00	107.04	ppb
Zirconium	91-1	0.01	0.02	0.02	0.02	23.90	ppb

Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	PB166661BS	Instrumnet Name :	P8
Client Sample ID :	PB166661BS	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:54:13	DataFile Name :	026LCSW.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-1	10078.50	10151.22	9959.34	10063.02	0.96	ppb
Antimony	121-1	483.69	482.72	487.20	484.54	0.49	ppb
Arsenic	75-1	487.57	485.25	484.89	485.90	0.30	ppb
Barium	135-1	2423.21	2389.36	2415.92	2409.50	0.74	ppb
Barium	137-1	2373.90	2397.72	2394.63	2388.75	0.54	ppb
Beryllium	9-1	498.25	507.02	498.02	501.10	1.02	ppb
Bismuth	209-1				96		%
Bromine	81-1						cps
Cadmium	106-1	488.06	487.55	488.57	488.06	0.10	ppb
Cadmium	108-1	478.63	476.67	483.21	479.51	0.70	ppb
Cadmium	111-1	472.76	478.29	472.18	474.41	0.71	ppb
Calcium	43-1	50657.54	49935.11	49996.41	50196.35	0.80	ppb
Calcium	44-1	51492.47	50817.49	51458.08	51256.02	0.74	ppb
Carbon	12-1						cps
Chlorine	35-1						cps
Chromium	52-1	498.52	492.43	499.46	496.81	0.77	ppb
Cobalt	59-1	497.61	492.98	507.79	499.46	1.52	ppb
Copper	63-1	4829.13	4864.06	4897.53	4863.58	0.70	ppb
Dysprosium	156-1						cps
Erbium	164-1						cps
Gadolinium	160-1						cps
Holmium	165-1				98		%
Indium	115-1				98		%
Iron	54-1						ppb
Iron	56-1	25718.54	25304.23	25451.27	25491.35	0.82	ppb
Iron	57-1	25444.05	25285.03	25678.86	25469.31	0.78	ppb
Krypton	83-1						cps
Lead	206-1	2482.35	2478.15	2480.47	2480.32	0.08	ppb
Lead	207-1	2502.80	2504.82	2506.38	2504.67	0.07	ppb
Lead	208-1	2483.79	2507.22	2490.87	2493.96	0.48	ppb
Lithium	6-1				100		%
Magnesium	24-1	50446.80	49838.48	49926.47	50070.59	0.66	ppb
Manganese	55-1	4980.03	4990.35	4927.08	4965.82	0.68	ppb
Molybdenum	94-1	4928.13	4885.28	4956.52	4923.31	0.73	ppb
Molybdenum	95-1	4962.25	4993.78	4993.54	4983.19	0.36	ppb
Molybdenum	96-1	4940.34	4931.76	4919.92	4930.68	0.21	ppb

Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	PB166661BS	Instrumnet Name :	P8
Client Sample ID :	PB166661BS	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:54:13	DataFile Name :	026LCSW.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Molybdenum	97-1	4978.52	4915.59	4932.06	4942.05	0.66	ppb
Molybdenum	98-1	5004.01	4926.60	5019.87	4983.49	1.00	ppb
Neodymium	150-1						cps
Nickel	60-1	480.65	471.81	477.68	476.71	0.94	ppb
Phosphorus	31-1	10000.25	10030.62	9973.26	10001.38	0.29	ppb
Potassium	39-1	25398.87	25020.35	25274.69	25231.30	0.76	ppb
Rhodium	103-1				97		%
Scandium	45-1				100		%
Selenium	82-1	507.83	501.68	505.54	505.01	0.62	ppb
Selenium	77-1	507.23	504.19	504.11	505.18	0.35	ppb
Selenium	78-1	522.65	524.95	516.02	521.20	0.89	ppb
Silicon	28-1	595.00	577.39	575.11	582.50	1.87	ppb
Silver	109-1	480.58	485.47	495.20	487.09	1.53	ppb
Silver	107-1	488.06	481.51	487.49	485.69	0.75	ppb
Sodium	23-1	53797.49	52997.26	52445.01	53079.92	1.28	ppb
Strontium	86-1	12210.40	12063.03	12085.54	12119.65	0.66	ppb
Strontium	88-1	12335.50	12283.30	12293.69	12304.16	0.22	ppb
Sulfur	34-1	10761.29	9414.79	8869.90	9681.99	10.06	ppb
Terbium	159-1				100		%
Thallium	203-1	498.93	502.27	490.80	497.33	1.19	ppb
Thallium	205-1	493.20	498.42	497.93	496.52	0.58	ppb
Tin	118-1	483.68	478.63	492.41	484.91	1.44	ppb
Titanium	47-1	5081.47	4943.92	4960.05	4995.15	1.51	ppb
Uranium	238-1	490.45	494.35	483.15	489.32	1.16	ppb
Vanadium	51-1	500.16	504.09	493.14	499.13	1.11	ppb
Ytterbium	172-1						cps
Ytterbium	176-1						cps
Yttrium	89-1				101		%
Zinc	66-1	5070.92	4985.35	5046.57	5034.28	0.88	ppb
Zirconium	90-1	487.35	501.48	489.92	492.91	1.53	ppb
Zirconium	91-1	484.06	483.75	480.77	482.86	0.38	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	Q1172-04	Instrumnet Name :	P8
Client Sample ID :	PT-TM-WS	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:57:21	DataFile Name :	027AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-1	507.03	517.67	504.59	509.77	1.36	ppb
Antimony	121-1	20.51	20.60	20.90	20.67	1.01	ppb
Arsenic	75-1	7.00	7.07	6.85	6.98	1.66	ppb
Barium	135-1	1785.68	1814.87	1801.89	1800.81	0.81	ppb
Barium	137-1	1778.34	1802.75	1803.35	1794.81	0.80	ppb
Beryllium	9-1	17.09	16.70	16.99	16.93	1.20	ppb
Bismuth	209-1				98		%
Bromine	81-1						cps
Cadmium	106-1	18.08	21.00	18.08	19.05	8.84	ppb
Cadmium	108-1	22.66	22.52	19.88	21.69	7.24	ppb
Cadmium	111-1	23.49	24.00	23.33	23.61	1.47	ppb
Calcium	43-1	35.22	44.83	52.90	44.32	19.97	ppb
Calcium	44-1	-21.15	-18.26	-18.12	-19.18		ppb
Carbon	12-1						cps
Chlorine	35-1						cps
Chromium	52-1	22.25	22.62	22.39	22.42	0.83	ppb
Cobalt	59-1	0.08	0.07	0.08	0.08	6.33	ppb
Copper	63-1	740.74	739.55	734.43	738.24	0.45	ppb
Dysprosium	156-1						cps
Erbium	164-1						cps
Gadolinium	160-1						cps
Holmium	165-1				99		%
Indium	115-1				99		%
Iron	54-1						ppb
Iron	56-1	1524.30	1553.48	1556.02	1544.60	1.14	ppb
Iron	57-1	1514.82	1565.11	1534.72	1538.22	1.65	ppb
Krypton	83-1						cps
Lead	206-1	20.37	20.71	20.39	20.49	0.94	ppb
Lead	207-1	19.81	20.29	20.32	20.14	1.42	ppb
Lead	208-1	20.17	20.40	20.22	20.26	0.59	ppb
Lithium	6-1				100		%
Magnesium	24-1	-12.40	-11.60	-12.44	-12.14		ppb
Manganese	55-1	838.34	842.37	847.54	842.75	0.55	ppb
Molybdenum	94-1	41.97	42.60	41.59	42.05	1.22	ppb
Molybdenum	95-1	50.27	50.13	49.71	50.04	0.58	ppb
Molybdenum	96-1	49.37	49.68	49.05	49.37	0.64	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	Q1172-04	Instrumnet Name :	P8
Client Sample ID :	PT-TM-WS	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:57:21	DataFile Name :	027AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Molybdenum	97-1	50.33	50.20	50.29	50.27	0.14	ppb
Molybdenum	98-1	50.33	51.26	49.67	50.42	1.59	ppb
Neodymium	150-1						cps
Nickel	60-1	212.61	215.89	216.29	214.93	0.94	ppb
Phosphorus	31-1	-22.07	-23.14	-23.69	-22.97		ppb
Potassium	39-1	-2.32	-0.79	2.39	-0.24		ppb
Rhodium	103-1				98		%
Scandium	45-1				99		%
Selenium	82-1	29.77	32.09	30.18	30.68	4.04	ppb
Selenium	77-1	30.32	29.94	29.48	29.91	1.41	ppb
Selenium	78-1	44.30	51.62	44.66	46.86	8.81	ppb
Silicon	28-1	117.23	124.69	117.67	119.86	3.49	ppb
Silver	109-1	238.91	230.99	232.43	234.11	1.80	ppb
Silver	107-1	230.00	231.26	232.21	231.15	0.48	ppb
Sodium	23-1	17.51	24.33	17.61	19.82	19.72	ppb
Strontium	86-1	-7.08	-8.08	-6.38	-7.18		ppb
Strontium	88-1	-5.84	-6.03	-6.42	-6.10		ppb
Sulfur	34-1	-3146.55	-2669.83	-3014.94	-2943.78		ppb
Terbium	159-1				99		%
Thallium	203-1	7.20	7.44	7.20	7.28	1.88	ppb
Thallium	205-1	7.30	7.36	7.15	7.27	1.51	ppb
Tin	118-1	0.07	0.06	0.06	0.06	13.68	ppb
Titanium	47-1	0.27	0.19	0.07	0.18	56.97	ppb
Uranium	238-1	0.01	0.01	0.01	0.01	11.89	ppb
Vanadium	51-1	305.59	311.20	311.08	309.29	1.04	ppb
Ytterbium	172-1						cps
Ytterbium	176-1						cps
Yttrium	89-1				101		%
Zinc	66-1	218.30	223.16	220.30	220.59	1.11	ppb
Zirconium	90-1	0.18	0.17	0.17	0.17	1.82	ppb
Zirconium	91-1	0.24	0.25	0.15	0.21	26.34	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	Q1172-04DLX5	Instrumnet Name :	P8
Client Sample ID :	PT-TM-WSDL	Dilution Factor :	5
Date & Time Acquired :	2025-02-14 12:16:56	DataFile Name :	028AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-1	99.19	100.62	100.05	99.95	0.72	ppb
Antimony	121-1	3.82	3.98	3.99	3.93	2.47	ppb
Arsenic	75-1	1.40	1.60	1.36	1.45	8.89	ppb
Barium	135-1	342.94	344.21	340.50	342.55	0.55	ppb
Barium	137-1	344.49	344.16	345.37	344.67	0.18	ppb
Beryllium	9-1	3.35	3.42	3.27	3.35	2.24	ppb
Bismuth	209-1				97		%
Bromine	81-1						cps
Cadmium	106-1	1.38	2.33	3.74	2.48	47.93	ppb
Cadmium	108-1	4.03	4.31	4.24	4.19	3.46	ppb
Cadmium	111-1	4.54	4.40	4.65	4.53	2.76	ppb
Calcium	43-1	10.13	10.37	10.68	10.39	2.67	ppb
Calcium	44-1	-32.90	-28.42	-31.08	-30.80		ppb
Carbon	12-1						cps
Chlorine	35-1						cps
Chromium	52-1	4.41	4.58	4.63	4.54	2.57	ppb
Cobalt	59-1	0.00	0.01	0.01	0.01	100.62	ppb
Copper	63-1	136.33	136.38	136.00	136.24	0.15	ppb
Dysprosium	156-1						cps
Erbium	164-1						cps
Gadolinium	160-1						cps
Holmium	165-1				96		%
Indium	115-1				96		%
Iron	54-1						ppb
Iron	56-1	310.10	311.85	305.61	309.19	1.04	ppb
Iron	57-1	301.22	302.31	303.37	302.30	0.36	ppb
Krypton	83-1						cps
Lead	206-1	3.97	4.03	4.21	4.07	3.13	ppb
Lead	207-1	3.94	3.80	4.24	3.99	5.61	ppb
Lead	208-1	3.96	3.97	4.18	4.04	3.07	ppb
Lithium	6-1				99		%
Magnesium	24-1	-4.48	-2.44	-4.13	-3.68		ppb
Manganese	55-1	171.12	169.82	168.52	169.82	0.77	ppb
Molybdenum	94-1	8.39	8.49	8.32	8.40	1.01	ppb
Molybdenum	95-1	10.09	10.27	10.17	10.18	0.92	ppb
Molybdenum	96-1	9.65	9.74	9.82	9.74	0.86	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	Q1172-04DLX5	Instrumnet Name :	P8
Client Sample ID :	PT-TM-WSDL	Dilution Factor :	5
Date & Time Acquired :	2025-02-14 12:16:56	DataFile Name :	028AREF.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Molybdenum	97-1	9.77	9.97	10.20	9.98	2.20	ppb
Molybdenum	98-1	9.82	10.26	10.18	10.09	2.31	ppb
Neodymium	150-1						cps
Nickel	60-1	42.64	43.23	43.36	43.08	0.89	ppb
Phosphorus	31-1	-16.29	-15.59	-18.61	-16.83		ppb
Potassium	39-1	3.50	8.87	0.28	4.22	102.95	ppb
Rhodium	103-1				97		%
Scandium	45-1				97		%
Selenium	82-1	6.75	5.41	5.47	5.88	12.87	ppb
Selenium	77-1	5.89	5.77	6.11	5.92	2.88	ppb
Selenium	78-1	22.12	25.47	27.65	25.08	11.12	ppb
Silicon	28-1	30.14	30.88	29.93	30.32	1.64	ppb
Silver	109-1	43.82	43.98	43.79	43.86	0.23	ppb
Silver	107-1	43.00	43.30	43.52	43.27	0.61	ppb
Sodium	23-1	-25.94	-24.02	-30.07	-26.68		ppb
Strontium	86-1	-5.60	-5.51	-7.94	-6.35		ppb
Strontium	88-1	-5.71	-5.35	-5.55	-5.54		ppb
Sulfur	34-1	-785.54	-540.89	-1091.38	-805.94		ppb
Terbium	159-1				97		%
Thallium	203-1	1.48	1.39	1.41	1.43	3.37	ppb
Thallium	205-1	1.45	1.44	1.44	1.44	0.72	ppb
Tin	118-1	0.01	0.01	-0.01	0.00	381.94	ppb
Titanium	47-1	-0.04	-0.08	0.07	-0.02		ppb
Uranium	238-1	0.00	0.00	0.00	0.00	82.39	ppb
Vanadium	51-1	59.60	60.79	60.19	60.19	0.99	ppb
Ytterbium	172-1						cps
Ytterbium	176-1						cps
Yttrium	89-1				98		%
Zinc	66-1	43.30	44.36	44.51	44.06	1.50	ppb
Zirconium	90-1	0.03	0.03	0.03	0.03	3.15	ppb
Zirconium	91-1	0.06	0.02	0.05	0.04	49.98	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	CCV02	Instrumnet Name :	P8
Client Sample ID :	CCV02	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 12:25:22	DataFile Name :	030CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-1	51127.80	49240.54	50320.03	50229.45	1.89	ppb
Antimony	121-1	475.82	483.32	485.81	481.65	1.08	ppb
Arsenic	75-1	477.57	470.87	466.99	471.81	1.13	ppb
Barium	135-1	2385.52	2415.22	2437.61	2412.78	1.08	ppb
Barium	137-1	2348.66	2405.80	2392.66	2382.38	1.26	ppb
Beryllium	9-1	496.70	505.46	510.34	504.16	1.37	ppb
Bismuth	209-1				94		%
Bromine	81-1						cps
Cadmium	106-1	459.07	473.03	459.88	463.99	1.69	ppb
Cadmium	108-1	461.88	471.60	470.76	468.08	1.15	ppb
Cadmium	111-1	455.75	464.17	460.93	460.28	0.92	ppb
Calcium	43-1	256124.40	251969.37	252755.32	253616.36	0.87	ppb
Calcium	44-1	258402.68	252044.07	253064.38	254503.71	1.34	ppb
Carbon	12-1						cps
Chlorine	35-1						cps
Chromium	52-1	494.79	488.25	488.29	490.44	0.77	ppb
Cobalt	59-1	493.71	480.39	483.41	485.84	1.44	ppb
Copper	63-1	4608.03	4793.34	4704.34	4701.90	1.97	ppb
Dysprosium	156-1						cps
Erbium	164-1						cps
Gadolinium	160-1						cps
Holmium	165-1				100		%
Indium	115-1				97		%
Iron	54-1						ppb
Iron	56-1	125145.68	123767.66	123136.99	124016.78	0.83	ppb
Iron	57-1	124786.79	122796.58	124305.00	123962.79	0.84	ppb
Krypton	83-1						cps
Lead	206-1	2481.53	2511.10	2530.24	2507.62	0.98	ppb
Lead	207-1	2456.18	2550.98	2541.66	2516.27	2.08	ppb
Lead	208-1	2480.47	2531.49	2527.64	2513.20	1.13	ppb
Lithium	6-1				100		%
Magnesium	24-1	243296.72	239488.67	243088.55	241957.98	0.88	ppb
Manganese	55-1	4859.95	4804.99	4836.92	4833.95	0.57	ppb
Molybdenum	94-1	4976.65	5017.11	5018.04	5003.93	0.47	ppb
Molybdenum	95-1	4985.50	5027.11	4985.56	4999.39	0.48	ppb
Molybdenum	96-1	5044.96	5031.10	5005.69	5027.25	0.40	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	CCV02	Instrumnet Name :	P8
Client Sample ID :	CCV02	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 12:25:22	DataFile Name :	030CCV.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Molybdenum	97-1	5018.73	5047.30	5014.02	5026.68	0.36	ppb
Molybdenum	98-1	4985.69	5008.58	4999.90	4998.06	0.23	ppb
Neodymium	150-1						cps
Nickel	60-1	461.55	445.01	449.23	451.93	1.90	ppb
Phosphorus	31-1	10046.13	9794.83	9910.59	9917.18	1.27	ppb
Potassium	39-1	124055.74	123240.05	123806.41	123700.73	0.34	ppb
Rhodium	103-1				94		%
Scandium	45-1				102		%
Selenium	82-1	491.57	482.92	479.48	484.66	1.29	ppb
Selenium	77-1	492.21	483.69	479.94	485.28	1.29	ppb
Selenium	78-1	507.08	492.02	490.45	496.52	1.85	ppb
Silicon	28-1	587.71	572.88	578.90	579.83	1.29	ppb
Silver	109-1	470.85	475.87	494.12	480.28	2.55	ppb
Silver	107-1	471.93	475.81	483.05	476.93	1.18	ppb
Sodium	23-1	254483.33	254326.47	255876.37	254895.39	0.33	ppb
Strontium	86-1	11836.23	11734.93	11640.31	11737.15	0.83	ppb
Strontium	88-1	12438.40	12436.45	12436.61	12437.15	0.01	ppb
Sulfur	34-1	9859.33	8853.73	8983.02	9232.03	5.93	ppb
Terbium	159-1				100		%
Thallium	203-1	506.30	515.48	507.81	509.86	0.97	ppb
Thallium	205-1	497.86	506.34	500.58	501.59	0.86	ppb
Tin	118-1	478.49	481.20	488.91	482.87	1.12	ppb
Titanium	47-1	5036.25	4942.51	4924.73	4967.83	1.21	ppb
Uranium	238-1	495.82	506.17	507.66	503.21	1.28	ppb
Vanadium	51-1	497.66	489.70	491.55	492.97	0.85	ppb
Ytterbium	172-1						cps
Ytterbium	176-1						cps
Yttrium	89-1				102		%
Zinc	66-1	4838.63	4713.40	4772.15	4774.73	1.31	ppb
Zirconium	90-1	503.24	494.25	498.98	498.82	0.90	ppb
Zirconium	91-1	479.56	474.81	471.32	475.23	0.87	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	CCB02	Instrumnet Name :	P8
Client Sample ID :	CCB02	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 12:32:04	DataFile Name :	032CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Aluminium	27-1	2.71	2.52	2.53	2.59	4.03	ppb
Antimony	121-1	0.06	0.04	0.05	0.05	20.28	ppb
Arsenic	75-1	0.03	-0.03	-0.01	0.00		ppb
Barium	135-1	-0.09	-0.25	-0.20	-0.18		ppb
Barium	137-1	-0.19	-0.09	-0.18	-0.15		ppb
Beryllium	9-1	0.12	0.15	0.16	0.14	14.38	ppb
Bismuth	209-1				99		%
Bromine	81-1						cps
Cadmium	106-1	-0.03	-0.89	-0.79	-0.57		ppb
Cadmium	108-1	0.06	0.02	0.30	0.13	118.91	ppb
Cadmium	111-1	0.00	-0.07	-0.04	-0.03		ppb
Calcium	43-1	2.56	-0.97	-0.23	0.46	407.49	ppb
Calcium	44-1	-34.95	-37.62	-37.23	-36.60		ppb
Carbon	12-1						cps
Chlorine	35-1						cps
Chromium	52-1	0.05	-0.04	0.03	0.01	352.67	ppb
Cobalt	59-1	0.02	0.02	0.04	0.02	53.09	ppb
Copper	63-1	-0.40	-0.31	-0.41	-0.37		ppb
Dysprosium	156-1						cps
Erbium	164-1						cps
Gadolinium	160-1						cps
Holmium	165-1				98		%
Indium	115-1				99		%
Iron	54-1						ppb
Iron	56-1	2.12	1.01	-2.61	0.18	1411.96	ppb
Iron	57-1	-7.73	-9.46	-8.89	-8.69		ppb
Krypton	83-1						cps
Lead	206-1	0.18	0.20	0.15	0.18	13.99	ppb
Lead	207-1	0.17	0.14	0.11	0.14	21.90	ppb
Lead	208-1	0.15	0.13	0.13	0.14	8.93	ppb
Lithium	6-1				103		%
Magnesium	24-1	-5.63	-7.17	-6.65	-6.48		ppb
Manganese	55-1	0.49	0.43	0.41	0.44	9.21	ppb
Molybdenum	94-1	0.11	0.05	0.14	0.10	42.61	ppb
Molybdenum	95-1	0.07	0.07	0.09	0.08	15.06	ppb
Molybdenum	96-1	0.08	0.06	0.07	0.07	14.16	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	CCB02	Instrumnet Name :	P8
Client Sample ID :	CCB02	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 12:32:04	DataFile Name :	032CCBE.d

Parameter	Mass	ConRep1	ConRep2	ConRep3	Avg. Conc.	ConcRSD	Units
Molybdenum	97-1	0.04	0.07	0.00	0.04	93.95	ppb
Molybdenum	98-1	0.05	0.07	0.09	0.07	27.67	ppb
Neodymium	150-1						cps
Nickel	60-1	-0.16	-0.27	0.06	-0.12		ppb
Phosphorus	31-1	-21.73	-20.99	-24.06	-22.26		ppb
Potassium	39-1	17.31	9.06	0.79	9.05	91.29	ppb
Rhodium	103-1				100		%
Scandium	45-1				99		%
Selenium	82-1	-0.09	0.61	0.73	0.42	105.76	ppb
Selenium	77-1	-0.20	-0.08	-0.11	-0.13		ppb
Selenium	78-1	12.53	11.42	13.77	12.58	9.36	ppb
Silicon	28-1	-1.14	-2.64	-3.72	-2.50		ppb
Silver	109-1	0.01	0.01	0.01	0.01	24.80	ppb
Silver	107-1	0.01	0.01	0.02	0.01	16.44	ppb
Sodium	23-1	-3.86	-10.99	-16.27	-10.37		ppb
Strontium	86-1	-8.75	-9.32	-10.70	-9.59		ppb
Strontium	88-1	-6.46	-6.72	-6.45	-6.54		ppb
Sulfur	34-1	-1944.34	-2364.31	-2484.00	-2264.22		ppb
Terbium	159-1				98		%
Thallium	203-1	0.03	0.05	0.03	0.04	30.98	ppb
Thallium	205-1	0.03	0.03	0.03	0.03	5.01	ppb
Tin	118-1	0.03	0.09	0.07	0.06	50.65	ppb
Titanium	47-1	-0.09	-0.05	0.01	-0.04		ppb
Uranium	238-1	0.00	0.00	0.00	0.00	32.42	ppb
Vanadium	51-1	0.00	0.00	0.01	0.00	2502.99	ppb
Ytterbium	172-1						cps
Ytterbium	176-1						cps
Yttrium	89-1				101		%
Zinc	66-1	0.26	0.21	0.05	0.17	62.66	ppb
Zirconium	90-1	0.01	-0.01	0.00	0.00	1417.79	ppb
Zirconium	91-1	0.04	0.03	0.02	0.03	43.28	ppb

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S0	Instrumnet Name :	P8
Client Sample ID :	S0	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:31:43	DataFile Name :	004CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-1	10665	11126	11005	10932	2.19	cps
Antimony	121-1	50	25	25	33	43.30	cps
Arsenic	75-1	684	722	654	687	5.01	cps
Barium	135-1	1133	1150	1333	1206	9.21	cps
Barium	137-1	2275	2042	2150	2156	5.42	cps
Beryllium	9-1	444	440	374	419	9.37	cps
Bismuth	209-1	4602932	4537457	4559660	4566683	0.73	cps
Bromine	81-1	1842	1962	1912	1905	3.17	cps
Cadmium	106-1	2150	1875	2092	2039	7.11	cps
Cadmium	108-1	29	46	54	43	29.56	cps
Cadmium	111-1	1543	1351	1481	1458	6.70	cps
Calcium	43-1	549	540	526	538	2.11	cps
Calcium	44-1	42651	43282	42619	42850	0.87	cps
Carbon	12-1	2314056	2184737	2132588	2210460	4.23	cps
Chlorine	35-1	92847	93769	95036	93884	1.17	cps
Chromium	52-1	10755	10645	10354	10585	1.96	cps
Cobalt	59-1	1562	1582	1472	1538	3.81	cps
Copper	63-1	29253	29878	29270	29467	1.21	cps
Dysprosium	156-1	458	450	492	467	4.72	cps
Erbium	164-1	58	50	58	56	8.66	cps
Gadolinium	160-1	75	75	17	56	60.62	cps
Holmium	165-1	6639511	6684441	6755816	6693256	0.88	cps
Indium	115-1	5480045	5423336	5472046	5458476	0.56	cps
Iron	54-1						cps
Iron	56-1	1397990	1377269	1380047	1385102	0.81	cps
Iron	57-1	48682	47728	47788	48066	1.11	cps
Krypton	83-1	280	320	310	303	6.86	cps
Lead	206-1	833	778	1006	872	13.62	cps
Lead	207-1	828	733	767	776	6.17	cps
Lead	208-1	3456	3517	3756	3576	4.43	cps
Lithium	6-1	2607511	2565269	2588023	2586934	0.82	cps
Magnesium	24-1	592258	589016	587230	589501	0.43	cps
Manganese	55-1	15534	15604	14432	15190	4.33	cps
Molybdenum	94-1	250	283	275	269	6.44	cps
Molybdenum	95-1	217	183	183	194	9.90	cps
Molybdenum	96-1	292	375	325	331	12.69	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S0	Instrumnet Name :	P8
Client Sample ID :	S0	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:31:43	DataFile Name :	004CALB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Molybdenum	97-1	225	117	192	178	31.21	cps
Molybdenum	98-1	333	400	342	358	10.14	cps
Neodymium	150-1	20	27	7	18	57.27	cps
Nickel	60-1	7670	7349	7099	7373	3.88	cps
Phosphorus	31-1	46622	44061	45598	45427	2.84	cps
Potassium	39-1	4255089	4208159	4264586	4242611	0.71	cps
Rhodium	103-1	5029990	5051847	5144769	5075536	1.20	cps
Scandium	45-1	3708967	3732138	3715844	3718983	0.32	cps
Selenium	82-1	-43	-60	-47	-50	-18.24	cps
Selenium	77-1	33	47	53	45	22.98	cps
Selenium	78-1	75746	75536	74907	75396	0.58	cps
Silicon	28-1	623417	617777	625697	622297	0.66	cps
Silver	109-1	33	67	33	44	43.31	cps
Silver	107-1	117	75	83	92	24.05	cps
Sodium	23-1	4592200	4522596	4476286	4530361	1.29	cps
Strontium	86-1	1508	1558	1392	1486	5.75	cps
Strontium	88-1	8411	9845	8436	8898	9.23	cps
Sulfur	34-1	693055	686771	687542	689123	0.50	cps
Terbium	159-1	7055996	6896865	7011807	6988223	1.18	cps
Thallium	203-1	150	158	167	158	5.26	cps
Thallium	205-1	408	308	342	353	14.43	cps
Tin	118-1	808	975	775	853	12.57	cps
Titanium	47-1	250	258	275	261	4.88	cps
Uranium	238-1	50	42	33	42	20.00	cps
Vanadium	51-1	300	290	380	324	15.26	cps
Ytterbium	172-1	58	33	42	44	28.64	cps
Ytterbium	176-1	650	758	467	625	23.59	cps
Yttrium	89-1	9274620	9394634	9368039	9345765	0.67	cps
Zinc	66-1	1281	1221	1321	1275	3.95	cps
Zirconium	90-1	317	408	258	328	23.07	cps
Zirconium	91-1	67	83	58	69	18.34	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S2	Instrumnet Name :	P8
Client Sample ID :	S2	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:34:46	DataFile Name :	005CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-1	226963	226015	230562	227847	1.05	cps
Antimony	121-1	15926	14358	14558	14947	5.71	cps
Arsenic	75-1	2861	2888	2702	2817	3.57	cps
Barium	135-1	17228	16744	17053	17008	1.44	cps
Barium	137-1	30677	30902	30385	30655	0.85	cps
Beryllium	9-1	2926	2906	2790	2874	2.56	cps
Bismuth	209-1	4659435	4583289	4663813	4635513	0.98	cps
Bromine	81-1	1882	2102	1922	1969	5.96	cps
Cadmium	106-1	2234	2400	2284	2306	3.71	cps
Cadmium	108-1	146	213	167	175	19.49	cps
Cadmium	111-1	3228	3236	3274	3246	0.75	cps
Calcium	43-1	11047	11068	10878	10997	0.95	cps
Calcium	44-1	208647	209478	208727	208951	0.22	cps
Carbon	12-1	2324655	2260028	2216680	2267121	2.40	cps
Chlorine	35-1	93744	95120	94189	94351	0.74	cps
Chromium	52-1	34938	35179	35380	35166	0.63	cps
Cobalt	59-1	15033	15735	15144	15304	2.46	cps
Copper	63-1	44289	44389	43911	44196	0.57	cps
Dysprosium	156-1	342	550	367	419	27.12	cps
Erbium	164-1	100	25	8	44	109.87	cps
Gadolinium	160-1	42	42	8	31	62.99	cps
Holmium	165-1	6685400	6647940	6848643	6727327	1.59	cps
Indium	115-1	5488152	5394341	5532256	5471583	1.29	cps
Iron	54-1						cps
Iron	56-1	2054510	2067704	2089361	2070525	0.85	cps
Iron	57-1	62570	65666	64913	64383	2.51	cps
Krypton	83-1	307	270	337	304	10.97	cps
Lead	206-1	5935	6446	6157	6179	4.15	cps
Lead	207-1	5157	5262	5107	5175	1.54	cps
Lead	208-1	23520	24582	24510	24204	2.45	cps
Lithium	6-1	2636065	2604037	2652945	2631016	0.94	cps
Magnesium	24-1	5364075	5422206	5354929	5380403	0.68	cps
Manganese	55-1	31276	31066	31467	31269	0.64	cps
Molybdenum	94-1	13182	13782	13757	13574	2.50	cps
Molybdenum	95-1	16277	16060	16010	16115	0.88	cps
Molybdenum	96-1	18371	18112	18112	18198	0.82	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S2	Instrumnet Name :	P8
Client Sample ID :	S2	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:34:46	DataFile Name :	005CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Molybdenum	97-1	10237	10046	9545	9943	3.59	cps
Molybdenum	98-1	25257	26409	25332	25666	2.51	cps
Neodymium	150-1	13	27	7	16	65.47	cps
Nickel	60-1	9884	10815	9553	10084	6.49	cps
Phosphorus	31-1	62507	62186	62608	62434	0.35	cps
Potassium	39-1	9662083	9676931	9656115	9665043	0.11	cps
Rhodium	103-1	5084795	5094739	5150383	5109972	0.69	cps
Scandium	45-1	3698076	3686105	3741078	3708420	0.78	cps
Selenium	82-1	490	519	498	502	2.94	cps
Selenium	77-1	453	417	471	447	6.17	cps
Selenium	78-1	76949	77218	76449	76872	0.51	cps
Silicon	28-1	650222	646411	652111	649581	0.45	cps
Silver	109-1	7594	7611	7677	7627	0.58	cps
Silver	107-1	7310	7827	7911	7683	4.23	cps
Sodium	23-1	10799775	10955336	10890923	10882011	0.72	cps
Strontium	86-1	3584	3301	3325	3403	4.61	cps
Strontium	88-1	27052	27361	25708	26707	3.29	cps
Sulfur	34-1	696629	694279	699393	696767	0.37	cps
Terbium	159-1	7165516	6887472	7007092	7020027	1.99	cps
Thallium	203-1	6710	6510	6744	6655	1.90	cps
Thallium	205-1	15827	15585	15376	15596	1.45	cps
Tin	118-1	27328	26535	26935	26933	1.47	cps
Titanium	47-1	5076	5184	5468	5243	3.86	cps
Uranium	238-1	18547	18898	18322	18589	1.56	cps
Vanadium	51-1	67809	70826	70212	69616	2.29	cps
Ytterbium	172-1	25	58	25	36	53.29	cps
Ytterbium	176-1	725	467	575	589	22.03	cps
Yttrium	89-1	9307284	9411492	9640057	9452944	1.80	cps
Zinc	66-1	11476	11446	11046	11323	2.12	cps
Zirconium	90-1	11613	11030	11088	11244	2.86	cps
Zirconium	91-1	2600	2534	2492	2542	2.15	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S3	Instrumnet Name :	P8
Client Sample ID :	S3	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:37:51	DataFile Name :	006CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-1	10860237	10924603	10939202	10908014	0.39	cps
Antimony	121-1	347395	355307	354491	352398	1.23	cps
Arsenic	75-1	96703	94036	93066	94602	1.99	cps
Barium	135-1	379375	385653	385059	383362	0.90	cps
Barium	137-1	664554	667833	669169	667185	0.36	cps
Beryllium	9-1	113098	114001	114075	113725	0.48	cps
Bismuth	209-1	4665220	4676791	4627089	4656367	0.56	cps
Bromine	81-1	2192	2002	1962	2052	6.00	cps
Cadmium	106-1	11005	10788	10162	10652	4.11	cps
Cadmium	108-1	6035	6377	6364	6258	3.10	cps
Cadmium	111-1	80702	81979	80778	81153	0.88	cps
Calcium	43-1	98635	98061	98654	98450	0.34	cps
Calcium	44-1	1653526	1638673	1615032	1635744	1.19	cps
Carbon	12-1	2389160	2285545	2246501	2307068	3.20	cps
Chlorine	35-1	92536	93099	92252	92629	0.47	cps
Chromium	52-1	567382	558288	562044	562572	0.81	cps
Cobalt	59-1	611449	618525	625146	618374	1.11	cps
Copper	63-1	3522016	3459886	3442636	3474846	1.20	cps
Dysprosium	156-1	342	450	517	436	20.25	cps
Erbium	164-1	67	58	50	58	14.29	cps
Gadolinium	160-1	50	17	100	56	75.49	cps
Holmium	165-1	6707142	6812865	6718736	6746247	0.86	cps
Indium	115-1	5544216	5480491	5358907	5461204	1.72	cps
Iron	54-1						cps
Iron	56-1	32816634	32445401	32697202	32653079	0.58	cps
Iron	57-1	817510	820704	818386	818866	0.20	cps
Krypton	83-1	233	303	223	253	17.21	cps
Lead	206-1	1257982	1265925	1264464	1262790	0.33	cps
Lead	207-1	1084204	1090106	1095862	1090057	0.53	cps
Lead	208-1	5153378	5146055	5152786	5150740	0.08	cps
Lithium	6-1	2664734	2627322	2627260	2639772	0.82	cps
Magnesium	24-1	46712611	46461731	46663138	46612493	0.29	cps
Manganese	55-1	7725769	7668588	7578622	7657660	0.97	cps
Molybdenum	94-1	1058089	1069021	1066450	1064520	0.54	cps
Molybdenum	95-1	1539352	1527134	1525162	1530550	0.50	cps
Molybdenum	96-1	1693353	1662963	1722219	1692845	1.75	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S3	Instrumnet Name :	P8
Client Sample ID :	S3	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:37:51	DataFile Name :	006CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Molybdenum	97-1	944398	944845	947246	945496	0.16	cps
Molybdenum	98-1	2513255	2462541	2486013	2487270	1.02	cps
Neodymium	150-1	47	47	40	44	8.66	cps
Nickel	60-1	143398	143148	144996	143847	0.70	cps
Phosphorus	31-1	576362	569032	573244	572879	0.64	cps
Potassium	39-1	30335422	30024526	30349562	30236503	0.61	cps
Rhodium	103-1	5109716	5019584	5041424	5056908	0.93	cps
Scandium	45-1	3729416	3704729	3683185	3705777	0.62	cps
Selenium	82-1	4966	4991	5033	4997	0.68	cps
Selenium	77-1	3805	3799	3880	3828	1.18	cps
Selenium	78-1	88017	88199	88581	88265	0.33	cps
Silicon	28-1	954942	943389	952048	950126	0.63	cps
Silver	109-1	375693	379132	377451	377426	0.46	cps
Silver	107-1	397582	398529	398131	398081	0.12	cps
Sodium	23-1	65685120	65235192	65546425	65488912	0.35	cps
Strontium	86-1	99847	100754	102432	101011	1.30	cps
Strontium	88-1	862012	864781	866520	864438	0.26	cps
Sulfur	34-1	730166	720965	715875	722335	1.00	cps
Terbium	159-1	7145117	7242289	6993402	7126936	1.76	cps
Thallium	203-1	301974	304579	306063	304206	0.68	cps
Thallium	205-1	723606	729998	733619	729074	0.70	cps
Tin	118-1	249638	248953	247295	248629	0.48	cps
Titanium	47-1	472393	474007	469747	472049	0.46	cps
Uranium	238-1	925721	928588	954154	936154	1.67	cps
Vanadium	51-1	639500	643199	646539	643079	0.55	cps
Ytterbium	172-1	92	67	33	64	45.81	cps
Ytterbium	176-1	2117	1959	2109	2061	4.32	cps
Yttrium	89-1	9398400	9408746	9376691	9394612	0.17	cps
Zinc	66-1	918994	920635	918641	919423	0.12	cps
Zirconium	90-1	534294	538376	538111	536927	0.43	cps
Zirconium	91-1	118804	118224	118980	118669	0.33	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S4	Instrumnet Name :	P8
Client Sample ID :	S4	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:40:54	DataFile Name :	007CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-1	27089292	26998698	26817510	26968500	0.51	cps
Antimony	121-1	870687	866207	875341	870745	0.52	cps
Arsenic	75-1	230281	230965	231776	231007	0.32	cps
Barium	135-1	928520	947547	949610	941892	1.23	cps
Barium	137-1	1666182	1657457	1677654	1667098	0.61	cps
Beryllium	9-1	278471	280568	279756	279598	0.38	cps
Bismuth	209-1	4698563	4565953	4599140	4621219	1.49	cps
Bromine	81-1	1922	2032	2042	1999	3.33	cps
Cadmium	106-1	23178	22736	23320	23078	1.32	cps
Cadmium	108-1	14942	15267	14866	15025	1.42	cps
Cadmium	111-1	198744	199127	199835	199235	0.28	cps
Calcium	43-1	244310	242572	242830	243237	0.39	cps
Calcium	44-1	3965621	3915135	3970205	3950320	0.77	cps
Carbon	12-1	2447767	2357208	2376364	2393780	1.99	cps
Chlorine	35-1	90759	90793	89199	90250	1.01	cps
Chromium	52-1	1388917	1386962	1395549	1390476	0.32	cps
Cobalt	59-1	1583624	1546484	1567822	1565976	1.19	cps
Copper	63-1	8438337	8386844	8471467	8432216	0.51	cps
Dysprosium	156-1	292	433	542	422	29.69	cps
Erbium	164-1	75	25	50	50	50.00	cps
Gadolinium	160-1	92	75	100	89	14.32	cps
Holmium	165-1	6786583	6736625	6573726	6698978	1.66	cps
Indium	115-1	5332390	5410521	5423348	5388753	0.91	cps
Iron	54-1						cps
Iron	56-1	78606511	78154987	79422933	78728144	0.82	cps
Iron	57-1	1917871	1939767	1949485	1935708	0.84	cps
Krypton	83-1	280	253	277	270	5.38	cps
Lead	206-1	3273347	3269293	3279487	3274042	0.16	cps
Lead	207-1	2874699	2766811	2817267	2819592	1.91	cps
Lead	208-1	12941487	12724875	12972115	12879492	1.05	cps
Lithium	6-1	2611465	2600917	2600636	2604339	0.24	cps
Magnesium	24-1	114338940	114283257	113194901	113939033	0.57	cps
Manganese	55-1	18964616	18883102	18917665	18921795	0.22	cps
Molybdenum	94-1	2639833	2627885	2601250	2622990	0.75	cps
Molybdenum	95-1	3779838	3781497	3767723	3776352	0.20	cps
Molybdenum	96-1	4176343	4219598	4154181	4183374	0.80	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S4	Instrumnet Name :	P8
Client Sample ID :	S4	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:40:54	DataFile Name :	007CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Molybdenum	97-1	2382791	2363136	2335798	2360575	1.00	cps
Molybdenum	98-1	6158886	6097580	6028884	6095117	1.07	cps
Neodymium	150-1	67	67	73	69	5.59	cps
Nickel	60-1	343211	343200	340582	342331	0.44	cps
Phosphorus	31-1	1295352	1323925	1323241	1314173	1.24	cps
Potassium	39-1	68166054	68028621	68051364	68082013	0.11	cps
Rhodium	103-1	5036751	4921973	5042485	5000403	1.36	cps
Scandium	45-1	3726300	3678413	3690062	3698259	0.68	cps
Selenium	82-1	12426	12303	12394	12374	0.51	cps
Selenium	77-1	9512	9474	9587	9524	0.61	cps
Selenium	78-1	107346	107535	108166	107682	0.40	cps
Silicon	28-1	1428348	1469621	1438634	1445534	1.49	cps
Silver	109-1	927036	918298	943896	929744	1.40	cps
Silver	107-1	983108	973426	979646	978727	0.50	cps
Sodium	23-1	154055525	155191346	153788813	154345228	0.48	cps
Strontium	86-1	247369	244654	245471	245832	0.57	cps
Strontium	88-1	2163000	2173535	2176312	2170949	0.32	cps
Sulfur	34-1	747339	742991	741688	744006	0.40	cps
Terbium	159-1	6972097	7061997	6964427	6999507	0.78	cps
Thallium	203-1	750147	755995	762891	756344	0.84	cps
Thallium	205-1	1834021	1844989	1846940	1841983	0.38	cps
Tin	118-1	606943	607878	609547	608123	0.22	cps
Titanium	47-1	1165651	1160662	1166069	1164127	0.26	cps
Uranium	238-1	2408010	2421463	2412391	2413955	0.28	cps
Vanadium	51-1	1639291	1604599	1625418	1623103	1.08	cps
Ytterbium	172-1	58	83	58	67	21.65	cps
Ytterbium	176-1	3942	4209	3917	4023	4.02	cps
Yttrium	89-1	9395687	9365835	9402973	9388165	0.21	cps
Zinc	66-1	2290521	2319126	2319194	2309614	0.72	cps
Zirconium	90-1	1322105	1332510	1334899	1329838	0.51	cps
Zirconium	91-1	293568	293450	293450	293490	0.02	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S5	Instrumnet Name :	P8
Client Sample ID :	S5	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:43:59	DataFile Name :	008CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-1	53094002	53012214	52677128	52927781	0.42	cps
Antimony	121-1	1739467	1748949	1777957	1755458	1.14	cps
Arsenic	75-1	449802	454012	454838	452884	0.60	cps
Barium	135-1	1924819	1894247	1912758	1910608	0.81	cps
Barium	137-1	3346250	3255424	3338028	3313234	1.52	cps
Beryllium	9-1	542430	542976	544678	543361	0.22	cps
Bismuth	209-1	4547464	4572462	4706284	4608736	1.85	cps
Bromine	81-1	1812	1932	1852	1865	3.28	cps
Cadmium	106-1	43937	42909	43937	43595	1.36	cps
Cadmium	108-1	29314	29227	29895	29479	1.23	cps
Cadmium	111-1	388754	391323	393983	391353	0.67	cps
Calcium	43-1	473219	476026	475508	474918	0.31	cps
Calcium	44-1	7736744	7721076	7900556	7786125	1.28	cps
Carbon	12-1	2476823	2419989	2358095	2418302	2.46	cps
Chlorine	35-1	89568	90675	93073	91105	1.97	cps
Chromium	52-1	2704191	2725224	2718447	2715954	0.40	cps
Cobalt	59-1	3035041	3076415	3040086	3050514	0.74	cps
Copper	63-1	16499555	16591526	16469046	16520042	0.39	cps
Dysprosium	156-1	400	450	425	425	5.88	cps
Erbium	164-1	42	33	75	50	44.10	cps
Gadolinium	160-1	67	100	67	78	24.74	cps
Holmium	165-1	6848534	6760518	6897335	6835462	1.01	cps
Indium	115-1	5434054	5349555	5559133	5447581	1.94	cps
Iron	54-1						cps
Iron	56-1	153508138	152479895	154049859	153345964	0.52	cps
Iron	57-1	3667052	3770545	3654449	3697348	1.72	cps
Krypton	83-1	263	243	297	268	10.06	cps
Lead	206-1	6314853	6390345	6524299	6409832	1.65	cps
Lead	207-1	5545371	5467447	5445500	5486106	0.96	cps
Lead	208-1	25247113	25309926	25356034	25304358	0.22	cps
Lithium	6-1	2639362	2617046	2641761	2632723	0.52	cps
Magnesium	24-1	221392320	226275628	222942334	223536761	1.12	cps
Manganese	55-1	36938589	37201414	37350582	37163528	0.56	cps
Molybdenum	94-1	5137552	5146202	5204794	5162849	0.71	cps
Molybdenum	95-1	7398006	7480847	7490948	7456600	0.68	cps
Molybdenum	96-1	8216944	8254027	8241731	8237567	0.23	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S5	Instrumnet Name :	P8
Client Sample ID :	S5	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:43:59	DataFile Name :	008CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Molybdenum	97-1	4645236	4549137	4707306	4633893	1.72	cps
Molybdenum	98-1	11888634	12083336	12202860	12058277	1.32	cps
Neodymium	150-1	113	87	80	93	18.90	cps
Nickel	60-1	653684	664394	661458	659845	0.84	cps
Phosphorus	31-1	2519231	2568966	2523580	2537259	1.09	cps
Potassium	39-1	131859955	131441782	131409622	131570453	0.19	cps
Rhodium	103-1	4952645	4880142	5057102	4963296	1.79	cps
Scandium	45-1	3646106	3643846	3765288	3685080	1.89	cps
Selenium	82-1	24261	24308	24434	24334	0.37	cps
Selenium	77-1	18486	18861	18722	18690	1.01	cps
Selenium	78-1	136554	138686	138467	137903	0.85	cps
Silicon	28-1	2253982	2223854	2248759	2242198	0.72	cps
Silver	109-1	1881897	1877458	1876560	1878638	0.15	cps
Silver	107-1	1954350	1991772	1978095	1974739	0.96	cps
Sodium	23-1	299605625	303033263	301523813	301387567	0.57	cps
Strontium	86-1	483696	482175	488752	484874	0.71	cps
Strontium	88-1	4244434	4217168	4216758	4226120	0.38	cps
Sulfur	34-1	796868	798022	791618	795503	0.43	cps
Terbium	159-1	7085044	7113929	7231536	7143503	1.09	cps
Thallium	203-1	1476050	1489462	1500752	1488754	0.83	cps
Thallium	205-1	3581205	3616898	3667363	3621822	1.20	cps
Tin	118-1	1207207	1222399	1223730	1217779	0.75	cps
Titanium	47-1	2320286	2334447	2351248	2335327	0.66	cps
Uranium	238-1	4764638	4714540	4715158	4731445	0.61	cps
Vanadium	51-1	3218204	3216760	3241667	3225544	0.43	cps
Ytterbium	172-1	50	150	42	81	74.84	cps
Ytterbium	176-1	8094	7336	7577	7669	5.06	cps
Yttrium	89-1	9415440	9420045	9518299	9451261	0.61	cps
Zinc	66-1	4525375	4530004	4577855	4544411	0.64	cps
Zirconium	90-1	2658449	2649818	2665006	2657758	0.29	cps
Zirconium	91-1	566994	577022	581452	575156	1.29	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S6	Instrumnet Name :	P8
Client Sample ID :	S6	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:47:02	DataFile Name :	009CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-1	106302183	108222048	107600269	107374834	0.91	cps
Antimony	121-1	3531009	3561443	3546550	3546334	0.43	cps
Arsenic	75-1	908465	919408	923587	917153	0.85	cps
Barium	135-1	3788714	3915020	3853297	3852344	1.64	cps
Barium	137-1	6651950	6710833	6613185	6658656	0.74	cps
Beryllium	9-1	1102011	1119883	1125551	1115815	1.10	cps
Bismuth	209-1	4541776	4668504	4591185	4600489	1.39	cps
Bromine	81-1	2072	1972	1842	1962	5.88	cps
Cadmium	106-1	83134	84568	85967	84556	1.68	cps
Cadmium	108-1	58197	59469	59979	59215	1.55	cps
Cadmium	111-1	773461	789863	788688	784004	1.17	cps
Calcium	43-1	955091	955504	966830	959142	0.69	cps
Calcium	44-1	15618614	15866448	15919599	15801554	1.02	cps
Carbon	12-1	2642892	2621548	2628869	2631103	0.41	cps
Chlorine	35-1	94767	94793	96740	95433	1.19	cps
Chromium	52-1	5494292	5521592	5574756	5530214	0.74	cps
Cobalt	59-1	6163067	6068292	6188018	6139792	1.03	cps
Copper	63-1	33264146	33251610	33585250	33367002	0.57	cps
Dysprosium	156-1	400	467	358	408	13.38	cps
Erbium	164-1	58	92	117	89	32.93	cps
Gadolinium	160-1	58	67	100	75	29.39	cps
Holmium	165-1	6828818	6951273	6941252	6907114	0.98	cps
Indium	115-1	5363899	5490491	5496039	5450143	1.37	cps
Iron	54-1						cps
Iron	56-1	310319689	315629719	314593873	313514427	0.90	cps
Iron	57-1	7472630	7503007	7578579	7518072	0.73	cps
Krypton	83-1	270	240	303	271	11.69	cps
Lead	206-1	12763620	12995679	12831660	12863653	0.93	cps
Lead	207-1	10816455	10926150	11135108	10959238	1.48	cps
Lead	208-1	50235876	51318344	51181722	50911981	1.16	cps
Lithium	6-1	2566771	2604277	2641584	2604211	1.44	cps
Magnesium	24-1	441803778	458849874	457911515	452855056	2.12	cps
Manganese	55-1	75560047	76781136	76216969	76186051	0.80	cps
Molybdenum	94-1	10574435	10465837	10632214	10557495	0.80	cps
Molybdenum	95-1	15219511	15027762	15393296	15213523	1.20	cps
Molybdenum	96-1	16653937	16445197	17062134	16720423	1.88	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S6	Instrumnet Name :	P8
Client Sample ID :	S6	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:47:02	DataFile Name :	009CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Molybdenum	97-1	9364017	9229073	9402992	9332027	0.98	cps
Molybdenum	98-1	24669038	24520778	24830455	24673423	0.63	cps
Neodymium	150-1	200	240	173	204	16.41	cps
Nickel	60-1	1324355	1310770	1314071	1316399	0.54	cps
Phosphorus	31-1	5043276	5097553	5110742	5083857	0.70	cps
Potassium	39-1	264675496	260769170	265863604	263769423	1.01	cps
Rhodium	103-1	4938079	5001527	4941896	4960501	0.72	cps
Scandium	45-1	3649895	3790874	3757766	3732845	1.97	cps
Selenium	82-1	49066	48810	49098	48992	0.32	cps
Selenium	77-1	37219	37955	38004	37726	1.17	cps
Selenium	78-1	198079	199746	200667	199498	0.66	cps
Silicon	28-1	3827796	3851962	3886404	3855388	0.76	cps
Silver	109-1	3658848	3722277	3726187	3702437	1.02	cps
Silver	107-1	3890075	3959955	3935618	3928549	0.90	cps
Sodium	23-1	605286645	605370069	614309668	608322127	0.85	cps
Strontium	86-1	973765	984806	974175	977582	0.64	cps
Strontium	88-1	8525451	8541541	8449687	8505560	0.58	cps
Sulfur	34-1	917761	915247	916540	916516	0.14	cps
Terbium	159-1	7244664	7099332	7269124	7204374	1.27	cps
Thallium	203-1	3074190	3084007	3093132	3083776	0.31	cps
Thallium	205-1	7117980	7307961	7306141	7244027	1.51	cps
Tin	118-1	2431710	2481611	2457806	2457042	1.02	cps
Titanium	47-1	4670943	4785413	4738902	4731753	1.22	cps
Uranium	238-1	9216568	9630181	9513375	9453375	2.26	cps
Vanadium	51-1	6418388	6492344	6567800	6492844	1.15	cps
Ytterbium	172-1	100	58	142	100	41.66	cps
Ytterbium	176-1	14750	14558	14867	14725	1.06	cps
Yttrium	89-1	9644613	9594054	9563825	9600831	0.43	cps
Zinc	66-1	9014226	8992200	8989385	8998604	0.15	cps
Zirconium	90-1	5438800	5395817	5449380	5427999	0.52	cps
Zirconium	91-1	1178017	1163668	1172768	1171484	0.62	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S7	Instrumnet Name :	P8
Client Sample ID :	S7	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:50:08	DataFile Name :	010CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-1	217546654	222577630	225474967	221866417	1.81	cps
Antimony	121-1	7092470	7303673	7328699	7241614	1.79	cps
Arsenic	75-1	1916156	1957250	1957410	1943606	1.22	cps
Barium	135-1	7712491	7952109	7893122	7852574	1.59	cps
Barium	137-1	13506196	13778465	13730165	13671609	1.06	cps
Beryllium	9-1	2230142	2288491	2298388	2272340	1.62	cps
Bismuth	209-1	4615812	4632854	4745646	4664771	1.51	cps
Bromine	81-1	2293	1892	2152	2112	9.62	cps
Cadmium	106-1	168815	166849	167684	167783	0.59	cps
Cadmium	108-1	118902	121189	120234	120108	0.96	cps
Cadmium	111-1	1557465	1603335	1651543	1604114	2.93	cps
Calcium	43-1	1990170	2061847	2037182	2029733	1.79	cps
Calcium	44-1	31739213	32511130	32745822	32332055	1.63	cps
Carbon	12-1	2931895	3039365	3106782	3026014	2.91	cps
Chlorine	35-1	103183	105693	106985	105287	1.84	cps
Chromium	52-1	11088001	11206910	11337622	11210844	1.11	cps
Cobalt	59-1	12393467	12486452	12550564	12476828	0.63	cps
Copper	63-1	65994207	68110921	67911942	67339023	1.74	cps
Dysprosium	156-1	433	592	517	514	15.41	cps
Erbium	164-1	75	100	67	81	21.53	cps
Gadolinium	160-1	100	100	108	103	4.68	cps
Holmium	165-1	6973937	7125874	7110662	7070158	1.18	cps
Indium	115-1	5440838	5485305	5638772	5521638	1.88	cps
Iron	54-1						cps
Iron	56-1	624542681	634737415	647798135	635692744	1.83	cps
Iron	57-1	15380266	15238874	15270995	15296712	0.48	cps
Krypton	83-1	273	347	303	308	11.98	cps
Lead	206-1	25709283	26070546	26814256	26198028	2.15	cps
Lead	207-1	21962841	22318727	22678543	22320037	1.60	cps
Lead	208-1	101980789	103187507	105165682	103444659	1.55	cps
Lithium	6-1	2654593	2679215	2674489	2669432	0.49	cps
Magnesium	24-1	922438286	938568616	944054962	935020621	1.20	cps
Manganese	55-1	154187797	155817397	156301526	155435573	0.71	cps
Molybdenum	94-1	21684415	22123933	21998275	21935541	1.03	cps
Molybdenum	95-1	30776297	31526293	31945942	31416177	1.89	cps
Molybdenum	96-1	34146545	35239639	35188787	34858324	1.77	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S7	Instrumnet Name :	P8
Client Sample ID :	S7	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:50:08	DataFile Name :	010CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Molybdenum	97-1	19077297	19619683	19586823	19427934	1.57	cps
Molybdenum	98-1	49958827	50805080	52179835	50981247	2.20	cps
Neodymium	150-1	340	373	320	344	7.82	cps
Nickel	60-1	2803107	2848471	2826677	2826085	0.80	cps
Phosphorus	31-1	10150172	10416825	10575244	10380747	2.07	cps
Potassium	39-1	531305967	537943505	545648489	538299320	1.33	cps
Rhodium	103-1	5054449	5059635	5082108	5065397	0.29	cps
Scandium	45-1	3824669	3884990	3881482	3863714	0.88	cps
Selenium	82-1	98237	98720	98544	98500	0.25	cps
Selenium	77-1	75996	75944	76786	76242	0.62	cps
Selenium	78-1	321558	322753	325205	323172	0.58	cps
Silicon	28-1	5981199	6014232	6102748	6032726	1.04	cps
Silver	109-1	7390361	7525037	7608748	7508049	1.47	cps
Silver	107-1	7860291	8077869	8037637	7991932	1.45	cps
Sodium	23-1	1219612169	1249962398	1248467143	1239347237	1.38	cps
Strontium	86-1	1996429	2114268	2065265	2058654	2.88	cps
Strontium	88-1	17484272	17804750	18069170	17786064	1.65	cps
Sulfur	34-1	1165883	1189481	1198696	1184687	1.43	cps
Terbium	159-1	7263123	7355634	7512317	7377025	1.71	cps
Thallium	203-1	6089341	6242222	6305188	6212251	1.79	cps
Thallium	205-1	14562698	14630771	15030756	14741408	1.72	cps
Tin	118-1	4918687	5002478	5142705	5021290	2.25	cps
Titanium	47-1	9340511	9587228	9748868	9558869	2.15	cps
Uranium	238-1	18986136	19475999	19530512	19330883	1.55	cps
Vanadium	51-1	13299668	13317254	13470059	13362327	0.70	cps
Ytterbium	172-1	58	125	117	100	36.33	cps
Ytterbium	176-1	29216	29592	29534	29447	0.69	cps
Yttrium	89-1	9610123	9971037	10000542	9860567	2.20	cps
Zinc	66-1	18253580	18657412	18605593	18505528	1.19	cps
Zirconium	90-1	10958958	11364714	11326593	11216755	2.00	cps
Zirconium	91-1	2453261	2504643	2496320	2484741	1.11	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S8	Instrumnet Name :	P8
Client Sample ID :	S8	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:53:11	DataFile Name :	011CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-1	1091125807	1099742744	1118451892	1103106815	1.27	cps
Antimony	121-1	6110	5501	6027	5879	5.61	cps
Arsenic	75-1	1857	1643	1688	1729	6.52	cps
Barium	135-1	4392	4459	4026	4292	5.44	cps
Barium	137-1	8194	7160	7502	7619	6.91	cps
Beryllium	9-1	1556	1386	1264	1402	10.46	cps
Bismuth	209-1	4433753	4511482	4539920	4495052	1.22	cps
Bromine	81-1	1872	2353	2142	2122	11.35	cps
Cadmium	106-1	2034	2234	1992	2086	6.19	cps
Cadmium	108-1	142	138	175	151	13.58	cps
Cadmium	111-1	1904	1946	1734	1861	6.02	cps
Calcium	43-1	9694257	9802358	9796520	9764378	0.62	cps
Calcium	44-1	155649059	157654408	157353491	156885653	0.69	cps
Carbon	12-1	2930789	3003769	3076539	3003699	2.43	cps
Chlorine	35-1	86131	85502	84211	85281	1.15	cps
Chromium	52-1	42647	42155	43611	42804	1.73	cps
Cobalt	59-1	31908	32751	30594	31751	3.42	cps
Copper	63-1	63488	62995	60957	62480	2.15	cps
Dysprosium	156-1	442	583	475	500	14.81	cps
Erbium	164-1	308	192	342	281	28.08	cps
Gadolinium	160-1	242	275	217	244	11.97	cps
Holmium	165-1	7044009	7167929	7154037	7121991	0.95	cps
Indium	115-1	5432651	5518927	5465954	5472511	0.80	cps
Iron	54-1						cps
Iron	56-1	3066460833	3125956246	3139723213	3110713431	1.25	cps
Iron	57-1	73918146	75963276	75276279	75052567	1.39	cps
Krypton	83-1	283	273	313	290	7.18	cps
Lead	206-1	8614	8653	8381	8549	1.72	cps
Lead	207-1	7280	7091	7263	7211	1.45	cps
Lead	208-1	34313	33979	32327	33540	3.17	cps
Lithium	6-1	2593625	2594355	2673716	2620565	1.76	cps
Magnesium	24-1	4593756635	4685491887	4754093606	4677780709	1.72	cps
Manganese	55-1	104161	100230	100393	101595	2.19	cps
Molybdenum	94-1	16427	16093	16168	16229	1.08	cps
Molybdenum	95-1	16343	17061	17795	17066	4.25	cps
Molybdenum	96-1	18988	19639	19122	19250	1.79	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	S8	Instrumnet Name :	P8
Client Sample ID :	S8	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:53:11	DataFile Name :	011CALS.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Molybdenum	97-1	10479	10179	10779	10479	2.86	cps
Molybdenum	98-1	25674	26225	25298	25733	1.81	cps
Neodymium	150-1	167	187	147	167	12.00	cps
Nickel	60-1	17569	16677	17689	17312	3.19	cps
Phosphorus	31-1	46833	46572	46522	46642	0.36	cps
Potassium	39-1	2618831139	2642339046	2672612999	2644594395	1.02	cps
Rhodium	103-1	4783695	4919046	4984428	4895723	2.09	cps
Scandium	45-1	3872724	3807098	3949452	3876425	1.84	cps
Selenium	82-1	-8	-9	-38	-18	-91.87	cps
Selenium	77-1	97	97	97	97	0.39	cps
Selenium	78-1	77863	77577	78143	77861	0.36	cps
Silicon	28-1	698435	686883	703810	696376	1.24	cps
Silver	109-1	1308	1292	1450	1350	6.44	cps
Silver	107-1	1650	1458	1450	1520	7.45	cps
Sodium	23-1	5812073148	5877558792	5928474185	5872702042	0.99	cps
Strontium	86-1	7144	6985	6852	6994	2.09	cps
Strontium	88-1	61846	58130	59687	59887	3.12	cps
Sulfur	34-1	640333	637108	641668	639703	0.37	cps
Terbium	159-1	7468926	7435236	7500858	7468340	0.44	cps
Thallium	203-1	833	675	692	733	11.86	cps
Thallium	205-1	1850	1809	1625	1761	6.80	cps
Tin	118-1	2059	1909	1875	1947	5.02	cps
Titanium	47-1	1442	1508	1192	1381	12.09	cps
Uranium	238-1	1167	833	1067	1022	16.73	cps
Vanadium	51-1	4075	3814	4145	4011	4.34	cps
Ytterbium	172-1	383	400	442	408	7.36	cps
Ytterbium	176-1	758	792	667	739	8.76	cps
Yttrium	89-1	9785744	10004671	9918373	9902929	1.11	cps
Zinc	66-1	12148	12298	12949	12465	3.42	cps
Zirconium	90-1	17945	18880	17553	18126	3.76	cps
Zirconium	91-1	4601	4159	4251	4337	5.38	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	ICV01	Instrumnet Name :	P8
Client Sample ID :	ICV01	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:59:26	DataFile Name :	012ICV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-1	5425173	5421778	5371707	5406219	0.55	cps
Antimony	121-1	1407576	1427885	1436236	1423899	1.04	cps
Arsenic	75-1	383935	383619	385492	384348	0.26	cps
Barium	135-1	154272	153639	158503	155472	1.70	cps
Barium	137-1	270097	274976	272338	272470	0.90	cps
Beryllium	9-1	229866	229317	227733	228972	0.48	cps
Bismuth	209-1	4831135	4809987	4744630	4795251	0.94	cps
Bromine	81-1	2162	2232	2092	2162	3.24	cps
Cadmium	106-1	17537	16794	16444	16925	3.30	cps
Cadmium	108-1	14474	15058	14454	14662	2.34	cps
Cadmium	111-1	167237	165827	168673	167245	0.85	cps
Calcium	43-1	38989	39286	39187	39154	0.39	cps
Calcium	44-1	659551	660907	655707	658722	0.41	cps
Carbon	12-1	3137920	3091774	3070625	3100106	1.11	cps
Chlorine	35-1	85041	85142	84505	84896	0.40	cps
Chromium	52-1	1131489	1144816	1143770	1140025	0.65	cps
Cobalt	59-1	1267106	1281057	1272665	1273610	0.55	cps
Copper	63-1	714864	724856	727621	722447	0.93	cps
Dysprosium	156-1	258	183	250	231	17.83	cps
Erbium	164-1	50	25	8	28	75.51	cps
Gadolinium	160-1	42	50	83	58	37.80	cps
Holmium	165-1	7009443	6970428	7006694	6995522	0.31	cps
Indium	115-1	5706656	5716279	5680537	5701158	0.32	cps
Iron	54-1						cps
Iron	56-1	26956881	27015679	26876303	26949621	0.26	cps
Iron	57-1	659526	664127	651718	658457	0.95	cps
Krypton	83-1	293	320	277	297	7.37	cps
Lead	206-1	1018030	1035175	1037566	1030257	1.03	cps
Lead	207-1	851310	854986	856104	854133	0.29	cps
Lead	208-1	4177952	4128234	4132023	4146070	0.67	cps
Lithium	6-1	2735238	2765712	2809894	2770281	1.35	cps
Magnesium	24-1	10946556	10941531	10991432	10959840	0.25	cps
Manganese	55-1	1600773	1572908	1610898	1594860	1.23	cps
Molybdenum	94-1	8486412	8534952	8413292	8478219	0.72	cps
Molybdenum	95-1	15050011	15026360	14757829	14944733	1.09	cps
Molybdenum	96-1	16267885	16114938	16131042	16171288	0.52	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	ICV01	Instrumnet Name :	P8
Client Sample ID :	ICV01	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 10:59:26	DataFile Name :	012ICV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Molybdenum	97-1	9359024	9251257	9237428	9282570	0.72	cps
Molybdenum	98-1	24454177	24203189	23900708	24186025	1.15	cps
Neodymium	150-1	47	60	33	47	28.58	cps
Nickel	60-1	288956	292964	291545	291155	0.70	cps
Phosphorus	31-1	43981	43479	43359	43606	0.76	cps
Potassium	39-1	25434485	25438971	25406613	25426689	0.07	cps
Rhodium	103-1	5288729	5382078	5248935	5306581	1.29	cps
Scandium	45-1	3860584	3934463	3920246	3905097	1.00	cps
Selenium	82-1	20741	20786	20585	20704	0.51	cps
Selenium	77-1	15986	15940	15719	15881	0.90	cps
Selenium	78-1	129097	129175	128998	129090	0.07	cps
Silicon	28-1	650904	657959	659044	655969	0.67	cps
Silver	109-1	354240	361063	363823	359709	1.37	cps
Silver	107-1	377154	381206	386046	381469	1.17	cps
Sodium	23-1	29055757	29365820	29160750	29194109	0.54	cps
Strontium	86-1	1950	1658	1508	1706	13.17	cps
Strontium	88-1	11063	11305	11530	11299	2.07	cps
Sulfur	34-1	650536	648058	652186	650260	0.32	cps
Terbium	159-1	7356197	7402308	7459534	7406013	0.70	cps
Thallium	203-1	1223883	1244468	1239023	1235791	0.86	cps
Thallium	205-1	3021049	3100981	3120160	3080730	1.71	cps
Tin	118-1	1417	1375	2788	1860	43.22	cps
Titanium	47-1	717	625	608	650	8.97	cps
Uranium	238-1	417	367	300	361	16.21	cps
Vanadium	51-1	1342772	1365537	1353896	1354068	0.84	cps
Ytterbium	172-1	25	42	17	28	45.82	cps
Ytterbium	176-1	492	533	558	528	6.38	cps
Yttrium	89-1	9885101	9887913	9870364	9881126	0.10	cps
Zinc	66-1	360110	359742	359103	359652	0.14	cps
Zirconium	90-1	608	600	550	586	5.38	cps
Zirconium	91-1	425	558	492	492	13.56	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	ICB01	Instrumnet Name :	P8
Client Sample ID :	ICB01	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:03:32	DataFile Name :	013CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-1	15103	15574	14984	15220	2.05	cps
Antimony	121-1	450	467	475	464	2.74	cps
Arsenic	75-1	781	777	738	765	3.09	cps
Barium	135-1	1217	1133	1225	1192	4.25	cps
Barium	137-1	2117	2092	2009	2072	2.74	cps
Beryllium	9-1	764	756	784	768	1.88	cps
Bismuth	209-1	4756181	4753757	4691586	4733841	0.77	cps
Bromine	81-1	2002	2333	1942	2092	10.05	cps
Cadmium	106-1	1934	2259	2175	2122	7.96	cps
Cadmium	108-1	46	38	46	43	11.17	cps
Cadmium	111-1	1401	1596	1574	1524	7.04	cps
Calcium	43-1	541	559	600	567	5.32	cps
Calcium	44-1	38780	38760	38652	38730	0.18	cps
Carbon	12-1	2372200	2241197	2197402	2270266	4.01	cps
Chlorine	35-1	84203	84732	83373	84103	0.81	cps
Chromium	52-1	10825	10795	11386	11002	3.03	cps
Cobalt	59-1	2112	1902	2062	2026	5.42	cps
Copper	63-1	27831	27440	27390	27553	0.88	cps
Dysprosium	156-1	208	233	183	208	12.00	cps
Erbium	164-1	17	42	67	42	60.00	cps
Gadolinium	160-1	8	67	25	33	90.15	cps
Holmium	165-1	6965255	6999567	6917647	6960823	0.59	cps
Indium	115-1	5626361	5618149	5612978	5619162	0.12	cps
Iron	54-1						cps
Iron	56-1	1416092	1432903	1421225	1423407	0.61	cps
Iron	57-1	48692	48300	47708	48233	1.03	cps
Krypton	83-1	287	337	327	317	8.35	cps
Lead	206-1	2489	2689	2545	2574	4.01	cps
Lead	207-1	2117	2111	2089	2106	0.70	cps
Lead	208-1	9935	10324	9974	10078	2.13	cps
Lithium	6-1	2732891	2676919	2741654	2717155	1.29	cps
Magnesium	24-1	446447	447046	454724	449405	1.03	cps
Manganese	55-1	22511	22792	21889	22397	2.06	cps
Molybdenum	94-1	625	558	542	575	7.67	cps
Molybdenum	95-1	617	642	583	614	4.77	cps
Molybdenum	96-1	950	758	825	844	11.52	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	ICB01	Instrumnet Name :	P8
Client Sample ID :	ICB01	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:03:32	DataFile Name :	013CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Molybdenum	97-1	525	500	500	508	2.84	cps
Molybdenum	98-1	950	958	1092	1000	7.95	cps
Neodymium	150-1	47	7	47	33	69.28	cps
Nickel	60-1	7109	6879	6648	6879	3.35	cps
Phosphorus	31-1	44062	43780	44272	44038	0.56	cps
Potassium	39-1	4509927	4427241	4449565	4462245	0.96	cps
Rhodium	103-1	5263312	5230964	5181020	5225099	0.79	cps
Scandium	45-1	3865679	3792417	3838086	3832061	0.97	cps
Selenium	82-1	-34	-71	-62	-56	-34.50	cps
Selenium	77-1	33	35	38	35	6.81	cps
Selenium	78-1	77615	77429	77396	77480	0.15	cps
Silicon	28-1	631229	630061	627216	629502	0.33	cps
Silver	109-1	175	133	200	169	19.88	cps
Silver	107-1	175	200	275	217	24.02	cps
Sodium	23-1	4701831	4679872	4644656	4675453	0.62	cps
Strontium	86-1	1042	1083	1183	1103	6.60	cps
Strontium	88-1	5860	5926	6026	5938	1.41	cps
Sulfur	34-1	661761	662031	662956	662249	0.09	cps
Terbium	159-1	7282670	7168090	7228091	7226284	0.79	cps
Thallium	203-1	433	400	367	400	8.33	cps
Thallium	205-1	1142	800	942	961	17.86	cps
Tin	118-1	1092	1467	958	1172	22.51	cps
Titanium	47-1	200	233	208	214	8.11	cps
Uranium	238-1	92	75	75	81	11.95	cps
Vanadium	51-1	230	350	310	297	20.60	cps
Ytterbium	172-1	83	25	50	53	55.46	cps
Ytterbium	176-1	500	700	567	589	17.29	cps
Yttrium	89-1	9783146	9878670	9672424	9778080	1.06	cps
Zinc	66-1	1822	1562	1502	1628	10.46	cps
Zirconium	90-1	308	425	492	408	22.73	cps
Zirconium	91-1	192	125	100	139	34.12	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	ICSA01	Instrumnet Name :	P8
Client Sample ID :	ICSA01	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:08:46	DataFile Name :	014ICSA.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-1	1068900583	1083153515	1077917760	1076657286	0.67	cps
Antimony	121-1	8353	7902	8428	8228	3.45	cps
Arsenic	75-1	1745	1247	1774	1589	18.67	cps
Barium	135-1	3092	2992	2725	2937	6.46	cps
Barium	137-1	5343	5009	5201	5184	3.23	cps
Beryllium	9-1	1200	1252	1206	1219	2.33	cps
Bismuth	209-1	4497606	4541112	4622398	4553705	1.39	cps
Bromine	81-1	4646	4876	4706	4742	2.52	cps
Cadmium	106-1	1875	2059	1975	1970	4.66	cps
Cadmium	108-1	1554	1471	1563	1529	3.31	cps
Cadmium	111-1	2075	2278	2201	2185	4.70	cps
Calcium	43-1	2059696	2091749	2123733	2091726	1.53	cps
Calcium	44-1	33034804	33372485	33390098	33265796	0.60	cps
Carbon	12-1	20856974	21684970	21741243	21427729	2.31	cps
Chlorine	35-1	39183574	44054104	46265703	43167794	8.39	cps
Chromium	52-1	234042	237217	233920	235060	0.80	cps
Cobalt	59-1	17228	16707	16637	16857	1.92	cps
Copper	63-1	88620	90019	90640	89760	1.15	cps
Dysprosium	156-1	267	300	283	283	5.88	cps
Erbium	164-1	42	58	75	58	28.57	cps
Gadolinium	160-1	75	67	83	75	11.11	cps
Holmium	165-1	6916870	6960733	7072117	6983240	1.15	cps
Indium	115-1	5517198	5524576	5646499	5562758	1.31	cps
Iron	54-1						cps
Iron	56-1	1285851486	1315783577	1322250204	1307961756	1.48	cps
Iron	57-1	30757620	31163781	31450617	31124006	1.12	cps
Krypton	83-1	253	257	293	268	8.29	cps
Lead	206-1	25013	26227	25175	25472	2.59	cps
Lead	207-1	19860	20567	20121	20183	1.77	cps
Lead	208-1	94568	97537	95928	96011	1.55	cps
Lithium	6-1	2681979	2718619	2767631	2722743	1.58	cps
Magnesium	24-1	884457707	903936525	902946074	897113435	1.22	cps
Manganese	55-1	133000	132168	134219	133129	0.77	cps
Molybdenum	94-1	3514122	3641247	3593567	3582979	1.79	cps
Molybdenum	95-1	6102262	6211653	6288855	6200923	1.51	cps
Molybdenum	96-1	6674243	6699418	6895944	6756535	1.80	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	ICSA01	Instrumnet Name :	P8
Client Sample ID :	ICSA01	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:08:46	DataFile Name :	014ICSA.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Molybdenum	97-1	3852663	3924113	3869373	3882050	0.96	cps
Molybdenum	98-1	10046066	10081365	10112699	10080043	0.33	cps
Neodymium	150-1	40	60	60	53	21.65	cps
Nickel	60-1	22381	23163	23102	22882	1.90	cps
Phosphorus	31-1	52812846	54440417	54496204	53916489	1.77	cps
Potassium	39-1	1069046128	1085422905	1096633835	1083700956	1.28	cps
Rhodium	103-1	4922846	5050992	5060542	5011460	1.53	cps
Scandium	45-1	3905018	3871545	3907235	3894600	0.51	cps
Selenium	82-1	-1	9	-48	-13	-228.62	cps
Selenium	77-1	2558	2876	2960	2798	7.57	cps
Selenium	78-1	78246	79555	79340	79047	0.89	cps
Silicon	28-1	826397	871177	867053	854876	2.90	cps
Silver	109-1	583	550	475	536	10.35	cps
Silver	107-1	858	725	617	733	16.51	cps
Sodium	23-1	1253137373	1292288203	1271739855	1272388477	1.54	cps
Strontium	86-1	66726	68836	69021	68195	1.87	cps
Strontium	88-1	591064	592791	595213	593023	0.35	cps
Sulfur	34-1	3044691	3102679	3123489	3090286	1.32	cps
Terbium	159-1	7261201	7316994	7418282	7332159	1.09	cps
Thallium	203-1	1150	1300	1417	1289	10.37	cps
Thallium	205-1	2642	3217	3192	3017	10.77	cps
Tin	118-1	1875	1625	1792	1764	7.22	cps
Titanium	47-1	2027265	2078327	2056962	2054185	1.25	cps
Uranium	238-1	392	408	408	403	2.39	cps
Vanadium	51-1	4616	4375	4405	4465	2.93	cps
Ytterbium	172-1	67	50	75	64	19.92	cps
Ytterbium	176-1	533	575	525	544	4.92	cps
Yttrium	89-1	9801500	9899327	10054308	9918378	1.29	cps
Zinc	66-1	23554	23383	23724	23554	0.72	cps
Zirconium	90-1	433	575	392	467	20.59	cps
Zirconium	91-1	200	108	142	150	30.93	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	ICSAB01	Instrumnet Name :	P8
Client Sample ID :	ICSAB01	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:11:38	DataFile Name :	015ICSB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-1	1080446488	1081030552	1083737499	1081738180	0.16	cps
Antimony	121-1	150373	150582	151753	150903	0.49	cps
Arsenic	75-1	40035	39040	39958	39677	1.40	cps
Barium	135-1	34027	32807	33058	33297	1.93	cps
Barium	137-1	58636	59071	58611	58773	0.44	cps
Beryllium	9-1	46807	46921	46459	46729	0.51	cps
Bismuth	209-1	4592866	4618235	4606254	4605785	0.28	cps
Bromine	81-1	3274	3624	3854	3584	8.16	cps
Cadmium	106-1	4776	4918	4509	4734	4.38	cps
Cadmium	108-1	3350	3696	3375	3474	5.55	cps
Cadmium	111-1	34029	34270	34021	34107	0.42	cps
Calcium	43-1	2063146	2070688	2142462	2092098	2.09	cps
Calcium	44-1	33231391	33270765	33579816	33360657	0.57	cps
Carbon	12-1	21622198	22315937	22628669	22188935	2.32	cps
Chlorine	35-1	44556151	47788099	49237892	47194047	5.08	cps
Chromium	52-1	451409	455502	463848	456920	1.39	cps
Cobalt	59-1	267838	261543	262776	264052	1.26	cps
Copper	63-1	221504	225458	224473	223812	0.92	cps
Dysprosium	156-1	267	283	225	258	11.63	cps
Erbium	164-1	75	83	117	92	24.05	cps
Gadolinium	160-1	67	75	100	81	21.53	cps
Holmium	165-1	7048947	7178311	7173463	7133574	1.03	cps
Indium	115-1	5657828	5686938	5683998	5676255	0.28	cps
Iron	54-1						cps
Iron	56-1	1316172046	1311848763	1331551264	1319857358	0.78	cps
Iron	57-1	31010923	31347048	31756301	31371424	1.19	cps
Krypton	83-1	300	283	253	279	8.48	cps
Lead	206-1	124233	122769	123280	123427	0.60	cps
Lead	207-1	102966	102754	102905	102875	0.11	cps
Lead	208-1	476313	478417	478601	477777	0.27	cps
Lithium	6-1	2833503	2809644	2829028	2824058	0.45	cps
Magnesium	24-1	893416865	909564112	911637305	904872761	1.10	cps
Manganese	55-1	431915	432616	427930	430820	0.59	cps
Molybdenum	94-1	3547289	3576330	3599111	3574243	0.73	cps
Molybdenum	95-1	6269168	6298634	6394541	6320781	1.04	cps
Molybdenum	96-1	6724383	6769193	6906911	6800163	1.40	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	ICSAB01	Instrumnet Name :	P8
Client Sample ID :	ICSAB01	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:11:38	DataFile Name :	015ICSB.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Molybdenum	97-1	3876111	3937173	3923552	3912279	0.82	cps
Molybdenum	98-1	10092703	10255843	10321956	10223501	1.15	cps
Neodymium	150-1	67	60	87	71	19.52	cps
Nickel	60-1	77216	77227	77952	77465	0.54	cps
Phosphorus	31-1	53923915	54467079	54336327	54242440	0.52	cps
Potassium	39-1	1066029192	1089112434	1102469631	1085870419	1.70	cps
Rhodium	103-1	5154816	5173044	5161166	5163008	0.18	cps
Scandium	45-1	3931291	4007822	3977535	3972216	0.97	cps
Selenium	82-1	1904	2017	1960	1960	2.87	cps
Selenium	77-1	4442	4602	4699	4581	2.83	cps
Selenium	78-1	84956	85621	85851	85476	0.54	cps
Silicon	28-1	874140	888603	885071	882605	0.85	cps
Silver	109-1	139948	142324	141428	141233	0.85	cps
Silver	107-1	148232	150717	149662	149537	0.83	cps
Sodium	23-1	1276117112	1295719514	1286685680	1286174102	0.76	cps
Strontium	86-1	68543	68535	68912	68663	0.31	cps
Strontium	88-1	589796	603798	590302	594632	1.34	cps
Sulfur	34-1	3042898	3119109	3128296	3096768	1.51	cps
Terbium	159-1	7477739	7472226	7513024	7487663	0.30	cps
Thallium	203-1	120749	121212	123426	121796	1.17	cps
Thallium	205-1	287547	292385	296080	292004	1.47	cps
Tin	118-1	1400	1600	1700	1567	9.75	cps
Titanium	47-1	2035088	2074574	2079661	2063108	1.18	cps
Uranium	238-1	467	375	350	397	15.46	cps
Vanadium	51-1	259570	264879	265518	263323	1.24	cps
Ytterbium	172-1	50	117	67	78	44.61	cps
Ytterbium	176-1	442	667	592	567	20.22	cps
Yttrium	89-1	10026825	10287444	10127892	10147387	1.29	cps
Zinc	66-1	58731	60771	59686	59729	1.71	cps
Zirconium	90-1	558	475	400	478	16.58	cps
Zirconium	91-1	167	117	117	133	21.65	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	CCV01	Instrumnet Name :	P8
Client Sample ID :	CCV01	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:29:22	DataFile Name :	019CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-1	560825025	565105406	570765565	565565332	0.88	cps
Antimony	121-1	3583705	3607874	3648004	3613194	0.90	cps
Arsenic	75-1	911865	907908	907846	909207	0.25	cps
Barium	135-1	3823424	3923936	3995051	3914137	2.20	cps
Barium	137-1	6694932	6731826	6806051	6744270	0.84	cps
Beryllium	9-1	1163131	1192941	1199111	1185061	1.62	cps
Bismuth	209-1	4463168	4513320	4539666	4505385	0.86	cps
Bromine	81-1	2263	2363	2263	2296	2.52	cps
Cadmium	106-1	80224	80333	82504	81020	1.59	cps
Cadmium	108-1	56837	56946	58419	57401	1.54	cps
Cadmium	111-1	742969	741580	747502	744017	0.42	cps
Calcium	43-1	5018869	5123562	5144917	5095783	1.32	cps
Calcium	44-1	80466459	80734596	82901762	81367606	1.64	cps
Carbon	12-1	3150984	3184472	3211852	3182436	0.96	cps
Chlorine	35-1	304291	300018	294186	299499	1.69	cps
Chromium	52-1	5560755	5710120	5734757	5668544	1.66	cps
Cobalt	59-1	6219805	6319186	6311537	6283509	0.88	cps
Copper	63-1	33149925	33597583	33167376	33304961	0.76	cps
Dysprosium	156-1	375	358	325	353	7.22	cps
Erbium	164-1	192	158	158	169	11.36	cps
Gadolinium	160-1	133	142	200	158	22.94	cps
Holmium	165-1	6958490	7036014	7096590	7030365	0.98	cps
Indium	115-1	5477858	5537208	5575563	5530210	0.89	cps
Iron	54-1						cps
Iron	56-1	1546233499	1590707211	1588175279	1575038663	1.59	cps
Iron	57-1	37734822	38392785	38428501	38185369	1.02	cps
Krypton	83-1	223	270	303	266	15.13	cps
Lead	206-1	12495494	12761315	12626765	12627858	1.05	cps
Lead	207-1	10563072	10946525	10805157	10771585	1.80	cps
Lead	208-1	49276657	50499579	50133663	49969966	1.26	cps
Lithium	6-1	2641010	2733496	2743574	2706026	2.09	cps
Magnesium	24-1	2323656855	2364014731	2354003360	2347224982	0.90	cps
Manganese	55-1	76421189	77438739	77700293	77186740	0.88	cps
Molybdenum	94-1	10898298	11050370	11109838	11019502	0.99	cps
Molybdenum	95-1	15735856	15806806	15769156	15770606	0.23	cps
Molybdenum	96-1	17486079	17615130	17682183	17594464	0.57	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	CCV01	Instrumnet Name :	P8
Client Sample ID :	CCV01	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:29:22	DataFile Name :	019CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Molybdenum	97-1	9748348	9780487	9765442	9764759	0.16	cps
Molybdenum	98-1	25356569	25907000	25527944	25597171	1.10	cps
Neodymium	150-1	280	180	280	247	23.41	cps
Nickel	60-1	1493438	1544649	1522043	1520043	1.69	cps
Phosphorus	31-1	5347081	5399372	5394507	5380320	0.54	cps
Potassium	39-1	1344403076	1351381574	1351637390	1349140680	0.30	cps
Rhodium	103-1	4943864	5048818	5051813	5014832	1.23	cps
Scandium	45-1	3881327	3939529	3984693	3935183	1.32	cps
Selenium	82-1	48439	48203	48390	48344	0.26	cps
Selenium	77-1	37126	37471	37503	37367	0.56	cps
Selenium	78-1	198930	199911	200124	199655	0.32	cps
Silicon	28-1	4109881	4107374	4111848	4109701	0.05	cps
Silver	109-1	3690482	3771593	3747796	3736623	1.12	cps
Silver	107-1	3924925	3893081	3986596	3934867	1.21	cps
Sodium	23-1	3061503155	3081747159	3122143313	3088464542	1.00	cps
Strontium	86-1	969205	957162	963794	963387	0.63	cps
Strontium	88-1	8738972	8870763	8790446	8800060	0.75	cps
Sulfur	34-1	934853	940141	980148	951714	2.60	cps
Terbium	159-1	7317466	7393060	7368998	7359841	0.52	cps
Thallium	203-1	2991454	3091033	3005102	3029197	1.78	cps
Thallium	205-1	7088532	7214273	7157754	7153520	0.88	cps
Tin	118-1	2525121	2529431	2517389	2523980	0.24	cps
Titanium	47-1	4775321	4907472	4944180	4875658	1.82	cps
Uranium	238-1	9362540	9343271	9498577	9401463	0.90	cps
Vanadium	51-1	6740343	6822182	6785074	6782533	0.60	cps
Ytterbium	172-1	217	217	158	197	17.08	cps
Ytterbium	176-1	13866	14425	13816	14036	2.41	cps
Yttrium	89-1	9964359	9923587	9934064	9940670	0.21	cps
Zinc	66-1	9100229	9160881	9128901	9130004	0.33	cps
Zirconium	90-1	5721452	5690109	5605220	5672261	1.06	cps
Zirconium	91-1	1173332	1173384	1172891	1173202	0.02	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	CCB01	Instrumnet Name :	P8
Client Sample ID :	CCB01	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:35:49	DataFile Name :	021CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-1	16667	13310	14642	14873	11.36	cps
Antimony	121-1	467	442	600	503	16.93	cps
Arsenic	75-1	756	673	695	708	6.05	cps
Barium	135-1	1283	1142	1192	1206	5.96	cps
Barium	137-1	2317	1917	2025	2086	9.92	cps
Beryllium	9-1	976	878	832	895	8.21	cps
Bismuth	209-1	4613095	4523776	4534467	4557113	1.07	cps
Bromine	81-1	1822	2132	1922	1959	8.09	cps
Cadmium	106-1	1959	1809	1984	1917	4.94	cps
Cadmium	108-1	46	42	58	49	17.84	cps
Cadmium	111-1	1422	1312	1431	1388	4.78	cps
Calcium	43-1	571	524	539	545	4.46	cps
Calcium	44-1	35844	34902	35118	35288	1.40	cps
Carbon	12-1	2268781	2165597	2124015	2186131	3.41	cps
Chlorine	35-1	193615	191689	191233	192179	0.66	cps
Chromium	52-1	10705	11256	11346	11102	3.13	cps
Cobalt	59-1	2032	2022	1822	1959	6.05	cps
Copper	63-1	28118	27276	27787	27727	1.53	cps
Dysprosium	156-1	175	150	183	169	10.24	cps
Erbium	164-1	8	33	33	25	57.74	cps
Gadolinium	160-1	33	42	33	36	13.33	cps
Holmium	165-1	6836415	6777539	6832490	6815481	0.48	cps
Indium	115-1	5722634	5579728	5605444	5635935	1.35	cps
Iron	54-1						cps
Iron	56-1	1415377	1410624	1414096	1413366	0.17	cps
Iron	57-1	45027	45328	45237	45197	0.34	cps
Krypton	83-1	267	273	287	276	3.70	cps
Lead	206-1	2545	2395	2484	2474	3.05	cps
Lead	207-1	2178	2195	1878	2084	8.55	cps
Lead	208-1	10046	9513	9151	9570	4.70	cps
Lithium	6-1	2722228	2677848	2696366	2698814	0.83	cps
Magnesium	24-1	376973	370217	380144	375778	1.35	cps
Manganese	55-1	22842	23774	23042	23219	2.11	cps
Molybdenum	94-1	500	558	533	531	5.52	cps
Molybdenum	95-1	517	608	533	553	8.83	cps
Molybdenum	96-1	600	608	692	633	8.00	cps

Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	CCB01	Instrumnet Name :	P8
Client Sample ID :	CCB01	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:35:49	DataFile Name :	021CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Molybdenum	97-1	283	383	342	336	14.95	cps
Molybdenum	98-1	942	867	833	881	6.30	cps
Neodymium	150-1	33	60	33	42	36.47	cps
Nickel	60-1	6228	6158	6318	6234	1.29	cps
Phosphorus	31-1	42857	42636	43790	43095	1.42	cps
Potassium	39-1	4420277	4422638	4380363	4407759	0.54	cps
Rhodium	103-1	5241182	5196373	5214567	5217374	0.43	cps
Scandium	45-1	3828304	3832038	3857791	3839378	0.42	cps
Selenium	82-1	-13	-21	-37	-24	-51.72	cps
Selenium	77-1	45	55	47	49	10.59	cps
Selenium	78-1	79590	79723	79624	79646	0.09	cps
Silicon	28-1	620356	625546	620730	622211	0.47	cps
Silver	109-1	175	150	200	175	14.29	cps
Silver	107-1	258	308	267	278	9.64	cps
Sodium	23-1	4812232	4716446	4768200	4765626	1.01	cps
Strontium	86-1	1067	817	700	861	21.76	cps
Strontium	88-1	4151	3967	4109	4076	2.36	cps
Sulfur	34-1	625393	620835	623983	623404	0.37	cps
Terbium	159-1	7147746	7187855	7213531	7183044	0.46	cps
Thallium	203-1	492	458	417	456	8.25	cps
Thallium	205-1	1275	1175	1375	1275	7.84	cps
Tin	118-1	1008	1150	1008	1056	7.75	cps
Titanium	47-1	292	383	292	322	16.42	cps
Uranium	238-1	175	133	92	133	31.25	cps
Vanadium	51-1	270	420	370	354	21.62	cps
Ytterbium	172-1	58	42	17	39	53.92	cps
Ytterbium	176-1	675	492	525	564	17.32	cps
Yttrium	89-1	9780350	9710647	9863555	9784851	0.78	cps
Zinc	66-1	1582	1692	1582	1618	3.93	cps
Zirconium	90-1	433	367	500	433	15.38	cps
Zirconium	91-1	217	133	108	153	37.13	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	CRI	Instrumnet Name :	P8
Client Sample ID :	CRI	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:48:26	DataFile Name :	024LLCC.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-1	218304	221320	217784	219136	0.87	cps
Antimony	121-1	14333	13766	14667	14255	3.19	cps
Arsenic	75-1	2510	2744	2406	2554	6.78	cps
Barium	135-1	15267	16227	16619	16038	4.34	cps
Barium	137-1	28339	28990	27988	28439	1.79	cps
Beryllium	9-1	2846	2888	2794	2842	1.66	cps
Bismuth	209-1	4473644	4508355	4481716	4487905	0.40	cps
Bromine	81-1	2263	2092	2032	2129	5.61	cps
Cadmium	106-1	2092	2092	2417	2200	8.53	cps
Cadmium	108-1	150	150	167	156	6.19	cps
Cadmium	111-1	3068	3101	3338	3169	4.65	cps
Calcium	43-1	10375	10402	10386	10388	0.13	cps
Calcium	44-1	194515	193202	193783	193833	0.34	cps
Carbon	12-1	2441268	2301366	2284114	2342249	3.68	cps
Chlorine	35-1	144794	144331	140621	143248	1.60	cps
Chromium	52-1	34266	32259	33684	33403	3.09	cps
Cobalt	59-1	15294	14643	15013	14983	2.18	cps
Copper	63-1	39374	39161	39344	39293	0.29	cps
Dysprosium	156-1	200	142	125	156	25.32	cps
Erbium	164-1	67	33	67	56	34.65	cps
Gadolinium	160-1	33	25	67	42	52.92	cps
Holmium	165-1	6758637	6619307	6606121	6661355	1.27	cps
Indium	115-1	5504916	5406563	5430754	5447411	0.94	cps
Iron	54-1						cps
Iron	56-1	2031215	2070040	2042165	2047806	0.98	cps
Iron	57-1	60972	61676	61927	61525	0.80	cps
Krypton	83-1	217	293	343	284	22.43	cps
Lead	206-1	6029	6163	6324	6172	2.39	cps
Lead	207-1	5446	5724	5796	5655	3.27	cps
Lead	208-1	24977	25327	25599	25301	1.23	cps
Lithium	6-1	2647416	2611986	2621397	2626933	0.70	cps
Magnesium	24-1	5070686	5171001	5119610	5120432	0.98	cps
Manganese	55-1	34637	34176	34356	34390	0.68	cps
Molybdenum	94-1	12064	13215	13415	12898	5.65	cps
Molybdenum	95-1	15267	15784	14942	15331	2.77	cps
Molybdenum	96-1	17612	17153	18346	17703	3.40	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	CRI	Instrumnet Name :	P8
Client Sample ID :	CRI	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:48:26	DataFile Name :	024LLCC.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Molybdenum	97-1	9328	9220	9570	9373	1.91	cps
Molybdenum	98-1	24706	24247	25591	24848	2.75	cps
Neodymium	150-1	27	27	7	20	57.73	cps
Nickel	60-1	9733	9954	9984	9890	1.38	cps
Phosphorus	31-1	59954	61522	60899	60792	1.30	cps
Potassium	39-1	9657361	9615808	9586716	9619962	0.37	cps
Rhodium	103-1	5128321	5077846	5096160	5100776	0.50	cps
Scandium	45-1	3720040	3724139	3728616	3724265	0.12	cps
Selenium	82-1	557	465	337	453	24.32	cps
Selenium	77-1	440	428	455	441	3.03	cps
Selenium	78-1	80351	80418	80921	80563	0.39	cps
Silicon	28-1	635347	639561	631056	635321	0.67	cps
Silver	109-1	7777	7469	7519	7588	2.18	cps
Silver	107-1	7577	7744	8061	7794	3.15	cps
Sodium	23-1	10639173	10652166	10473300	10588213	0.94	cps
Strontium	86-1	2942	2767	2925	2878	3.36	cps
Strontium	88-1	21742	20891	22185	21606	3.04	cps
Sulfur	34-1	654356	649008	652256	651873	0.41	cps
Terbium	159-1	6957010	6927727	6970809	6951849	0.32	cps
Thallium	203-1	6210	6285	6052	6182	1.93	cps
Thallium	205-1	14909	14325	15251	14828	3.16	cps
Tin	118-1	25007	25842	26042	25630	2.14	cps
Titanium	47-1	5143	5101	5159	5134	0.59	cps
Uranium	238-1	17079	18055	17813	17649	2.88	cps
Vanadium	51-1	67185	66854	65857	66632	1.04	cps
Ytterbium	172-1	25	67	33	42	52.92	cps
Ytterbium	176-1	533	583	542	553	4.85	cps
Yttrium	89-1	9414930	9452133	9336412	9401158	0.63	cps
Zinc	66-1	11046	11026	10655	10909	2.02	cps
Zirconium	90-1	11138	11205	10938	11094	1.25	cps
Zirconium	91-1	2625	2500	2459	2528	3.43	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	PB166661BL	Instrumnet Name :	P8
Client Sample ID :	PB166661BL	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:51:21	DataFile Name :	025CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-1	13480	12839	20872	15730	28.38	cps
Antimony	121-1	150	208	175	178	16.46	cps
Arsenic	75-1	680	636	671	662	3.47	cps
Barium	135-1	750	875	842	822	7.87	cps
Barium	137-1	1558	1475	1600	1545	4.12	cps
Beryllium	9-1	548	524	560	544	3.37	cps
Bismuth	209-1	4478941	4461820	4448705	4463155	0.34	cps
Bromine	81-1	2082	2022	1732	1945	9.63	cps
Cadmium	106-1	1850	1750	1942	1847	5.19	cps
Cadmium	108-1	38	58	50	49	21.57	cps
Cadmium	111-1	1327	1243	1391	1320	5.64	cps
Calcium	43-1	567	520	480	522	8.38	cps
Calcium	44-1	33358	32997	32880	33078	0.75	cps
Carbon	12-1	2288490	2206106	2165182	2219926	2.83	cps
Chlorine	35-1	138196	135547	136069	136604	1.03	cps
Chromium	52-1	10204	10665	10415	10428	2.21	cps
Cobalt	59-1	1742	1682	1722	1715	1.78	cps
Copper	63-1	26722	26789	26178	26563	1.26	cps
Dysprosium	156-1	142	133	92	122	21.92	cps
Erbium	164-1	17	33	50	33	50.00	cps
Gadolinium	160-1	17	33	83	44	78.07	cps
Holmium	165-1	6560033	6639982	6471855	6557290	1.28	cps
Indium	115-1	5306616	5462115	5288311	5352348	1.78	cps
Iron	54-1						cps
Iron	56-1	1374583	1365803	1381352	1373913	0.57	cps
Iron	57-1	45398	46864	45770	46011	1.66	cps
Krypton	83-1	293	290	253	279	7.96	cps
Lead	206-1	1489	1450	1528	1489	2.61	cps
Lead	207-1	1339	1395	1345	1359	2.25	cps
Lead	208-1	6234	6123	6117	6158	1.07	cps
Lithium	6-1	2614396	2622336	2582545	2606426	0.81	cps
Magnesium	24-1	492668	486241	486017	488309	0.77	cps
Manganese	55-1	19403	18551	18501	18818	2.69	cps
Molybdenum	94-1	358	392	283	344	16.11	cps
Molybdenum	95-1	317	308	342	322	5.38	cps
Molybdenum	96-1	383	317	342	347	9.70	cps

Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	PB166661BL	Instrumnet Name :	P8
Client Sample ID :	PB166661BL	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:51:21	DataFile Name :	025CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Molybdenum	97-1	283	167	225	225	25.93	cps
Molybdenum	98-1	567	525	558	550	4.01	cps
Neodymium	150-1	60	20	20	33	69.28	cps
Nickel	60-1	6899	7199	7069	7056	2.14	cps
Phosphorus	31-1	43841	44263	44634	44246	0.90	cps
Potassium	39-1	4369831	4299973	4323229	4331011	0.82	cps
Rhodium	103-1	5051522	5054227	4944309	5016686	1.25	cps
Scandium	45-1	3690820	3705318	3639509	3678549	0.94	cps
Selenium	82-1	-29	-46	6	-23	-115.67	cps
Selenium	77-1	38	38	39	38	2.00	cps
Selenium	78-1	78601	78699	78999	78766	0.26	cps
Silicon	28-1	605676	605522	606347	605848	0.07	cps
Silver	109-1	92	142	117	117	21.43	cps
Silver	107-1	92	133	133	119	20.14	cps
Sodium	23-1	4287385	4285440	4263171	4278665	0.31	cps
Strontium	86-1	1025	967	967	986	3.42	cps
Strontium	88-1	4217	4518	4234	4323	3.90	cps
Sulfur	34-1	649409	656378	654776	653521	0.56	cps
Terbium	159-1	6871842	6849231	6845695	6855590	0.21	cps
Thallium	203-1	350	217	325	297	23.85	cps
Thallium	205-1	700	750	850	767	9.96	cps
Tin	118-1	925	858	883	889	3.79	cps
Titanium	47-1	233	283	225	247	12.76	cps
Uranium	238-1	58	33	50	47	26.97	cps
Vanadium	51-1	380	190	310	294	32.76	cps
Ytterbium	172-1	67	0	25	31	110.22	cps
Ytterbium	176-1	408	483	483	458	9.45	cps
Yttrium	89-1	9379865	9367365	9290788	9346006	0.52	cps
Zinc	66-1	1301	1321	1091	1238	10.30	cps
Zirconium	90-1	317	408	417	381	14.58	cps
Zirconium	91-1	100	117	117	111	8.66	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	PB166661BS	Instrumnet Name :	P8
Client Sample ID :	PB166661BS	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:54:13	DataFile Name :	026LCSW.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-1	104940652	107656380	106066713	106221248	1.28	cps
Antimony	121-1	3482409	3475478	3507733	3488540	0.49	cps
Arsenic	75-1	893912	897625	904260	898599	0.58	cps
Barium	135-1	3785819	3732959	3774431	3764403	0.74	cps
Barium	137-1	6448571	6513279	6504882	6488911	0.54	cps
Beryllium	9-1	1082252	1101818	1117178	1100416	1.59	cps
Bismuth	209-1	4394508	4369276	4432268	4398684	0.72	cps
Bromine	81-1	2222	2132	2343	2232	4.72	cps
Cadmium	106-1	82899	82814	82983	82899	0.10	cps
Cadmium	108-1	57306	57072	57854	57410	0.70	cps
Cadmium	111-1	754718	763529	753796	757348	0.71	cps
Calcium	43-1	935585	939341	944456	939794	0.47	cps
Calcium	44-1	15308448	15388309	15647397	15448051	1.15	cps
Carbon	12-1	2668263	2701548	2687460	2685757	0.62	cps
Chlorine	35-1	136540	138702	137112	137451	0.82	cps
Chromium	52-1	5320050	5352571	5451674	5374765	1.28	cps
Cobalt	59-1	5907989	5961488	6166403	6011960	2.27	cps
Copper	63-1	32446940	32681468	32906147	32678185	0.70	cps
Dysprosium	156-1	233	267	208	236	12.40	cps
Erbium	164-1	58	108	67	78	34.44	cps
Gadolinium	160-1	75	50	92	72	29.04	cps
Holmium	165-1	6555620	6565225	6588196	6569680	0.25	cps
Indium	115-1	5338525	5336877	5332701	5336034	0.06	cps
Iron	54-1						cps
Iron	56-1	303551030	304217957	307266766	305011918	0.65	cps
Iron	57-1	7258000	7346600	7491709	7365436	1.60	cps
Krypton	83-1	250	313	267	277	11.87	cps
Lead	206-1	12238119	12147287	12333960	12239789	0.76	cps
Lead	207-1	10516997	10465067	10622528	10534864	0.76	cps
Lead	208-1	48375162	48551045	48929950	48618719	0.58	cps
Lithium	6-1	2551550	2552760	2635105	2579805	1.86	cps
Magnesium	24-1	445819704	448612857	451297201	448576587	0.61	cps
Manganese	55-1	73493408	75010315	74371544	74291756	1.03	cps
Molybdenum	94-1	10237922	10239770	10473675	10317122	1.31	cps
Molybdenum	95-1	14786635	15013778	15135285	14978566	1.18	cps
Molybdenum	96-1	16301792	16419163	16513108	16411354	0.65	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	PB166661BS	Instrumnet Name :	P8
Client Sample ID :	PB166661BS	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:54:13	DataFile Name :	026LCSW.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Molybdenum	97-1	9163722	9128893	9234051	9175555	0.58	cps
Molybdenum	98-1	24189056	24028045	24682260	24299787	1.40	cps
Neodymium	150-1	160	133	233	176	29.50	cps
Nickel	60-1	1278264	1278151	1299395	1285270	0.95	cps
Phosphorus	31-1	4950116	5056993	5049573	5018894	1.19	cps
Potassium	39-1	257420186	258346382	262028714	259265094	0.94	cps
Rhodium	103-1	4910232	4856095	5002451	4922926	1.50	cps
Scandium	45-1	3656491	3724251	3739942	3706895	1.20	cps
Selenium	82-1	47800	47643	48401	47948	0.83	cps
Selenium	77-1	36924	37031	37327	37094	0.56	cps
Selenium	78-1	197636	199947	199454	199013	0.61	cps
Silicon	28-1	3832110	3806057	3809472	3815880	0.37	cps
Silver	109-1	3598719	3635320	3708218	3647419	1.53	cps
Silver	107-1	3885143	3833012	3880606	3866254	0.75	cps
Sodium	23-1	601857697	603959919	600231971	602016529	0.31	cps
Strontium	86-1	950186	947140	956631	951319	0.51	cps
Strontium	88-1	8309268	8348218	8423292	8360260	0.69	cps
Sulfur	34-1	917510	904536	896164	906070	1.19	cps
Terbium	159-1	6984010	6942450	7017228	6981229	0.54	cps
Thallium	203-1	2918960	2921597	2896052	2912203	0.48	cps
Thallium	205-1	6843755	6876517	6968692	6896321	0.94	cps
Tin	118-1	2414861	2389675	2458452	2420996	1.44	cps
Titanium	47-1	4624680	4582884	4617200	4608255	0.48	cps
Uranium	238-1	8914673	8933848	8857430	8901984	0.45	cps
Vanadium	51-1	6337214	6505353	6390810	6411126	1.34	cps
Ytterbium	172-1	58	50	58	56	8.67	cps
Ytterbium	176-1	13432	14075	14350	13952	3.38	cps
Yttrium	89-1	9364207	9448038	9524960	9445735	0.85	cps
Zinc	66-1	8910098	8922103	9069690	8967297	0.99	cps
Zirconium	90-1	5182787	5380819	5299573	5287726	1.88	cps
Zirconium	91-1	1133704	1143101	1145310	1140705	0.54	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	Q1172-04	Instrumnet Name :	P8
Client Sample ID :	PT-TM-WS	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:57:21	DataFile Name :	027AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-1	5409605	5403108	5331463	5381392	0.81	cps
Antimony	121-1	147666	148316	150531	148838	1.01	cps
Arsenic	75-1	13678	13596	13429	13568	0.93	cps
Barium	135-1	2790115	2835701	2815432	2813749	0.81	cps
Barium	137-1	4831311	4897594	4899239	4876048	0.79	cps
Beryllium	9-1	37923	37027	37763	37571	1.27	cps
Bismuth	209-1	4492036	4451559	4495358	4479651	0.54	cps
Bromine	81-1	1782	1652	1622	1685	5.05	cps
Cadmium	106-1	5034	5518	5034	5196	5.37	cps
Cadmium	108-1	2754	2738	2421	2638	7.12	cps
Cadmium	111-1	38888	39693	38633	39071	1.42	cps
Calcium	43-1	1206	1357	1525	1363	11.70	cps
Calcium	44-1	36672	36733	37227	36877	0.83	cps
Carbon	12-1	2421575	2296291	2308931	2342266	2.94	cps
Chlorine	35-1	118517	116542	119626	118228	1.32	cps
Chromium	52-1	253017	251458	252018	252164	0.31	cps
Cobalt	59-1	2473	2403	2543	2473	2.83	cps
Copper	63-1	5002005	4994023	4959608	4985212	0.45	cps
Dysprosium	156-1	200	142	142	161	20.91	cps
Erbium	164-1	17	100	50	56	75.49	cps
Gadolinium	160-1	33	50	42	42	20.00	cps
Holmium	165-1	6696434	6571519	6605126	6624360	0.98	cps
Indium	115-1	5344030	5430303	5410267	5394867	0.84	cps
Iron	54-1						cps
Iron	56-1	19709390	19624931	19895902	19743408	0.70	cps
Iron	57-1	487365	491053	488355	488924	0.39	cps
Krypton	83-1	277	190	247	238	18.51	cps
Lead	206-1	103499	104277	103689	103821	0.39	cps
Lead	207-1	85861	87135	88108	87035	1.30	cps
Lead	208-1	405052	405870	406260	405727	0.15	cps
Lithium	6-1	2578883	2576161	2582274	2579106	0.12	cps
Magnesium	24-1	480845	477480	475854	478060	0.53	cps
Manganese	55-1	12665297	12449975	12680014	12598429	1.02	cps
Molybdenum	94-1	88481	88438	87943	88287	0.34	cps
Molybdenum	95-1	151756	148993	150519	150423	0.92	cps
Molybdenum	96-1	165149	163647	164574	164457	0.46	cps

Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	Q1172-04	Instrumnet Name :	P8
Client Sample ID :	PT-TM-WS	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 11:57:21	DataFile Name :	027AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Molybdenum	97-1	93908	92223	94110	93414	1.11	cps
Molybdenum	98-1	246520	247214	244002	245912	0.69	cps
Neodymium	150-1	153	133	113	133	15.00	cps
Nickel	60-1	582389	578440	586592	582474	0.70	cps
Phosphorus	31-1	43268	41803	42043	42371	1.85	cps
Potassium	39-1	4242393	4165662	4248833	4218962	1.10	cps
Rhodium	103-1	4969949	5030572	4956324	4985615	0.79	cps
Scandium	45-1	3739450	3658330	3703227	3700336	1.10	cps
Selenium	82-1	2788	2963	2836	2862	3.17	cps
Selenium	77-1	2276	2213	2220	2236	1.53	cps
Selenium	78-1	86903	87275	87253	87144	0.24	cps
Silicon	28-1	1274606	1287326	1264648	1275527	0.89	cps
Silver	109-1	1789004	1729748	1740484	1753079	1.80	cps
Silver	107-1	1830932	1840920	1848476	1840110	0.48	cps
Sodium	23-1	4754263	4726850	4709265	4730126	0.48	cps
Strontium	86-1	950	858	1008	939	8.05	cps
Strontium	88-1	5043	4834	4659	4845	3.96	cps
Sulfur	34-1	627431	624246	624267	625315	0.29	cps
Terbium	159-1	6908651	6845151	6921888	6891897	0.60	cps
Thallium	203-1	43231	44218	43214	43554	1.32	cps
Thallium	205-1	103914	103747	101764	103142	1.16	cps
Tin	118-1	1225	1142	1158	1175	3.75	cps
Titanium	47-1	517	433	325	425	22.61	cps
Uranium	238-1	275	225	242	247	10.30	cps
Vanadium	51-1	3959820	3945093	3991917	3965610	0.60	cps
Ytterbium	172-1	50	50	25	42	34.64	cps
Ytterbium	176-1	500	442	408	450	10.31	cps
Yttrium	89-1	9474040	9328797	9502905	9435247	0.99	cps
Zinc	66-1	393504	393510	393258	393424	0.04	cps
Zirconium	90-1	2225	2125	2209	2186	2.45	cps
Zirconium	91-1	650	650	425	575	22.59	cps

Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	Q1172-04DLX5	Instrumnet Name :	P8
Client Sample ID :	PT-TM-WSDL	Dilution Factor :	5
Date & Time Acquired :	2025-02-14 12:16:56	DataFile Name :	028AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-1	1038050	1038879	1043094	1040008	0.26	cps
Antimony	121-1	27537	28723	28772	28344	2.47	cps
Arsenic	75-1	3215	3526	3098	3280	6.75	cps
Barium	135-1	536812	538804	533003	536206	0.55	cps
Barium	137-1	937632	936724	940011	938122	0.18	cps
Beryllium	9-1	7743	7859	7556	7719	1.97	cps
Bismuth	209-1	4466061	4437584	4326160	4409935	1.68	cps
Bromine	81-1	1972	1962	1732	1889	7.20	cps
Cadmium	106-1	2267	2425	2659	2450	8.04	cps
Cadmium	108-1	525	558	550	544	3.19	cps
Cadmium	111-1	8688	8475	8874	8679	2.30	cps
Calcium	43-1	712	707	720	713	0.88	cps
Calcium	44-1	32209	33086	32625	32640	1.34	cps
Carbon	12-1	2637768	2562875	2489008	2563217	2.90	cps
Chlorine	35-1	101916	99609	99928	100484	1.24	cps
Chromium	52-1	57041	58147	59151	58113	1.82	cps
Cobalt	59-1	1492	1622	1622	1578	4.76	cps
Copper	63-1	944610	944992	942401	944001	0.15	cps
Dysprosium	156-1	133	75	150	119	32.97	cps
Erbium	164-1	25	83	83	64	52.72	cps
Gadolinium	160-1	8	8	33	17	86.62	cps
Holmium	165-1	6498842	6381543	6462142	6447509	0.93	cps
Indium	115-1	5268112	5237392	5258098	5254534	0.30	cps
Iron	54-1						cps
Iron	56-1	4979549	4933732	4908997	4940759	0.72	cps
Iron	57-1	131938	130491	132057	131495	0.66	cps
Krypton	83-1	217	327	317	287	21.22	cps
Lead	206-1	20722	20900	21262	20962	1.31	cps
Lead	207-1	17573	16883	18269	17575	3.94	cps
Lead	208-1	81841	81586	83516	82314	1.27	cps
Lithium	6-1	2573365	2555389	2563506	2564087	0.35	cps
Magnesium	24-1	537239	547862	538330	541144	1.08	cps
Manganese	55-1	2526600	2474320	2479236	2493385	1.16	cps
Molybdenum	94-1	17495	17436	17102	17344	1.22	cps
Molybdenum	95-1	29908	29999	29699	29869	0.52	cps
Molybdenum	96-1	31804	31603	31879	31762	0.45	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	Q1172-04DLX5	Instrumnet Name :	P8
Client Sample ID :	PT-TM-WSDL	Dilution Factor :	5
Date & Time Acquired :	2025-02-14 12:16:56	DataFile Name :	028AREF.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Molybdenum	97-1	17945	18046	18471	18154	1.54	cps
Molybdenum	98-1	47290	48636	48301	48076	1.46	cps
Neodymium	150-1	33	33	47	38	20.39	cps
Nickel	60-1	119396	119346	120841	119861	0.71	cps
Phosphorus	31-1	44905	44644	43610	44386	1.54	cps
Potassium	39-1	4184536	4181638	4137291	4167822	0.64	cps
Rhodium	103-1	4913912	5002948	4912611	4943157	1.05	cps
Scandium	45-1	3637558	3589363	3624183	3617035	0.69	cps
Selenium	82-1	579	448	453	494	15.06	cps
Selenium	77-1	467	452	476	465	2.61	cps
Selenium	78-1	79780	79350	79886	79672	0.36	cps
Silicon	28-1	770980	764686	767024	767563	0.41	cps
Silver	109-1	328194	329375	327947	328505	0.23	cps
Silver	107-1	342373	344731	346547	344550	0.61	cps
Sodium	23-1	4144736	4110648	4084028	4113137	0.74	cps
Strontium	86-1	1042	1033	850	975	11.11	cps
Strontium	88-1	5009	5176	5043	5076	1.74	cps
Sulfur	34-1	661675	658158	652616	657483	0.69	cps
Terbium	159-1	6856230	6748034	6717444	6773903	1.08	cps
Thallium	203-1	8953	8361	8253	8522	4.42	cps
Thallium	205-1	20842	20458	19941	20414	2.22	cps
Tin	118-1	925	883	800	869	7.32	cps
Titanium	47-1	217	183	317	239	29.05	cps
Uranium	238-1	75	42	75	64	30.12	cps
Vanadium	51-1	751519	756321	756141	754660	0.36	cps
Ytterbium	172-1	17	33	33	28	34.63	cps
Ytterbium	176-1	483	392	442	439	10.46	cps
Yttrium	89-1	9255789	9117354	9121877	9165007	0.86	cps
Zinc	66-1	76926	77742	78747	77805	1.17	cps
Zirconium	90-1	633	625	642	633	1.32	cps
Zirconium	91-1	200	108	175	161	29.41	cps

Reviewed By:Jaswal
On:2/28/2025 8:05:03 PM
Inst Id :P8
LB :LB134731

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	CCV02	Instrumnet Name :	P8
Client Sample ID :	CCV02	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 12:25:22	DataFile Name :	030CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-1	539977318	539371292	547642243	542330285	0.85	cps
Antimony	121-1	3425740	3479749	3497722	3467737	1.08	cps
Arsenic	75-1	874448	884025	879420	879297	0.54	cps
Barium	135-1	3726956	3773336	3808312	3769535	1.08	cps
Barium	137-1	6380048	6535216	6499529	6471598	1.26	cps
Beryllium	9-1	1087022	1126872	1126672	1113522	2.06	cps
Bismuth	209-1	4274856	4271064	4306264	4284061	0.45	cps
Bromine	81-1	2002	2092	2032	2042	2.25	cps
Cadmium	106-1	78096	80409	78230	78911	1.65	cps
Cadmium	108-1	55302	56465	56364	56044	1.15	cps
Cadmium	111-1	727611	741033	735867	734837	0.92	cps
Calcium	43-1	4796227	4893770	4877387	4855795	1.08	cps
Calcium	44-1	77755808	78661920	78471034	78296254	0.61	cps
Carbon	12-1	2923736	2954687	2986932	2955118	1.07	cps
Chlorine	35-1	100112	101983	100716	100937	0.95	cps
Chromium	52-1	5356251	5482070	5447111	5428478	1.20	cps
Cobalt	59-1	5946042	6000697	5999460	5982066	0.52	cps
Copper	63-1	30962737	32206706	31609227	31592890	1.97	cps
Dysprosium	156-1	333	250	225	269	21.05	cps
Erbium	164-1	208	167	192	189	11.10	cps
Gadolinium	160-1	92	200	75	122	55.53	cps
Holmium	165-1	6710596	6706526	6594201	6670441	0.99	cps
Indium	115-1	5231801	5361829	5321331	5304987	1.25	cps
Iron	54-1						cps
Iron	56-1	1492990178	1531436302	1513818045	1512748175	1.27	cps
Iron	57-1	35921027	36662494	36872998	36485506	1.37	cps
Krypton	83-1	257	230	207	231	10.83	cps
Lead	206-1	11900980	12032132	12223733	12052281	1.35	cps
Lead	207-1	10040098	10418344	10465813	10308085	2.26	cps
Lead	208-1	46995059	47919160	48240624	47718281	1.36	cps
Lithium	6-1	2570809	2618862	2593374	2594348	0.93	cps
Magnesium	24-1	2178816260	2224423065	2243295296	2215511540	1.50	cps
Manganese	55-1	72753901	74604359	74616006	73991422	1.45	cps
Molybdenum	94-1	10325189	10672741	10707198	10568376	2.00	cps
Molybdenum	95-1	14836465	15339164	15258627	15144752	1.78	cps
Molybdenum	96-1	16625198	16999391	16964982	16863190	1.23	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	CCV02	Instrumnet Name :	P8
Client Sample ID :	CCV02	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 12:25:22	DataFile Name :	030CCV.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Molybdenum	97-1	9225648	9513127	9479147	9405974	1.67	cps
Molybdenum	98-1	24068981	24791827	24824120	24561642	1.74	cps
Neodymium	150-1	280	273	280	278	1.39	cps
Nickel	60-1	1245431	1245684	1249340	1246818	0.18	cps
Phosphorus	31-1	5044153	5102135	5128499	5091596	0.85	cps
Potassium	39-1	1258979095	1297207242	1294747822	1283644720	1.67	cps
Rhodium	103-1	4721034	4804970	4847058	4791021	1.34	cps
Scandium	45-1	3709121	3846956	3822157	3792745	1.94	cps
Selenium	82-1	46207	46543	46352	46367	0.36	cps
Selenium	77-1	35784	36056	35887	35909	0.38	cps
Selenium	78-1	193747	195050	195267	194688	0.42	cps
Silicon	28-1	3847269	3905807	3914674	3889250	0.94	cps
Silver	109-1	3525875	3563409	3700112	3596465	2.55	cps
Silver	107-1	3756687	3787595	3845252	3796512	1.18	cps
Sodium	23-1	2871147526	2976009825	2974816071	2940657808	2.05	cps
Strontium	86-1	919910	935147	930440	928499	0.84	cps
Strontium	88-1	8367546	8578108	8604305	8516653	1.52	cps
Sulfur	34-1	910718	921436	918450	916868	0.60	cps
Terbium	159-1	6982142	7076231	6986167	7014847	0.76	cps
Thallium	203-1	2881403	2931068	2911240	2907904	0.86	cps
Thallium	205-1	6720370	6828734	6806644	6785249	0.84	cps
Tin	118-1	2388968	2402487	2440974	2410810	1.12	cps
Titanium	47-1	4649496	4732522	4685104	4689041	0.89	cps
Uranium	238-1	8766794	8941855	9042031	8916893	1.56	cps
Vanadium	51-1	6396297	6527834	6510305	6478145	1.10	cps
Ytterbium	172-1	200	217	250	222	11.46	cps
Ytterbium	176-1	13541	14166	14125	13944	2.51	cps
Yttrium	89-1	9351954	9588791	9617952	9519566	1.53	cps
Zinc	66-1	8624385	8713388	8765121	8700965	0.82	cps
Zirconium	90-1	5344805	5382308	5450266	5392460	0.99	cps
Zirconium	91-1	1121692	1138691	1133780	1131388	0.77	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	CCB02	Instrumnet Name :	P8
Client Sample ID :	CCB02	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 12:32:04	DataFile Name :	032CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Aluminium	27-1	38812	37366	37587	37922	2.06	cps
Antimony	121-1	442	308	425	392	18.55	cps
Arsenic	75-1	753	634	670	686	8.89	cps
Barium	135-1	1067	817	900	928	13.72	cps
Barium	137-1	1642	1917	1675	1745	8.60	cps
Beryllium	9-1	720	756	792	756	4.76	cps
Bismuth	209-1	4479742	4545764	4482908	4502805	0.83	cps
Bromine	81-1	2132	1982	2012	2042	3.89	cps
Cadmium	106-1	2034	1892	1909	1945	3.98	cps
Cadmium	108-1	50	46	79	58	31.14	cps
Cadmium	111-1	1463	1351	1397	1404	4.04	cps
Calcium	43-1	575	516	532	541	5.60	cps
Calcium	44-1	31679	31266	31529	31492	0.66	cps
Carbon	12-1	2058932	1962118	1939497	1986849	3.19	cps
Chlorine	35-1	90751	88654	87883	89096	1.67	cps
Chromium	52-1	10935	10054	10895	10628	4.68	cps
Cobalt	59-1	1702	1732	2002	1812	9.13	cps
Copper	63-1	26805	27400	26712	26972	1.38	cps
Dysprosium	156-1	75	100	100	92	15.75	cps
Erbium	164-1	58	33	50	47	26.96	cps
Gadolinium	160-1	42	50	8	33	66.15	cps
Holmium	165-1	6612325	6537496	6513077	6554300	0.79	cps
Indium	115-1	5392668	5467649	5371995	5410771	0.93	cps
Iron	54-1						cps
Iron	56-1	1383000	1386594	1349898	1373164	1.47	cps
Iron	57-1	44946	44997	45368	45104	0.51	cps
Krypton	83-1	307	227	220	251	19.21	cps
Lead	206-1	1739	1884	1611	1745	7.81	cps
Lead	207-1	1478	1361	1222	1354	9.45	cps
Lead	208-1	6523	6251	6062	6278	3.69	cps
Lithium	6-1	2702041	2636274	2625559	2654625	1.56	cps
Magnesium	24-1	528471	521174	528190	525945	0.79	cps
Manganese	55-1	22100	21468	21308	21625	1.94	cps
Molybdenum	94-1	500	383	558	481	18.54	cps
Molybdenum	95-1	408	408	467	428	7.87	cps
Molybdenum	96-1	600	533	550	561	6.18	cps

LB Number :	LB134731	Operator :	Jaswal
Lab Sample ID :	CCB02	Instrumnet Name :	P8
Client Sample ID :	CCB02	Dilution Factor :	1
Date & Time Acquired :	2025-02-14 12:32:04	DataFile Name :	032CCBE.d

Parameter	Mass	CPS1	CPS2	CPS3	CPSMean	CPSRSD	Units
Molybdenum	97-1	250	317	183	250	26.67	cps
Molybdenum	98-1	608	675	783	689	12.82	cps
Neodymium	150-1	33	33	27	31	12.36	cps
Nickel	60-1	6819	6608	7500	6976	6.68	cps
Phosphorus	31-1	42355	43238	41913	42502	1.59	cps
Potassium	39-1	4332004	4301705	4237881	4290530	1.12	cps
Rhodium	103-1	5081937	5003906	5081526	5055790	0.89	cps
Scandium	45-1	3646414	3690806	3707802	3681674	0.86	cps
Selenium	82-1	-59	8	19	-10	-403.59	cps
Selenium	77-1	31	39	37	36	12.48	cps
Selenium	78-1	79168	78384	78809	78787	0.50	cps
Silicon	28-1	604029	603157	600015	602400	0.35	cps
Silver	109-1	142	108	150	133	16.53	cps
Silver	107-1	183	192	217	197	8.80	cps
Sodium	23-1	4399294	4372962	4333661	4368639	0.76	cps
Strontium	86-1	817	767	658	747	10.83	cps
Strontium	88-1	4609	4401	4576	4529	2.47	cps
Sulfur	34-1	638027	636528	636807	637121	0.13	cps
Terbium	159-1	6844680	6926185	6837898	6869588	0.72	cps
Thallium	203-1	350	442	308	367	18.60	cps
Thallium	205-1	817	783	792	797	2.18	cps
Tin	118-1	1000	1317	1183	1167	13.63	cps
Titanium	47-1	175	217	267	219	20.92	cps
Uranium	238-1	75	100	75	83	17.32	cps
Vanadium	51-1	280	280	410	324	23.21	cps
Ytterbium	172-1	67	42	75	61	28.38	cps
Ytterbium	176-1	525	458	425	469	10.85	cps
Yttrium	89-1	9446870	9384207	9369289	9400122	0.44	cps
Zinc	66-1	1702	1642	1361	1568	11.58	cps
Zirconium	90-1	408	233	367	336	27.20	cps
Zirconium	91-1	167	133	108	136	21.50	cps

Alliance TECHNICAL GROUP

Water Metals Preparation Sheet

PB166661

SOP ID : M200.8-Trace Elements-22

SDG No : N/A

Matrix : WATER

Pippete ID: ICP A

Balance ID : N/A

Filter paper ID : N/A

pH Strip ID : M6069

Hood ID : #3

Block ID: 1. HOT BLOCK #1 2. N/A

Start Digest Date: 02/11/2025 **Time :** 10:00 **Temp :** 95 °C

End Digest Date: 02/11/2025 **Time :** 12:10 **Temp :** 96 °C

Digestion tube ID: M5595

Block thermometer ID: MET-DIG. #1

Dig Technician Signature: SKG.

Supervisor Signature: MS

Temp : 1. 95°C 2. N/A

Standared Name	MLS USED	STD REF. # FROM LOG
Spike Sol 1	1.00	MP84472
Spike Sol 2	1.00	MP84468
Spike Sol 3	1.00	MP84469
Spike Sol 4	1.00	MP84470
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
1:1 HNO3	1.00	MP84041
1:1 HCL	0.50	MP84297
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

HOT BLOCK#1CELL #55 Temp: 96 C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
02/11/25 13:10	SKG. met dig.	MB- 300 Metal Lab
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Water Metals Preparation Sheet

PB166661

Lab Sample ID	Client Sample ID	pH	Initial Vol (ml)	Final Vol (ml)	Color Before	Color After	Clarity Before	Clarity After	Comment	Prep Pos
PB166661BL	PBW661	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	41
PB166661BS	LCS661	<2	50	50	Colorless	Colorless	Clear	Clear	MP84472, MP84468, MP84469	42
Q1172-04	PT-TM-WS	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	43

WORKLIST(Hardcopy Internal Chain)

WorkList Name : PB166661 **WorkList ID :** 187622 **Department :** Digestion **Date :** 02-10-2025 15:43:49

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1172-04	PT-TM-WS	Water	Metals Group7	1:1 HNO3 to pH < 2	CHEM02	QA Of	01/13/2025	200.8

Date/Time 2/10/25 9:10

Raw Sample Received by: JGP (Met dig)

Raw Sample Relinquished by: SJ (QAO)

Date/Time 2/11/25 10:30

Raw Sample Received by: SJ (QAO)

Raw Sample Relinquished by: JGP (Met dig)

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Fax : 908 789 8922

Instrument ID: P8

Daily Analysis Runlog For Sequence/QCBatch ID # LB134731

Review By	JANVI	Review On	2/27/2025 11:39:20 AM
Supervise By	Jaswal	Supervise On	2/28/2025 8:05:03 PM

STD. NAME	STD REF.#
ICAL Standard	MP84414,MP84423,MP84422,MP84420,MP84419,MP84418,MP84417,MP84416,MP84415
ICV Standard	MP84473
CCV Standard	MP84438
ICSA Standard	MP84440,MP84441
CRI Standard	
LCS Standard	
Chk Standard	MP84443,MP84444

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	TUNE	TUNE	TUNE	02/14/25 09:57		Jaswal	OK
2	S0	S0	CAL1	02/14/25 10:31		Jaswal	OK
3	S2	S2	CAL3	02/14/25 10:34		Jaswal	OK
4	S3	S3	CAL4	02/14/25 10:37		Jaswal	OK
5	S4	S4	CAL5	02/14/25 10:40		Jaswal	OK
6	S5	S5	CAL6	02/14/25 10:43		Jaswal	OK
7	S6	S6	CAL7	02/14/25 10:47		Jaswal	OK
8	S7	S7	CAL8	02/14/25 10:50		Jaswal	OK
9	S8	S8	CAL9	02/14/25 10:53		Jaswal	OK
10	ICV01	ICV01	ICV	02/14/25 10:59		Jaswal	OK
11	ICB01	ICB01	ICB	02/14/25 11:03		Jaswal	OK
12	ICSA01	ICSA01	ICSA	02/14/25 11:08		Jaswal	OK
13	ICSAB01	ICSAB01	ICSAB	02/14/25 11:11		Jaswal	OK
14	CCV01	CCV01	CCV	02/14/25 11:29		Jaswal	OK
15	CCB01	CCB01	CCB	02/14/25 11:35		Jaswal	OK
16	CRI	CRI	CRDL	02/14/25 11:48		Jaswal	OK
17	PB166661BL	PB166661BL	MB	02/14/25 11:51		Jaswal	OK
18	PB166661BS	PB166661BS	LCS	02/14/25 11:54		Jaswal	OK

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Instrument ID: P8

Daily Analysis Runlog For Sequence/QCBatch ID # LB134731

Review By	JANVI	Review On	2/27/2025 11:39:20 AM
Supervise By	Jaswal	Supervise On	2/28/2025 8:05:03 PM

STD. NAME	STD REF.#
ICAL Standard	MP84414,MP84423,MP84422,MP84420,MP84419,MP84418,MP84417,MP84416,MP84415
ICV Standard	MP84473
CCV Standard	MP84438
ICSA Standard	MP84440,MP84441
CRI Standard	
LCS Standard	
Chk Standard	MP84443,MP84444

19	Q1172-04	PT-TM-WS	SAM	02/14/25 11:57		Jaswal	OK
20	Q1172-04DL	PT-TM-WSDL	SAM	02/14/25 12:16	Not used	Jaswal	Not Ok
21	CCV02	CCV02	CCV	02/14/25 12:25		Jaswal	OK
22	CCB02	CCB02	CCB	02/14/25 12:32		Jaswal	OK

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Prep Standard - Chemical Standard Summary

Order ID : Q1172

Test : Metals Group7

Prepbatch ID : PB166661,

Sequence ID/Qc Batch ID: LB134731,

Standard ID :
MP84041,MP84297,MP84414,MP84415,MP84416,MP84417,MP84418,MP84419,MP84420,MP84421,MP84422,MP84423,MP84438,MP84440,MP84441,MP84442,MP84443,MP84444,MP84468,MP84469,MP84470,MP84472,MP84473,

Chemical ID :
M4884,M4888,M5192,M5288,M5304,M5472,M5476,M5496,M5498,M5513,M5519,M5658,M5739,M5751,M5798,M5799,M5800,M5801,M5811,M5815,M5817,M5873,M5874,M5960,M5962,M5977,M5978,M5981,M6021,M6023,M6025,M6028,M6030,M6032,M6055,M6079,M6121,M6126,M6127,M6128,M6144,M6145,M6146,M6150,W3112,

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
169	1:1HNO3	MP84041	01/14/2025	07/14/2025	Eman Mughal	None	None	Sarabjit Jaswal 01/16/2025

FROM 1250.00000ml of M6126 + 1250.00000ml of W3112 = Final Quantity: 2500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
170	1:1HCL	MP84297	01/31/2025	02/28/2025	Eman Mughal	None	None	Sarabjit Jaswal 01/31/2025

FROM 1250.00000ml of M6121 + 1250.00000ml of W3112 = Final Quantity: 2500.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1122	ICPMS CALIB BLANK(S0/ICB/CCB)	MP84414	02/07/2025	02/28/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sohil Jodhani 02/11/2025

FROM 10.00000ml of M6126 + 175.00000ml of W3112 + 5.00000ml of M6121 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2902	S8 ICPMS	MP84415	02/07/2025	02/28/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sohil Jodhani 02/11/2025

FROM 1.00000ml of M5496 + 2.50000ml of M5288 + 2.50000ml of M5811 + 5.00000ml of M5498 + 5.00000ml of M6127 + 5.00000ml of M6144 + 79.00000ml of MP84414 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3947	S7(SFAM,6020,200.8)	MP84416	02/07/2025	02/28/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sohil Jodhani 02/11/2025

FROM 0.00000ml of M4884 + 0.00000ml of M4888 + 0.00000ml of M5192 + 0.00000ml of M5288 + 0.00000ml of M5513 + 1.00000ml of M5476 + 1.00000ml of M5799 + 1.00000ml of M5981 + 1.00000ml of M6079 + 1.90000ml of M5496 + 10.00000ml of M5977 + 10.00000ml of M5978 + 10.00000ml of M6126 + 2.00000ml of M5815 + 2.00000ml of M5817 + 4.00000ml of M6025 + 4.00000ml of M6032 + 4.90000ml of M5519 + 4.90000ml of M5811 + 5.00000ml of M6121 + 50.00000ml of M5304 + 830.60000ml of W3112 + 9.00000ml of M5751 + 9.00000ml of M6128 + 9.00000ml of M6145 + 9.90000ml of M5498 + 9.90000ml of M6127 + 9.90000ml of M6144 = Final Quantity: 1000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3948	S6(SFAM,6020,200.8)	MP84417	02/07/2025	02/28/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sohil Jodhani 02/11/2025

FROM 0.50000ml of M6121 + 1.00000ml of M6126 + 48.50000ml of W3112 + 50.00000ml of MP84416 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3949	S5(SFAM,6020,200.8)	MP84418	02/07/2025	02/28/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sohil Jodhani 02/11/2025

FROM 0.50000ml of M6121 + 1.00000ml of M6126 + 73.50000ml of W3112 + 25.00000ml of MP84416 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3954	S4(SFAM,6020,200.8)	MP84419	02/07/2025	02/28/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sohil Jodhani 02/11/2025

FROM 0.50000ml of M6121 + 1.00000ml of M6126 + 86.00000ml of W3112 + 12.50000ml of MP84416 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3951	S3(SFAM, 6020,200.8)	MP84420	02/07/2025	02/28/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sohil Jodhani 02/11/2025

FROM 0.50000ml of M6121 + 1.00000ml of M6126 + 88.50000ml of W3112 + 10.00000ml of MP84417 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3955	S2CONC(SFAM,6020,200.8)	MP84421	02/07/2025	02/28/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sohil Jodhani 02/11/2025

FROM 0.05000ml of M5476 + 0.05000ml of M5798 + 0.05000ml of M5800 + 0.05000ml of M5801 + 0.05000ml of M5960 + 0.05000ml of M5981 + 0.05000ml of M6023 + 0.05000ml of M6025 + 0.05000ml of M6028 + 0.05000ml of M6030 + 0.05000ml of M6079 + 0.05000ml of M6128 + 0.10000ml of M5496 + 0.10000ml of M5658 + 0.10000ml of M5751 + 0.10000ml of M6146 + 0.25000ml of M5799 + 0.25000ml of M5811 + 0.25000ml of M5962 + 0.25000ml of M5977 + 0.25000ml of M5978 + 0.25000ml of M6021 + 0.25000ml of M6145 + 0.50000ml of M6032 + 2.00000ml of M5815 + 2.00000ml of M5817 + 2.50000ml of M5498 + 2.50000ml of M5519 + 2.50000ml of M6121 + 2.50000ml of M6127 + 2.50000ml of M6144 + 225.25000ml of W3112 + 5.00000ml of M6126 = Final Quantity: 250.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3956	S2(SFAM,6020,200.8)	MP84422	02/07/2025	02/28/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sohil Jodhani 02/11/2025

FROM 0.50000ml of M6121 + 1.00000ml of M6126 + 98.00000ml of W3112 + 0.50000ml of MP84421 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3957	S1(SFAM,6020,200.8)	MP84423	02/07/2025	02/28/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sohil Jodhani 02/11/2025

FROM 0.50000ml of M6121 + 1.00000ml of M6126 + 88.50000ml of W3112 + 10.00000ml of MP84422 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3961	CCV	MP84438	02/07/2025	02/28/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sohil Jodhani 02/11/2025

FROM 0.00000ml of M4884 + 0.00000ml of M5978 + 0.20000ml of M5513 + 0.50000ml of M5476 + 0.50000ml of M5799 + 0.50000ml of M5981 + 0.50000ml of M6079 + 1.00000ml of M5815 + 1.00000ml of M5817 + 10.00000ml of M6126 + 12.45000ml of M5519 + 12.45000ml of M5811 + 2.00000ml of M6032 + 24.95000ml of M5498 + 24.95000ml of M6127 + 24.95000ml of M6144 + 25.00000ml of M5304 + 4.50000ml of M5751 + 4.50000ml of M6128 + 4.50000ml of M6145 + 4.95000ml of M5496 + 5.00000ml of M5977 + 5.00000ml of M6121 + 830.60000ml of W3112 = Final Quantity: 1000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1142	ICSA ICPMS	MP84440	02/07/2025	02/28/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sohil Jodhani 02/11/2025

FROM 10.00000ml of M5873 + 90.00000ml of MP84414 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1143	ICSAB ICPMS	MP84441	02/07/2025	02/28/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sohil Jodhani 02/11/2025

FROM 10.00000ml of M5873 + 10.00000ml of M5874 + 80.00000ml of MP84414 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3962	MG 10PPM FOR TUNE	MP84442	02/07/2025	02/28/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sohil Jodhani 02/11/2025

FROM 0.01000ml of M6127 + 9.99000ml of MP84414 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3894	TUNE 200PPB	MP84443	02/07/2025	02/28/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sohil Jodhani 02/11/2025

FROM 2.00000ml of M6055 + 2.00000ml of MP84442 + 96.00000ml of MP84414 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3903	ISS 3PPM	MP84444	02/07/2025	02/28/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sohil Jodhani 02/11/2025

FROM 5.00000ml of M6126 + 75.00000ml of M5739 + 170.00000ml of MP84414 = Final Quantity: 250.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3881	M&B SPIKE-2	MP84468	02/07/2025	02/28/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sohil Jodhani 02/13/2025

FROM 0.00000ml of M4888 + 10.00000ml of M5977 + 12.50000ml of M5519 + 12.50000ml of M5811 + 12.50000ml of M6032 + 2.50000ml of M4884 + 2.50000ml of M5799 + 5.00000ml of M5496 + 42.50000ml of MP84414 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3882	M&B SPIKE-3	MP84469	02/07/2025	02/28/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sohil Jodhani 02/13/2025

FROM 0.62500ml of M5513 + 12.50000ml of M5751 + 12.50000ml of M6128 + 12.50000ml of M6145 + 11.87500ml of MP84414 = Final Quantity: 50.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3900	M&B SPIKE-4	MP84470	02/07/2025	02/28/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sohil Jodhani 02/13/2025

FROM 6.25000ml of M5498 + 6.25000ml of M6127 + 6.25000ml of M6144 + 6.25000ml of MP84414 = Final Quantity: 25.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3880	M&B SPIKE-1	MP84472	02/07/2025	02/28/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sohil Jodhani 02/13/2025

FROM 5.00000ml of M5472 + 5.00000ml of M5658 + 5.00000ml of M5798 + 5.00000ml of M5800 + 5.00000ml of M5960 + 5.00000ml of M5962 + 5.00000ml of M5981 + 5.00000ml of M6021 + 5.00000ml of M6023 + 5.00000ml of M6028 + 5.00000ml of M6030 + 5.00000ml of M6079 + 5.00000ml of M6146 + 11.87500ml of MP84414 = Final Quantity: 50.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3958	ICV(SFAM)	MP84473	02/07/2025	02/28/2025	Janvi Patel	None	METALS_PIPETTE_3 (A)	Sohil Jodhani 02/13/2025

FROM 0.05000ml of M5472 + 0.50000ml of M5192 + 2.00000ml of M6150 + 97.45000ml of MP84414 = Final Quantity: 100.000 ml

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CHEMICAL RECEIPT LOG BOOK

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	030921	03/09/2025	08/06/2021 / jaswal	08/05/2021 / jaswal	M4884

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57022 / Ti, 1000 PPM, 125 ml	070721	09/27/2025	08/06/2021 / jaswal	08/05/2021 / jaswal	M4888

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

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 #
Inorganic Ventures	6020CAL-1 / Calibration Standard Method 6020	S2-MEB711244	10/20/2026	08/07/2024 / jaswal	04/01/2022 / jaswal	M5304

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57038 / Sr, 1000 PPM, 125 ml	082922	08/29/2025	01/14/2025 / Jaswal	03/16/2023 / jaswal	M5472

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CHEMICAL RECEIPT LOG BOOK

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	07/29/2024 / jaswal	03/16/2023 / jaswal	M5476

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	08/15/2023 / jaswal	03/17/2023 / bin	M5496

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.	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 #
Absolute Standards, Inc.	58024 / Chromium, Cr, 500 ml, 1000 PPM	060523	06/05/2026	08/28/2023 / jaswal	08/25/2023 / jaswal	M5658

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	6020ISS / 6020ISS, 10 ug/ml, Bi, Ho, In, 6Li, Rh, Sc, TB, Y	T2-MEB709511	09/03/2026	08/07/2024 / jaswal	04/11/2022 / jaswal	M5739

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58029 / Cu, 1000 PPM, 500 ml	071723	07/17/2026	10/01/2024 / Jaswal	08/25/2023 / jaswal	M5751

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57004 / Be, 1000 PPM, 125 ml	102523	10/25/2026	02/09/2024 / bin	02/09/2024 / bin	M5798

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57050 / Sn, 1000 PPM, 125 ml	071123	07/11/2026	02/09/2024 / bin	02/09/2024 / bin	M5799

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

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58126 / Fe, 10000 PPM, 500 ml	051523	05/15/2026	02/06/2025 / kareem	01/03/2024 / jaswal	M5811

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	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.	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 #
EPA	PART A / ICSA (ICPMS) STOCK SOLN	CP-MS ICSA-0803	04/30/2025	04/17/2024 / jaswal	07/14/2022 / jaswal	M5873

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART B / ICSB (ICPMS) STOCK SOLUTION	CP-MS ICSB-0803	04/30/2025	04/17/2024 / jaswal	07/14/2022 / jaswal	M5874

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	07/03/2024 / kareem	06/11/2024 / kareem	M5960

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57034 / Se, 1000 PPM, 125 ml	060624	06/06/2027	07/02/2024 / Jaswal	06/14/2024 / Jaswal	M5962

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGMO1-1 / MOLYBDENUM 125mL 1000ug/mL	T2-MO720876	07/17/2027	01/16/2025 / JANVI	02/22/2024 / Jaswal	M5977

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	08/07/2024 / jaswal	02/22/2024 / Jaswal	M5978

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57092 / U, 1000 PPM, 125 ml	060724	06/07/2027	07/29/2024 / Jaswal	06/11/2024 / Jaswal	M5981

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57023 / V, 1000 PPM, 125 ml	062424	06/24/2027	09/28/2024 / jaswal	08/05/2024 / Jaswal	M6021

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57081 / Tl, 1000 PPM, 125 ml	0624724	06/27/2027	08/05/2024 / kareem	08/05/2024 / Jaswal	M6023

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CHEMICAL RECEIPT LOG BOOK

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	11/09/2026	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	08/05/2024 / Jaswal	M6028

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57047 / Ag, 1000 PPM, 125 ml	122823	12/28/2026	08/05/2024 / kareem	08/05/2024 / Jaswal	M6030

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57056 / Ba, 1000 PPM, 125 ml	010924	01/09/2027	01/14/2025 / Jaswal	08/05/2024 / Jaswal	M6032

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	IV-STOCK-12 / ICP-MS TUNING SOLUTION, 125mL	U2-MEB734294	06/21/2028	08/21/2024 / Jaswal	08/19/2024 / Jaswal	M6055

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57040 / Zr, 1000 PPM, 125 ml	071423	07/14/2026	01/15/2025 / Jaswal	09/30/2024 / Jaswal	M6079

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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)	0000275677	05/13/2025	11/13/2024 / Eman	10/13/2024 / Eman	M6121

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	06/03/2025	12/03/2024 / Janvi	11/12/2024 / Janvi	M6126

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58112 / Mg, 10000 PPM, 500 ml	112124	11/21/2027	01/13/2025 / kareem	01/13/2025 / kareem	M6127

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58025 / Mn, 1000 PPM, 500 ml	101124	10/11/2027	01/13/2025 / kareem	01/13/2025 / kareem	M6128

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58111 / Na, 10000 PPM, 500 ml	072424	07/24/2027	01/23/2025 / kareem	01/13/2025 / Jaswal	M6144

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58030 / Zinc, Zn, 500 ml, 1000 PPM	121724	12/17/2027	02/04/2025 / jaswal	01/13/2025 / Jaswal	M6145

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57051 / Sb, 1000 PPM, 125 ml	071724	07/17/2027	01/31/2025 / kareem	10/18/2024 / kareem	M6146

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	ICV-1 / ICV (ICP/ICPMS) STOCK SOLN	ICV1-1014	07/07/2025	02/07/2025 / JANVI	04/20/2021 / JANVI	M6150

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	07/03/2029	07/03/2024 / Iwona	07/03/2024 / Iwona	W3112

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M6032

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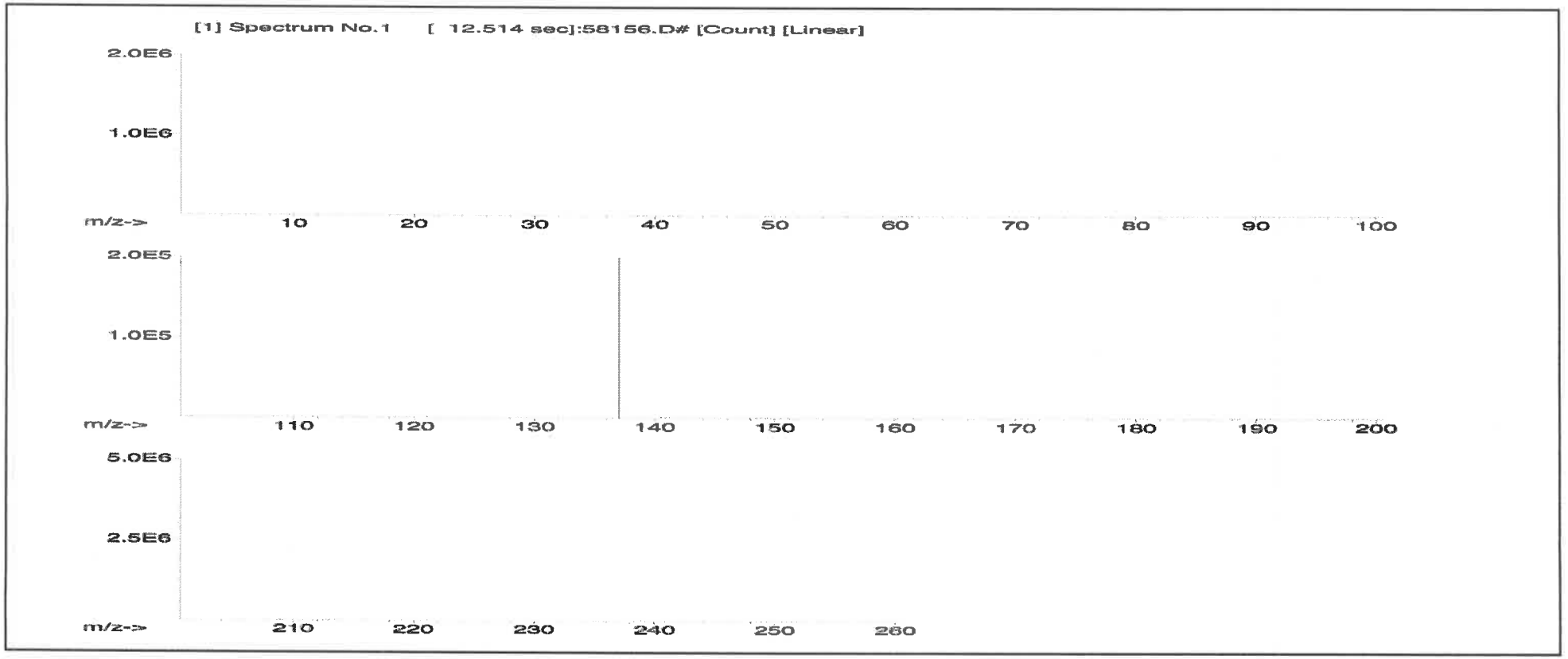
CERTIFIED WEIGHT REPORT:

Part Number:	**57056**		**Solvent:**	**Lot #** 24002546	Nitric Acid
Lot Number:	**010924**				
Description:	**Barium (Ba)**		2%	40.0 (mL)	Nitric Acid
Expiration Date:	010927				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

Giovanni Esposito

Formulated By:	Giovanni Esposito	010924
Reviewed By:	Pedro L. Rentas	010924

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Barium nitrate (Ba)	IN023	BAD022019A1	1000	99.999	0.10	52.3	3.82417	3.82441	**1000.1**	**2.0**	10022-31-8	0.5 mg/m3	orl-rat 355 mg/kg	3104a



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	T	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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M6028

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R: 8/5/24

CERTIFIED WEIGHT REPORT:

Part Number: 57048
Lot Number: 070124
Description: Cadmium (Cd)

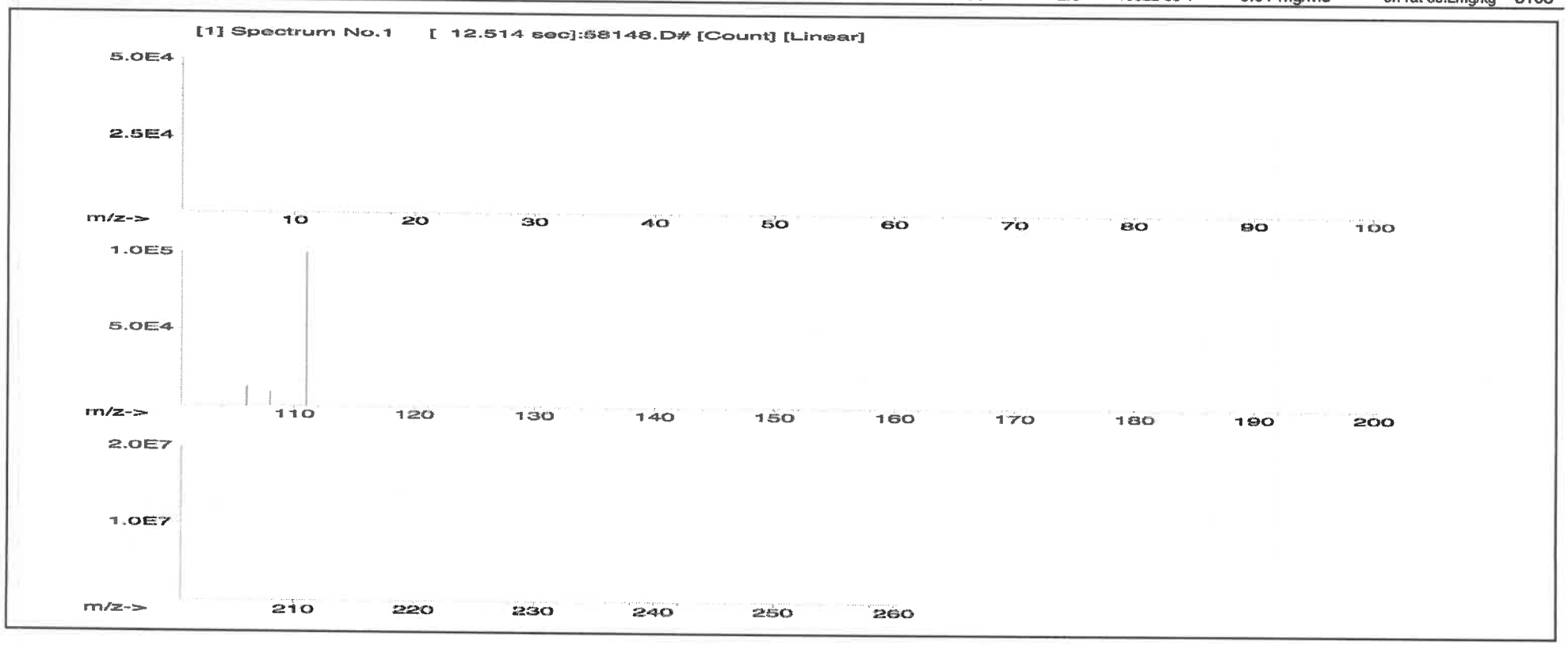
Expiration Date: 070127
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.07

	Lot #			
Solvent:	24002546	Nitric Acid		
2%	40.0 (mL)	Nitric Acid		
		5E-05	Balance Uncertainty	
		0.100	Flask Uncertainty	

Aleah O'Brady
Formulated By: Aleah O'Brady 070124

Pedro Rentas
Reviewed By: Pedro L. Rentas 070124

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cadmium nitrate tetrahydrate (Cd)	IN024	CDM092021A1	1000	99.999	0.10	36.5	5.4797	5.4804	**1000.1**	**2.0**	10022-68-1	0.01 mg/m3	orl-rat 60.2mg/kg	3108



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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).

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R : 01/03/24. M5810, M5811

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CERTIFIED WEIGHT REPORT:

Part Number:	**58126**		**Lot #**	
Lot Number:	**051523**	**Solvent:**	21110221	Nitric Acid
Description:	**Iron (Fe)**	5.0%	250.0 (mL)	Nitric Acid
Expiration Date:	051526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**10000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	5000.1	0.12	Flask Uncertainty	

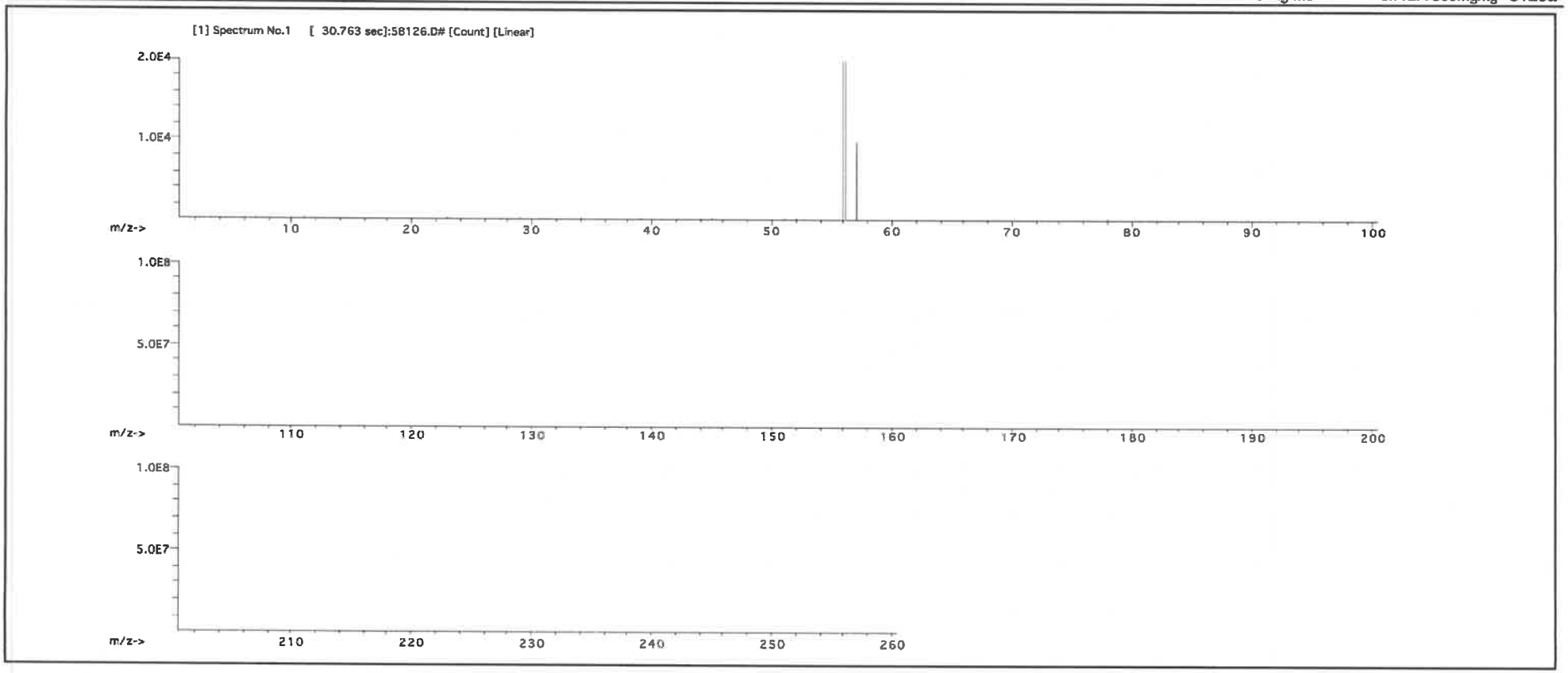
Giovanni Esposito

Formulated By:	Giovanni Esposito	051523

Pedro Rentas

Reviewed By:	Pedro L. Rentas	051523

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Iron (Fe)	IN346	2302010-500	10000	99.995	0.10	100.0	50.0034	50.0111	**10001.5**	**20.0**	7439-89-6	5 mg/m3	orl-rat 7500mg/kg	3126a



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ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.10	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.10	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.05	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.10	Ge	<0.10	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.10
B	<0.02	Cu	<0.10	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
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* 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).

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R: 8/15/24 M6025

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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

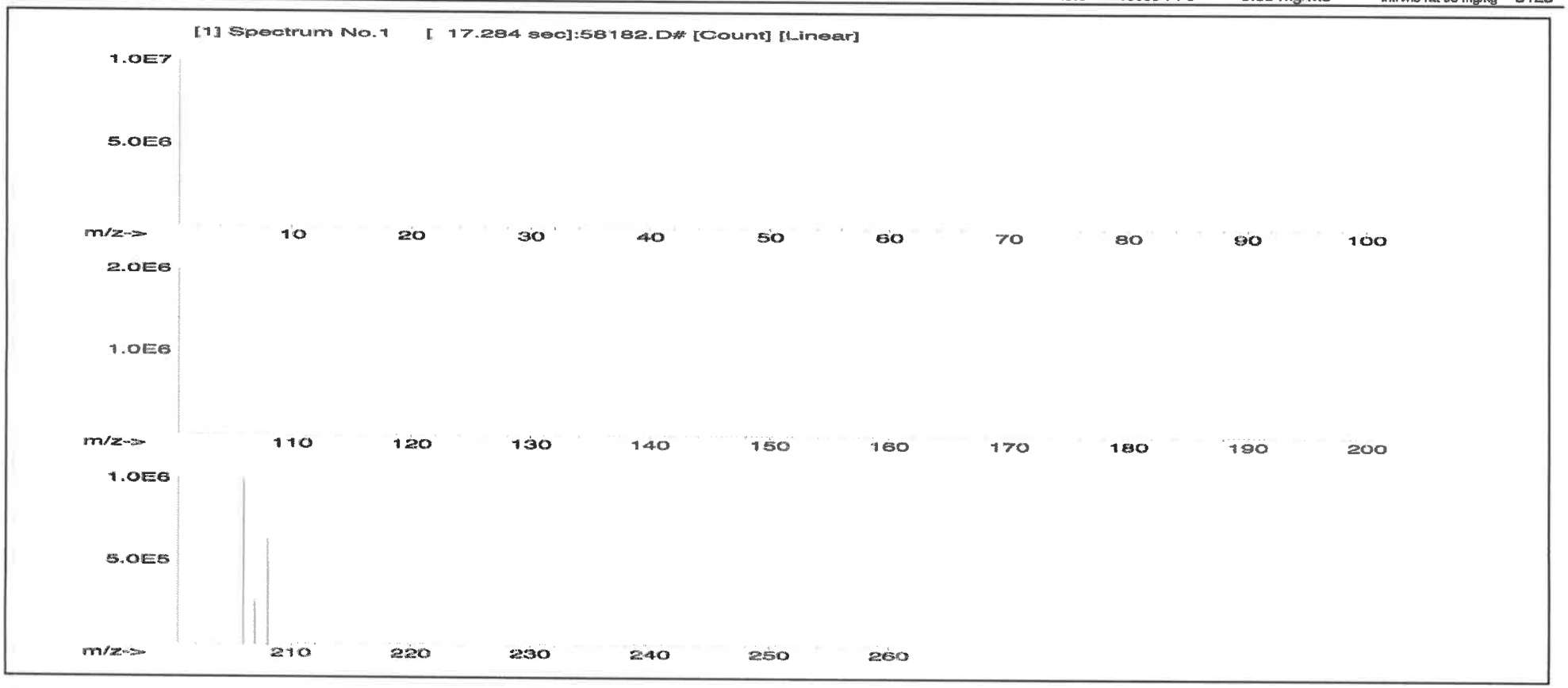
Weight shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	

5E-05 Balance 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



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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.

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* 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).

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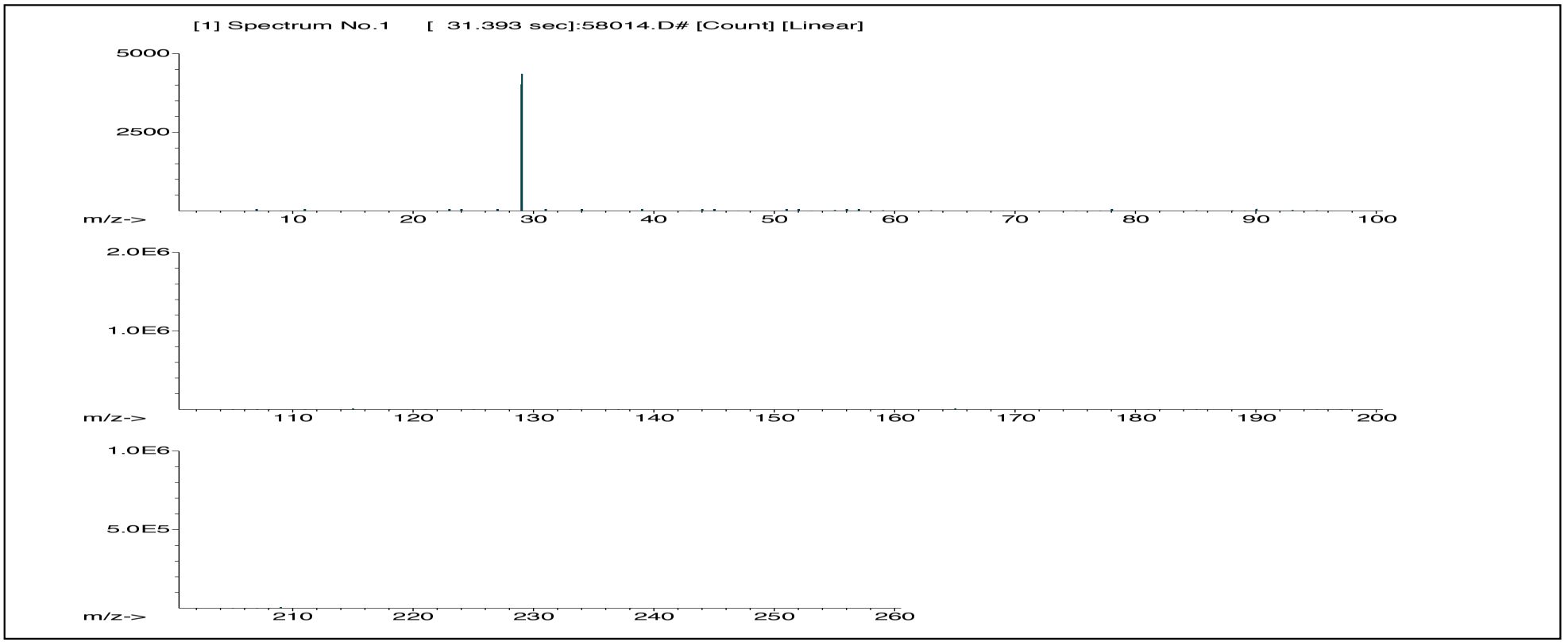
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57014**	19410105	Nitric Acid	
Lot Number:	**030921**			
Description:	**Silicon (Si)**			
		2.0%	60.0	Nitric Acid
Expiration Date:	030924		(mL)	
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):	3000.41	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry 030921
Reviewed By:	Pedro L. Rentas 030921

	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 hexafluorosilicate (Si)	58114	070120	0.1000	300.0	0.084	1000	10000.0	**1000.0**	**2.1**	16919-19-0	2.50 mg/m3	orl-rat 70 mg/kg	NA



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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	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:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

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* 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.
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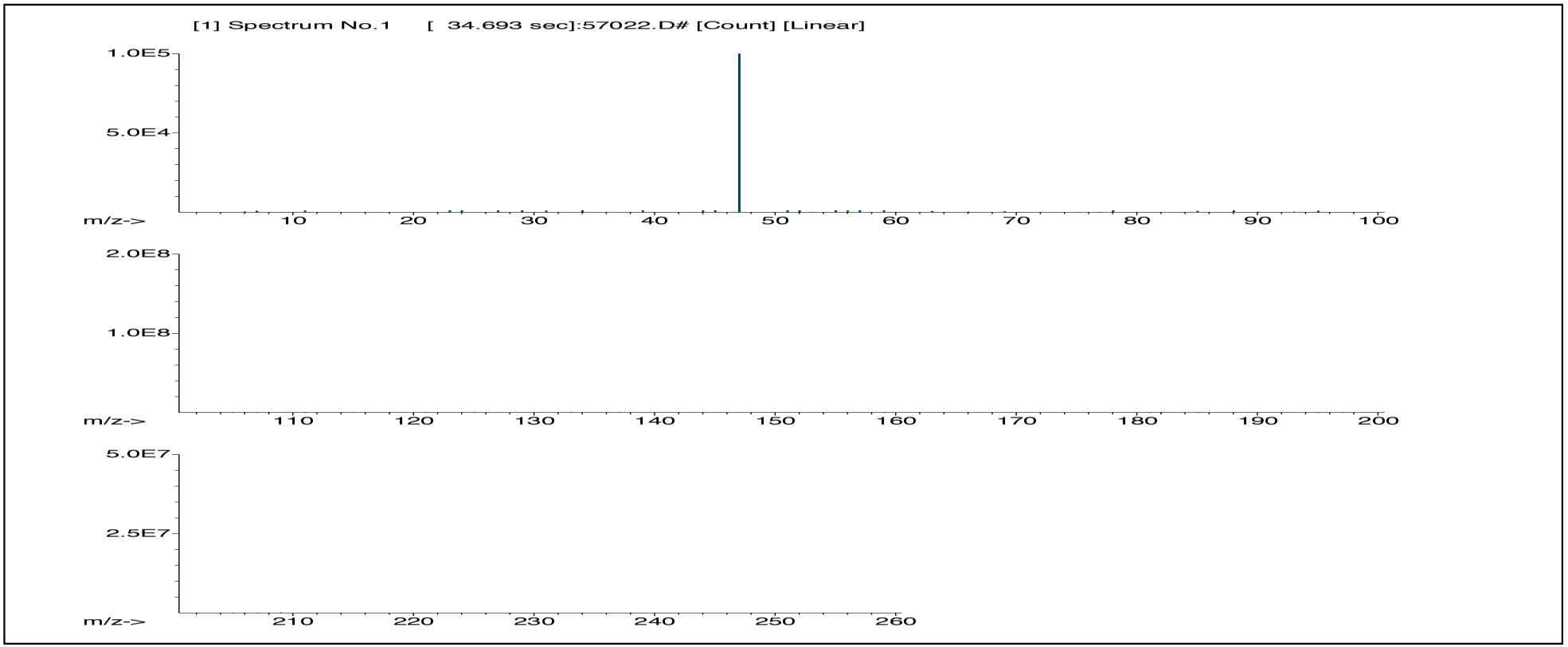
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57022**	20370011	Nitric Acid	
Lot Number:	**070721**			
Description:	**Titanium (Ti)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	070724			
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	

Formulated By:	Lawrence Barry	070721
Reviewed By:	Pedro L. Rentas	070721

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette	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 hexafluorotitanate (Ti)	58122	070120	0.1000	200.0	0.084	1000	10000.1	**1000.0**	**2.2**	16962-40-6	2.5 (F) mg/m3	NA	3162a



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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	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	T	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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M5192 R: 06/17/22

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CERTIFIED WEIGHT REPORT:

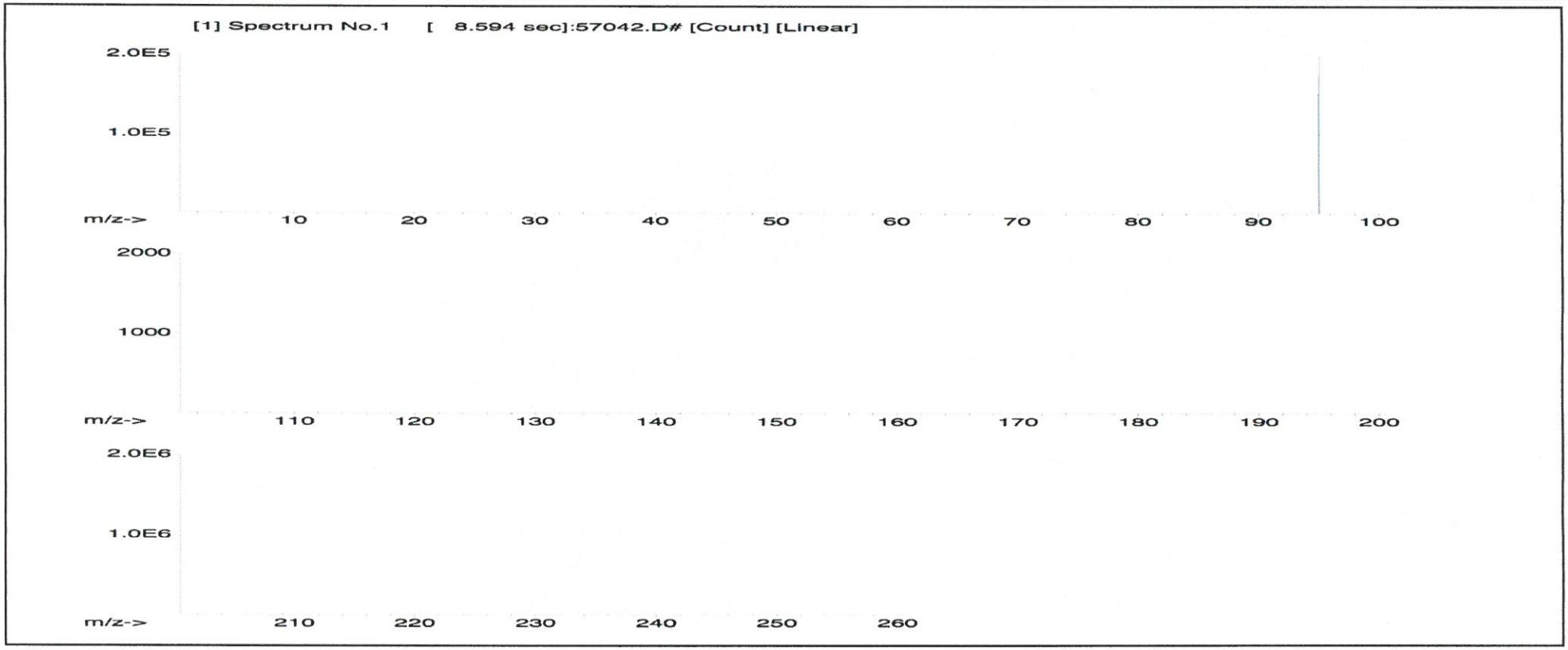
Part Number: 57042
Lot Number: 051722
Description: Molybdenum (Mo)
Expiration Date: 051725
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB 5E-05 Balance Uncertainty
Volume shown below was diluted to (mL): 3000.41 0.058 Flask Uncertainty

Lot #	Solvent:		
MKBQ8597V	Ammonium hydroxide	0.5%	15.0 (mL) Ammonium hydroxide

Formulated By: Lawrence Barry 051722

Reviewed By: Pedro L. Rentas 051722

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



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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:

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M5288 R: 07/21/2022

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CERTIFIED WEIGHT REPORT:

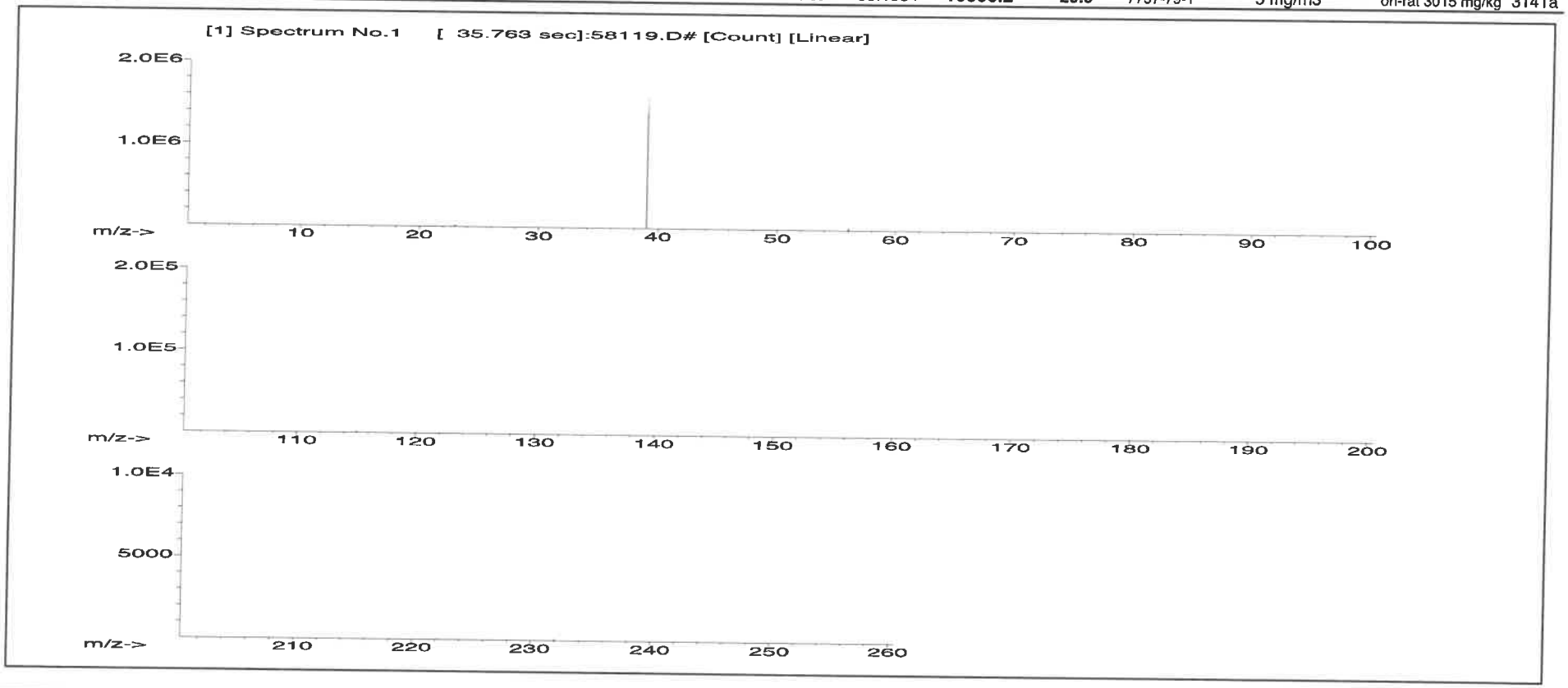
Part Number: 58119
Lot Number: 071122
Description: Potassium (K)

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



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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:

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Certified by:

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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:	6020CAL-1
Lot Number:	S2-MEB711244
Matrix:	5% (v/v) HNO3 tr. HF
Value / Analyte(s):	20 µg/mL ea:

Silver,	Aluminum,
Arsenic,	Barium,
Beryllium,	Calcium,
Cadmium,	Cobalt,
Chromium,	Copper,
Iron,	Potassium,
Magnesium,	Manganese,
Sodium,	Nickel,
Lead,	Antimony,
Selenium,	Thallium,
Vanadium,	Zinc

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	**20.01 ± 0.08 µg/mL**	**Antimony, Sb**	**20.01 ± 0.12 µg/mL**
Arsenic, As	**20.01 ± 0.18 µg/mL**	**Barium, Ba**	**20.01 ± 0.11 µg/mL**
Beryllium, Be	**20.01 ± 0.14 µg/mL**	**Cadmium, Cd**	**20.01 ± 0.11 µg/mL**
Calcium, Ca	**20.01 ± 0.10 µg/mL**	**Chromium, Cr**	**20.01 ± 0.16 µg/mL**
Cobalt, Co	**20.01 ± 0.11 µg/mL**	**Copper, Cu**	**20.01 ± 0.10 µg/mL**
Iron, Fe	**20.01 ± 0.09 µg/mL**	**Lead, Pb**	**20.01 ± 0.11 µg/mL**
Magnesium, Mg	**19.99 ± 0.10 µg/mL**	**Manganese, Mn**	**20.01 ± 0.10 µg/mL**
Nickel, Ni	**20.01 ± 0.11 µg/mL**	**Potassium, K**	**20.01 ± 0.10 µg/mL**
Selenium, Se	**20.02 ± 0.14 µg/mL**	**Silver, Ag**	**20.02 ± 0.09 µg/mL**
Sodium, Na	**20.01 ± 0.10 µg/mL**	**Thallium, Tl**	**20.01 ± 0.13 µg/mL**
Vanadium, V	**20.01 ± 0.11 µg/mL**	**Zinc, Zn**	**20.01 ± 0.11 µg/mL**

Density: 1.026 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
As	ICP Assay	3103a	100818
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
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
Fe	Calculated		See Sec. 4.2
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
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	151215
Tl	Calculated		See Sec. 4.2
V	ICP Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

$CRM/RM\ Expanded\ Uncertainty\ (\pm) = U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

$CRM/RM\ Expanded\ Uncertainty\ (\pm) = U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

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

October 20, 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

- **October 20, 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

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M5496 R 7/20/23

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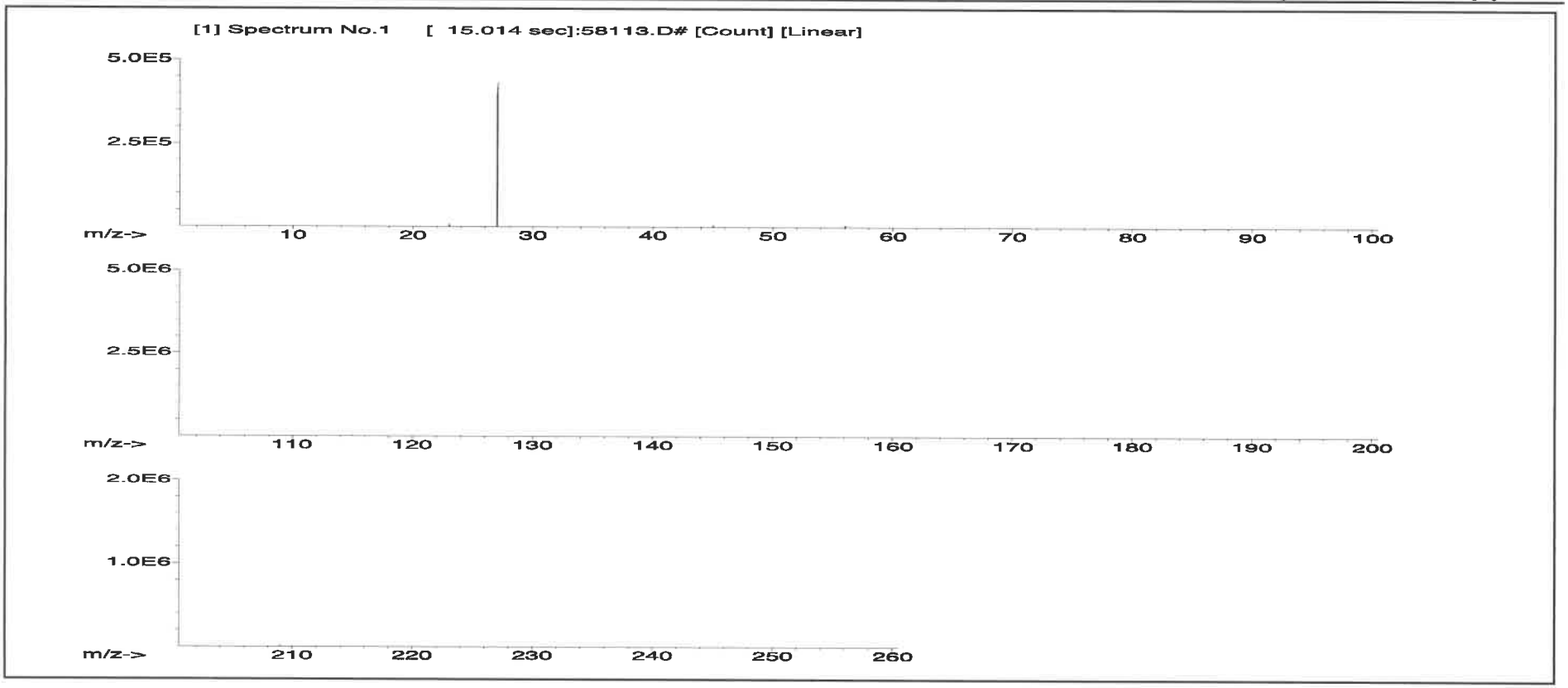
CERTIFIED WEIGHT REPORT:

Part Number:	**58113**		**Lot #**		
Lot Number:	**011623**	**Solvent:**	20510011	Nitric Acid	
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		

Giovanni Esposito

Formulated By:	Giovanni Esposito	011623
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



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Certified Reference Material CRM

M5497 - M5498 R: 03/17/23 (BP)

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 58120
Lot Number: 031523
Description: Calcium (Ca)

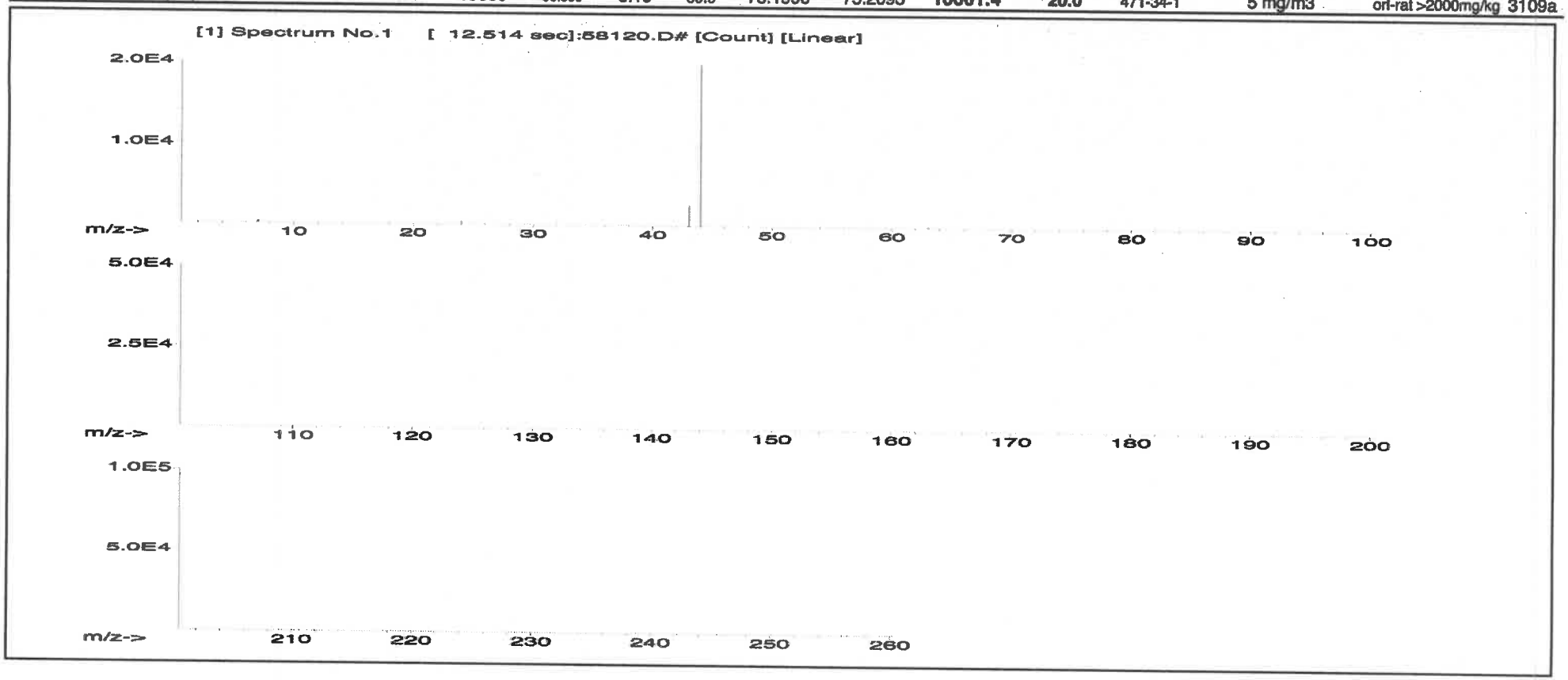
Expiration Date: 031526
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.41

	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

Pedro Rentas
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).

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Certified Reference Material CRM

MS513 R:03/17/23 BE

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
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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

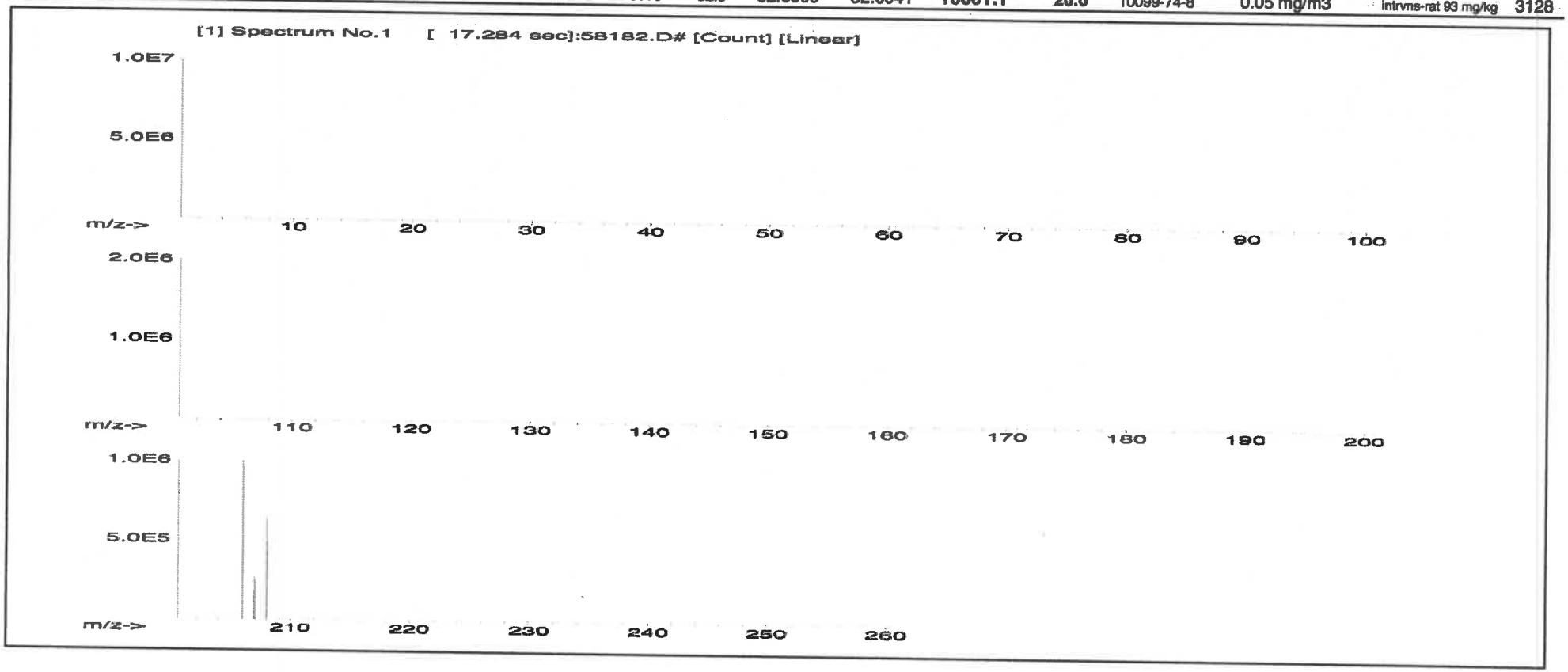
	Lot #		
Solvent:	20510011	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	

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



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.
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* 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).

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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)

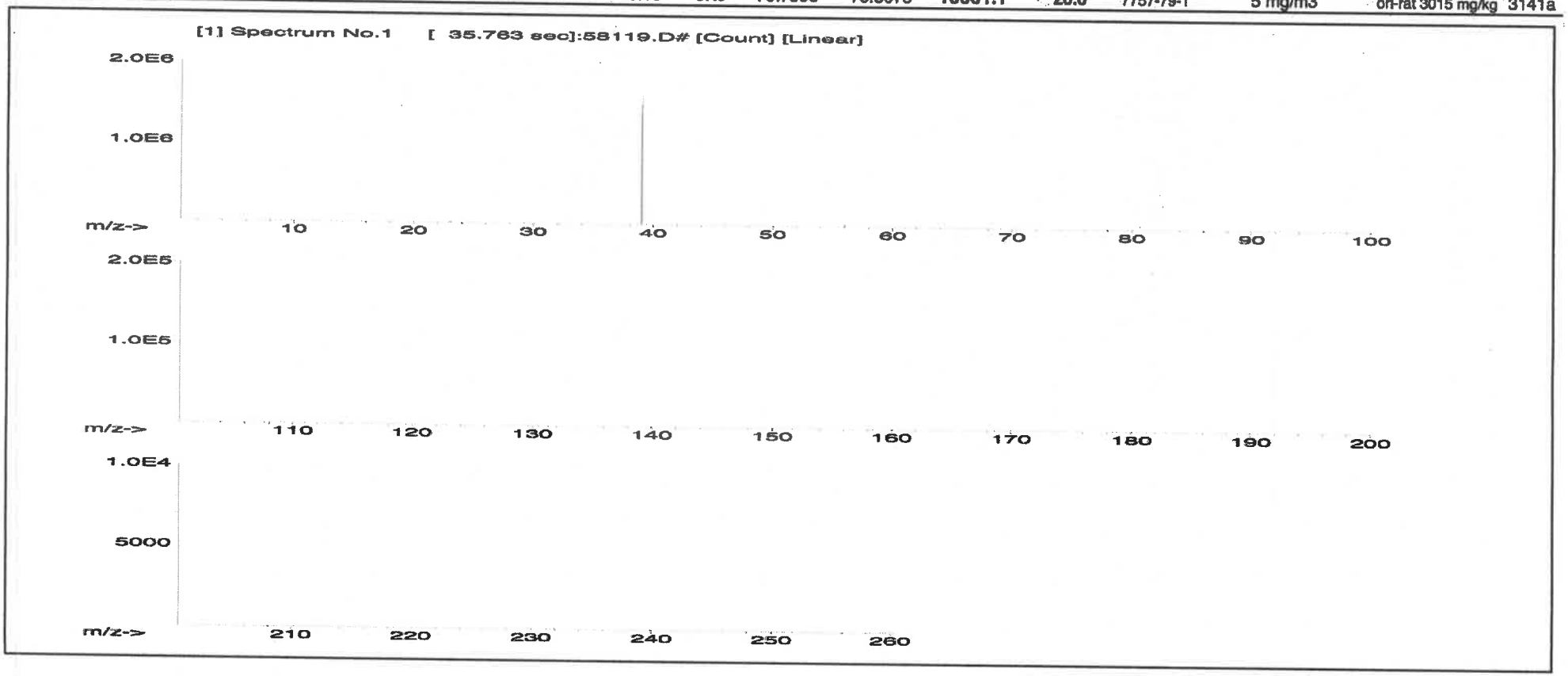
Expiration Date: 120825
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.4

	Lot #		
Solvent:	20510011	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty
0.06 Flask Uncertainty

Giovanni Esposito
Formulated By: Giovanni Esposito 120822
Pedro Rentas
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



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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.
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* 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).

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Certified Reference Material CRM

M5658 R ! 8/25/23

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
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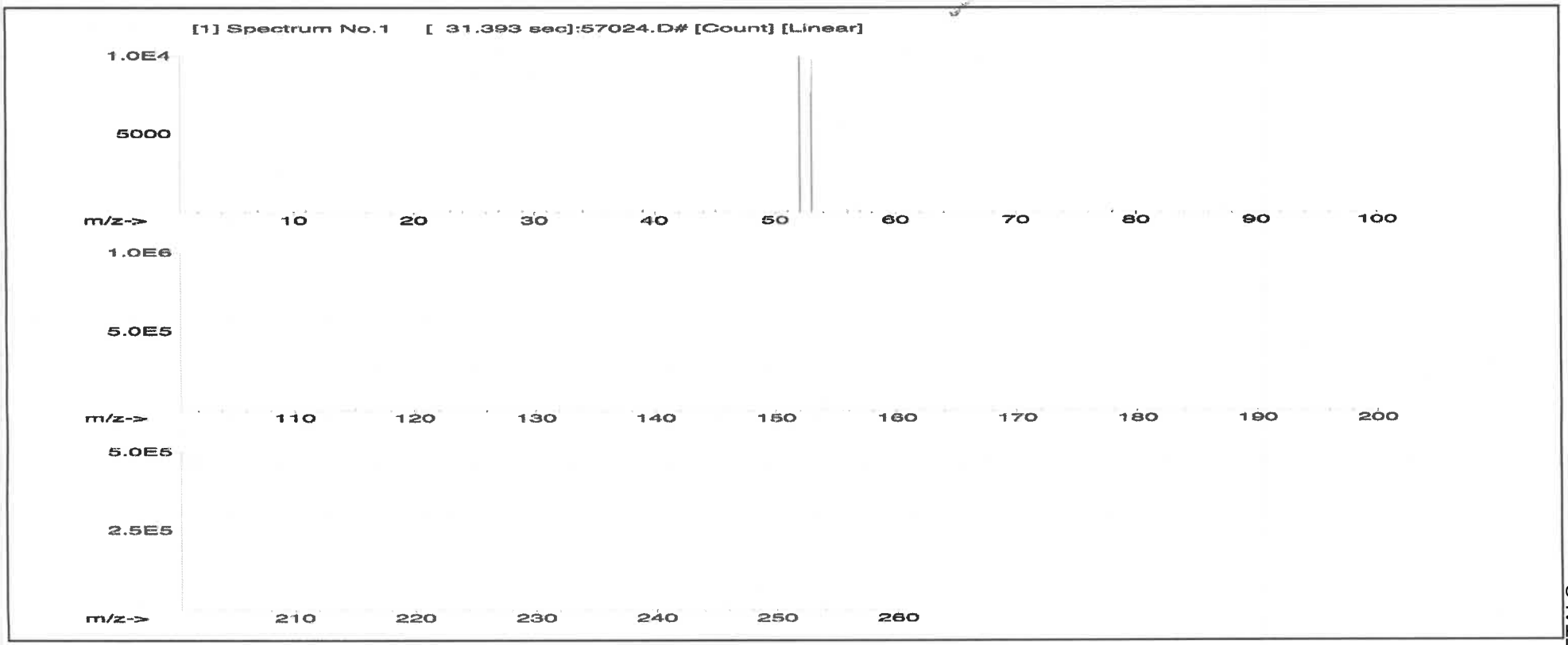
CERTIFIED WEIGHT REPORT:

		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



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ANAB ISO 17034 Accredited
AR-1539 Certificate Number
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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.
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* 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).

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R: 8/25/23 M5751

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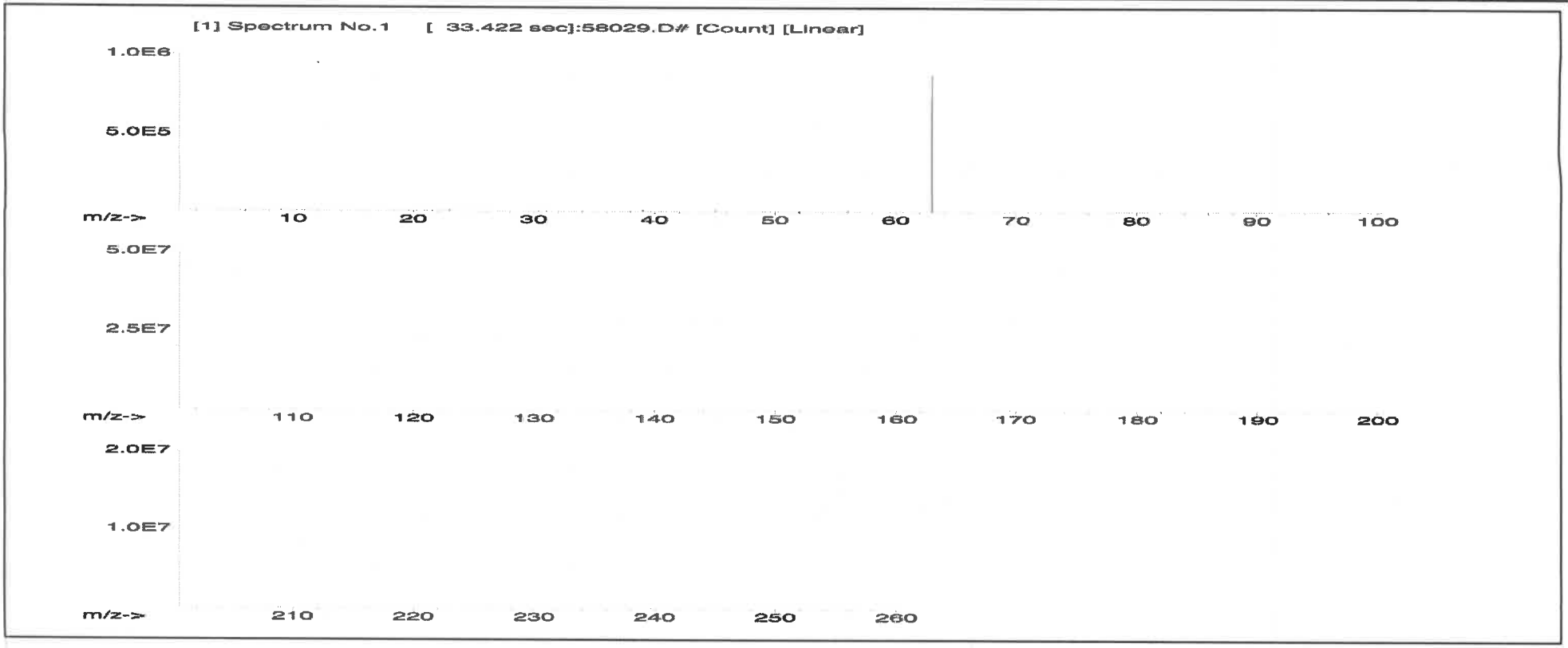
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**58029**	21110221	Nitric Acid	
Lot Number:	**071723**			
Description:	**Copper (Cu)**	2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	071726			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Benson Chan	071723
Reviewed By:	Pedro L. Rentas	071723

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Copper(II) nitrate trihydrate (Cu)	58129	022723	0.1000	200.0	0.084	1000	10000.5	**1000.0**	**2.2**	10031-43-3	1 mg/m3	orl-rat 794 mg/kg	3114



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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:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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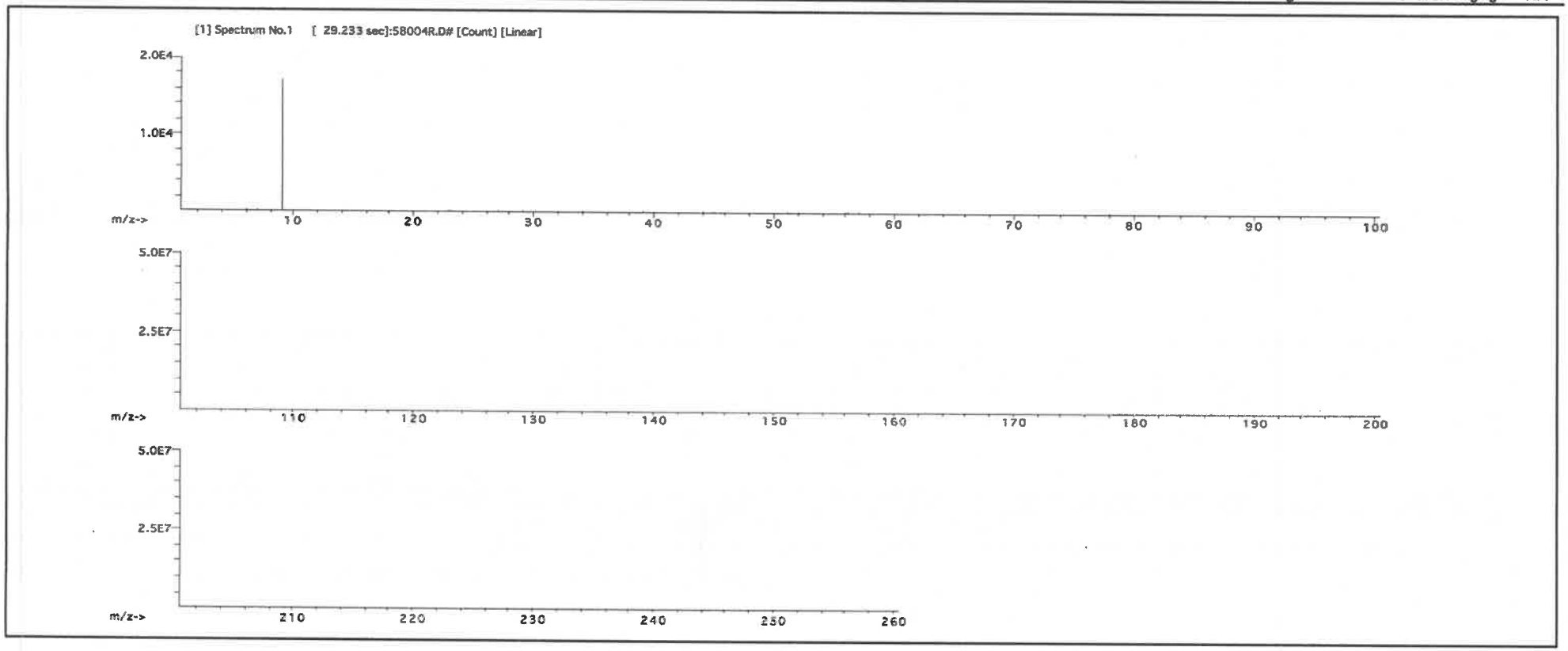
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:		
Part Number:	**57004**				
Lot Number:	**102523**	24002546	Nitric Acid		
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



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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.

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R? 02/09/24 IV15799

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CERTIFIED WEIGHT REPORT:

Part Number: 57050
Lot Number: 071123
Description: Tin (Sn)

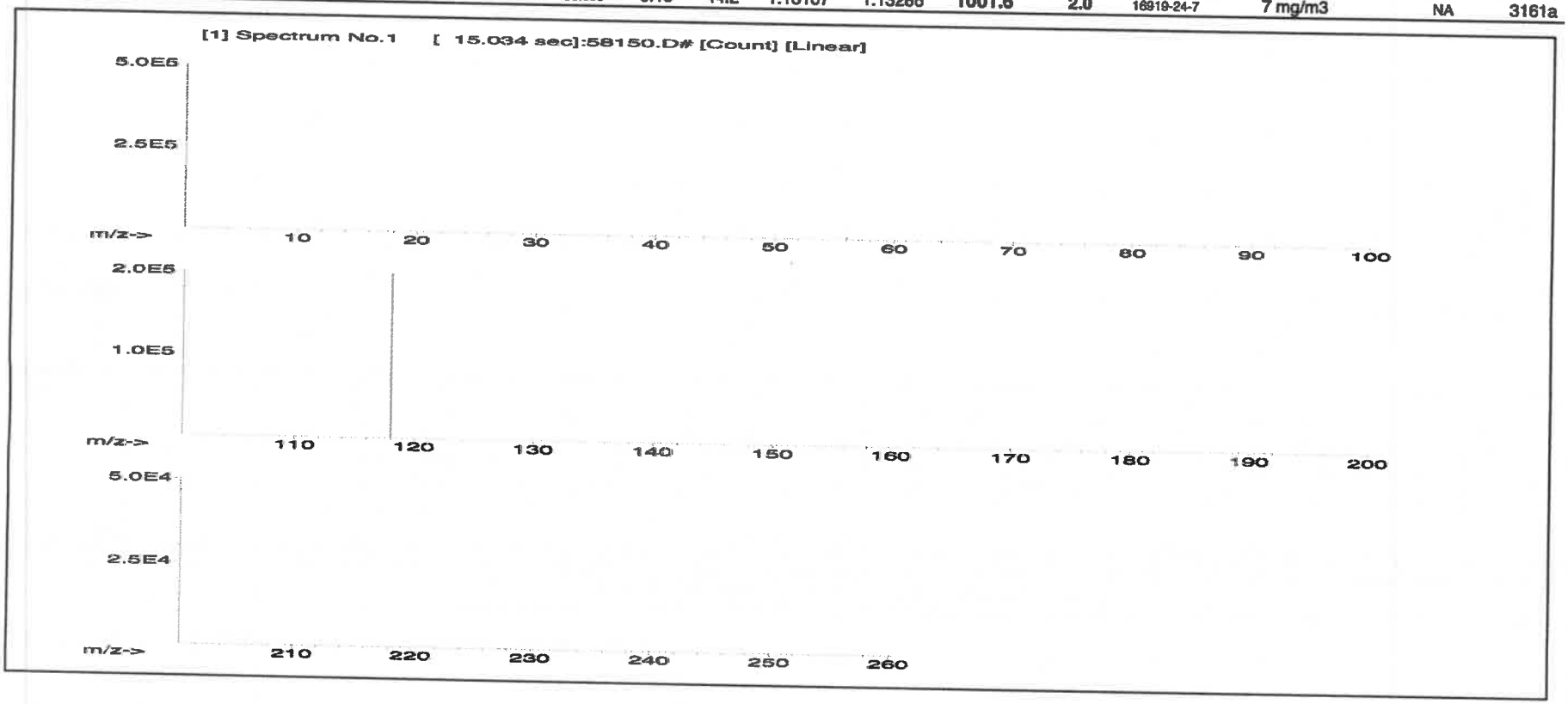
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 499.93

	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



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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:

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R: 02/09/24 IM5800 BH

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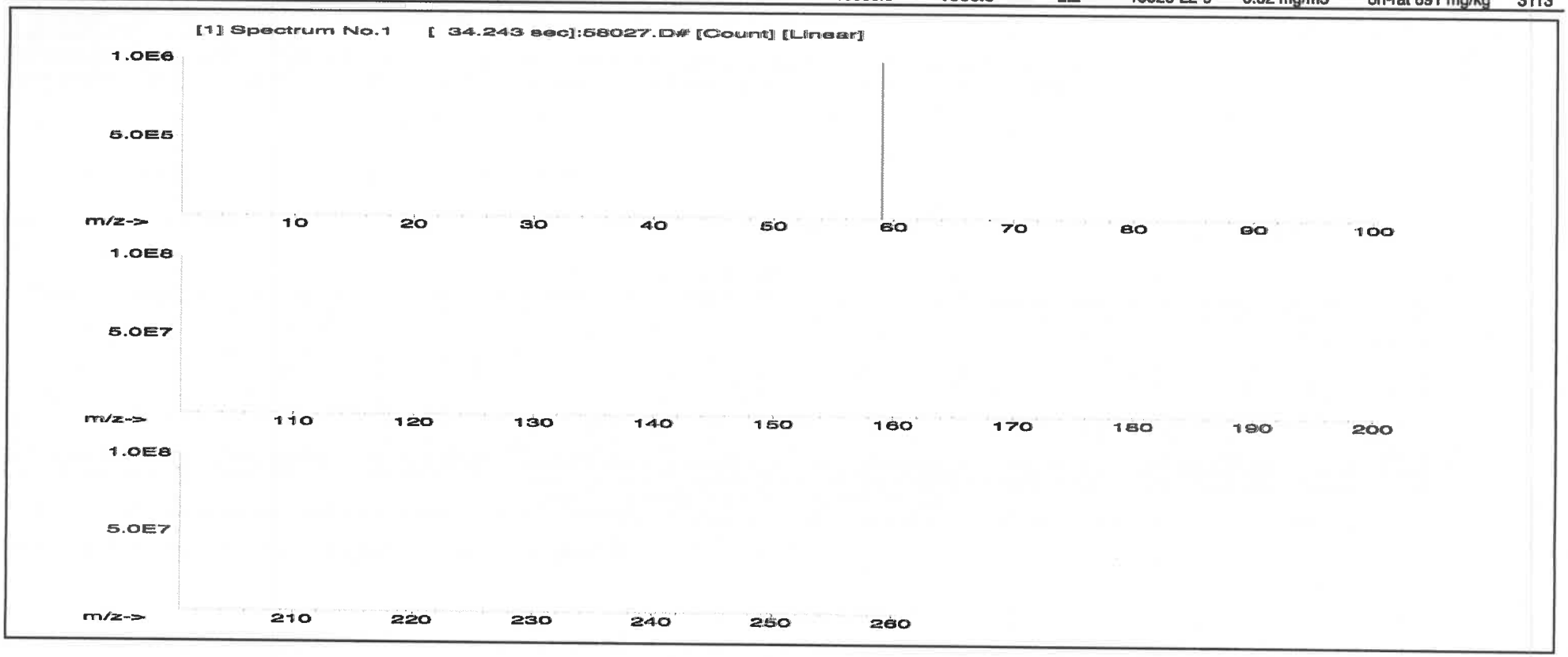
CERTIFIED WEIGHT REPORT:

		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



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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.

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R: 02/09/24 M5801 BH

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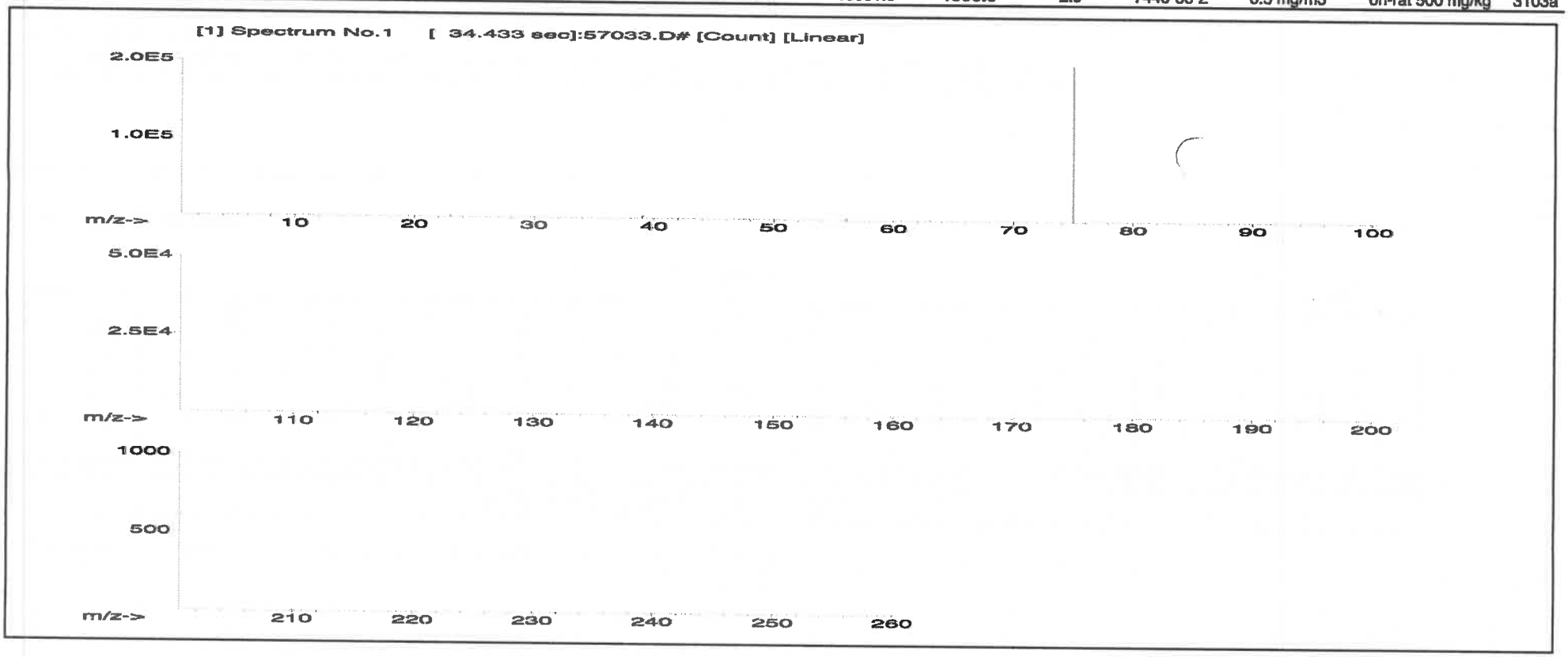
CERTIFIED **WEIGHT** REPORT:

		Lot #	Solvent:
Part Number:	**57033**		
Lot Number:	**111323**	24002546	Nitric Acid
Description:	**Arsenic (As)**		
		2.0%	80.0 (mL) Nitric Acid
Expiration Date:	111326		
Recommended Storage:	Ambient (20 °C)		
Nominal Concentration (µg/mL):	**1000**		
NIST Test Number:	6UTB	5E-05	Balance Uncertainty
Volume shown below was diluted to (mL):	4000.0	0.06	Flask Uncertainty

Formulated By:	Lawrence Barry	111323
Reviewed By:	Pedro L. Rentas	111323

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Arsenic (As)	58133	020522	0.1000	400.0	0.084	1000	10001.0	**1000.0**	2.0	7440-38-2	0.5 mg/m3	orl-rat 500 mg/kg	3103a



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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.

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R1 02/09/24. M58165

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CERTIFIED WEIGHT REPORT:

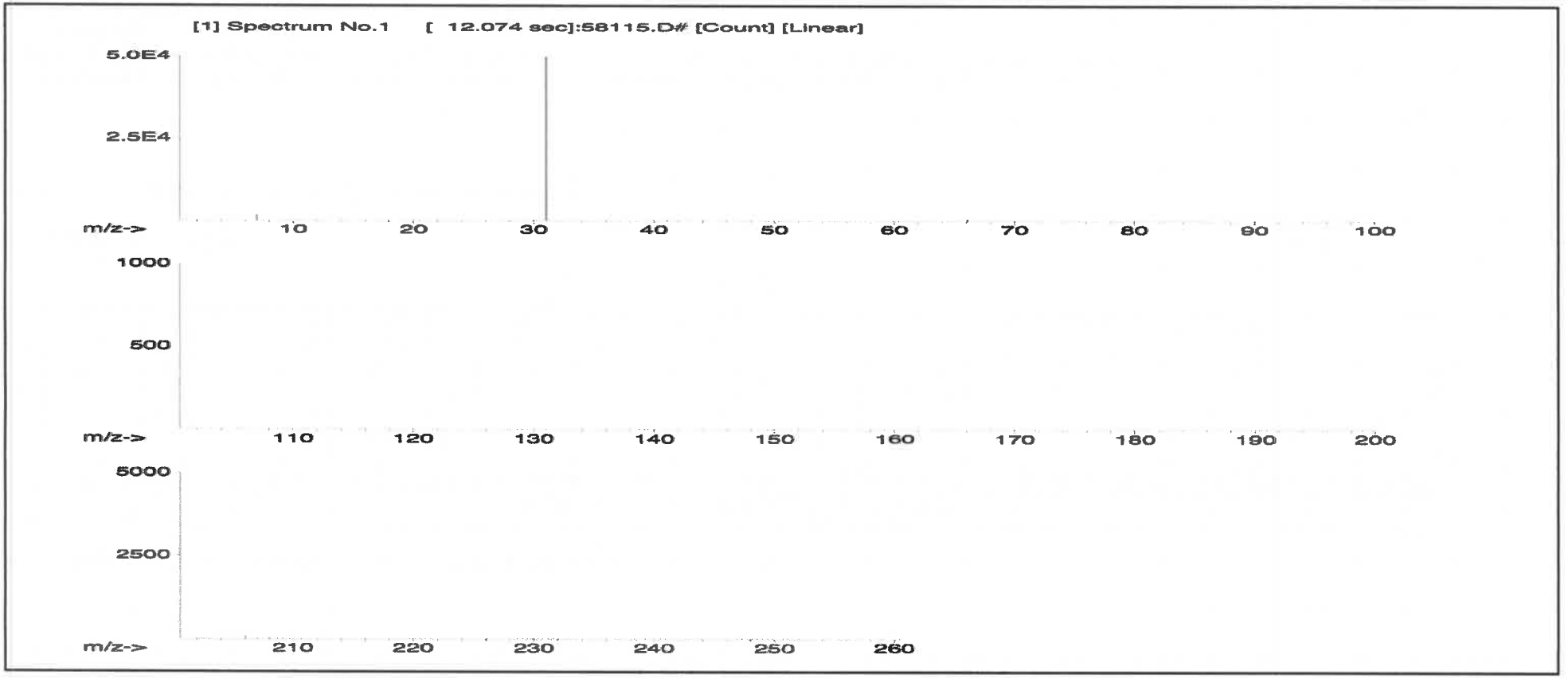
Part Number: 57115
Lot Number: 041723
Description: Phosphorous (P)

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



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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 M5817

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

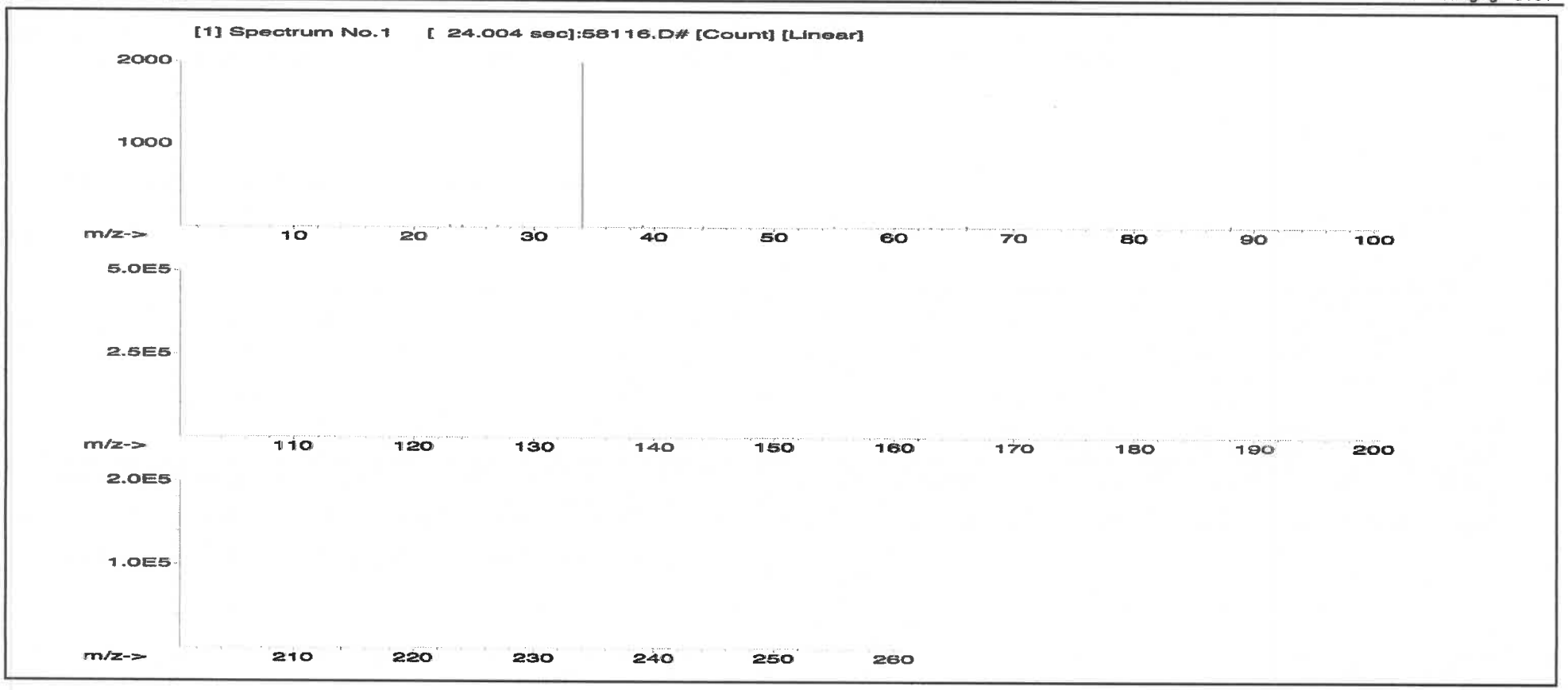
Part Number: 57116
Lot Number: 071123
Description: Sulfur (S)

Lot #
Solvent: 071123 ASTM Type 1 Water

Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB 5E-05 Balance Uncertainty
Weight shown below was diluted to (mL): 1999.48 0.058 Flask Uncertainty

Formulated By:	Lawrence Barry	071123
Reviewed By:	Pedro L. Rentas	071123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium sulfate (S)	IN117	SLBR7225V	10000	99.9	0.10	24.3	82.4675	82.4682	**10000.1**	**20.0**	7783-20-2	NA	orl-rat 4250mg/kg	3181



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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.
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* 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).

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Certified Reference Material CRM

M5960 KK R. 6/11/24

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 57028
Lot Number: 041124
Description: Nickel (Ni)

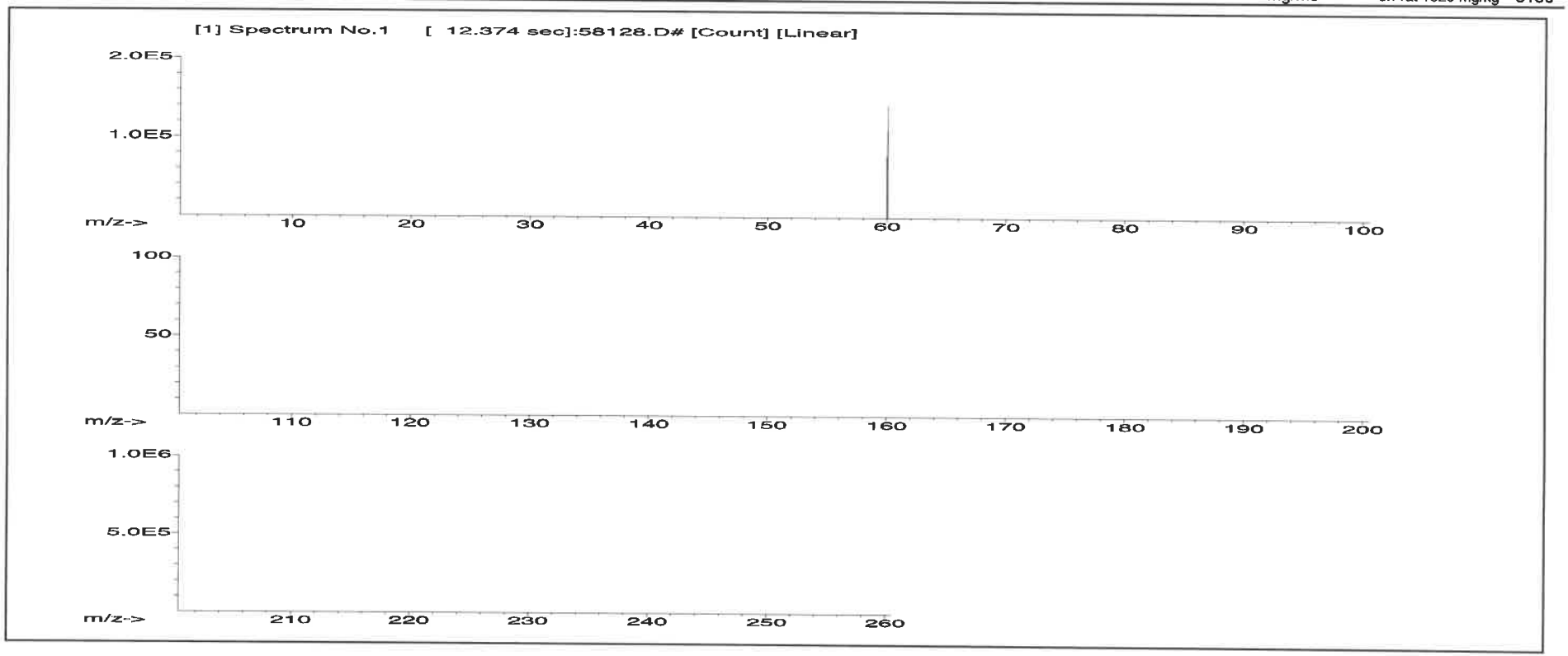
Expiration Date: 041127
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 249.85

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	5.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty
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



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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	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:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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Certified Reference Material CRM

M5962 R! 06/14/24.

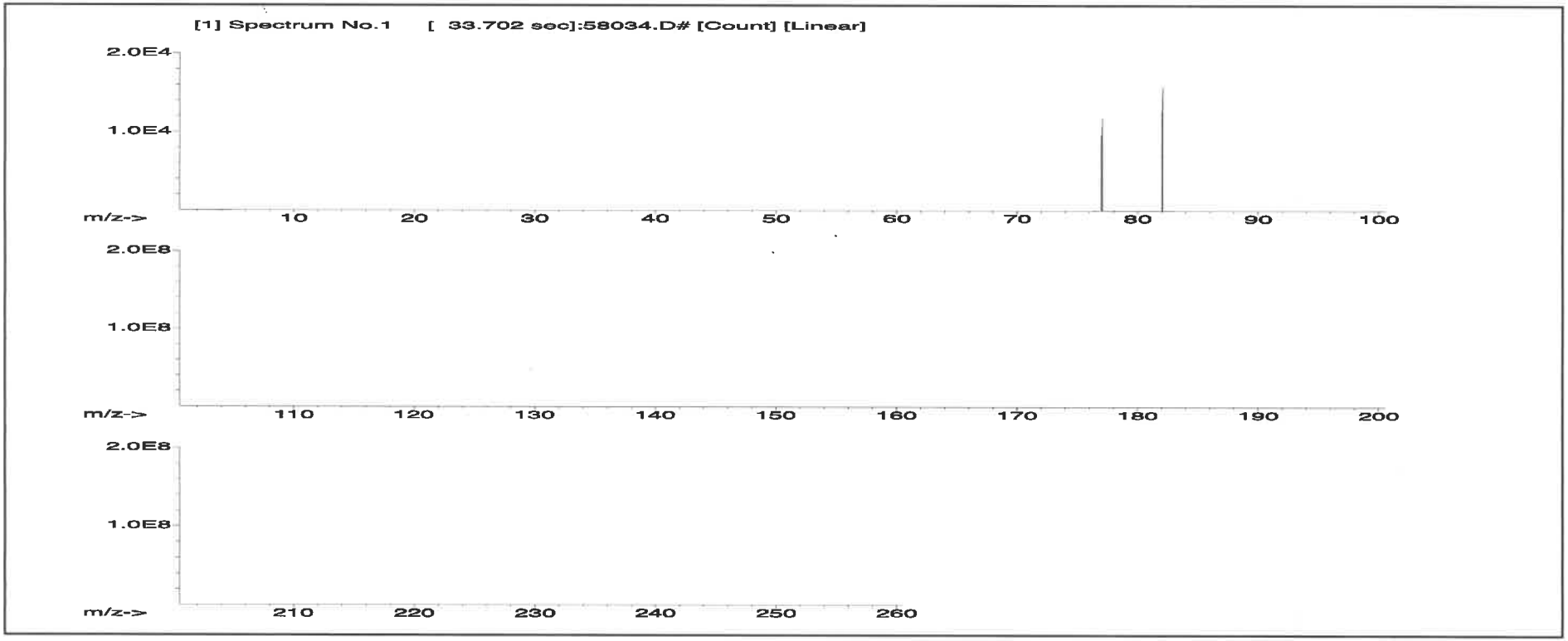
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

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



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AR-1539 Certificate Number
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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

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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
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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

INORGANIC VENTURES

Refine your results. Redefine your industry.

Certificate of Analysis

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R: 2/22/24

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 865.01 — ACCREDITED Reference Material Producer Certificate 865.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGT11
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, $X_{CRM/MM}$, 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:

$$X_{CRM/RM} = (\Sigma x_a)\,(v_{Char\ a})$$

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)

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 for months in 1% 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

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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 property 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 Kozlkowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M5981 R:6/11/24

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:
Part Number:	**57092**	24002546	Nitric Acid
Lot Number:	**060724**		
Description:	**Uranium (U)**		
		2.0%	40.0 (mL) Nitric Acid
Expiration Date:	060727		
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	

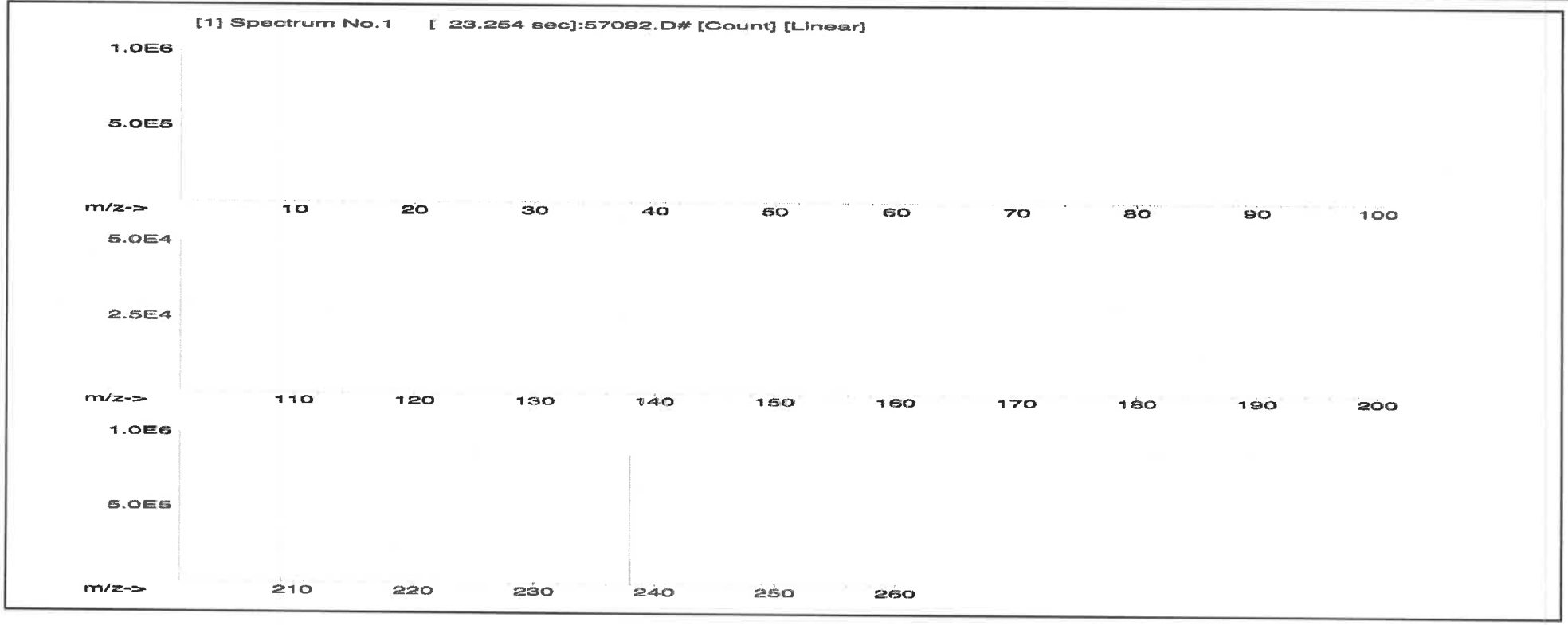
Giovanni Esposito

Formulated By:	Giovanni Esposito	060724

Pedro Rentas

Reviewed By:	Pedro L. Rentas	060724

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. Uranyl nitrate hexahydrate (U)	58192	041524	0.1000	200.0	0.084	1000	10001.5	**1000.0**	**2.2**	13520-83-7	0.05 mg/m3	orl-rat 1040 mg/kg	3164



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	T
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).

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Certificate of Analysis

R 18/19/24, M60055

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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:	IV-STOCK-12
Lot Number:	U2-MEB734294
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	10 µg/mL ea:

Barium, Beryllium,
Bismuth, Cerium,
Cobalt, Indium,
Lithium, Nickel,
Lead, Uranium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Barium, Ba	10.01 ± 0.04 µg/mL	Beryllium, Be	10.01 ± 0.05 µg/mL
Bismuth, Bi	10.01 ± 0.06 µg/mL	Cerium, Ce	10.01 ± 0.04 µg/mL
Cobalt, Co	10.01 ± 0.05 µg/mL	Indium, In	10.01 ± 0.04 µg/mL
Lead, Pb	10.00 ± 0.04 µg/mL	Lithium, Li	10.01 ± 0.04 µg/mL
Nickel, Ni	10.01 ± 0.04 µg/mL	Uranium, U	10.01 ± 0.05 µg/mL

Density: 1.025 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ba	ICP Assay	3104a	140909
Ba	Calculated		See Sec. 4.2
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Bi	ICP Assay	3106	180815
Ce	ICP Assay	3110	160830
Ce	EDTA	928	928
Ce	Calculated		See Sec. 4.2
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Co	Calculated		See Sec. 4.2
In	ICP Assay	3124a	110516
In	EDTA	928	928
In	Calculated		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Calculated		See Sec. 4.2
Li	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Ni	Calculated		See Sec. 4.2
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Pb	Calculated		See Sec. 4.2
U	ICP Assay	traceable to 3164	R2-U689597
U	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.8 ± 0.1
Uranium 235U	0.19 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 21, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- June 21, 2028

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Absolute Standards, Inc.
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www.absolutestandards.com

Certified Reference Material CRM

M6079 R: 9/30/24

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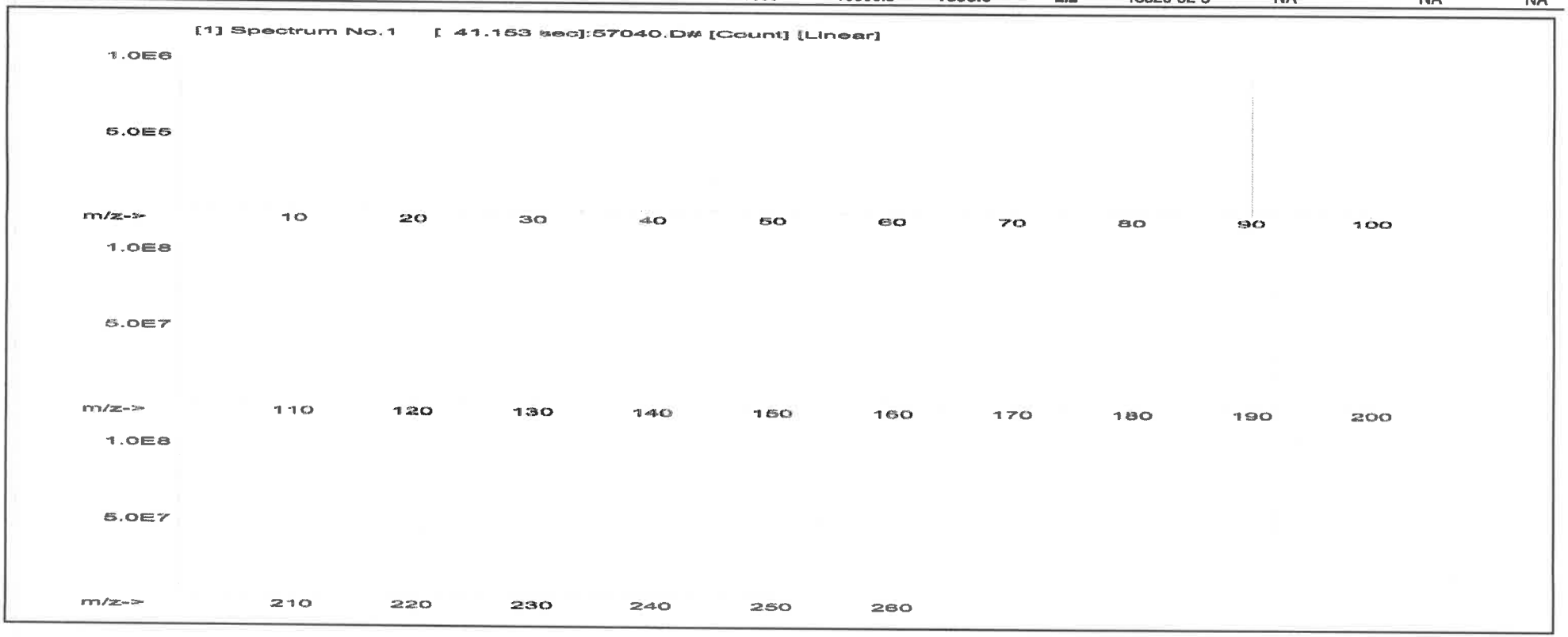
CERTIFIED WEIGHT REPORT:

Part Number:	**57040**
Lot Number:	**071423**
Description:	**Zirconium (Zr)**
Expiration Date:	071426
Recommended Storage:	Ambient (20 °C)
Nominal Concentration (µg/mL):	**1000**
NIST Test Number:	6UTB
Volume shown below was diluted to (mL):	2000.02

Lot #	Solvent:		
21110221	Nitric Acid		
2.0%	40.0 (mL)	Nitric Acid	
5E-05	Balance Uncertainty		
0.058	Flask Uncertainty		

Formulated By:	Benson Chan	071423
Reviewed By:	Pedro L. Rentas	071423

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. Zirconyl chloride octahydrate (Zr)	58140	070621	0.1000	200.0	0.084	1000	10000.3	**1000.0**	**2.2**	13520-92-8	NA	NA	NA



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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	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	T

(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).

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

R → 10/13/24
Met dig

M 6121

Material No.: 9530-33
Batch No.: 0000275677
Manufactured Date: 2020/12/16
Retest Date: 2025/12/15
Revision No: 1

Certificate of Analysis

Test	Specification	Result
ACS – Assay (as HCl) (by acid-base titrn)	36.5 – 38.0 %	37.6
ACS – Color (APHA)	<= 10	5
ACS – Residue after Ignition	<= 3 ppm	1
ACS – Specific Gravity at 60°/60°F	1.185 – 1.192	1.190
ACS – Bromide (Br)	<= 0.005 %	< 0.005
ACS – Extractable Organic Substances	<= 5 ppm	1
ACS – Free Chlorine (as Cl_2)	<= 0.5 ppm	< 0.5
Phosphate (PO_4)	<= 0.05 ppm	< 0.03
Sulfate (SO_4)	<= 0.5 ppm	< 0.3
Sulfite (SO_3)	<= 0.8 ppm	0.3
Ammonium (NH_4)	<= 3 ppm	< 1
Trace Impurities – Arsenic (As)	<= 0.010 ppm	< 0.003
Trace Impurities – Aluminum (Al)	<= 10.0 ppb	< 0.2
Arsenic and Antimony (as As)	<= 5 ppb	< 3
Trace Impurities – Barium (Ba)	<= 1.0 ppb	< 0.2
Trace Impurities – Beryllium (Be)	<= 1.0 ppb	< 0.2
Trace Impurities – Bismuth (Bi)	<= 10.0 ppb	< 1.0
Trace Impurities – Boron (B)	<= 20.0 ppb	< 5.0
Trace Impurities – Cadmium (Cd)	<= 1.0 ppb	< 0.3
Trace Impurities – Calcium (Ca)	<= 50.0 ppb	29.7
Trace Impurities – Chromium (Cr)	<= 1.0 ppb	< 0.4
Trace Impurities – Cobalt (Co)	<= 1.0 ppb	< 0.3
Trace Impurities – Copper (Cu)	<= 1.0 ppb	< 0.1
Trace Impurities – Gallium (Ga)	<= 1.0 ppb	< 0.2

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.: 9530-33
Batch No.: 0000275677

Test	Specification	Result
Trace Impurities - Germanium (Ge)	<= 3.0 ppb	< 2.0
Trace Impurities - Gold (Au)	<= 4.0 ppb	< 0.2
Heavy Metals (as Pb)	<= 100 ppb	< 50
Trace Impurities - Iron (Fe)	<= 15.0 ppb	<1
Trace Impurities - Lead (Pb)	<= 1.0 ppb	< 0.5
Trace Impurities - Lithium (Li)	<= 1.0 ppb	0.2
Trace Impurities - Magnesium (Mg)	<= 10.0 ppb	0.4
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)	<= 4.0 ppb	< 0.3
Trace Impurities - Niobium (Nb)	<= 1.0 ppb	< 0.2
Trace Impurities - Potassium (K)	<= 9.0 ppb	< 2.0
Trace Impurities - Selenium (Se), For Information Only	ppb	1.0
Trace Impurities - Silicon (Si)	<= 100.0 ppb	< 10.0
Trace Impurities - Silver (Ag)	<= 1.0 ppb	< 0.3
Trace Impurities - Sodium (Na)	<= 100.0 ppb	< 5.0
Trace Impurities - Strontium (Sr)	<= 1.0 ppb	< 0.2
Trace Impurities - Tantalum (Ta)	<= 1.0 ppb	< 0.9
Trace Impurities - Thallium (Tl)	<= 5.0 ppb	< 2.0
Trace Impurities - Tin (Sn)	<= 5.0 ppb	< 0.8
Trace Impurities - Titanium (Ti)	<= 1.0 ppb	0.2
Trace Impurities - Vanadium (V)	<= 1.0 ppb	< 0.2
Trace Impurities - Zinc (Zn)	<= 5.0 ppb	0.3
Trace Impurities - Zirconium (Zr)	<= 1.0 ppb	< 0.1

For Laboratory, Research or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications

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

Nitric Acid 69%
CMOS

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R -> 11/12/24

M6126

Material No.: 9606-03
Batch No.: 24D1062002
Manufactured Date: 2024-03-26
Retest Date: 2029-03-25
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 - 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO_4)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities - Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities - Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities - Calcium (Ca)	≤ 50.0 ppb	2.3 ppb
Trace Impurities - Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities - Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities - Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	100 ppb
Trace Impurities - Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities - Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities - Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result

For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Jamie Croak
Director Quality Operations, Bioscience Production

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CERTIFIED WEIGHT REPORT:

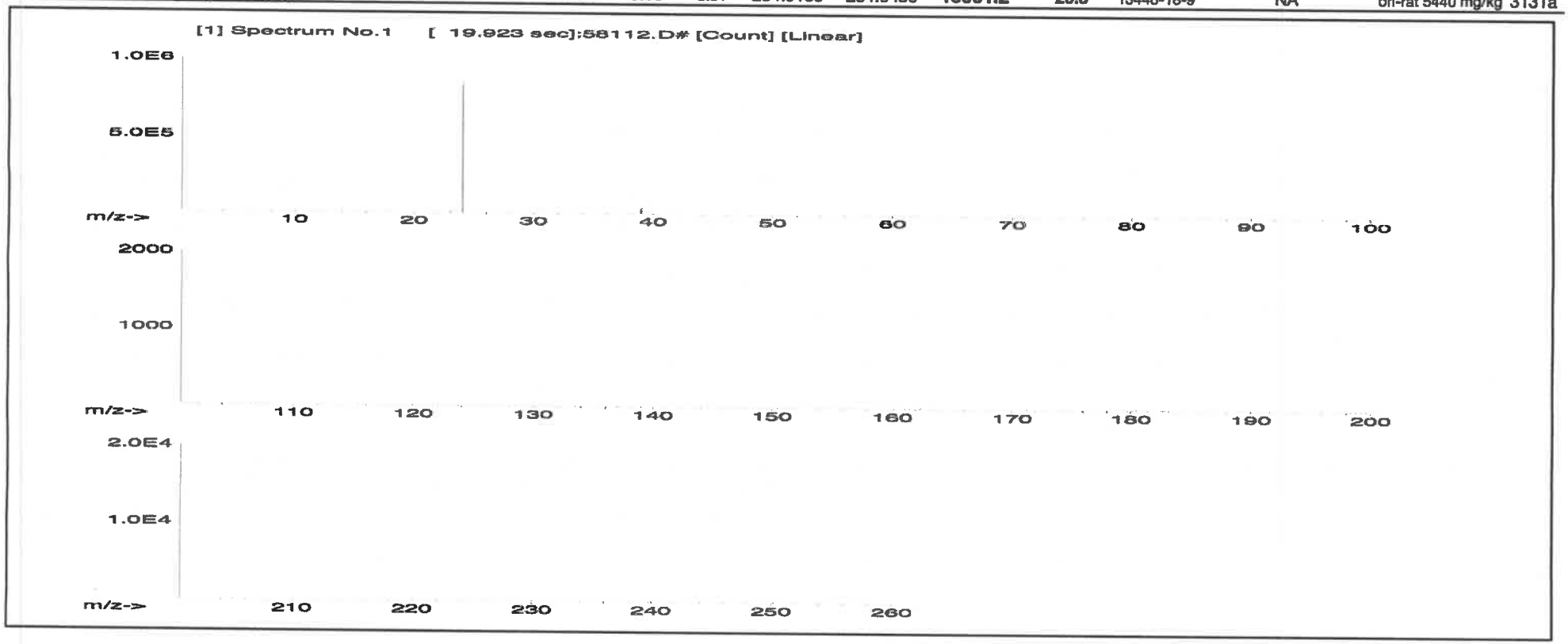
R -> 1/13/25
M 6127

Part Number:	**58112**	**Solvent:**	**Lot #** 24012496	Nitric Acid
Lot Number:	**112124**			
Description:	**Magnesium (Mg)**	2%	40.0 (mL)	Nitric Acid
Expiration Date:	112127			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**10000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	2000.07	0.100	Flask Uncertainty	

Giovanni Esposito

Formulated By:	Giovanni Esposito	112124
Reviewed By:	Pedro L. Rentas	112124

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Magnesium nitrate hexahydrate (Mg)	IN030	MGD052023A1	10000	99.999	0.10	8.51	234.9183	234.9459	**10001.2**	**20.0**	13446-18-9	NA	orl-rat 5440 mg/kg	3131a



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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.
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* All standards should be stored with caps tight and under appropriate laboratory conditions.
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CERTIFIED WEIGHT REPORT:

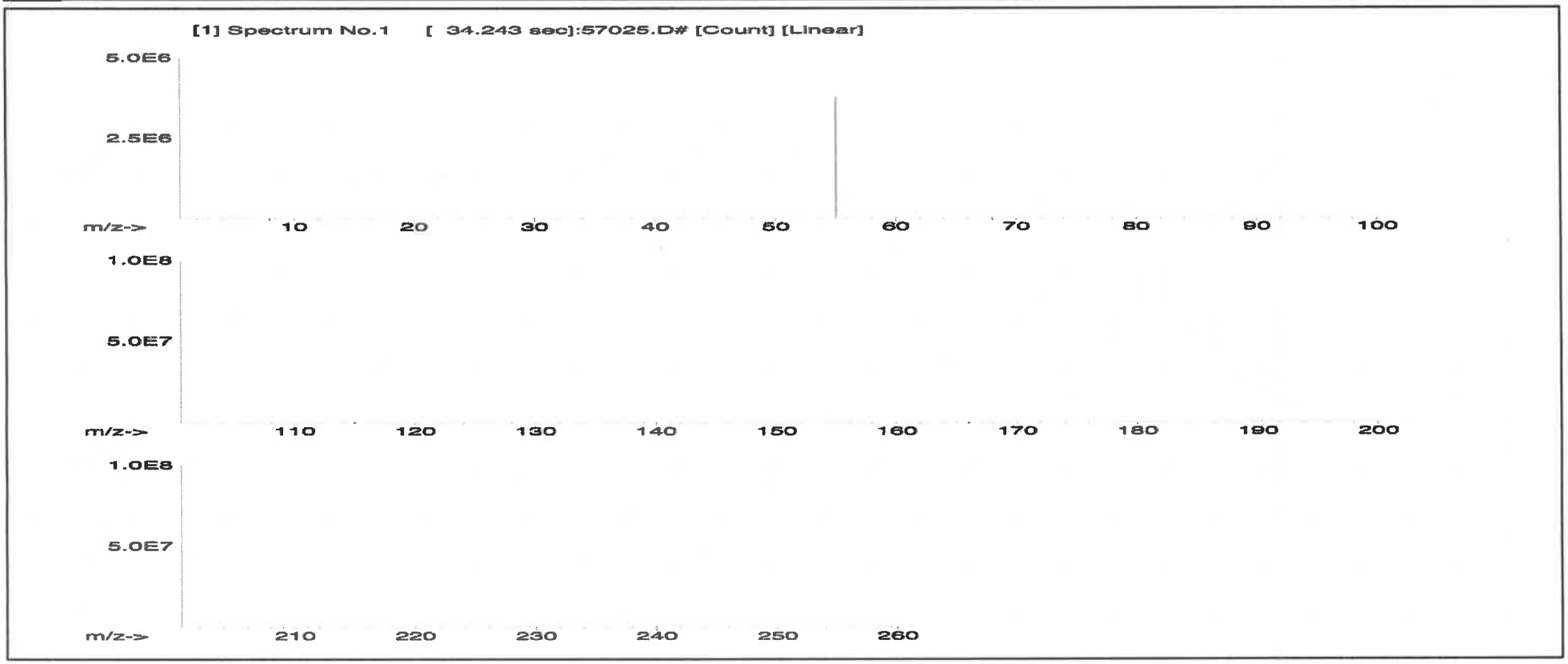
R->1/13/25
M6128

Part Number:	**58025**		**Lot #**		
Lot Number:	**101124**	**Solvent:**	24002546	Nitric Acid	
Description:	**Manganese (Mn)**	2%	80.0 (mL)	Nitric Acid	
Expiration Date:	101127				
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):	4000.2	0.10	Flask Uncertainty		

Giovanni Esposito

Formulated By:	Giovanni Esposito	101124
Reviewed By:	Pedro L. Rentas	101124

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Manganese(II) nitrate hydrate (Mn)	IN031	MNM092020A1	1000	99.999	0.10	20.8	19.2322	19.2344	**1000.1**	**2.0**	15710-66-4	5 mg/m3	orl-rat >300mg/kg	3132



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AR-1539 Certificate Number
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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 preparation of all standards.
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CERTIFIED WEIGHT REPORT:

R->1/13/25

Part Number: 58111
Lot Number: 072424
Description: Sodium (Na)

MG144

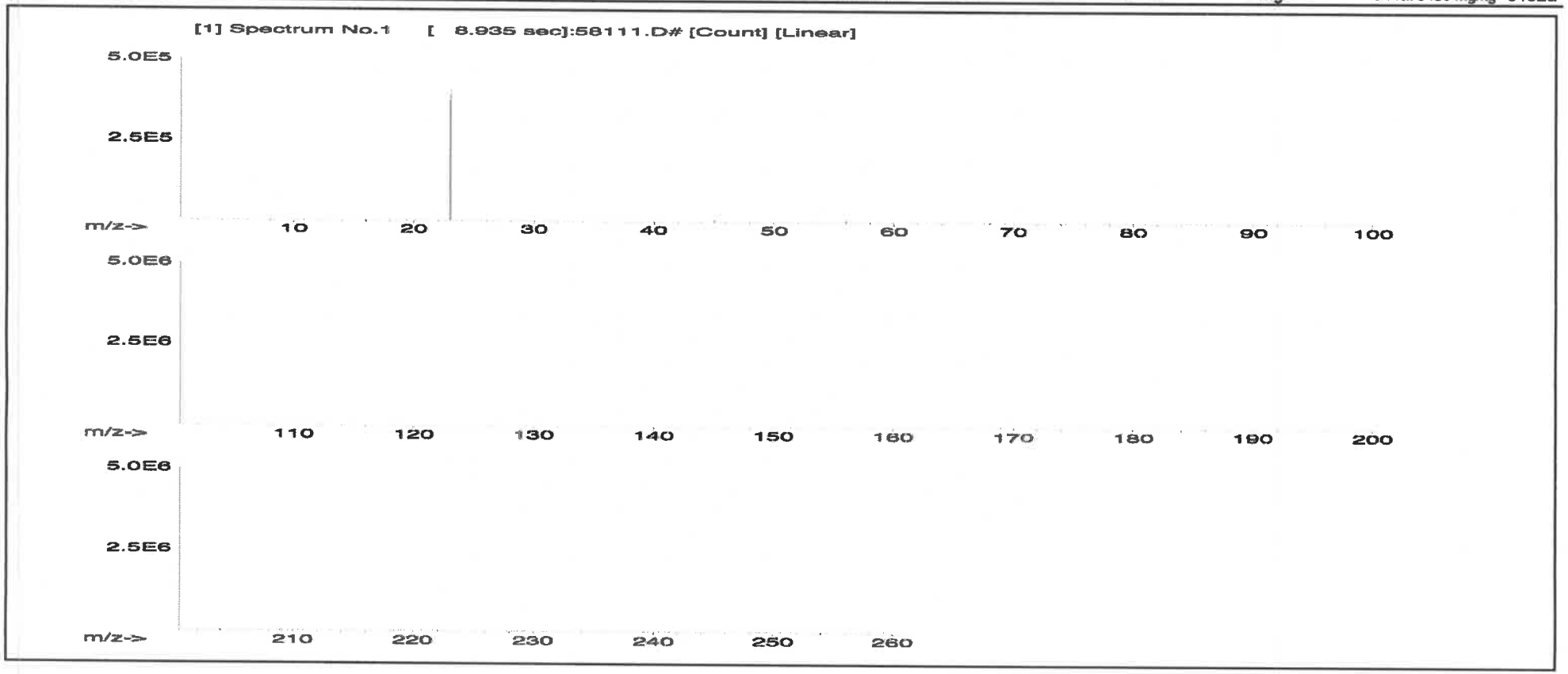
Expiration Date: 072427
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 4000.2

	Lot #	
Solvent:	24002546	Nitric Acid
2%	80.0 (mL)	Nitric Acid
5E-05	Balance Uncertainty	
0.10	Flask Uncertainty	

Formulated By: Benson Chan 072424

Reviewed By: Pedro L. Rentas 072424

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Sodium nitrate (Na)	IN036	NAV012015I1	10000	99.999	0.10	26.9	148.7096	######	**10000.0**	**20.0**	7631-99-4	5 mg/m3	orl-rat 3430 mg/kg	3152a



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Sc	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	T	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 58030
Lot Number: 121724
Description: Zinc (Zn)

R → 1/13/25

M6145

Expiration Date: 121727
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

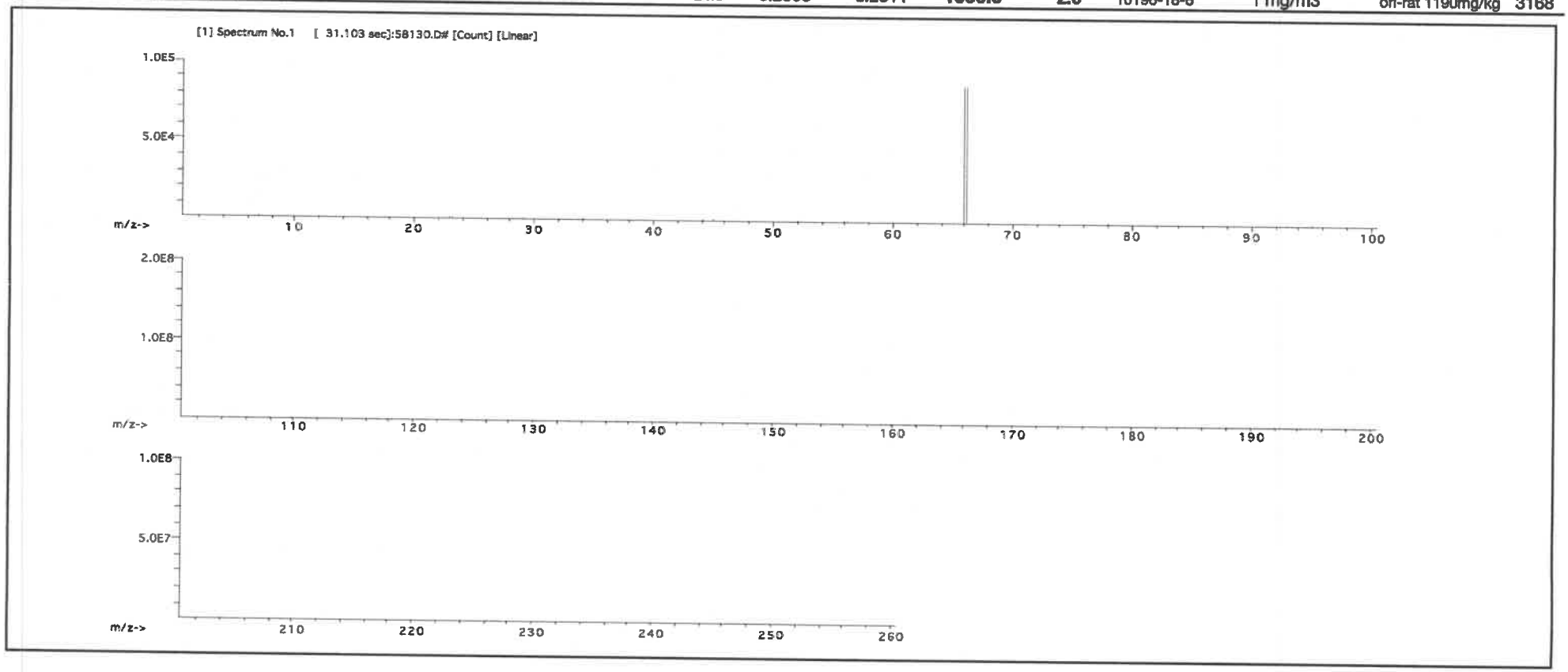
			Lot #	
Solvent:	24012496	Nitric Acid		
	2%	40.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty
Weight shown below was diluted to (mL): 2000.1 0.10 Flask Uncertainty

Aleah O'Brady

Formulated By:	Aleah O'Brady	121724
Reviewed By:	Pedro L. Rentas	121724

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Zinc nitrate hexahydrate (Zn)	IN016	ZNE032021A1	1000	99.999	0.10	24.3	8.2308	8.2311	**1000.0**	**2.0**	10196-18-6	1 mg/m3	ori-rat 1190mg/kg	3168



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	T
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

R : 4/20/21

QATS LABORATORY INORGANIC REFERENCE MATERIAL INITIAL CALIBRATION VERIFICATION SOLUTIONS (ICV1, ICV5, AND ICV6)

M6150

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

Contains Metals in Dilute Acidic or Cyanide in Basic Aqueous Solutions
HAZARDOUS MATERIAL

Safety Data Sheets Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more Aqueous Inorganic Reference Materials containing various analyte concentrations. ICV1 and ICV5 are in a matrix of dilute nitric acid. ICV6 is in a matrix of dilute basic solution. **For the reference material source in reporting ICVs use "USEPA". For the reference material lot number for the ICV1, ICV5, and ICV6 solutions use "ICV1-1014", "ICV5-0415", and "ICV6-0400", respectively.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The Initial Calibration Verification Solutions (ICVs) are to be used to evaluate the accuracy of the initial calibrations of ICP, AA, and Cyanide colorimetric instruments, and are to be used with the CLP SOWs and revisions. The values for each element in the ICVs are listed below in µg/L (ppb) for the resulting solution(s) after the dilution of the concentrate(s) according to the following instructions. Use Class 'A' glassware to prepare the solution(s).

ICV1-1014 For ICP-AES analysis, use a 10-fold dilution by pipetting 10 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid.

ICV1-1014 For ICP-MS analysis, use a 50-fold dilution by pipetting 2 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 1% (v/v) nitric acid.

ICV5-0415 For the cold vapor analysis of mercury by AA, use a 100-fold dilution by pipetting 1 mL of the ICV5 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid. The ICV5 concentrate is prepared in 0.05% (w/v) $K_2Cr_2O_7$ and 5% (v/v) nitric acid.

ICV6-0400 For the analysis of cyanide, use a 100-fold dilution by pipetting 1 mL of the ICV6 concentrate into a 100 mL volumetric flask and dilute to volume with Type II water. Distill this solution along with the samples before analysis. The cyanide concentrate is prepared from $K_3Fe(CN)_6$, Type II water, and 0.1 % sodium hydroxide, and will decompose rapidly if exposed to light.

NOTE: USE TYPE II WATER AND HIGH-PURITY ACIDS FOR ALL DILUTIONS.

(D) ***CERTIFIED CONCENTRATIONS OF QATS ICV1, ICV5, AND ICV6 SOLUTIONS***

ICV1-1014		
Element	**Concentration (µg/L) (after 10-fold dilution)**	**Concentration (µg/L) (after 50-fold dilution)**
Al	2500	500
Sb	1000	200
As	1000	200
Ba	520	100
Be	510	100
Cd	510	100
Ca	10000	2000
Cr	520	100
Co	520	100
Cu	510	100
Fe	10000	2000
Pb	1000	200
Mg	6000	1200
Mn	520	100
Ni	530	110
K	9900	2000
Se	1000	200
Ag	250	50
Na	10000	2000
Tl	1000	210
V	500	100
Zn	1000	200

ICV5-0415		ICV6-0400	
Element	**Concentration (µg/L) (after 100-fold dilution)**	**Analyte**	**Concentration (µg/L) (after 100-fold dilution)**
Hg	4.0	CN^-	99

INORGANIC VENTURES™

Refine your results. Redefine your industry.

A: 4/11/22

Certificate of Analysis

M5738, M5739, M5740, M5741, M5742, M5743

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:	6020ISS
Lot Number:	S2-MEB709511
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	10 µg/mL ea:

Bismuth, Holmium,
Indium, 6-Lithium,
Rhodium, Scandium,
Terbium, Yttrium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
6-Lithium, Li6	10.00 ± 0.03 µg/mL	Bismuth, Bi	10.00 ± 0.05 µg/mL
Holmium, Ho	10.00 ± 0.05 µg/mL	Indium, In	10.00 ± 0.04 µg/mL
Rhodium, Rh	10.00 ± 0.07 µg/mL	Scandium, Sc	10.00 ± 0.04 µg/mL
Terbium, Tb	10.00 ± 0.04 µg/mL	Yttrium, Y	10.00 ± 0.04 µg/mL

Density: 1.035 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Bi	ICP Assay	3106	180815
Bi	Calculated		See Sec. 4.2
Ho	ICP Assay	3123a	090408
Ho	EDTA	928	928
In	ICP Assay	3124a	110516
In	EDTA	928	928
In	Calculated		See Sec. 4.2
Li6	Gravimetric		See Sec. 4.2
Rh	ICP Assay	3144	070619
Sc	ICP Assay	3148a	100701
Sc	EDTA	928	928
Tb	ICP Assay	3157a	100518
Tb	EDTA	928	928
Tb	Calculated		See Sec. 4.2
Y	ICP Assay	3167a	120314
Y	EDTA	928	928
Y	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Lithium Li6	95.6 ± 0.3
Lithium Li7	4.4 ± 0.1

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

September 03, 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 03, 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

QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-MS (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 an 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-0803" and for the ICSAB mixture use "ICSA-0803+ICSB-0803".**

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 the Contracting Officer, Ross Miller at miller.ross@epa.gov. If directed by Ross Miller, 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*

This interference check sample set is to be used to verify elemental isobaric correction factors of inductively coupled plasma-mass spectrometers (ICP-MS). This reference material set consists of two (2) concentrated solutions. The ICSA solution contains several interferent elements and species; for a complete listing refer to the CLP SOW. 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 the ICP-MS ICS 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-0803, Inferferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 1% v/v HNO_3. Analyze this solution by ICP-MS.

ICSB-0803, Analytes, mixed with ICSA-0803, 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 1% v/v HNO_3. Analyze this ICSAB solution by ICP-MS.

(D) *"CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-MS 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-MS ICSA-0803, AND ICSA-0803 MIXED WITH ICSB-0803

ICSA: M5873

ICSB: M5874

Element	CRQL	Part A (µg/L)	Lower Limit (µg/L)	Upper Limit (µg/L)	Part A +Part B (µg/L)	Lower Limit (µg/L)	Upper Limit (µg/L)
Al	20.0	[100000]			[100000]		
Sb	2.0	(1.5)	-2.5	5.5	(22.0)	18.0	26.0
As	1.0	(0.1)	-1.9	2.1	19.0	16.2	21.9
Ba	10.0	(1.2)	-18.8	21.2	(22.0)	2.0	42.0
Be	1.0	(0)	-2.0	2.0	19.0	16.2	21.9
Cd	1.0	(0.7)	-1.3	2.7	20.0	17.0	23.0
Ca	500	[100000]			[100000]		
C		[200000]			[200000]		
Cl		[1000000]			[1000000]		
Cr	2.0	(21.0)	17.0	25.0	40.0	34.0	46.0
Co	1.0	(1.0)	-1.0	3.0	20.0	17.0	23.0
Cu	2.0	(8.0)	4.0	12.0	(25.0)	21.0	29.0
Fe	200	[100000]			[100000]		
Pb	1.0	(4.0)	2.0	6.0	25.0	21.3	28.8
Mg	500	[100000]			[100000]		
Mn	1.0	(7.0)	5.0	9.0	27.0	23.0	31.1
Mo		[2000]			[2000]		
Ni	1.0	(6.0)	4.0	8.0	24.0	20.4	27.6
P		[100000]			[100000]		
K	500	[100000]			[100000]		
Se	5.0	(0.3)	-9.7	10.3	(19.0)	9.0	29.0
Ag	1.0	(0)	-2.0	2.0	18.0	15.3	20.7
Na	500	[100000]			[100000]		
S		[100000]			[100000]		
Tl	1.0	(0)	-2.0	2.0	21.0	17.9	24.2
Ti		[2000]			[2000]		
V	5.0	(0.5)	-9.5	10.5	(19.0)	9.0	29.0
Zn	5.0	(11.0)	1.0	21.0	(29.0)	19.0	39.0

[ ] Indicates analytes that do not require ICP-MS determination in the ICS.
The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 2 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.

QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-MS (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 an 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-0803" and for the ICSAB mixture use "ICSA-0803+ICSB-0803".**

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 the Contracting Officer, Ross Miller at miller.ross@epa.gov. If directed by Ross Miller, 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*

This interference check sample set is to be used to verify elemental isobaric correction factors of inductively coupled plasma-mass spectrometers (ICP-MS). This reference material set consists of two (2) concentrated solutions. The ICSA solution contains several interferent elements and species; for a complete listing refer to the CLP SOW. 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 the ICP-MS ICS 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-0803, Inferferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 1% v/v HNO_3. Analyze this solution by ICP-MS.

ICSB-0803, Analytes, mixed with ICSA-0803, 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 1% v/v HNO_3. Analyze this ICSAB solution by ICP-MS.

(D) *"CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-MS 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-MS ICSA-0803, AND ICSA-0803 MIXED WITH ICSB-0803

ICSA: M5873

ICSB: M5874

Element	CRQL	Part A (µg/L)	Lower Limit (µg/L)	Upper Limit (µg/L)	Part A +Part B (µg/L)	Lower Limit (µg/L)	Upper Limit (µg/L)
Al	20.0	[100000]			[100000]		
Sb	2.0	(1.5)	-2.5	5.5	(22.0)	18.0	26.0
As	1.0	(0.1)	-1.9	2.1	19.0	16.2	21.9
Ba	10.0	(1.2)	-18.8	21.2	(22.0)	2.0	42.0
Be	1.0	(0)	-2.0	2.0	19.0	16.2	21.9
Cd	1.0	(0.7)	-1.3	2.7	20.0	17.0	23.0
Ca	500	[100000]			[100000]		
C		[200000]			[200000]		
Cl		[1000000]			[1000000]		
Cr	2.0	(21.0)	17.0	25.0	40.0	34.0	46.0
Co	1.0	(1.0)	-1.0	3.0	20.0	17.0	23.0
Cu	2.0	(8.0)	4.0	12.0	(25.0)	21.0	29.0
Fe	200	[100000]			[100000]		
Pb	1.0	(4.0)	2.0	6.0	25.0	21.3	28.8
Mg	500	[100000]			[100000]		
Mn	1.0	(7.0)	5.0	9.0	27.0	23.0	31.1
Mo		[2000]			[2000]		
Ni	1.0	(6.0)	4.0	8.0	24.0	20.4	27.6
P		[100000]			[100000]		
K	500	[100000]			[100000]		
Se	5.0	(0.3)	-9.7	10.3	(19.0)	9.0	29.0
Ag	1.0	(0)	-2.0	2.0	18.0	15.3	20.7
Na	500	[100000]			[100000]		
S		[100000]			[100000]		
Tl	1.0	(0)	-2.0	2.0	21.0	17.9	24.2
Ti		[2000]			[2000]		
V	5.0	(0.5)	-9.5	10.5	(19.0)	9.0	29.0
Zn	5.0	(11.0)	1.0	21.0	(29.0)	19.0	39.0

[ ] Indicates analytes that do not require ICP-MS determination in the ICS.
The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 2 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.

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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

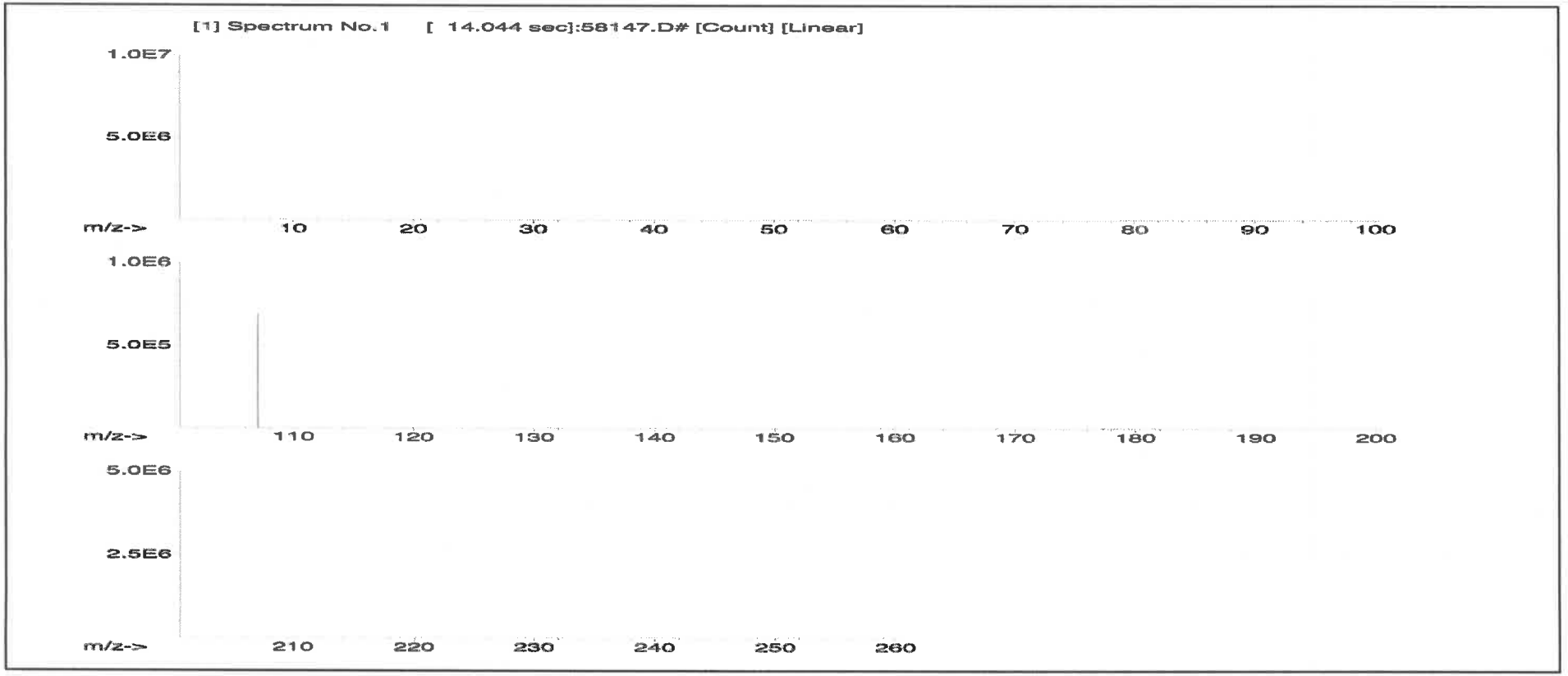
Weight shown below was diluted to (mL): 4000.30 0.058 Flask Uncertainty

	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



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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).

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Certified Reference Material CRM

R: 10/18/24

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

MG146

Part Number: 57051
Lot Number: 071724
Description: Antimony (Sb)
Expiration Date: 071727
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 2000.26

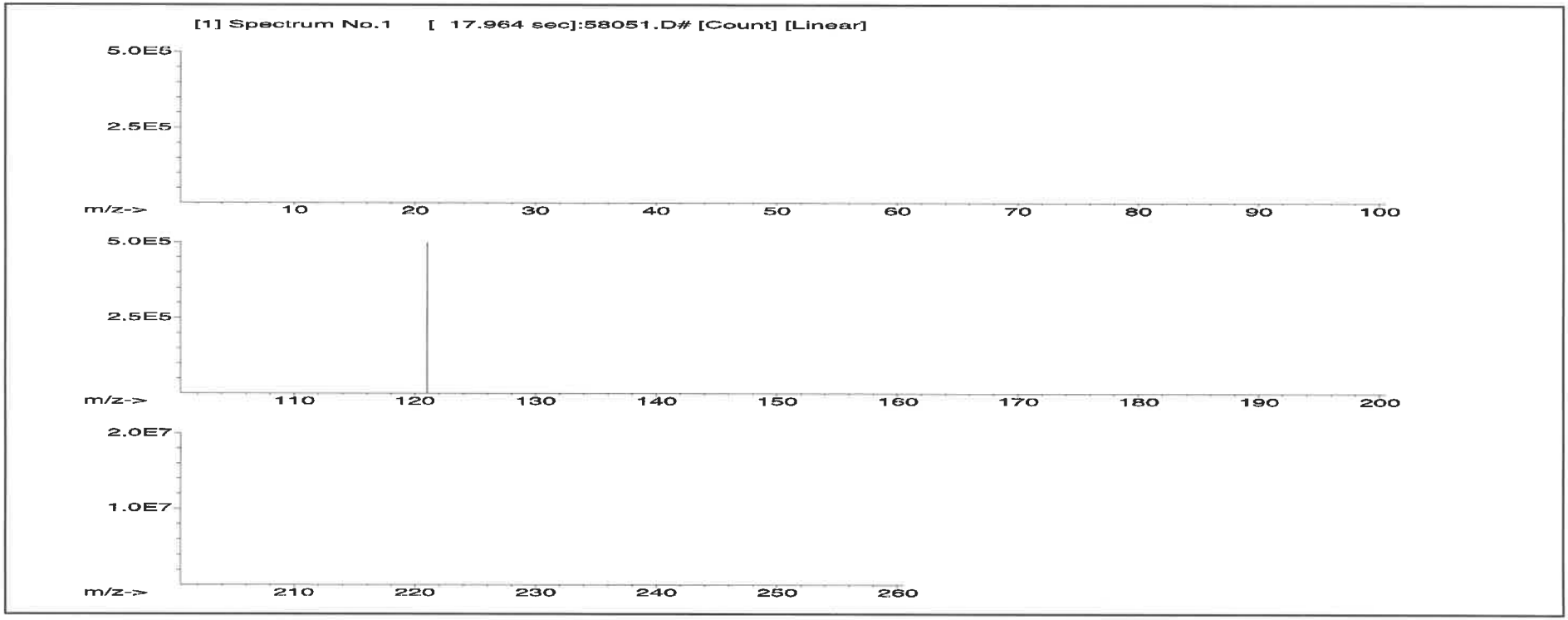
Lot #	Solvent:		
24002546	Nitric Acid		
2.0%	40.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Giovanni Esposito

Formulated By:	Giovanni Esposito	071724
Reviewed By:	Pedro L. Rentas	071724

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Antimony (Sb)	58151	060324	0.1000	200.0	0.084	1000	10001.4	**1000.0**	**2.2**	7440-36-0	0.5 mg/m3	orl-rat 7000 mg/kg	3102a



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AR-1539 Certificate Number
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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).

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R: 8/5/24 M6019

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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 885.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSR1
Lot Number:	U2-SR730227
Matrix:	0.1% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Strontium
Starting Material:	SrCO3
Starting Material Lot#:	M2-2192
Starting Material Purity:	99.9993%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1001 ± 3 µg/mL

Density: 1.000 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **998 ± 4 µg/mL**
ICP Assay NIST SRM Traceable to 3153a Lot Number: K2-SR650985

Assay Method #2 **1001 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **1001 ± 2 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.001980	M	Eu	<	0.000495	O	Na		0.000200	M	Se	<	0.013862	O	Zn		0.000143
O	Al		0.000370	O	Fe		0.000410	M	Nb	<	0.000495	i	Si	<		M	Zr	<	0.000495
M	As	<	0.000495	M	Ga	<	0.000495	M	Nd	<	0.000495	M	Sm	<	0.000495				
M	Au	<	0.000989	M	Gd	<	0.000495	O	Ni	<	0.007631	M	Sn	<	0.000990				
M	B	<	0.039606	M	Ge	<	0.000495	M	Os	<	0.000494	s	Sr	<					
M	Ba		0.006486	M	Hf	<	0.000495	i	P	<		M	Ta	<	0.000495				
M	Be	<	0.000990	M	Hg	<	0.000989	M	Pb	<	0.002970	M	Tb	<	0.000495				
M	Bi	<	0.000495	M	Ho	<	0.000495	M	Pd	<	0.003957	M	Te	<	0.027724				
O	Ca		0.004255	M	In	<	0.000495	M	Pr	<	0.000495	M	Th	<	0.000990				
M	Cd		0.001339	M	Ir	<	0.000494	M	Pt	<	0.002970	M	Ti	<	0.005940				
M	Ce	<	0.004950	O	K	<	0.008184	M	Rb	<	0.002970	M	Tl	<	0.000495				
M	Co	<	0.000495	M	La	<	0.000495	M	Re	<	0.000495	M	Tm	<	0.000495				
O	Cr	<	0.003207	O	Li	<	0.000884	O	Rh	<	0.012829	M	U	<	0.001485				
M	Cs	<	0.000990	M	Lu	<	0.002970	M	Ru	<	0.000989	M	V	<	0.001980				
M	Cu		0.000099	O	Mg		0.000064	i	S	<		M	W	<	0.003960				
M	Dy	<	0.000495	O	Mn		0.000066	M	Sb	<	0.014852	O	Y	<	0.000995				
M	Er	<	0.000495	M	Mo	<	0.001980	M	Sc	<	0.001980	M	Yb	<	0.000495				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 87.62 +2 6 $Sr(H_2O)_{6}^{+2}$

Chemical Compatibility - Soluble in HCl, and HNO_3. Avoid H_2SO_4, HF and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicate, carbonate, hydroxide, oxide, fluoride, sulfate, oxalate, chromate, arsenate and tungstate in neutral aqueous media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1 - 3.5% HNO_3 / LDPE container.

Sr Containing Samples (Preparation and Solution) -Metal (Best dissolved in diluted HNO_3); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Dry ash and dissolution in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 88 amu	1200 ppt	N/A	72Ge16O, 176Yb+2, 176Lu+2 , 176Hf+2
ICP-OES 407.771 nm	0.0004 / 0.00006 µg/mL	1	U, Ce
ICP-OES 421.552 nm	0.0008 / 0.00004 µg/mL	1	Rb
ICP-OES 460.733 nm	0.07 / 0.003 µg/mL	1	Ce

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 03, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **March 03, 2028**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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www.absolutestandards.com

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AR-1539 Certificate Number
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R: 03/16/23 M5473, M5474, M5475, M5476

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 ± 0.058 Flask Uncertainty

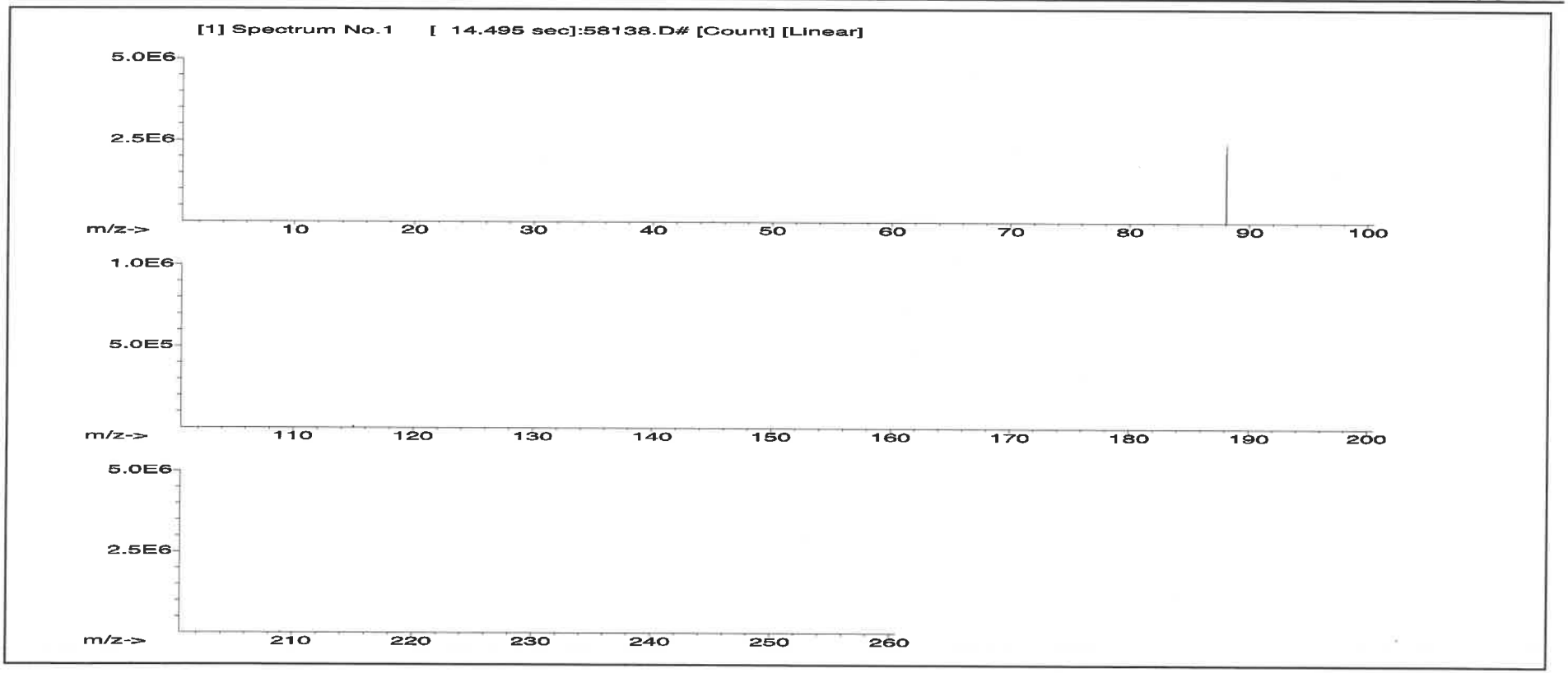
	Lot #		
Solvent:	20510011	Nitric Acid	
2%	20.0 (mL)	Nitric Acid	

5E-05 Balance 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



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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.

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* 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).

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M6023

R ! 8/5/24

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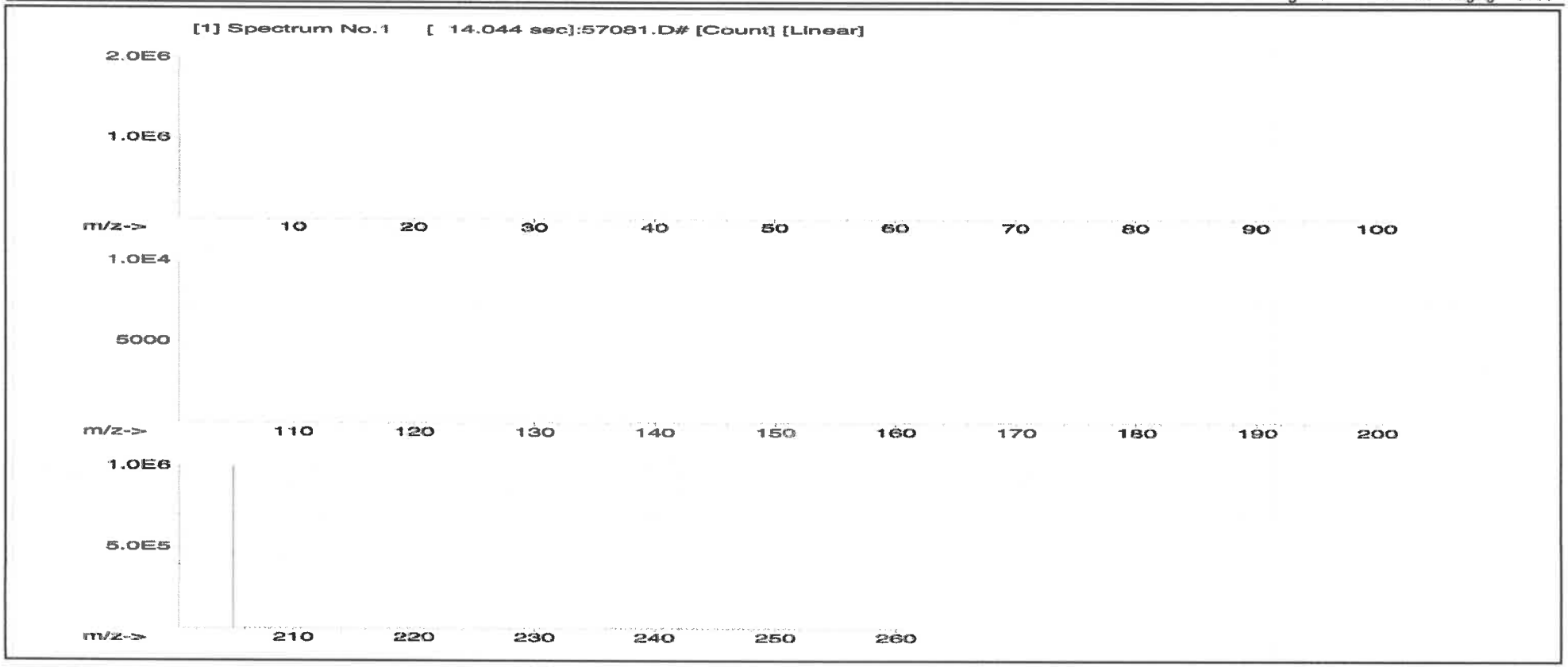
CERTIFIED WEIGHT REPORT:

Part Number:	**57081**			**Lot #**	
Lot Number:	**062724**		**Solvent:**	24002546	Nitric Acid
Description:	**Thallium (Tl)**				
			2%	40.0 (mL)	Nitric Acid
Expiration Date:	062727				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.1	0.10	Flask Uncertainty		

Aleah O'Brady

Formulated By:	Aleah O'Brady	062724
Reviewed By:	Pedro L. Rentas	062724

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Thallium nitrate (Tl)	IN037	BCCF4399	1000	99.999	0.10	77.0	2.5975	2.5977	**1000.1**	**2.0**	10102-45-1	0.1 mg/m3	orl-mus 15mg/kg	3158



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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:

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Bc. 8/5/24

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57023**			
Lot Number:	**062424**	24002546	Nitric Acid	
Description:	**Vanadium (V)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	062427			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.3	0.06	Flask Uncertainty	

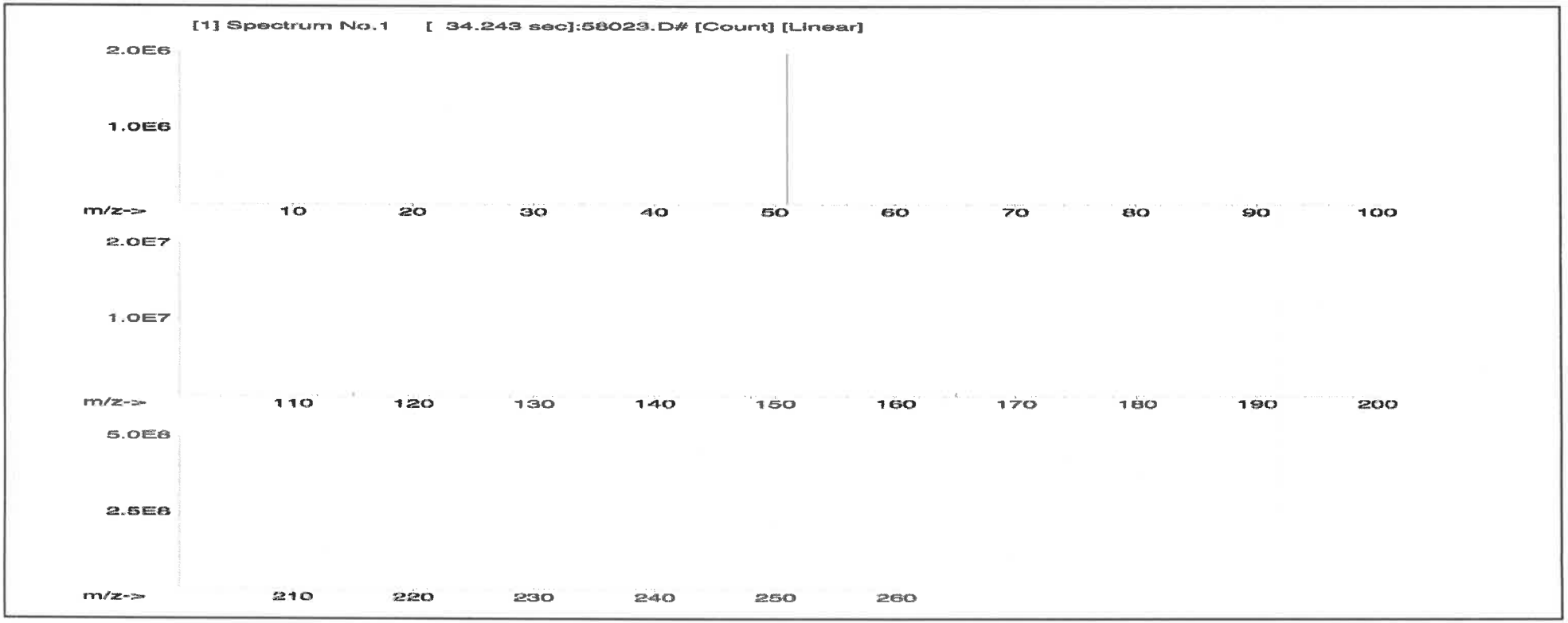
Aleah O'Brady

Formulated By:	Aleah O'Brady	062424

Pedro Rentas

Reviewed By:	Pedro L. Rentas	062424

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium metavanadate (V)	58123	021224	0.1000	200.0	0.084	1000	10000.3	**1000.0**	**2.2**	7803-55-6	0.05 mg/m3	orl-rat 58.1mg/kg	3165



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

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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
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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

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SHIPPING DOCUMENTS

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Packing List

Date	Order #
01/13/2025	333291

6390 Joyce Dr., #100
Golden, CO 80403

Tel: +1-303-940-0033
Fax: +1-303-940-0043
info@phenova.com
www.phenova.com

For terms and conditions of your order, please visit:
www.phenova.com/home/termsofsale

Ship To

Alliance Tech Group - Newark
ATTN: Sohil Jodhani
284 Sheffield St., #1
Mountainside, NJ 07092
USA

Received by: MA
01/15/2025 10:00

Customer PO #	Terms	PT Acct #	Customer #	Ship Via	F.O.B.
PO2-974	Net 30	ZCM-100	1500470	FedEx 2nd Day	Golden, CO

Qty Ordered	Qty Shipped	Qty Backorder	Part Number	Part Description	Study Number	Lot Number
			PT-TMSET-WS	WS Trace Metals Set : (TM and HG)		
1	1	0	PT-TM-WS	WS Trace Metals 1	WS0125	9099-04B
1	1	0	PT-HG-WS	WS Trace Metals Mercury	WS0125	9099-05
1	1	0	PT-MIN-WS	WS Minerals Only	WS0125	9099-51
1	1	0	PT-TURB-WS	WS Turbidity	WS0125	9099-13
1	1	0	PT-SIO2-WS	WS Silica	WS0125	9099-17
1	1	0	PT-RVOA-WS	WS Regulated Volatiles	WS0125	9099-21
1	1	0	PT-UNRVOA-WS	WS Unregulated Volatiles	WS0125	9099-22
1	1	0	PT-THM-WS	WS Trihalomethanes	WS0125	9099-23
1	1	0	PT-EDBCP-WS	WS EDB/DBCP/TCP	WS0125	9099-27
1	1	0	PT-ADD-WS	WS Gasoline Additives	WS0125	9099-36

284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0830
DOD ELAP (ANAB)	L2219
Maine	2024021
Maryland	296
New Hampshire	255424 Rev 1
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	T104704488